

This final chapter considers a variety of administrative tools and how to use them.

12

Working with Administrative Tools

Using Administrative Tools

Once you go through Control Panel (assuming you haven't pinned these to your Start menu yet), you can see a shortcut to Administrative Tools located in the System and Security group that takes you to the list of shortcuts (see Figure 12.1).

Some of the tools you see in the Administrative Tools section have been covered already in other sections of the book. For example, Performance Monitor was covered in Chapter 11.

For those of you who would like to access these tools with one click from the Start menu, here is a quick way to do just that.

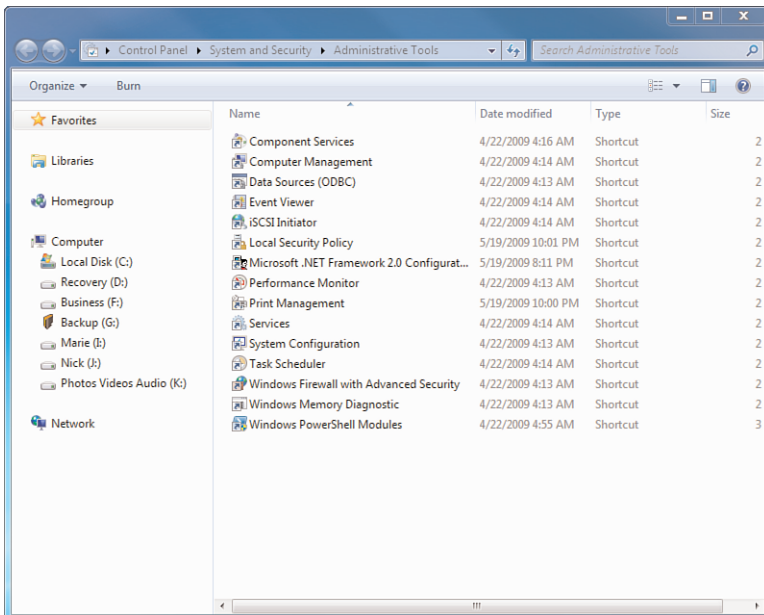


Figure 12.1 *The Administrative Tools section.*

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**SHOW ME** Media 12.1—A Review of Administrative Tools

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Creating a Link to the Administrative Tools Section from the Start Menu

The following steps show you how to create a shortcut to the Administrative Tools section on the Start menu (see Figure 12.2).

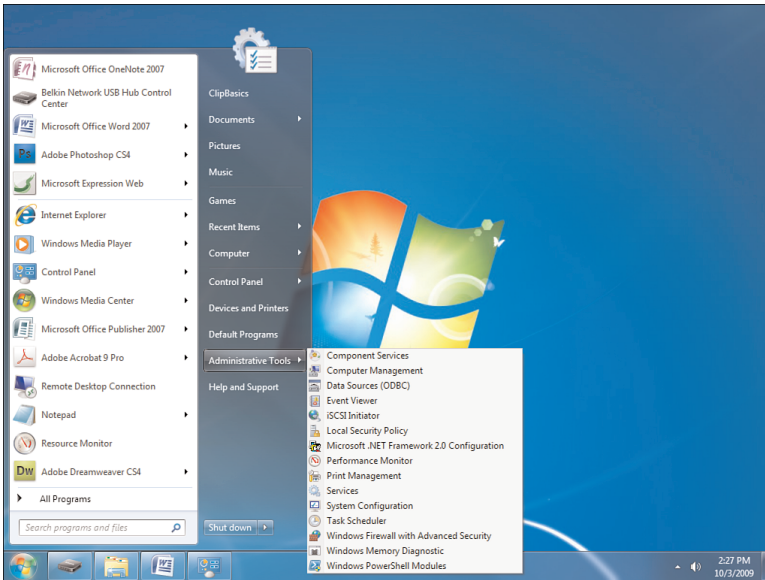


Figure 12.2 *Creating a shortcut for Administrative Tools on the Start menu.*

1. Right-click an empty area of the Taskbar and select Properties. The Taskbar and Start Menu Properties dialog box opens.
2. Click the Start Menu tab.
3. Click the Customize button. The Customize Start Menu dialog box opens.
4. Scroll down to System Administrative Tools and choose Display on the All Programs Menu and the Start Menu.
5. Click OK twice.

Now you have access to these tools right from the Start menu. (There are still other ways to access these tools, and these will be shown in the exercises to follow later in the chapter.)

Tools You Might Never Use

There are some tools you might never have a need to work with. Others will be your best friend when it comes to administering your system. Let's first take a look at some of the more obscure tools.

Component Services

This is not a new feature in Windows 7. In fact, it has existed for some time. However, typical users will never (never ever) need to use this feature. It is used to configure and administer your COM (Component Object Model) applications.

Data Sources (ODBC)

This allows you to add, delete, or configure data sources with DSNs (Data Source Names) for the current system and user. Again, not something the everyday user (or even administrator) might ever work with.

iSCSI Initiator

This was an applet in Control Panel in Windows Vista, but it was appropriately moved in Windows 7 to the Administrative Tools section. Internet Small Computer System Interface (iSCSI) uses TCP/IP for its data transfer over a common Ethernet network. But you need iSCSI devices to make it work and the OS needs an initiator to communicate with the iSCSI devices. iSCSI devices are disks, tape drives, CDs and other storage devices that you can connect to. In the relationship with the other device, your computer is the initiator and the device is the target.

In Windows 7 (as in Vista), the initiator is included. However, you can download the initiator from Microsoft for 2000 (SP3), XP, or Server 2003. The shortcut under Administrative Tools lets you configure and control the interaction between your system and the device.

