Microsoft

LESSON 1.1-1.2

98-365 Windows Server Administration Fundamentals

Understand Device Drivers and Services

LESSON 1.1-1.2

98-365 Windows Server Administration Fundamentals

Lesson Overview

How does the operating system communicate with hardware and services?

In this lesson, you will learn:

- How operating system communicate with device drivers
- How to troubleshoot device driver errors
- Why drivers are digitally signed
- How Windows® services control the operating system
- How to manage Windows services

LESSON 1.1-1.2

98-365 Windows Server Administration Fundamentals

Anticipatory Set

- On a sheet of paper, answer the following questions:
  1. What is a device driver?
  2. What application would be used to manage or troubleshoot a device?
  3. What are the four startup types for Windows services?
  4. A service has failed to start; what console would you first use to determine why the service failed to start?

What are device drivers?

- Software components that permit an operating system to communicate with a device
- The operating system typically require a driver to communicate with peripheral components.
  - The appropriate driver is required for a server to be able to send a print job to a locally attached printer.

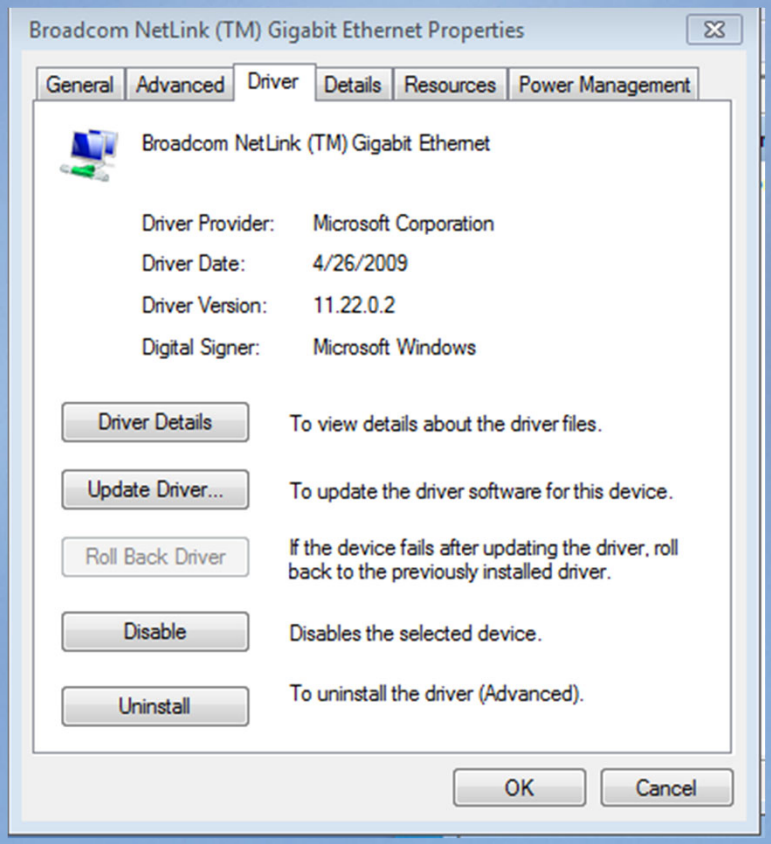
Managing Device Drivers (options)

