



INSTALLATION AND UPGRADE GUIDE: WEBCT CAMPUS EDITION™ 4.1

August 5, 2003

Use of this guide is subject to the terms and conditions of the Software License Agreement for WebCT Campus Edition. The information contained herein is provided “as is” and is subject to change without notice. WebCT, Inc. and/or its licensors may make improvements and/or changes in the products described herein at any time. This guide may include technical inaccuracies or typographical errors. WEBCT, INC. MAKES NO WARRANTY OF ANY KIND WITH REGARD TO THIS GUIDE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. WebCT, Inc. shall not be liable for any errors or for special, indirect, incidental or consequential damages in connection with the furnishing, performance, or use of this guide or the examples herein.

This guide is copyright © 2003 WebCT, Inc. All rights reserved.

Complying with all copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this guide may be reproduced, distributed, displayed, stored in or introduced into a retrieval system or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise), for any purpose, without the express written permission of WebCT, Inc.

WebCT is a registered trademark in the U.S. Patent and Trademark Office and in the European Union. WebCT Campus Edition and other WebCT product names referenced herein are either registered trademarks or trademarks of WebCT, Inc. in the United States and other jurisdictions.

AOL is a trademark of AOL Time Warner, Inc.

Campus Pipeline is a trademark of Campus Pipeline, Inc.

Colleague and Datatel are registered trademarks of Datatel Inc. in the U.S. and other countries.

Edit-on is a registered trademark of RealObjects GmbH.

Intel is a registered trademark of Intel Corporation.

Java, NFS, Solaris, and Sun are either registered trademarks or trademarks of Sun Microsystems, Inc. in the United States and other countries. JavaScript is a trademark of Sun Microsystems, Inc., used under license for technology invented and implemented by Netscape. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the United States and other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

Linux is a registered trademark of Linus Torvalds.

Mac and all Mac-based marks are trademarks of Apple Computer, Inc., registered in the U.S. and other countries.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Netscape, Netscape Certificater Server, Netscape FastTrack Server, Netscape Navigator, Netscape ONE, SuiteSpot, and the Netscape N and Ship’s Wheel logos are registered trademark of Netscape Communications Corporation in the United States and other countries.

Red Hat is a registered trademark of Red Hat, Inc.

SCT, Banner, and Plus are either registered trademarks or trademarks of Systems & Computer Technology Corporation

UNIX is a registered trademark of The Open Group in the U.S. and other countries.

WebEQ is a trademark of Design Science Inc.

All other product names, company names, marks, logos, and symbols are trademarks of their respective owners.