Local Security Policy

Although typically a security policy is something you configure on a network domain, there are times when you might want to create password policies, account lockout policies, and so forth on your Windows 7 standalone systems. This is the place to do that. You might be deploying Windows 7 in a school, a library, or as a kiosk system (or even at home); you can adjust these security settings to ensure they are enforced.

Print Management

Although you might not think of using your computer as a print server, it is a possibility. If you have multiple print devices connected to your Windows 7 machine and you have users in the office printing through that system to your print devices, you might want to work with the Print Management tools to help you to see your printers, printers with jobs, and so forth. You can view how the printers are doing and manage those printers from this console.

Windows PowerShell Modules

Using this shortcut is one of the ways you can open up a PowerShell window that includes all of the available commands from optional modules and snap-ins, including those that aren't added by default. The modules run in a separate session to avoid name conflicts and these modules allow you to organize your scripts and functions independently of one another. The modules also run under the administrator's account.

Another way to open PowerShell with all modules is to right-click the PowerShell icon from the Taskbar (if PowerShell is pinned to the Taskbar) and click Import System Modules.

Working with Computer Management

This is one-stop spot for multiple tools. The shell of Computer Management is the Microsoft Management Console (MMC). This is a highly customizable interface that lets you load and unload specific mini-applications (called snap-ins) that help you manage your computer. It's a super console of sorts (see Figure 12.3) where users might find everything they need to monitor system events, manage shared folders, view services, view storage devices and settings, and much more.

Many of the individual components of Computer Management will be discussed later on in the chapter. One feature that is key to Computer Management is Disk Management (see Figure 12.4). With Disk Management you can manage hard disks and their volumes and partitions. There are a wide variety of options at your disposal. For example, you can initialize disks, create volumes, and format volumes with the FAT, FAT32, or NTFS file systems.

Since most configuration changes in Disk Management take place immediately, you can accomplish most disk-related tasks without restarting your computer. One of the most common tasks performed in Disk Management is to create a partition (volume) on a hard disk. In order to accomplish this, you need to be logged in as an administrator and there has to be either unallocated disk space or free space within an extended partition on the hard disk.

If you find that you don't have any unallocated disk space, you can create some in various ways. You can shrink an existing partition, delete a partition, or add an extra hard drive to the system.

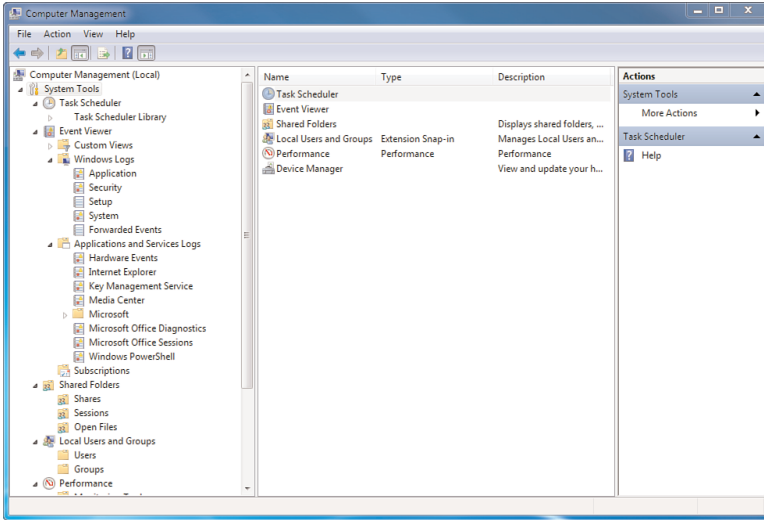


Figure 12.3 *Computer Management.*

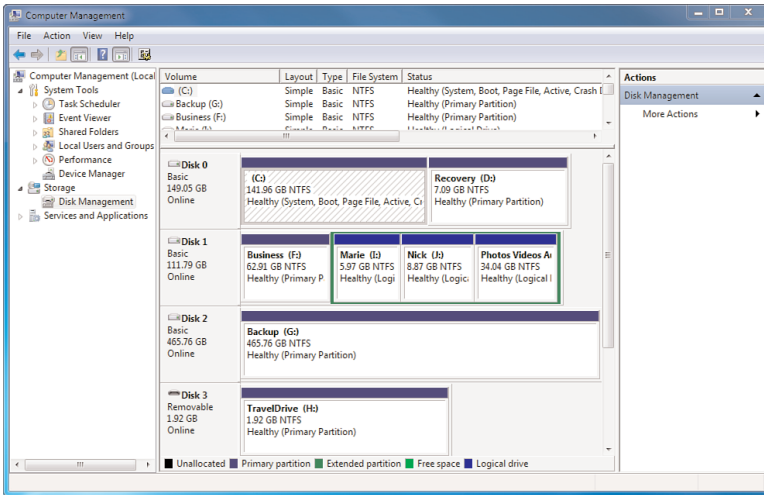


Figure 12.4 *Disk Management lets you configure all your disks from one spot.*



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Creating and Formatting a New Partition

The following steps show you how to create and format a new partition. In this example, you create a new drive letter for you to access.

1. Click the Start orb.

2. In the search field, type **manage**.
3. Select Computer Management.
4. If a UAC window appears, click Yes.
5. In the left pane, under Storage, click Disk Management.
6. In the main pane, locate the hard disk you would like to create the partition on. Right-click an unallocated region of it and select New Simple Volume. This opens the New Simple Volume Wizard.
7. Click Next.
8. Accept the maximum default size and click Next.
9. A default drive letter is provided for you. Accept this and then click Next. This opens the Format Partition dialog box.
10. Verify that you accept the default settings and click Next.
11. After reviewing your choices, click Finish.

