30 Bird–CompTIA Network+ (Exam N10-009), Skill Labs

Course Specifications

Course Number: ACI76-013SL_rev1.0
Lab Length: Approximately 30 hours

30 Bird - Viewing Ethernet Options

Introduction
Overview

In this exercise, you'll view advanced Ethernet options for your network connection.

30 Bird - Configuring a Static IP Address in Windows

Introduction
Overview

In this exercise, you will configure a Windows system to use a static IP address.

30 Bird - Configuring a Static IP Address in Kali

Introduction
Overview

In this exercise, you'll configure a static IP address in Kali Linux using terminal commands.

30 Bird - Configuring a DHCP Server

Introduction
Overview

In this exercise, you will configure the DHCP server built into the pfSense router.

30 Bird - Viewing Packet Contents

Introduction
Overview

Typically individual packets, their contents, and especially their headers are transparent to the end user. To see how they really work, you'll need to use a specialized application.

30 Bird - Using TCP/IP Tools in Windows

Introduction
Overview

You can perform this exercise from any Windows computer with a working DNS server and internet access. If your classroom network does not give full connectivity to www.weather.gov, you can substitute another server.

30 Bird - Using TCP/IP Tools in Linux

Introduction
Overview

You can perform this exercise from any Linux computer with a working DNS server and internet access, but the commands used assume a Kali 2023.4 build with both net-tools and iproute2 installed. If your classroom network does not give full connectivity to www.linux.org, you can substitute another server.

30 Bird - Configuring VLANs

Introduction
Overview

In this exercise, you'll use Cisco Packet Tracer to create VLANs and assign trunk and access ports on a simulated network.

30 Bird - Creating Subinterfaces

Introduction
Overview

In this exercise, you'll use Cisco Packet Tracer to create multiple logical subinterfaces on a single router interface. Packet Tracer should already be running on the Windows 10 VM; otherwise, you'll need to open it.

30 Bird - Creating a Static Route

Introduction
Overview

In this exercise, you'll create a static routing table entry in Cisco Packet Tracer. The Windows 10 VM must be on and connected to the internet.

30 Bird - Advertising Routes with OSPF

Introduction
Overview

In this exercise, you'll use OSPF to communicate routing information in Cisco Packet Tracer.

30 Bird - NAT Configuration

Introduction
Overview

In this exercise, you'll examine NAT configuration options on a router.

30 Bird - Using Diagnostic Sites

Introduction
Overview

For this exercise, you can use any web browser. However, remember that websites are subject to changes in layout and precise functions. You can alternatively use other diagnostic sites, but that will also change the precise steps.

30 Bird - Configuring a Wireless Access Point

Introduction
Overview

Since this exercise uses a public website, you can use it from any browser. However, the site may move or change. If the site is no longer available when you're taking this class, use a real WAP or a different emulator.

This exercise uses an online emulator of a typical wireless access point interface. You can use a different emulator or a real WAP, and it will probably have the same available settings. Every manufacturer, model, and firmware revision has interface differences, so the exact steps will differ.

30 Bird - Simulating an On-Path Attack

Introduction
Overview

A lot of popular network protocols make it easy for eavesdroppers to scan for valuable information. You will examine how such an attack can be performed on the LAN.

30 Bird - Launching a DoS Attack

Introduction
Overview

In this exercise, you'll perform a SYN flood attack using the hping3 utility. Windows Server 2022 and Kali should both be open.

30 Bird - Working with PKI certificates

Introduction
Overview

In this exercise, you'll examine the Windows certificate store, including a user certificate issued by a CA.

30 Bird - Configuring Remote Access in pfSense

Introduction
Overview

In this exercise, you'll examine remote access options to the pfSense router.

30 Bird - Creating an IPsec Tunnel

Introduction
Overview

In this exercise, you'll use Cisco Packet Tracer to configure an IPsec tunnel between two local networks connected through a WAN. The Windows 10 VM must be on and connected to the internet.

30 Bird - Installing a RADIUS Server

Introduction
Overview

In this exercise, you will configure Windows Server to act as a RADIUS server for incoming VPN connections.

30 Bird - Configuring a Network Firewall

Introduction
Overview

In this exercise, you'll configure the network firewall built into the pfSense VM. pfSense serves as a router between your two Windows VMs and the internet.

30 Bird - Deploying a Honeypot

Introduction
Overview

In this exercise, you'll create a honeypot web server that logs intrusion attempts. Kali and the Windows Server 2022 VM should be open.

30 Bird - Scanning the network

Introduction
Overview

In this exercise, you'll use Nmap, a popular security scanner and network mapper. You could use it on your network to find open ports, vulnerabilities, or even rogue systems.

30 Bird - Configuring QoS Rules

Introduction
Overview

In this exercise, you'll configure simple QoS settings in pfSense.

30 Bird - Automating Linux tasks

Introduction

Overview

In this exercise, you'll use Linux's cron scheduling tool to automate a simple backup script. While bash scripts and cron are Linux-specific, similar script-based automation is valuable for many tasks.

30 Bird - Configuring a SPAN Port

Introduction

Overview

In this exercise, you'll configure a SPAN port on a switch in Packet Tracer.

30 Bird - Configuring Syslog

Introduction

Overview

In this exercise, you'll configure a device to send Syslog data to a server.

30 Bird - Monitoring Network Performance

Introduction

Overview

You'll perform SNMP monitoring.

30 Bird - Creating a Fault-Tolerant Network

Introduction

Overview

In this exercise, you'll use Cisco Packet Tracer to configure two redundant routers in an active-passive configuration. Since Packet Tracer does not support VRRP, you'll use the similar HSRP. The Windows 10 VM must be on and connected to the Internet.

30 Bird - Configuring Windows Update

Introduction

Overview

In this exercise, you'll examine automatic update settings in Windows 10. Ironically, future feature updates might change some of the options available. You can perform this exercise on any Windows 10 computer.