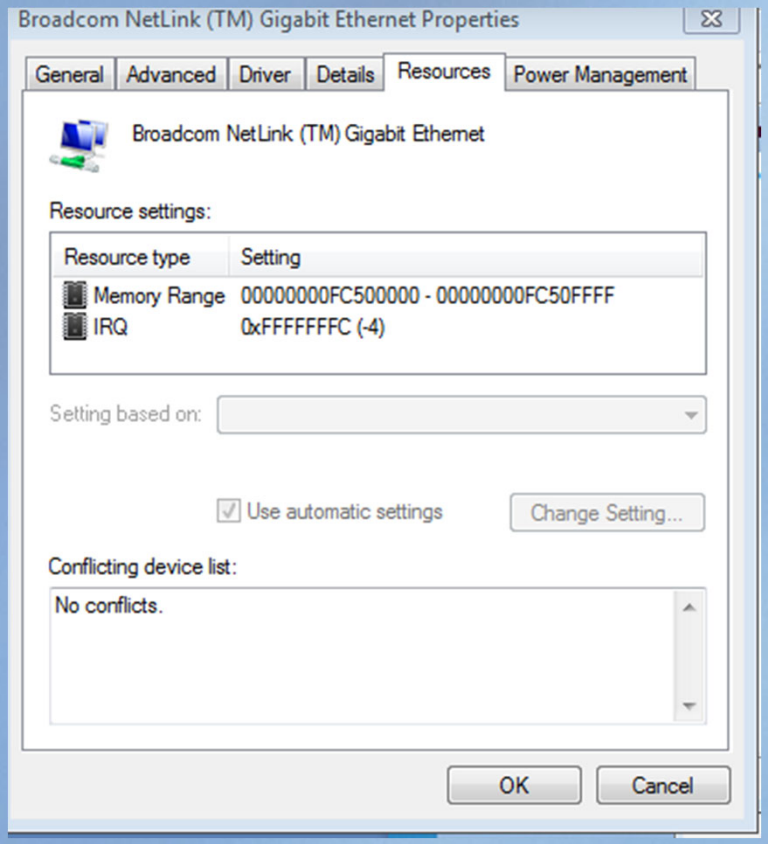
1. Install drivers
2. Update drivers
3. Rollback drivers
4. Disable devices

All options can be done using Device Manager

LESSON 1.1-1.2

98-365 Windows Server Administration Fundamentals





Driver signing

- Drivers that are used must be digitally signed. This signifies the driver is “trusted.”
- Poorly designed drivers can create vulnerabilities for their systems as well as instability. All drivers should be tested prior to rolling out drivers.
- Administrators can perform any or all of the following for easier driver administration:
  1. Digitally sign device driver packages by using digital certificates, and then place those certificates on client computers so that users do not have to determine whether a device driver or its publisher is "trusted.”
  2. Stage device driver packages in the protected driver store on a client computer so that a standard user can install the package without requiring administrator rights.
  3. Configure client computers to search specified shared network folders for a driver package when a new hardware device is discovered and a driver package is not already staged on the local computer.

Windows Services

- A Windows service is a long-running executable that performs specific functions and which is designed not to require user intervention.
  - Antivirus software is typically a Windows service.
- Services are found in the services console or the computer management console.
- Startup types
  - Automatic (Delayed start)—Use this setting to configure the service to automatically start during the boot and logon process. The startup of the service is briefly delayed during the logon process to increase logon performance.
  - Automatic—Use this setting to configure the service to automatically start during the boot and logon process
  - Manual—Service starts manually
  - Disabled—Service does not start

Windows Services

- Windows services require authentication to run.
- Logon options are:
  - Logon as Network Service
  - Logon as Local System Account
  - Logon as User Account

