

1.4 DEVICE MANAGEMENT – SYSTEMS INTEGRATION



IoT Security Technician Skill Zone – CSSIA.ORG

1. Device Management

1.4 Systems Integration

1. Describe the technology integration processes required for IoT devices.
2. Explain the integration of hardware and software solutions.
3. Explain the role networks and network protocols play in systems integration.
4. Describe how system components are installed, integrated and optimized.

Systems Integration

The term Systems Integration refers to integrating IoT devices from different manufacturers into a common environment. System Integration is highly dependent upon industry standards and protocols in collaboration between product vendors. This lesson introduces communication and security protocols that are used in both consumer and industry products. Protocols like 802.11, 802.15, 802.16, Bluetooth, ZygBee Net and other ultra wide band wireless communication protocols form the framework for communications and device management.

The responsibility of the IoT security technician starts with the proper selection and installation of IoT devices. Responsibilities also include reliable operations, maintenance, redundancy, high availability and troubleshooting of IoT devices.

1.4 DEVICE MANAGEMENT – SYSTEMS INTEGRATION



Existing Course Cross Reference

Cisco Networking Academy Courses

[IT Essentials](#)

[Introduction to IoT](#)

[NDG Linux Essentials](#)

Cisco Partner Courses

[IoT and ICS Security Controls \(CSSIA.ORG\)](#)

Non-Cisco Partner Courses

[Internet of Things - Innovation Labs -](#)

[Wylidrin IoT Summer School](#)

[Introduction to the Internet of Things and Embedded Systems - Coursera](#)

Curriculum Resources

Videos

[YouTube.com – Top 13 Arduino Projects](#)

[Top 5 RaspberryPi Based Projects](#)

Web Links

[NIST Special Publication 800-82 Section 6.2](#)

Textbooks

[Practical Internet of Things Security](#)

Chapter 1, 3, 4

[Internet of Things](#)

Chapter 1, 2, 3, 4, 5, 6, 7, 10, 11

[Enterprise IoT](#)

Chapter 1, 2, 3, 4, 5, 6,

Quizlet.com

[Configuration Management Flashcards](#)

[Configuration Planning and Management flashcards](#)

Labs

[Lab 1 - What is Arduino? What is Arduino?](#)

[Let's get Some Clarity](#)

[Lab 2 - Arduino R3 - An Overview](#)

Assessment Resources

[Lab 3 - Simple Labs' Arduino R3 and Arduino Uno Comparison](#)

[Lab 4 - Driver Installation](#)

[Lab 5 - The Basics of Working with Arduino R3 / Arduino](#)

[Lab 6 - Digital Outputs - What, Where & How? Working with the 3 on-board LEDs](#)

[Lab 7 - Digital Inputs - What, Where & How? – Working with the 3 on-board Push Buttons](#)

[Lab 8 - Serial Communication - What, Where & How?](#)

[Lab 9 - Analog Outputs - What, Where & How? - Working with the RGB LED](#)

[Lab 10 - Analog Inputs - What, Where & How? Working with the on-board LDR](#)

[Lab 11 - Sensor Interface & Interfacing External Sensors Lab 14- Variable Resistors, LM35 & HC-SR04](#)

[Lab 12 - Interfacing a TV Remote with the on-board TSOP Remote Control Receiver](#)

[Lab 13 - Generating Remote Control Signals using the on-board IR LED](#)

[Lab 14 - Servo Interfacing - Working with the on-board Servo Interface](#)

[Lab 15 - LCD Interfacing - Working with the Simple Labs LCD Shield](#)