# ITNA457 Unit 3 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](mailto: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](http://www.testout.com/home/support/quick-start-guides/system-requirements) to verify that you meet the necessary Hardware Requirements. Note that you will need speakers.

***Expected Time for Completion*: Seven and one-half (7-1/2) hours or more depending on hardware and familiarity with LabSim**. You may complete the tasks in numerous iterations. You do not need to complete all the lab tasks in one sitting.

## Lab Description

Section 0.0 is **optional** for students who have used LabSim Network Pro during a prior course. Upon completion, you will:

* navigate LabSim Sections;
* experience and utilize a variety of learning tools including videos, Fact sheets, images, etc.;
* describe troubleshooting methods;
* troubleshoot network issues.

## 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 0.0 Introduction

Complete the following to become familiar with the LabSim environment.

Section 0.1 Using the Simulator

### Module 2.0 Cables and Connectors

Section 2.5 Troubleshooting Network Media (Review videos only: Sections 2.5.1, 2.5.3, 2.5.5)

### Module 4.0 Ethernet

Section 4.4 Troubleshooting Physical Connectivity (Review videos and complete labs: Sections 4.4.1, 4.4.3, 4.4.5, 4.4.6, 4.4.7, 4.4.8, 4.4.9)

### Module 5.0 IP Configuration

Section 5.8 Troubleshooting IP Configuration Issues (Review video, demos, and complete labs: Sections 5.8.1, 5.8.2, 5.8.3, 5.8.5, 5.8.6, 5.8.7, 5.8.8, 5.8.9)

Section 5.9 Troubleshooting IP Communications (Review video, demos, and complete lab: Sections 5.9.1, 5.9.2, 5.7.4, 5.9.6)

Section 5.10 Troubleshooting Name Resolution (Review video and demo only: Sections 5.10.1, 5.10.3, 5.10.4)

### Module 10.0 Wireless Networking

Section 10.7 Troubleshooting Routing (Review videos and complete labs: Sections 10.7.1, 10.7.2, 10.7.4, 10.7.5, 10.7.6, 10.7.7, 10.7.8)

### Module 11.0 Wide Area Networks (WANs)

Section 11.5 WAN Troubleshooting (Review video and demo only: Sections 11.5.1, 11.5.2)

### Module 13.0 Network Security

Section 13.8 Troubleshooting Network Security Issues (Review videos and demo: Sections 13.8.1, 13.8.2, 13.8.3)

### Module 16.0 Network Optimization

Section 16.2 Troubleshooting Methodology (Review videos only: Sections 16.2.1, 16.2.3)

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

4.4.5 Exploring Physical Connectivity

4.4.6 Troubleshoot Physical Connectivity 1

4.4.7 Troubleshoot Physical Connectivity 2

4.4.8 Troubleshoot Physical Connectivity 3

4.4.9 Troubleshoot Physical Connectivity 4

5.8.5 Explore IP configuration

5.8.6 Troubleshoot IP configuration Problems 1

5.8.7 Troubleshoot IP configuration Problems 2

5.8.8 Troubleshoot IP configuration Problems 3

5.8.9 Troubleshoot IP configuration Problems 4

5.10.4 Explore nslookup

10.7.5 Optimize the Wireless Network

10.7.6 Exploring Wireless Network Problems

10.7.7 Troubleshoot Wireless network Problems 1

10.7.8 Troubleshoot Wireless network Problems 2