The first three partitions on a basic disk that is newly created will be formatted as primary partitions. Starting with the fourth, each partition (on the same disk) will be configured as a logical drive within an extended partition. Remember, formatting deletes any data you have on the drive, so make sure it is backed up if need be. Many times an error as simple as selecting the wrong drive for formatting can quickly erase years of data.

One main reason for creating a partition and formatting a drive is to prepare it for an operating system. If you are planning on creating a multi-boot setup, there are a couple of things to be aware of.

For one, you need to install the oldest operating system before installing the newer operating system. If, for example, you install Vista on a computer already running Windows 7, you can render your system inoperable; earlier versions of Windows don't recognize the startup files used in more recent versions of Windows and can overwrite them.

Another aspect to consider is making certain to use the NTFS file system of the partition or disk where you plan to install a new version of Windows. While you have the option within Disk Management to select FAT or FAT32 when formatting a drive, these older file systems cannot utilize all the features in Windows 7 and they are not as efficient as NTFS. Unless you have a special requirement, stick with the NTFS file system.

Changing the drive letter has become a simple task, thanks to Computer Management. Right-click your drive of choice and select Change Drive Letter or Path. A drop-down menu provides you with available options for your new drive letter (see Figure 12.5).

Computer Management also supports the Virtual Hard Disk (VHD) format. This style of file system can be used in conjunction with virtualization software such as the Hyper-V feature of Windows Server 2008 R2, Microsoft Virtual PC/Virtual Server or VmWare. From Disk Management and you can create, attach, and detach virtual hard disks.

You will find that VHDs look just like physical disks in Disk Management. When a VHD has been attached, it appears blue. If the disk is detached, its icon reverts back to gray.

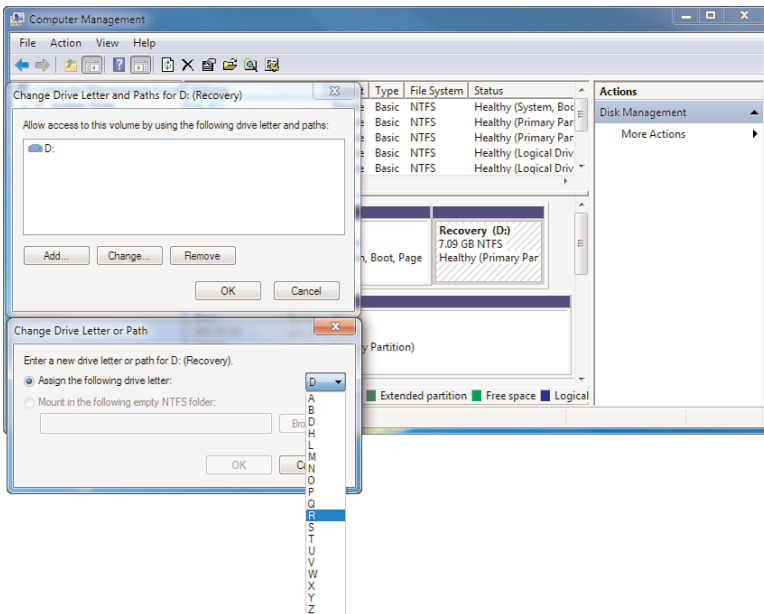


Figure 12.5 Choose your new drive letter from the drop-down menu.



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Using Disk Management to Create a VHD

Sometimes you want to work with virtual drives rather than physical hard drives within your system. The following steps show you how to do this by creating a VHD through Disk Manager.

1. Click the Start orb.
2. In the search field, type **manage**.
3. Select Computer Management.
4. If a UAC window appears, click Yes.
5. In the left pane, under Storage, click Disk Management.
6. Click the Action menu and then click Create VHD. This opens the Create and Attach Virtual Hard Disk dialog box.
7. In the Location text box, click Browse to choose the location where you want the VHD file to be stored.
8. In the Virtual Hard Disk Size text box, select the size of the VHD.
9. In the Virtual Hard Disk Format section, accept the default and click OK. You are returned to Computer Management, where your VHD is created. Follow its initializing progress in the lower right.
10. On successful completion, click the VHD in the main pane.
11. Click the Action menu and then click Attach VHD.
12. In the Location text box, click Browse to choose the location.
13. Click OK.

If you are having an issue creating a VHD, it might be due to the fact you're not meeting these requirements:

- The minimum size for a VHD is 3MB.
- The path specifying the location for the VHD needs to be fully qualified and can't be located in the \Windows directory.
- A VHD can be only a basic disk.
- A VHD is initialized when it is created. If you are creating a large, fixed-size VHD, it's going to take a while to finish creation.

Event Viewer

Event Viewer has been around for a while but it received a face-lift in Vista and had some tremendous improvements added in. In Windows 7, it has become a real troubleshooting tool (as opposed to simply being an informational go-to utility on what might be wrong with your system).

Often times you might have an error occur that might even crash your system or simply crash the application you are working with. Typically, if this happens once or twice, you might not think anything of it. But if it happens repeatedly, you might become concerned that there is a real problem you need to fix. The Event Viewer is an invaluable tool in this regard because it can show you the incident in question and might even be able to determine the cause of the failure.

The Event Viewer (see Figure 12.6) allows you to see more than the standard Windows logs (Application, System and Security logs). There are Applications and Services Logs, which include diagnostic logs, logs for specific applications within Windows 7 like your IE logs. In the past, you had to go hunting to find logs for certain applications, but Microsoft has tried to bring them all together here.

In addition to the design enhancements, there were features added that can really assist in locating and eliminating system issues. One is the ability to create custom views.