LESSON 1.1-1.2

98-365 Windows Server Administration Fundamentals

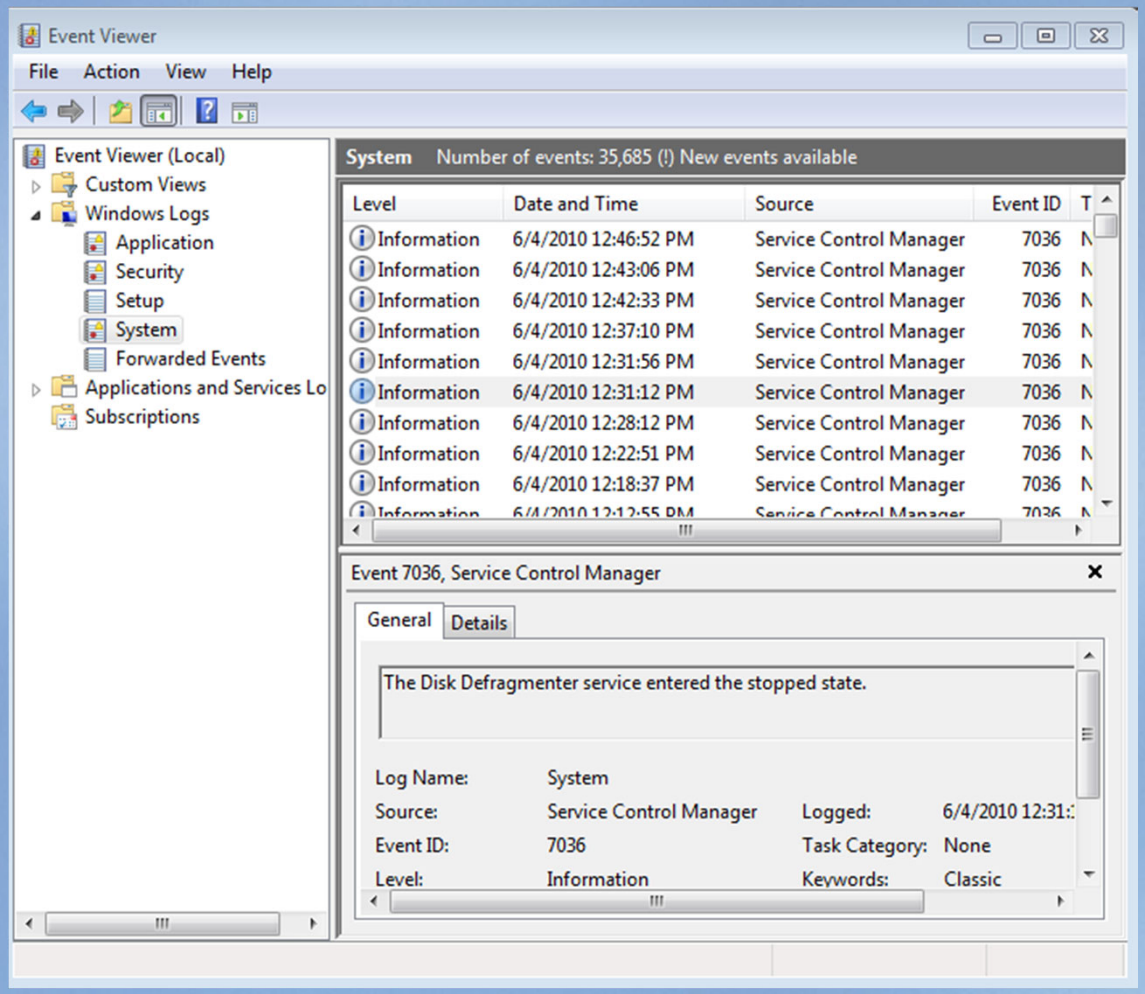
Windows Services

Manually Managing Services

- Services can be started, stopped and restarted through services.msc and the Computer Management console.
- Services can be started and stopped through the command line interface.
- Services can be configured to respond to multiple failures:
  - Restart service
  - Restart computer
  - Run program
- When a service fails to start, typically an event is written to the System Event log.

