

ITC0251

Unit 4 Lab

Introduction

LabSim Network Pro is used to provide a simulated, hands-on laboratory for the purposes of learning about important networking concepts. In an online environment it is impossible for students to work directly with a network in administrative scenarios. Therefore, LabSim is the tool that supports students in their pursuit to understand difficult concepts in an online environment.

Use of LabSim Network Pro requires a one-time registration process. You should have received an activation code from the bookstore (Words of Wisdom). Notify the bookstore immediately if you have not yet received your activation code. Contact them at aiuonlinebooks@wordsofwisdombooks.com.

Instructions for accessing LabSim can be found in the Course Materials section. You can also contact your instructor with any questions. You will have access to Network Pro for 36 months (3 years) from the date of registration.

Note that LabSim Network Pro is aligned with CompTIA's Network+ certification. Completing this lab will not qualify you to complete the exam. One must complete several courses in order to cover all the concepts included in the certification exam. Further, completing the coursework does not conclude with automatic certification. Those students who wish to pursue certification may do so outside the classroom. For those students that qualify, they may contact the Registrar's office for receipt of a discounted certification voucher honored by CompTIA.

Hardware Requirements: Refer [here](#) to verify that you meet the necessary Hardware Requirements. Note that you will need speakers.

You may complete the tasks in numerous iterations. You do not need to complete all the lab tasks in one sitting.

Lab Description

Upon completion, you will:

- describe IP addressing;
- explain address assignment and name resolution;
- define DHCP and DNS configuration parameters;
- compare IPv4 and IPv6;
- discuss network message types;
- configure IPv4 & IPv6 addressing.

Lab Tasks

Each Module contains numerous Sections. The last section in each Module is a Practice Exam. The Practice Exam is **not** required. Taking the Practice Exam is **optional**. The results of the Practice Exam do **not** impact your course grade one way or the other.

All Module Sections (excluding the last Section – Practice Exam) are required unless otherwise designated.

Module 1.0 Networking Basics

Section 1.6 Numbering Systems (Review video only: Section 1.6.1)

Module 5.0 IP configuration

Section 5.1 IP Addressing (Review videos and complete labs: Sections 5.1.1, 5.1.3, 5.1.6, 5.1.7, 5.1.8)

Section 5.2 Alternate IP Addressing (Review video, demo and complete lab: Sections 5.2.1, 5.2.2, 5.2.3)

Section 5.3 DHCP Server Configuration (Review demos and complete labs: Sections 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8)

Section 5.4 DHCP Relay (Review demo and complete labs: Sections 5.4.1, 5.4.3, 5.4.4)

Section 5.5 DNS Name Resolution (Review video, demo and complete labs: Sections 5.5.1, 5.5.2, 5.5.4, 5.5.5, 5.5.6, 5.5.7, 5.5.8, 5.5.9)

Section 5.6 IP version 6 (Review videos, demos and complete lab: Sections 5.6.1, 5.6.4, 5.6.5, 5.6.6, 5.6.7, 5.6.9)

Section 5.7 Multicast (Review video only: Section 5.7.1)

The above Sections include a number of hands-on activities. Be sure to complete the following:

5.1.7 Configure IP Addresses

5.1.8 Configure IP Addresses on Mobile Devices

5.2.3 Configure Alternate Addressing

5.3.2 Configure a DHCP Server

5.3.4 Configure DHCP Options

5.3.5 Create DHCP Exclusions

5.3.6 Create DHCP Client Reservations

5.3.8 Configure a DHCP Client

5.4.3 Configure a DHCP Relay Agent

5.4.4 Add a DHCP Server on Another Subnet

5.5.4 Configure DNS Addresses

5.5.5 Create Standard DNS Zones

5.5.6 Create Reverse DNS Zones

5.5.7 Create Host Records

5.5.8 Create CNAME Records

5.5.9 Troubleshoot DNS Records

5.6.9 Configure an IPv6 Address