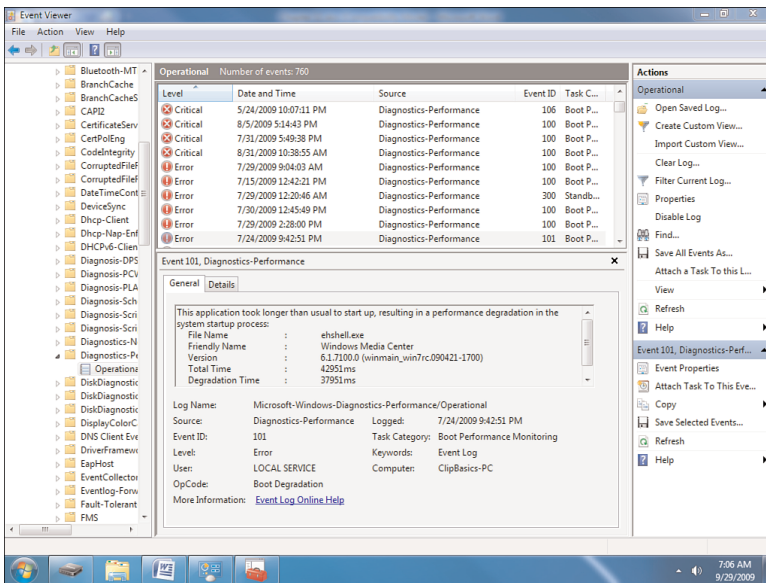


Figure 12.6 *Event Viewer is more robust, offering enterprise monitoring functionality.*

So many events come into the Event Viewer that it's almost impossible to track down the problem you are investigating without some form of filter. Views allow you to create filters that not only filter the events of one log, they allow you to select multiple logs to view. To create a custom view, select a log, click the Action menu, and then choose Create Custom View or Import Custom View. Keep in mind

that you can still use filters, but custom views can be retained and quickly selected from the navigation section.

You might have noticed that there are different levels of events alerting you to possible issues. They are:

- **Information:** This message occurs when there has been a change in an application or component. For example, a service started/re-started or an operation has successfully completed.
- **Warning:** When this message appears, an issue has happened that can impact a service or produce a bigger problem if action is not taken.
- **Error:** This message indicates that a problem has taken place that might impact functionality and is outside the application or component that triggered the error message.
- **Critical:** Usually the most serious event, a Critical event means that a failure has occurred where the application or component that triggered the event can't automatically recover.



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Opening Event Viewer and Viewing all Error Events Recorded

The following steps show you how to open Event Viewer and view all error events recorded.

1. Click the Start orb.
2. In the search field, type **event**.
3. Select Event Viewer.
4. If a UAC window opens, select Yes.
5. After Event Viewer opens, in the left pane, double-click Custom Views.
6. Click Administrative Events.
7. In the main Operational pane, click Level to sort your events by type.
8. Using the scroll bar, scroll through any Error events recorded.
9. Click any Error event. In the General tab near the bottom of the pane, view more information about the event.

Another nice feature in Event Viewer is the ability to attach a task to an event. This feature works with Task Scheduler in assigning events as triggers that require actions.



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SHOW ME Media 12.2—Using the Event Viewer

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Scheduling an Email to be Sent to You in Response to an Event

This exercise builds off the previous one. After opening Event Viewer, you will schedule an email sent to you in response to an event. Complete the steps below to accomplish this.

1. Click the Start orb.
2. In the search field, type **event**.
3. Select Event Viewer.
4. If a UAC window opens, select Yes.
5. Locate an event that you would like to be emailed about and right-click it.
6. Select Attach Task to this Event. This opens the Create Basic Task Wizard.
7. Create a description for this event.
8. Click Next.
9. Click Next again.
10. Choose Send a E-mail.
11. Click Next.
12. Fill out the email fields (From, To, Subject and Text) and the SMTP Server field.
13. Click Next and then Finish. This creates the task and adds it to your Windows task schedule.

Services

Services are the underlying core features that handle any number of things on your system—from web service to print services and more. You’ve probably seen the services console before in XP or Vista.

The Services structure hasn’t changed much in Windows 7 (see Figure 12.7). You might notice a few more services in Windows 7 depending on which older version of Windows you are comparing it to (from XP to Windows 7 there are new services to note). You will quickly notice some new services in Windows 7, such as the new BranchCache service.

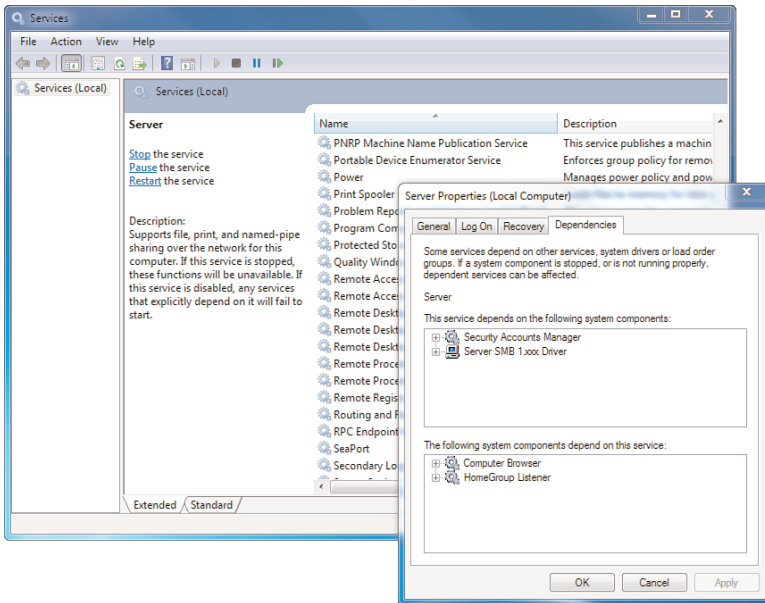


Figure 12.7 Start, stop and restart local services.

