REVIEW LESSON

MTA Course: Database Administration Fundamentals
Lesson name: Database Fundamentals 4.3
Topic: Understand indexes
File name: DBAdminFund_RL_4.3

Lesson Objective:

4.3: Understand indexes. *This objective may include but is not limited to:* understanding clustered and non-clustered indexes and their purpose in a database.

Preparation Details

Prerequisite student experiences and knowledge

An understanding of database indexes is required for this lesson. The primary focus of this review will be on the applied use of indexes in data searches.

This MTA Certification Exam Review lesson is written for students who have learned about database administration. 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

None

Resources, software, and additional files needed for this lesson:

- Microsoft PowerPoint® viewer and projector

- DBAdminFund_PPT_4.3

Teaching Guide

Essential Vocabulary:

index—a listing of keywords and associated data that point to the location of more comprehensive information, such as files and records on a disk or record keys in a database.

B-tree—a tree structure for storing database indexes. Each node in the tree contains a sorted list of key values and links that correspond to ranges of key values between the listed values.

non-clustered index—an index arranged similarly to the index of a book, where the index value points to the actual information.

clustered index—an index arranged in a special order to make retrieval of information faster with direct access to the information.

Lesson Sequence

Activating prior knowledge/lesson staging (5 minutes)
1. *Say:* The primary focus of this review is to understand clustered and non-clustered indexes and their uses in a database.

Lesson activity (35 minutes)
1. Present the DBAdminFund_PPT_4.3 PowerPoint slideshow.

Assessment/lesson reflection (10 minutes)
1. There are questions on the last slide of the presentation. These provide an opportunity for a class discussion. If you choose a formal assessment, you can turn this into a written quiz. The use of small student whiteboards works very well here as lesson reflection tool.

Microsoft resources and Web links

Faculty Connection Academic Resource Center
(*http://www.microsoft.com/education/facultyconnection/ARC/ResourceCenter.aspx?c1=e n-us&c2=0*)

MSDN Index structures
http://msdn.microsoft.com/en-us/library/ms180978.aspx