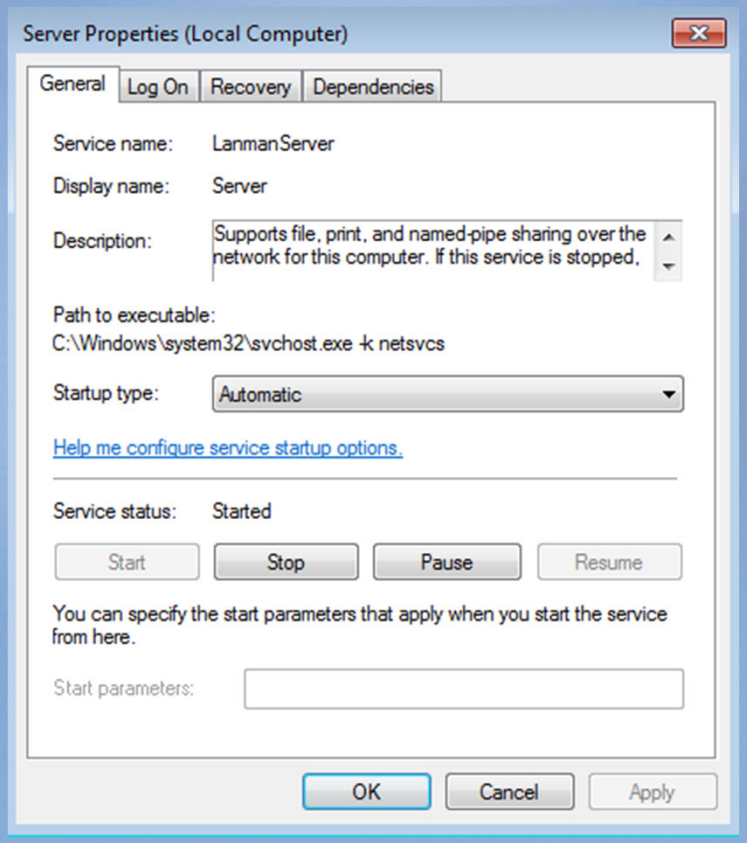
LESSON 1.1-1.2

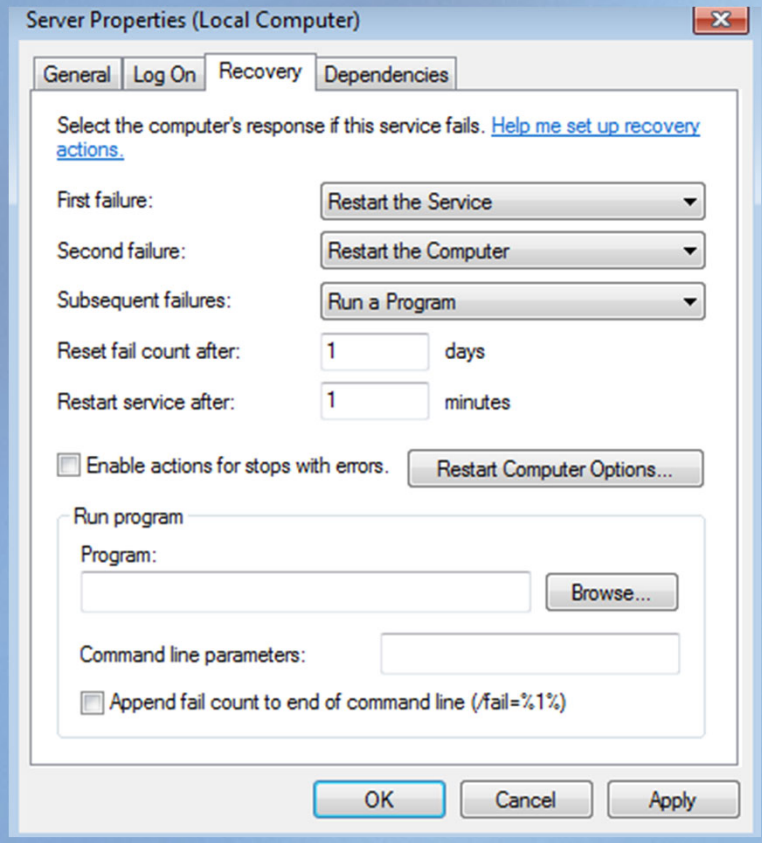
98-365 Windows Server Administration Fundamentals



LESSON 1.1-1.2

98-365 Windows Server Administration Fundamentals





Lesson Review

- Why would you use a *rollback* device driver?
- What application can tell you why a particular service failed to start?
- Why would you disable a particular service?