One reason to open Services is when a service is not responding correctly. For example, you might send a print job to a printer that appears as if it went through correctly. However, there is nothing on the printer. If the hardware is on and working correctly, it’s time to look at the software end of things. One possible solution would be to stop and restart the Print Spooler service (see Figure 12.8).

Someone might suggest that you just reboot the machine to fix it; that might work because it stops and starts all services. However, instead of stopping and starting all the services, why not just stop and restart the one causing the problem?

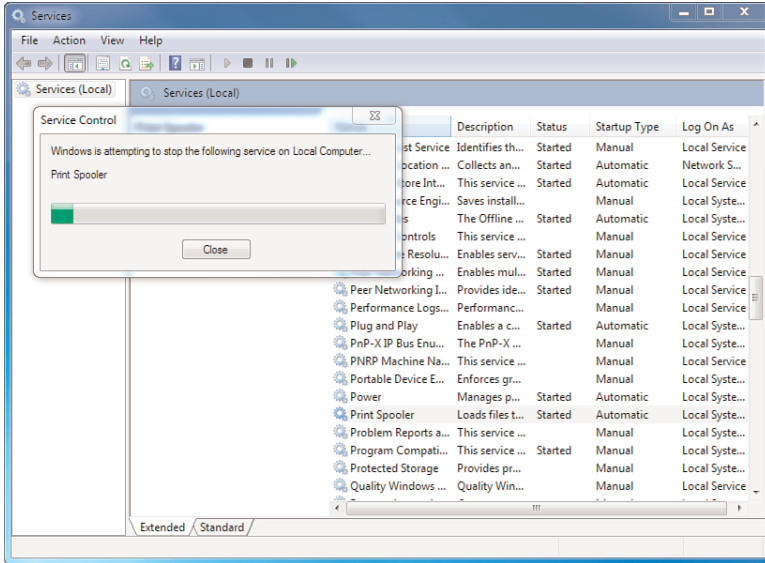


Figure 12.8 Stopping the Print Spooler service.



LET ME TRY IT

Stopping and Restarting the Print Spooler Service

The following steps show you how to stop and restart the Print Spooler service.

1. Click the Start orb.
2. In the search field, type **services**.
3. Select Services.
4. If a UAC window opens, select Yes.
5. Scroll through the Services names until you locate Print Spooler. Double-click it. This opens the Print Spooler Properties dialog box.
6. Under the lower section on the first tab called Service Status, click Stop.
7. A window opens, indicating Windows is stopping the service. Verify it is stopped by reviewing its service status. When it has stopped successfully, under Service Status, click Start.
8. A window opens, indicating Windows is starting the service. Verify it is started by reviewing its service status. When it has started successfully, click OK.

From within Services you can do the following:

- Stop, start, pause, resume, or disable a service. You can also see the description of what each service does and what other services rely on it to work.

- Configure recovery actions in the event of a service failure (like restarting the service).
- Configure a service to run under the security context of a user account that is different from the logged-on user or the computer account.
- Configure hardware profiles that use different services enabled or disabled.
- Export your services information to a .txt or .csv file.
- Monitor the status of each service.

If you have an issue where a service regularly fails and you are trying to troubleshoot it, the General tab in the Server Properties dialog box might have just what you need. On this tab, you can select the computer's response if a service fails. For example, the first time it fails, you might want to restart the service. If it fails again, you might want to automatically run an application in response to this failure. If it fails again, you might have the machine reboot to reset all services. For example, if you had multiple failures using Internet Connection Sharing and discovered a problem with the Network Connections service, you might want to start the Resource Monitor to see which processes are utilizing the network.



LET ME TRY IT

Setting Up Recovery Actions to Take Place When a Service Fails

The following steps show you how to set up recovery actions when a service fails. In this example, a command is provided to start Performance Monitor when the Network Connections service fails.

1. Click the Start orb.
2. In the search field, type **services**.
3. Select Services.
4. If a UAC window opens, select Yes.
5. Scroll through the Services names until you locate Network Connections. Double click-it.
6. Click the Recovery tab.
7. From the Second Failure drop down, select Run a Program.
8. In the Run Program area at the lower part of the tab, in the Program box, type **%windir%\system32\perfmon.exe /res**.
9. Click Apply.

10. Click OK.

When you click Run a Program, under Run program, you need to type the full path for the specified computer. UNC names are not supported.

For example, type **C:\system32\dfgui.exe** rather than **\\computername\c\$\system32\dfgui.exe**.

It's not always clear which system drivers or applications depend on a service in order to function correctly. In narrowing it down, take advantage of the Dependencies tab on any service properties box. This tab reveals any services or drivers that depend on that service in order to run.

System Configuration As a Troubleshooting Tool

Often overlooked, System Configuration is a troubleshooting tool that helps identify issues that might prevent Windows from starting correctly or quickly. You can access the System Configuration tool either through your Administrative Tools or by clicking your Start orb, typing **configuration** in the search field, and then hitting Enter.

Through System Configuration (see Figure 12.9), you have the ability to start Windows with common services and startup programs disabled and then turn them back on, one by one. This makes for easy troubleshooting: If a problem doesn't happen with a service disabled, but does happen when that service is enabled, then the service could be the source of the issue.

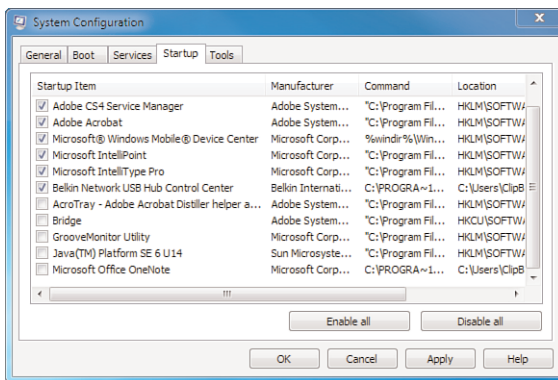


Figure 12.9 Troubleshooting startup issues from System Configuration.

