2.6 Identity Management

1. Explain the purpose and type of identity management systems.
2. Describe the common components of an access control and identity management system.
3. Describe the difference and application of policy-based and risk adaptive access control and identity management systems related to IoT networks.
4. Describe and demonstrate the implementation of biometric systems in IoT networks.
5. Describe and demonstrate the implementation of directory services in IoT networks.

6. Describe the implementation of identity management to reduce exploitations and control authorized access to IoT, WSN and SCADA systems.

Identity Management

Identity management is the process of identifying individuals that access devices and information in an IoT environment. Access to IoT devices and information should be tightly controlled.

Identification is nothing more than claiming you are somebody. In the information security world, this is analogous to entering a username.

It’s not analogous to entering a password. Entering a password is a method for verifying that you are who you identified yourself as, and that’s the next one on our list. Authentication is how one proves that they are who they say they are. The final part of an identify management systems is assigning right and access control to individuals, this is referred to as authorization.

Authorization is what takes place after a person has been both identified and authenticated; it’s the step used to determine what and when an individual can then do on the system.
Existing Course Cross Reference

Cisco Networking Academy Courses
- NDG Linux Essentials
- Cisco Security Essentials
- CCNA Security
- NDG Linux I & II

Cisco Partner Courses
- Security+ (CSSIA.ORG)
- IoT and ICS Security Controls (CSSIA.ORG)
- ICS and SCADA Security (CSSIA.ORG)
- CISSP (CSSIA.ORG)
- Application and Database Security

Curriculum Resources

Videos
- COURSERA.COM
  Cybersecurity and the Internet of Things
- OPENLEARNING.COM
  Cyber Security
- CYBRARY.IT
  Security+, CISSP & CASP

Textbooks
- Oracle Database 12c OU Courses
- Oracle Learning Library
- Oracle Database 12c Security Cookbook By: Pavlovic, Veselica
- Database Security, 1st Edition by Basta, Zgola
- NIST Special Publication 800-8
  Security Issues in the Database Language SQL
  W. Timothy Polk and Lawrence E. Bassham

Assessment Resources

Activities
- CISCO – CYBERSECURITY ESSENTIALS
  4.2.4.5 – Identify Authentication Methods
- CISCO – CCNA SECURITY
  3.1.2.4 – Identify the Characteristics of AAA

Labs
- CISCO – CYBERSECURITY ESSENTIALS
  4.3.3.4 PT Configuring VPN Transport Mode
  4.3.3.5 PT Configuring VPN Tunnel Mode
- CISCO – CCNA SECURITY
  Lab 3.6.1.1 Securing Administration Access Using AAA and RADIUS

Quizzes/Exams
- CISCO – CYBER SECURITY ESSENTIALS
  Exam 8 – Item 8.2.2
- CISCO – CCNA SECURITY
  Exam 3 – 3.1.2

Quizlet.com
- Security+ - Access Control
- Identification and Authentication
- SCADA Vocabulary