

2.12 INFORMATION COMMUNICATION TECHNOLOGIES – OPERATING SYSTEMS



IoT Security Technician Skill Zone – CSSIA.ORG

2. Information Communication Technologies

2.12 Operating Systems

1. Demonstrate working knowledge of operating systems.
2. Describe client server operating systems.
3. Describe Linux and Microsoft administration concepts and capabilities.
4. Describe different file encoding and file extensions such as .dll, .bat, .zip, .gzip, .pcap, and others.
5. Describe the following Linux operating system structure and internal features: process management, directory structure, application installation and security tools.

6. Demonstrate the use of Windows command line (e.g., ipconfig, netstat, dir, nbtstat).
7. Describe the different file system implementations including: New Technology File System [NTFS], File Allocation Table [FAT], File Extension [EXT]).
8. Describe the different virtualization technologies and virtual machine development, configuration and maintenance.
9. Demonstrate the ability to interpret, write, modify, and execute simple scripts.

Operating Systems

Operating Systems refers to the installation, implementation configuration, operations and troubleshooting of today's most popular operating systems.

These operating systems would include Windows, Work Station and Server systems, Unix/Linux and the Android systems.

The IoT security technician needs a working knowledge of overall operating system installation and configurations and troubleshooting. They need to possess knowledge of command line, configuration, logging and user management tools. They also are responsible for securing the file systems. Finally, these technicians must have a working knowledge of OS scripting languages and remote access services.

2.12 INFORMATION COMMUNICATION TECHNOLOGIES – OPERATING SYSTEMS



Existing Course Cross Reference

Cisco Networking Academy Courses

- [IT Essentials](#)
- [Introduction to IoT](#)
- [NDG Linux Essentials](#)
- [Cisco Security Essentials](#)
- [CCNA Routing and Switching](#)
- [CCNA Security](#)
- [NDG Linux I & II](#)

Cisco Partner Courses

- [Security+ \(CSSIA.ORG\)](#)

Non-Cisco Partner Courses

- [Internet of Things - Innovation Labs - Wylodrin IoT Summer School](#)
- [Introduction to the Internet of Things and Embedded Systems - Coursera](#)

Curriculum Resources

Cisco – NDG Linux Essentials

Module 9 – Basic Scripting

Videos

Web Links

Textbooks

[Raspberry Pi Networking Cookbook](#)
Chapter 1, 2, 3, 4, 5, 6, 7

[NIST Special Publication 800-82 Revision 2](#)
Guide to Industrial Control Systems (ICS) Security

[Cyber-security of SCADA and Other Industrial Control Systems](#)
Edward J. M. Colbert, Alexander Kott, 2016
ISBN 9783319321257

Assessment Resources

Cisco – IT Essentials

- 5.1.1 Operating System Terms and Characteristics
- 5.1.2 Types of Operating Systems
- 5.2.1.4 File Systems
- 5.2.2 Custom Installation Options
- 6.1.5 Command Line Tools
- 10.4.1 Linux and OS X Tools and Features
- 10.4.2 Linux and OS X Best Practices
- 10.4.3 Basic CLI

Activities

Cisco – IT Essentials

- 6.1.5.2 Video – Common Windows CLI Commands
- 8.1.2.9 Video – Network CLI Commands
- NDG Linux Module for CompTIA A+

Labs

Cisco – IT Essentials

- 5.2.1.7 Lab – Install Windows
- 6.1.5.4 Lab – Common Windows CLI Commands
- 10.4.1.4 Lab – Install Linux in a Virtual Machine and Explore the GUI
- 10.4.3.3 Lab – Working with the Linux Command Line

Cisco – NDG Linux Essentials

- Lab 9 – Basic Scripting

