

REVIEW LESSON

MTA Course: 98-367 Security Fundamentals
Lesson name: Understanding Operating System Security
Topic: Understand user authentication
(One 50-minute class period)
File name: SecurityFund_RL_2.1_B

Lesson Objective

2.1_B: Understand user authentication: *This objective may include, but is not limited to:* public key infrastructure (PKI), certificates, using Run As to perform administrative tasks, password reset procedures.

Instructor preparation activities

- Windows® XP, Windows 7, or Windows Server® 2008 R2 installed on each computer
- Give students administrative rights and the ability to create other user accounts

Resources, software, and additional files needed for this lesson

- SecurityFund_PPT_2.1_B

Teaching Guide

Essential Vocabulary

certificate—an electronic credential that authenticates a user on the Internet and intranets.

public key infrastructure (PKI)—an asymmetric scheme that uses a pair of keys for encryption: the public key encrypts data, and a corresponding secret key decrypts it.

Run As—a command that allows a user to run specific tools and programs with different permissions than the user's current logon provides.

Lesson Sequence

Activating prior knowledge/lesson staging (Anticipatory Set: 10 minutes)

1. Student prompt (see PowerPoint® slide 3): Have the students create a few short text files in a new directory.
2. In Windows Explorer, right-click on the new text file. Then right-click the same file and select Properties. Then select Advanced and then select Encrypt contents to secure data. Click OK.
3. What changes are made?
4. Log in as another user and attempt to read the encrypted file. What happens? Why?
5. As time permits, call on a few students to report to the group with their responses.

Lesson activity (40 minutes)

1. Teacher instruction (20 minutes)
 - Use the included PowerPoint slideshow to review the additional types of user authentication.
 - At the end of the slideshow, ask the students to answer the review questions.
 - Show the question and give the students 1 minute to process the question and come up with answers.
 - Then give the students 2 minutes to discuss answers with a partner.
 - Finally, have each pair of students share their answers with the whole group.
 - Repeat for each additional review question.
2. Guided practice (20 minutes)
 - Have students conduct research on the internet, looking for single sign-on authentication products that can be used to authenticate users.
 - If time allows, you may review all or part of the students' findings, discussing student responses.

Assessment/lesson reflection (10 minutes)

1. Have students summarize the differences between “single sign-on” and “two-factor” authentication (see PowerPoint slides 10 and 11).
 - Be sure to give ample time for students to write their summaries.
 - If time allows, pick a few students to read their summaries.
2. At the bottom of the page, tell students to write any questions they have or any topics about which they would like more assistance.
3. After class, look through the student responses and follow up with any student requiring additional help.

Microsoft® resources and Web links

- **Using the Run As command with MMC**
[http://technet.microsoft.com/en-us/library/cc782756\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc782756(WS.10).aspx)
- **PKI Basics**
[http://technet.microsoft.com/en-us/library/cc261673\(office.12\).aspx](http://technet.microsoft.com/en-us/library/cc261673(office.12).aspx)
- **Reset a Password**
[http://technet.microsoft.com/en-us/library/cc756862\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc756862(WS.10).aspx)