

REVIEW LESSON

MTA Course: Windows Development Fundamentals

Lesson name: Windows Development Fundamentals 3.2

Topic: Install a Windows Service application (One 50-minute class period)

File name: WinDevFund_RL_3.2

Lesson Objective:

3.2: Install a Windows[®] Service application. *This objective may include but is not limited to:* creating installers for Windows Services; installing services on a target computer.

Preparation Details**Prerequisite student experiences and knowledge**

This MTA Certification Exam Review lesson is written for students who have learned about Windows application programming. 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.

Specifically, students should be familiar with the process of creating a Windows Service project, as well as the basic architecture of a service application, as reviewed in Lesson 3.1.

Instructor preparation activities:

None

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

- WinDevFund_PPT_3.2
- Microsoft Visual Studio[®] 2008, Professional Edition, or
 - Microsoft Visual Basic[®] 2008, Express Edition
(<http://www.microsoft.com/express/downloads/#2008-Visual-Basic>)
 - Microsoft Visual C#[®] 2008, Express Edition
(<http://www.microsoft.com/express/downloads/#2008-Visual-CS>)

Note: The Windows Service template and associated functionality are not available in the Standard edition of Visual Studio.

Teaching Guide

Essential vocabulary:

installer—a class that can be added to a project to perform designated actions during installation; also referred to as an *installer class*.

Installer Tool (Installutil.exe)—a command-line utility that can install or uninstall a Windows service application manually.

setup project—a project that allows the creation setup (or installation) files to distribute an application.

ServiceInstaller—class that does work specific to the service with which it is associated; used by the installation utility to write registry values associated with the service to a subkey within the HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services registry key.

ServiceProcessInstaller—class that does work common to all services in an executable; used by the installation utility to write registry values associated with services you want to install.

Lesson Sequence

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

1. *Student prompt (as indicated in the slideshow):* “List the stages in the lifetime of a Windows Service application; give a brief description of each stage, including the related *ServiceBase* methods.”
 - This is a recap of material from Lesson 3.1. Because the concept of starting a service is integral to the need to install services, this is a good place to start in terms of getting the students to think about Windows Service applications.

Lesson activity (25 minutes)

1. Use the Microsoft PowerPoint® slideshow to review installation of Windows Service applications.
 - Since the assessment will require students to try what they are reviewing, it is recommended that students take notes throughout the review.

Assessment/lesson reflection (15 minutes)

1. Direct students to use the notes that they took during the presentation to create an empty Windows Service application and add installers and a setup project.
Note: the application doesn't need to do anything for the students to be able to practice adding installers and setup projects.
2. Circulate as the students work, checking their progress and assisting when necessary.

Microsoft resources and Web links

Walkthrough: Creating a Windows Service Application in the Component Designer
(<http://msdn.microsoft.com/en-us/library/zt39148a.aspx>)

How to: Add Installers to Your Service Application
(<http://msdn.microsoft.com/en-us/library/ddhy0byf.aspx>)

For additional information on setup projects, see Lesson 5.2.

Additional activities (homework or enrichment):

- If time allows, or for homework, students should create a functioning Windows Service application for their lesson assessment. Have students create an application that runs as a Windows Service and notifies the user to take a break every 30 minutes to prevent Repetitive Stress Syndrome.