Another use of System Configuration is to monitor and adjust your startup services to accelerate your initial boot-up time. For example, you might have software applications that look to the Internet for updates each time you start your computer. While helpful, this can compete with several other startup services and actually slow your boot-up. In System Configuration, you can manually remove services from startup while not uninstalling them completely. Thus, instead of an application checking for the latest updates each time you boot and hogging your startup resources, you can elect to do that manually at a time when the system isn't being taxed as much.



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Speed Up Windows Startup by Removing Startup Items

The following steps show you how to use System Configuration to speed up Windows 7 startup by removing startup items.

1. Click the Start orb.
2. Click Control Panel.
3. Click the System and Security group.
4. At the bottom of the page, click Administrative Tools.
5. Double-click System Configuration.
6. If a UAC window appears, click Yes.
7. Click the Services tab.
8. In the lower-left, select Hide all Microsoft Services.
9. Uncheck any services here not critical to startup.
10. Click the Startup tab.
11. Uncheck any Startup Items not critical to startup.
12. Click Apply.
13. Click OK.

Once within System Configuration, you will see the five tabs covered in the following section.

General

This tab provides three choices for system startup and configuration modes:

- **Normal Startup:** This starts Windows in the standard configuration. Once you have finished using the other two modes to troubleshoot the problem, choose this mode to start Windows 7 normally.
- **Diagnostic Startup:** This starts Windows with minimal services and drivers. The purpose of this mode is to help you rule out basic Windows files as the source of the issue.
- **Selective Startup:** This mode allows you to select which services and startup items open on boot-up.

Boot

This tab shows boot options for the operating system and advanced options to assist in debugging, including:

- **Safe Boot—Minimal:** This will default your startup to open Windows Explorer in safe mode. This mode runs only a basic set of critical system services. Also, networking is disabled with this selection.
- **Safe Boot—Alternate Shell:** This opens on startup the Windows command prompt in safe mode and runs only critical system services. Both networking and the GUI are disabled.
- **Safe Boot—Active Directory Repair:** This opens on startup the Windows command prompt in safe mode and runs only critical system services and Active Directory.
- **Safe Boot—Network:** This opens on startup the Windows command prompt in safe mode and runs only critical system services and networking.

Services

This tab displays all the services that start with the computer when it boots. You can see the current status of these services and enable or disable them from here. As shown in the previous exercise, you can also deselect a checkbox to prevent that particular service from starting up the next time you boot the system. Selecting the Hide all Microsoft Services checkbox shows you only the services from third parties.

Do not just stop services indiscriminately. Stopping services that normally run at startup might cause some programs to crash or might result in system instability. Also, clicking the Disable All button does not disable some secure Microsoft services required for the operating system to start correctly. The following Microsoft services can be stopped without jeopardizing system stability:

- Application Experience
- Computer Browser
- Desktop Window Manager Session Manager
- Diagnostic Policy Service
- Distributed Link Tracking Client
- IP Helper
- Offline Files
- Portable Device Enumerator Service
- Print Spooler
- Protected Storage
- Remote Registry
- Secondary Logon
- Tablet PC Input Service
- TCP/IP NetBIOS Helper
- Themes
- Windows Error Reporting Service
- Windows Media Center Receiver Service
- Windows Media Center Scheduler Service
- Windows Search
- Windows Time

Startup

This tab provides you with a list of applications that start on boot-up, including the name of the application, the manufacturer, the location of the executable, and the registry key for the startup application. Another thing you can see is a date when you disabled an application. An option you have here you is to deselect the

checkbox to stop the application from running on the next start up. If you feel there is an issue with a particular application, you can also verify the location of the application.

Tools

This tab shows a list of different diagnostic and informational tools and shows the location of these tools. From within this tab you can easily launch an application.



LET ME TRY IT

Starting Event Viewer from Within System Configuration

The following steps show you how to start Event Viewer from within System Configuration.

1. Click the Start orb.
2. Click Control Panel.
3. Click the System and Security group.
4. At the bottom of the page, click Administrative Tools.
5. Double-click System Configuration.
6. If a UAC window appears, click Yes.
7. Click the Tools tab.
8. Locate and click Event Viewer.
9. Click Launch and Event Viewer opens.

Between Vista and Windows 7, the System Configuration tool has remained somewhat the same. The only noticeable change is the removal of the Tools option to Enable or Disable UAC. With Windows 7, this tool is no longer necessary because we can now use the slider to accomplish this (and it doesn't require a reboot like it did in Vista).

Task Scheduler

Task Scheduler is not a new sfeature to the Windows OS but the enhancements introduced with Vista and carried into Windows 7 sure make this a tool to reconsider. Under previous versions of Windows, you could use Task Scheduler to launch tasks at a specific times or in response to minimal sets of conditions that might occur with the system. There was no way to maintain a task history or configure multiple actions to occur. It was still a great tool, but it was limited—thus forcing admins to find other software to fulfill their needs.

Within Windows 7, you can configure the Task Scheduler to perform tasks on a timed basis, but it can also respond to situations that occur on a variety of levels. The response system can even restart a service that has failed or send an email to the admin when a certain event has occurred.

In addition, there is an entire Task Scheduler Library that has preconfigured tasks for you to work with (see Figure 12.10).

