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# Lab 4A: Troubleshooting the Boot Process

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## Objectives

After completing this lab, you will be able to:

- Install the Recovery Console.
- Modify the **Operating System Selection** screen options.
- Use the Recovery Console to resolve boot process problems.
- Use the advanced boot options to resolve boot process problems.

## Prerequisites

Before working on this lab, you must have completed Lab 1C Upgrading Windows 98 to Windows XP Professional.

## For More Information

**Estimated time to complete this lab: 45 minutes**

## Exercise 1

### Installing the Recovery Console

In this exercise, you will install the Recovery Console.

#### Scenario

One of the computers in the group that you support occasionally stops during the boot process. You want to install the Recovery Console to try and solve the problem. But you do not want the user to see the operating system selection screen during the boot process. You will install the Recovery Console, and then modify the Boot.ini file so that the user does not see the **Operating System Selection** screen.

Tasks	Detailed steps
<p>1. Log on to the local computer as <b>Administrator</b> with a password of <b>password</b> and then install the Recovery Console.</p>	<p>a. Log on to the local computer as <b>Administrator</b>, with a password of <b>password</b>.</p> <p>b. Insert the Microsoft® Windows® XP compact disc into the CD-ROM drive.</p> <p>c. Click <b>Exit</b> to close the <b>Welcome to Microsoft Windows XP</b> screen.</p> <p>d. Open a command prompt window, and then at the command prompt, switch to your CD-ROM drive.</p> <p>e. Type <code>\i386\winnt32.exe /cmdcons</code> and then press <b>Enter</b>.</p> <p>f. When prompted <b>Do you want to install the Recovery Console</b>, click <b>Yes</b>.</p> <p> <i>Windows XP setup begins installing the Recovery Console.</i></p> <p>g. When the <b>Windows XP Professional Setup</b> message box appears, click <b>OK</b>.</p> <p>h. Close the command prompt window, remove the Windows XP Professional compact disc, and then restart the computer.</p>

Tasks	Detailed steps
<p>2. Log on to the local computer as Administrator, with a password of <b>password</b>. Configure Window Explorer to view the Boot.ini file and remove the read only attribute.</p>	<ol style="list-style-type: none"> <li>a. When the <b>Operating System Selection</b> screen appears, select <b>Microsoft Windows XP Professional</b>, or let the selection time elapse.</li> <li>b. Log on to the local computer as <b>Administrator</b>, with a password of <b>password</b>.</li> <li>c. Click <b>Start</b>, right-click <b>My Computer</b> and then click <b>Explore</b>.</li> <li>d. From the <b>Tools</b> menu, click <b>Folder Options</b>.</li> <li>e. From the <b>Folder Options</b> dialog box click <b>View</b>.</li> <li>f. From the <b>Advanced Settings</b> list, click <b>Show hidden files and folders</b>, verify <b>Hide extensions for know file types</b> is not selected, and then clear <b>Hide protected operating system files (recommended)</b> checkbox.</li> <li>g. Click <b>Yes</b> when prompted <b>Are you sure you want to display these files</b>, and then click <b>OK</b>, to close Folder Options.</li> <li>h. Right-click <b>Local Disk (c:)</b>, and then click <b>Open</b>.</li> <li>i. Under <b>System Tasks</b>, click <b>Show the contents of this drive</b>.</li> <li>j. In the Details pane right-click <b>Boot.ini</b>, and then click <b>Properties</b>.</li> <li>k. In the <b>Boot.ini Properties</b> dialog box, clear <b>Read-only</b> attribute, and then click <b>OK</b>.</li> <li>l. Close all open windows.</li> </ol>
<p>3. Modify the Boot.ini file, so that the <b>Operating System Selection</b> screen does not appear.</p>	<ol style="list-style-type: none"> <li>a. Click <b>Start</b>, right-click <b>My Computer</b>, and then click <b>Properties</b>.</li> <li>b. In the <b>System Properties</b> dialog box, click <b>Advanced</b>, and for <b>Startup and Recovery</b> click <b>Settings</b>.</li> <li>c. In the <b>Startup and Recovery</b> dialog box, click <b>Edit</b>, view the contents of the <b>Boot.ini</b> file.</li> </ol>
<p> <b>Note:</b> Since you modified the read-only attributes of the Boot.ini file earlier you could modify any part of the file at this point. Instead you will use the User Interface to modify the display time of the Operating Selection screen, using the User Interface does not require you to modify the read-only attribute.</p>	
<p>3. (continued)</p>	<ol style="list-style-type: none"> <li>d. Close <b>Notepad</b>.</li> <li>e. From <b>Startup and Recovery</b> dialog box, clear <b>Time to display list of operating systems</b> checkbox. <ul style="list-style-type: none"> <li> <i>The value is now grayed out and set to zero.</i></li> </ul> </li> <li>f. Click <b>OK</b> to close the <b>Startup and Recovery</b> dialog box.</li> <li>g. Click <b>OK</b> to close the <b>System Properties</b> page, and then restart the computer. <ul style="list-style-type: none"> <li> <i>Notice that even though there are multiple entries in the Boot.ini file, the default operating system is automatically selected.</i></li> </ul> </li> </ol>

