

REVIEW LESSON

MTA Course: 98-365 Windows Server® Administration Fundamentals

Lesson name: Understanding server maintenance 6.2

Topic: Understand business continuity

(One 50-minute class period)

File name: WinServerFund_RL_6.2

Lesson Objective

6.2: *This objective may include but is not limited to:* backup and restore; disaster recovery; clustering; Active Directory® restore; folder redirection; data redundancy; uninterruptible power supply (UPS).

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_6.2
- If available, have one virtual machine:
 - Windows Server 2008® R2

Resources, software, and additional files needed for this lesson

- WinServerFund_PPT_6.2
- WinServerFund_SA_6.2

Teaching Guide

Essential Vocabulary

business continuity—the activity performed by an organization to ensure that critical business functions will be available to customers, suppliers, regulators, and other entities as required 24 hours a day to those functions.

clustering—a group of independent network servers that operate—and appear to clients—as if they were a single unit. A cluster network is designed to improve network capacity by, among other things, enabling the servers within a cluster to shift work in order to balance the load. By enabling one server to take over for another, a cluster network also enhances stability and minimizes or eliminates downtime caused by application or system failure.

data redundancy—a property of some disk arrays (most commonly in RAID systems) that provides fault tolerance, so that all or part of the data stored in the array can be recovered in the case of disk failure.

disaster recovery—the process, policies, and procedures related to preparing for recovery or continuation of technology infrastructure critical to an organization after a natural or human-induced disaster.

fault tolerance—the property that enables a system to continue operating properly in the event of the failure of some of its components.

folder redirection—a feature that allows users and administrators to redirect the path of a folder to a new location. The new location can be a folder on the local computer or a directory on a network share.

system state backup—refers to backing up system components such as the registry, SYSVOL directory or Active Directory Domain Services. The exact system components that make up your computer's System State data depend on the computer's operating system and configuration.

uninterruptable power supply (UPS)—a device, connected between a computer (or other electronic equipment) and a power source (usually an outlet receptacle), that ensures that electrical flow to the computer is not interrupted because of a blackout and, in most cases, protects the computer against potentially damaging events.

Lesson Sequence

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

1. Student prompt (see PowerPoint® slide 3): On a sheet of paper, list the various methods that can be employed by a system administrator to maintain business continuity.

2. Give students a few minutes to respond, allowing them to work until they have finished.
3. 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 presentation to review business continuity.
 - At the end of the presentation, ask the students to answer the Review Questions. Small group discussions or a “think-pair-share” approach may be beneficial.
 - 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; please see the “Additional notes to the teacher” section regarding this assignment)
 - Students complete WinServerFund_SA_6.2, creating a data backup and restoring data from a file backup.
 - If time allows, you may review all or part of the worksheet.

Assessment/lesson reflection (10 minutes)

1. At the bottom of WinServerFund_SA_6.2, ask students to summarize what they performed in the activity and why testing a backup plan is important. They should be prepared to share their answers with the class. Students should also write any questions relating to the activity.
2. After class, look through the student responses and follow up with any student requiring additional help.

Microsoft resources and Web links

- **Microsoft TechNet: Create Backups of the System State Using a Command Line**
<http://technet.microsoft.com/en-us/library/cc753201.aspx>
- **Microsoft TechNet: Folder Redirection Overview**
<http://technet.microsoft.com/en-us/library/cc778976%28WS.10%29.aspx>
- **Microsoft TechNet: System State Data**
[http://technet.microsoft.com/en-us/library/cc785306\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc785306(WS.10).aspx)

- **Microsoft TechNet: Windows Server Backup Step-by-Step Guide for Windows Server 2008**

[http://technet.microsoft.com/en-us/library/ee849849\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/ee849849(WS.10).aspx)

- **Wikipedia: Data Redundancy**
http://en.wikipedia.org/wiki/Data_redundancy

- **Wikipedia: Disaster Recovery**
http://en.wikipedia.org/wiki/Disaster_recovery

- **Wikipedia: Fault-tolerant System**
http://en.wikipedia.org/wiki/Fault-tolerant_system

Suggested best practices

- Business continuity as it relates to information technology is critical. Students should make note of the importance and the various ways business continuity can be affected.
- Dialogue with the students as to different reasons for performing and testing backups. Stress that this is vital to business continuity.
- It is important to note the cost involved with backup solutions.

Additional notes to the instructor

- The worksheet asks students to back up to a secondary drive. If they do not have a secondary drive, they can use a USB flash drive to back up to and recover from.