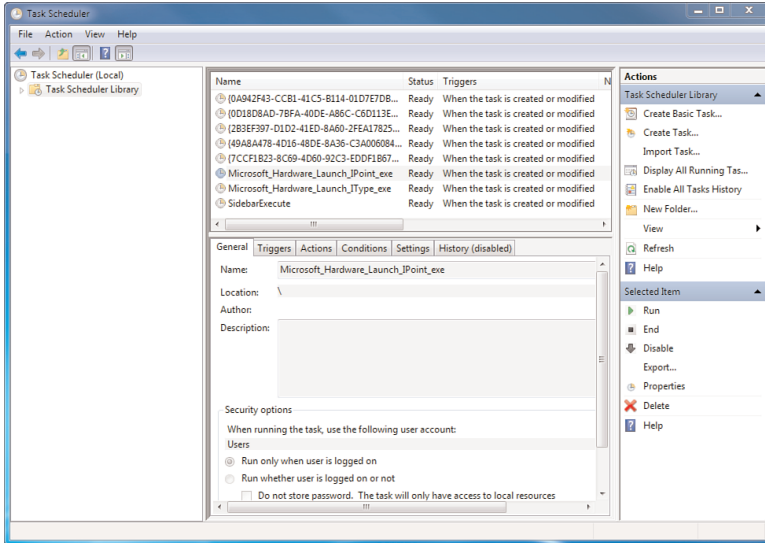


Figure 12.10 The Task Scheduler with the Library of tasks to choose from.

One practical feature of Task Scheduler is its ability to open applications automatically for you at intervals you specify. For example, you might have Windows Backup and Restore configured to run over the weekend while you are away from your machine. As a reminder, you could set Task Scheduler to open Backup and Restore for you every Monday so you could verify the backup.



LET ME TRY IT

Scheduling Backup and Restore to Launch Every Monday

The following steps show you how to schedule Backup and Restore to launch every Monday and perform a backup.

1. Open Task Scheduler.
2. In the right pane, click Create Basic Task. This opens the Create Basic Task Wizard (see Figure 12.11).

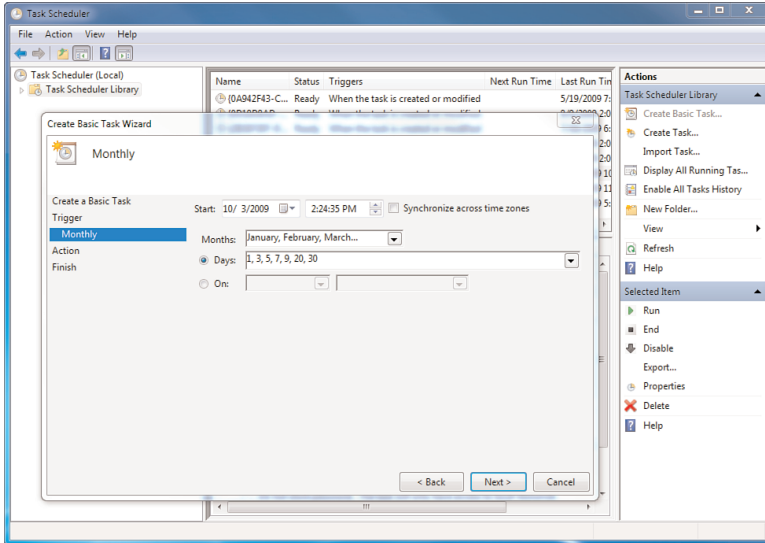


Figure 12.11 Easily configure a task from the *Create Basic Task Wizard*.

3. Type a Name and Description for this event.
4. Click Next.
5. Choose Weekly.
6. Click Next.
7. Select the Monday checkbox.
8. Click Next.
9. Make sure Start a Program is selected and then click Next.
10. In the Program/Script text box type **%SystemRoot%\System32\control.exe**.
11. In the Add Arguments text box, type **/name Microsoft.BackupAndRestore**.
12. Click Next.
13. Click Finish.

The Task Scheduler is integrated with Event Viewer now so that it can react to situations based upon events that occur. There is also a way to view the task history. You can see which tasks are running, have run, or are scheduled to run.

A Trigger is what causes the task to run, and an Action is what you have configured to occur in the event the trigger goes off. Some triggers are schedules that you put into effect. For example, if want a specific action to occur each day at 1 p.m., then

the Trigger is the scheduled time. But a Trigger can also be when a user logs in, when the system starts up, when a specific event occurs, and so forth. An action can include running a program, sending an email, or even displaying a preconfigured message. The Wizard provides a list of possible actions to take, including running scripts with the `cscript.exe` application, copying a file with `robocopy`, starting and stopping services, shutting down the system, and a host of others.

You can do this in several different ways. First off, from the Task Scheduler console, in the Actions pane, you can click Create Basic Task. The Create Basic Task Wizard walks you through the following options:

1. **Create a Basic Task:** Start with a Name and Description.
2. **Trigger:** You can work from a schedule (Daily, Weekly, Monthly, One Time) where you set time parameters for the triggered event. Or you can select When the Computer Starts, When I Log On, or When a Specific Event is Logged. With that last one you can choose the Log, the Source, and even the Event ID that triggers the next step.
3. **Action:** You can start a program (and choose which program that is), send an email (with the information for the email), or display a message (and write the message you want displayed).
4. **Finish:** You can review your new task and tell it to open the properties of the task. When this happens, you can see a much more complicated tabbed view of a task. These options help you go beyond the basic task. You can create and manage your tasks in this way, or you can create a task from the more complicated tabs to start with.

The capability to create tasks is not limited to the local computer you are working on. Task Scheduler gives you the opportunity to connect to another computer on your network and configure a task for it. You can connect to remote computers running Windows Server 2008, Vista, Windows Server 2003, XP, or Windows 2000.