Tasks	Detailed steps
<p>4. Log on to the local computer as <b>Administrator</b> with a password of <b>password</b>, and then modify the <b>Boot.ini</b> file so that the <b>Operating System Selection</b> screen appears.</p>	<ul style="list-style-type: none"><li>a. Log on to the local computer as <b>Administrator</b>, with a password of <b>password</b>.</li><li>b. Open the <b>Startup and Recovery</b> properties sheet.</li><li>c. Click the <b>Display list of operating systems</b> check box, the value will change to <b>30</b>, and then click <b>OK</b>.</li><li>d. Close the <b>System Properties</b> sheet.</li></ul>

## Exercise 2

# Using the Recovery Console to Solve Boot Process Problems

In this exercise, you will use the Recovery Console to solve boot process problems.

### Scenario

One of the users in the group that you support has gained access to the computer as an administrator, and has accidentally deleted files that are necessary for the boot process. You want to restore the computer without having to reinstall the operating system.

Tasks	Detailed steps
<ol style="list-style-type: none"> <li>1. Delete the NTLDR file.</li> </ol>	<ol style="list-style-type: none"> <li>a. Click <b>Start</b>, right-click <b>My Computer</b>, and then click <b>Explore</b>.</li> <li>b. In the Folders list, click Local Disk (C:).</li> <li>c. In the details pane, right-click <b>NTLDR</b>, click <b>Delete</b>, and then click <b>Yes</b> on the <b>Confirm File Delete</b> message box.</li> <li>d. Close the Windows Explorer, and then restart the computer.</li> </ol>
<ol style="list-style-type: none"> <li>2. Insert the Windows XP Professional compact disc, start the Emergency Repair Disk process, load the Recovery Console, and then restore the NTLDR file.</li> </ol>	<ol style="list-style-type: none"> <li>a. When the <b>NTLDR is missing</b> message appears, insert the Windows XP Professional compact disc, and then press any key.</li> <li>b. When the <b>Boot from CD</b> message appears, press any key.</li> <li>c. On the <b>Setup Notification</b> screen, press ENTER.</li> <li>d. On the <b>Welcome to Setup</b> screen, press R to begin the repair process using the Recovery Console. <ul style="list-style-type: none"> <li> <i>On the initial Recovery Console screen, if you have multiple installations of Windows, you can select which installation you want to start.</i></li> </ul> </li> <li>e. On the initial <b>Recovery Console</b> screen, type 1, and then press ENTER.</li> <li>f. When prompted for the <b>Administrator password</b>, type <b>password</b> and then press ENTER.</li> <li>g. At the <b>C:\Windows</b> prompt, type <b>HELP</b> and then press ENTER.</li> <li>h. On the list of available Help commands, scroll through the list to see the available commands.</li> <li>i. At the <b>C:\Windows</b> prompt, type <b>copy CD-ROM:\I386\NTLDR C:\</b> (Where <i>CD-ROM</i> is the drive letter for the CD-ROM drive), and then press ENTER.</li> <li>j. Type <b>Exit</b> to restart the computer, and then remove the compact disc.</li> </ol>

## Exercise 3

### Using Advanced Boot Options to Solve Boot Process Problems

In this exercise, you will use Advanced Boot Options to solve boot process problems.

#### Scenario

One of the user's computers in the group that you support is unable to access resources on the network. You will use Advanced Boot Options to solve her problem.

