

REVIEW LESSON

MTA Course: 98-365 Windows Server Administration Fundamentals

Lesson name: Windows Server® Administration Fundamentals 1.1_1.2

Topic: Understand device drivers and services

(One 50-minute class period)

File name: WinServerFund_RL_1.1_1.2

Lesson Objective(s)

1.1: Understand device drivers. *This objective may include but is not limited to:* installation; removal; disabling; updating/upgrading; rollback; troubleshooting; plug and play (PnP); IRQs; interrupts; and driver signing.

1.2: Understand services. *This objective may include but is not limited to:* definition and description of services; status types; startup types; recovery options; delayed startup; Run As settings for a service; stopping or pausing a service; service accounts, and dependencies.

Preparation Details**Prerequisite student experiences and knowledge**

This MTA Certification Exam Review lesson is written for students who have learned about Windows Server Administration fundamentals. Students who do not have the prerequisite knowledge and experiences cited in the objective will find additional learning opportunities using resources such as those listed in the Microsoft® resources and Web links at the end of this review lesson.

Instructor preparation activities

- Make copies of Student Activity WinServerFund_SA_1.1_1.2
- Instructor should have access to an existing Windows Server 2008® R2 machine or virtual machine for demonstration purposes of device manager and the services.msc console. A Windows 7® workstation would also suffice for the purposes of the demonstration as the services and device manager consoles on Windows Server 2008 R2 and Windows 7 are similar.

Resources, software, and additional files needed for this lesson

- WinServerFund_PPT_1.1_1.2
- WinServerFund_SA_1.1_1.2
- WinServerFund_SA_1.1_1.2_Key

Teaching Guide**Essential Vocabulary**

device driver—a software component that permits an operating system to communicate with a device.

interrupt—a signal from a device to a computer's processor requesting attention from the processor. Interrupts are the processor's way of communicating with the other elements that make up a computer system.

IRQ—acronym for interrupt request. One of a set of possible hardware interrupts, identified by a number, on a Wintel computer.

Service—a long-running executable that performs specific functions and that is designed not to require user intervention.

Lesson Sequence**Activating prior knowledge/lesson staging (Anticipatory Set: 10 minutes, slide 3 on WinServerFund_PPT_1.1_1.2)**

- Direct students to answer each question on their own sheet of paper:
 1. What is a device driver? (A software component that permits an operating system to communicate with a device.)
 2. What application would be used to manage or troubleshoot a device? (Device Manager)
 3. What are the four startup types for Windows Services? (Automatic, Automatic [delayed start], Manual, Disabled) (2 minutes)
 4. A service has failed to start; what would you first use to determine why the service failed to start? (Event Viewer→System Log)

Lesson activity (40 minutes)**1. Teacher Instruction (20 minutes)**

- Use the included PowerPoint® slideshow to review device drivers and system services.
- At the end of the slideshow, ask the students to answer the Review Questions. Students may work in pairs.
 - Show the question and give the students 1 minute to process the questions.
 - 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; please see the “Additional notes to the instructor” section below regarding this assignment)

- Students are to complete WinServerFund_SA_1.1_1.2
- If time allows, you may review all or part of the worksheet, discussing student responses to the questions.

Assessment/lesson reflection (10 minutes)

1. On the same paper they used for the Anticipatory Set, tell students to check their initial answers and make any changes if necessary.
2. At the bottom of their page, tell students to write down 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

- **Microsoft: Driver signing requirements for Windows**
<http://www.microsoft.com/whdc/driver/install/drvsign/default.msp>
- **Microsoft TechNet: Device Management and Installation Step-by-Step Guide: Signing and Staging Device Drivers in Windows 7 and Windows Server 2008 R2**
[http://technet.microsoft.com/en-us/library/dd919230\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/dd919230(WS.10).aspx)
- **Microsoft TechNet: Configure a service**
<http://technet.microsoft.com/en-us/library/cc732482.aspx>

Suggested best practices

- It is helpful to demonstrate the content to complement the screenshots on the PowerPoint. The demonstrations should be consistent with the screenshots and the student activities. Often, a task can be accomplished several different ways; showing each option can be confusing for the learner. Discuss or demonstrate different options, but use one method to accomplish the task. Encourage the students to explore the other methods on their own. Be sure to explain the Action Menu as it relates to Windows management. The action menu appears when a user right mouse clicks on an object. This is a very common tool used when managing Windows systems and networks.

Additional notes to the instructor

- Encourage the students to use the materials outside of class on their own systems or encourage them to obtain their own virtualization software. (Virtual PC: <http://www.microsoft.com/windows/virtual-pc/default.aspx>)