There are a couple things to have in place before connecting, depending on the OS you are connecting to. Here are some reminders from Windows 7 Help and Support:

If you are connecting to a remote computer running Vista or Windows Server 2008 from a computer running Vista or Windows Server 2008, you need to enable the Remote Scheduled Tasks Management firewall exception on the remote computer. To allow this exception, click Start, Control Panel, System and Security, Allow a Program Through Windows Firewall and then select the Remote Scheduled Tasks Management checkbox. Then click the OK button in the Windows Firewall Settings dialog box.

If you are connecting to a remote computer running XP or Windows Server 2003 from a computer running Vista or Windows Server 2008, you need to allow the File and Printer Sharing firewall exception on the remote computer. To allow this exception, click Start, Control Panel, double-click Windows Firewall, select the Exceptions tab, and then select the File and Printer Sharing firewall exception. Then click the OK button in the Windows Firewall dialog box.



LET ME TRY IT

Connecting to a Remote Computer to Create a Task

The following steps show you how to use Task Scheduler to create a task on a remote computer. This exercise requires you to be connected on a network to another computer.

1. Open Task Scheduler.
2. In the left pane, click Task Scheduler.
3. In the Actions pane, click Connect to Another Computer. This opens the Select Computer dialog box.
4. Select the Another Computer radio button.
5. In the Another Computer text box, type the name or IP address of the remote computer or click the Browse button to browse for a remote computer.
6. Once you have selected a remote computer, click OK.
7. You can now create a task on the remote computer.

To create a more advanced task, click the Create Task option in the Action pane. The Create Task dialog box offers the following five tabs to configure your tasks:

- **General:** Allows you to configure the name and description, which user account it should run under, and if it should run only when that user is logged in or not.
- **Triggers:** Allows you to schedule an extensive list of triggers, starting with the time triggers you can set up. If you change the Begin the Task options, the settings will change. The most complex of the triggers involves Events.
- **Actions:** These actions are the same as the actions listed in the basic settings. Allows you to configure a program to run, send an email, display a message—or you can do all three if you like. That is the benefit to using the advanced tabbed task creator. You can configure different actions to occur from here.

- **Conditions:** Allows you to specify conditions to your task. For example, you might want certain tasks to run only if the system is idle. Depending on if the computer is running on AC power or battery, you might not want the task to run (or you might not want it to run if it isn't connected to a certain network).
- **Settings:** Allows you to determine if you can start the task manually, what to do if your task couldn't run on schedule, and what to do in the event a task is running too long.

Every once in a while, a task that you have scheduled to start will not run as planned. When troubleshooting the cause of a failed task, keep the following in mind:

- Task Schedule will not run while the computer is in Safe Mode.
- Verify the triggers for the task have been set correctly.
- Check the task history, making sure it ran correctly on previous occasions and there were no errors.
- A task will run only if all its conditions are met.
- Make sure the user who is logged on when the task is scheduled to run has the correct security level to run the task.

Windows Memory Diagnostic

Windows Memory Diagnostic (see Figure 12.12) is a feature that runs in the background of Windows 7. If it discovers a problem, it runs diagnostic tests, which are then added to the event logs. However, you can also kick-start it if you think you are having memory issues. You can run the tool from the Administrative tools or by typing **mdsched.exe** in the command prompt.

You will be asked if you want to run the tool now or to run the tool the next time you start your computer. You'll have to restart the computer for the test to be run, so make sure you save your work before you run the test.

If you decide to restart your computer and run the tool immediately, make sure you save your work and close all of your running programs. The Memory Diagnostic tool runs automatically when Windows restarts. In order to thoroughly check your computer's memory, it might take several minutes for the tool to complete. Once the test is finished, Windows restarts automatically. If the tool does find problems, it's likely the issue is a malfunction with your hardware memory chip aboard your computer. Consider replacing it yourself or contacting your computer manufacturer for information about replacement.

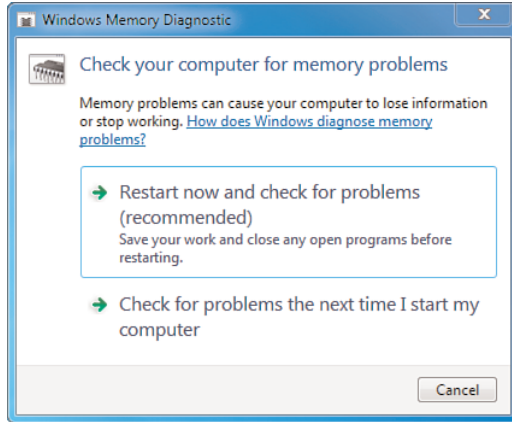


Figure 12.12 Track down memory issues with Windows Memory Diagnostic.



SHOW ME Media 12.3—Using Memory Diagnostics

Access this video file through your registered Web Edition at my.safaribooksonline.com/9780768695212/media.



LET ME TRY IT

Starting the Memory Diagnostic Tool with Advanced Options

The following steps show you how to start the Memory Diagnostic tool with advanced options. During the exercise your computer will reboot.

1. Click the Start orb.
2. In the search field, type **memory**.
3. Click Windows Memory Diagnostic.
4. If a UAC window appears, click Yes.
5. This opens the Windows Memory Diagnostic dialog box.
6. Close any applications you have open.
7. Click Restart Now and Check for Problems. Windows reboots and starts the Memory Diagnostic tool.
8. As the tool begins, press F1. This opens the advanced options screen.

9. Select from Test Mix, Cache or Pass Count. (A description of each follows these steps.)
10. Complete running the test by pressing F10.

If you're wondering what these advanced options are, here's a quick explanation:

- **Test mix:** Select from Basic, Standard, or Extended. Details regarding each choice is described in the tool.
- **Cache:** Select the cache setting you want for each test: Default, On, or Off.
- **Pass Count:** Select the number of times you want to repeat the test.



TELL ME MORE Media 12.4—A Discussion of Administrative Tools

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