Tasks	Detailed steps
<p>1. On the <b>Operating System Selection</b> screen, press F8, and then select <b>Enable Boot Logging</b>. Log on to the local computer as Administrator, open WordPad, and then view the contents of Ntbtlog.txt file.</p>	<p>a. On the <b>Operating System Selection</b> screen, press F8.</p> <p>b. On the <b>Advanced Options Menu</b> screen, select <b>Enable Boot Logging</b>, and then press ENTER.</p> <p>c. On the <b>Operating System Selection</b> screen, select <b>Microsoft Windows XP Professional</b>, and then press ENTER.</p> <p>d. Log on to the local computer as Administrator with a password of <b>password</b>, click <b>Start</b>, point to <b>All Programs</b>, point to <b>Accessories</b>, and then click <b>WordPad</b>.</p> <p>e. In <b>WordPad</b>, click <b>File</b>, and then click <b>Open</b>.</p> <p>f. In the <b>Look in</b> box, click the down arrow, and then click <b>Local Disk (C:)</b>.</p> <p>g. Double-click <b>Windows</b>, in the <b>Files of type</b>, select <b>Unicode Text Documents (*.txt)</b>, and then double-click <b>ntbtlog</b>.</p> <p> <i>The Boot log contains a list of all device drivers that were loaded and some that were not loaded.</i></p> <p>h. On the <b>Edit</b> menu, click <b>Find</b>.</p> <p>i. In the <b>Find what</b> box, type <b>TCPIP</b> and then press ENTER.</p> <p>j. Close the <b>Find</b> dialog box, close <b>WordPad</b>, and then restart the computer.</p>
<p>3. Start the Recovery Console, disable TCPIP, and then restart the computer.</p>	<p>a. On the <b>Operating System Selection</b> screen, select <b>Microsoft Windows 2000 Recovery Console</b>, and then press ENTER.</p> <p>b. Choose the installation of Windows XP that you want to load, and then press ENTER.</p> <p>c. At the password prompt, type <b>password</b> and then press ENTER.</p> <p>d. At the <b>C:\Windows</b> prompt, type <b>disable TCPIP</b></p>
<p> What was the start type for TCPIP?</p> <p><b>Service System Start.</b></p> <p>_____</p> <p>_____</p>	

Tasks	Detailed steps
3. (continued)	e. At the <b>C:\Windows</b> prompt, type <b>EXIT</b> and then press <b>ENTER</b> to restart the computer.
4. On the <b>Operating System Selection</b> screen, press <b>F8</b> and enable boot logging. Open <b>WordPad</b> , and then search the <b>ntbtlog</b> file to see if <b>TCPIP</b> was loaded.	<p>a. On the <b>Operating System Selection</b> screen, press <b>F8</b>.</p> <p>b. On the <b>Advanced Options Menu</b> screen, select <b>Enable Boot Logging</b>, and then press <b>ENTER</b>.</p> <p>c. On the <b>Operating System Selection</b> screen, select <b>Microsoft Windows XP Professional</b>, and then press <b>ENTER</b>.</p> <p>d. Log on to the local computer as <b>Administrator</b> with a password of <b>password</b>.</p> <p>e. Click <b>Start</b>, and then click <b>WordPad</b>.</p> <p>f. In <b>WordPad</b>, click <b>File</b>, and then click <b>Open</b>.</p> <p>g. In the <b>Files of type</b>, select <b>Unicode Text Documents (*.txt)</b>, and then double-click <b>ntbtlog</b>.</p>
<p> <b>Note:</b> If there is an existing Boot log file, Windows XP will append the log information to the end of the existing file.</p>	
4. (continued)	<p>h. On the <b>Edit</b> menu, click <b>Find</b>.</p> <p>i. In the <b>Find what</b> box, type <b>TCPIP</b> and then press <b>ENTER</b>.</p> <p>j. The first entry found will be from the first time you restarted the computer with boot logging enabled, and then click <b>Find Next</b>.</p> <p>k. In the <b>WordPad</b> message box, click <b>OK</b>, as there were no entries for <b>TCPIP</b> the second time you restarted the computer with boot logging enabled.</p> <p>l. Close the <b>Find</b> box, close <b>WordPad</b>, and then restart the computer.</p>
5. Start the <b>Recovery Console</b> , view the status of <b>TCPIP</b> , and then start the <b>TCPIP</b> service.	<p>a. On the <b>Operating System Selection</b> screen, select <b>Microsoft Windows 2000 Recovery Console</b>, and then press <b>ENTER</b>.</p> <p>b. Choose the installation of Windows XP that you want to load, and then press <b>ENTER</b>.</p> <p>c. Type <b>password</b> and then press <b>ENTER</b>.</p> <p>d. At the <b>C:\Windows</b> prompt, and then type <b>LISTSVC</b></p> <p>e. Scroll through the list of services until you find <b>TCPIP</b>.</p>
<p> What is the status of <b>TCPIP</b>?</p> <p><b>Disabled.</b></p> <hr/> <hr/>	

Tasks	Detailed steps
5. <i>(continued)</i>	<ul style="list-style-type: none"><li>f. Scroll to the end, until you find a <b>C:\Windows</b> prompt.</li><li>g. At the <b>C:\Windows</b> prompt, type <b>enable TCPIP Service_System_Start</b> and then press ENTER.</li><li>h. At the <b>C:\Windows</b> prompt, type <b>Exit</b> and then press ENTER to restart the computer.</li></ul>
6. Start Windows XP, and then verify that TCPIP started.	<ul style="list-style-type: none"><li>a. Log on to the local computer as Administrator with a password of <b>password</b>.</li><li>b. Verify that you have network connectivity.</li><li>c. Close all open windows, and then log off.</li></ul>