CONTENTS

INTRODUCTION	III
CONVENTIONS	III
CONTACTING WEBCT	IV
 CHAPTER 1: SYSTEM REQUIREMENTS.....	1
SERVER OPERATING SYSTEM REQUIREMENTS	1
<i>INSTALLING THE RED HAT LINUX 6.2 LIBSTDC++ COMPATIBILITY PACKAGE</i>	<i>1</i>
<i>PERL</i>	<i>2</i>
<i>APACHE.....</i>	<i>2</i>
HARDWARE REQUIREMENTS	2
<i>NOTE FOR UNIX USERS.....</i>	<i>3</i>
CLIENT OPERATING SYSTEM REQUIREMENTS	3
BROWSER REQUIREMENTS	4
 CHAPTER 2: INSTALLING WEBCT CE 4.1	6
NOTES FOR STUDENT INFORMATION SYSTEM USERS	6
INSTALLING WEBCT CE 4.1 ON A UNIX OPERATING SYSTEM	7
<i>INSTALLING THE WEBCT CE 4.1 DISTRIBUTION FILE ON YOUR SERVER</i>	<i>8</i>
<i>INSTALLING AND STARTING THE LICENSE SERVER.....</i>	<i>11</i>
<i>ACTIVATING THE WEBCT CE 4.1 INSTANCE ON YOUR SERVER</i>	<i>14</i>
<i>STARTING THE WEBCT SERVER</i>	<i>15</i>
<i>LOGGING IN TO THE WEBCT ADMINISTRATOR INTERFACE AND CHANGING THE DEFAULT</i>	
<i>ADMINISTRATOR PASSWORD</i>	<i>15</i>
<i>ENTERING THE WEBCT CE 4.1 LICENSE KEY(S)</i>	<i>16</i>
<i>LICENSE OPTIONS.....</i>	<i>17</i>
<i>OPTIONAL LICENSE FEATURES</i>	<i>18</i>
<i>AUTOSTARTING WEBCT CE 4.1 ON THE UNIX OPERATING SYSTEM</i>	<i>19</i>
INSTALLING WEBCT CE 4.1 ON A WINDOWS OPERATING SYSTEM.....	21
<i>INSTALLING THE WEBCT CE 4.1 DISTRIBUTION FILE ON YOUR SERVER</i>	<i>22</i>
<i>TAKING OWNERSHIP OF THE WEBCT SERVICE ON WINDOWS 2000</i>	<i>24</i>
<i>INSTALLING THE LICENSE SERVER</i>	<i>25</i>
<i>ACTIVATING THE WEBCT CE 4.1 INSTANCE ON YOUR SERVER AND STARTING THE LICENSE</i>	
<i>SERVER.....</i>	<i>28</i>
<i>LOGGING IN TO THE WEBCT ADMINISTRATOR INTERFACE AND CHANGING THE DEFAULT</i>	
<i>ADMINISTRATOR PASSWORD</i>	<i>29</i>
<i>ENTERING THE WEBCT CE 4.1 LICENSE KEY(S)</i>	<i>30</i>
<i>LICENSE OPTIONS.....</i>	<i>31</i>
<i>OPTIONAL LICENSE FEATURES</i>	<i>32</i>
<i>CHANGING THE STARTUP TYPE OF THE LICENSE SERVER AND WEBCT SERVICE ON THE WINDOWS</i>	
<i>OPERATING SYSTEM</i>	<i>33</i>
 CHAPTER 3: UNINSTALLING WEBCT CE 4.1	35
UNINSTALLING WEBCT CE 4.1 ON A UNIX OPERATING SYSTEM.....	35
<i>UNINSTALLING A SINGLE WEBCT CE 4.1 INSTANCE</i>	<i>35</i>
<i>UNINSTALLING ONE OF MULTIPLE WEBCT CE 4.1 INSTANCES</i>	<i>36</i>
UNINSTALLING WEBCT CE 4.1 ON A WINDOWS OPERATING SYSTEM	37
<i>UNINSTALLING A SINGLE WEBCT CE 4.1 INSTANCE</i>	<i>37</i>
<i>UNINSTALLING ONE OF MULTIPLE WEBCT CE 4.1 INSTANCES</i>	<i>38</i>

CHAPTER 4: UPGRADING TO WEBCT CE 4.1	41
NOTES FOR STUDENT INFORMATION SYSTEM USERS	41
UPGRADING TO WEBCT CE 4.1 ON A UNIX OPERATING SYSTEM.....	43
<i>UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.7.X, 3.8.X, OR 4.0.X ON A UNIX OPERATING SYSTEM.....</i>	<i>43</i>
<i>UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.6.X OR WEBCT STANDARD EDITION 3.6.X ON A UNIX OPERATING SYSTEM.....</i>	<i>53</i>
UPGRADING TO WEBCT CE 4.1 ON A WINDOWS OPERATING SYSTEM.....	66
<i>UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.7.X, 3.8.X, OR 4.0.X ON A WINDOWS OPERATING SYSTEM</i>	<i>67</i>
<i>UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.6.X OR WEBCT STANDARD EDITION 3.6.X ON A WINDOWS OPERATING SYSTEM</i>	<i>77</i>
 CHAPTER 5: INSTALLING WEBCT LANGUAGE PLUG-INS	 91
INSTALLING LANGUAGE PLUG-INS ON A UNIX OPERATING SYSTEM	91
<i>TO INSTALL LANGUAGE PLUG-INS ON A UNIX OPERATING SYSTEM.....</i>	<i>91</i>
<i>INCREASING SHARED MEMORY SEGMENTS IN /ETC/SYSTEM</i>	<i>92</i>
INSTALLING LANGUAGE PLUG-INS ON A WINDOWS OPERATING SYSTEM	92

INTRODUCTION

Welcome to the *Installation and Upgrade Guide: WebCT Campus Edition™ 4.1*. For documentation purposes, this guide also refers to WebCT Campus Edition as “WebCT” and “WebCT CE.”

The following table provides a description of each chapter in this guide.

Chapter	Description
<i>Chapter 1: System Requirements</i> on page 1	This chapter contains WebCT Campus Edition 4.1 requirements, including: <ul style="list-style-type: none">• server operating system requirements• hardware requirements• client operating system requirements• browser requirements
<i>Chapter 2: Installing WebCT CE 4.1</i> on page 6	This chapter contains instructions for installing WebCT Campus Edition 4.1 on a UNIX® and Microsoft® Windows® operating system.
<i>Chapter 3: Uninstalling WebCT CE 4.1</i> on page 35	This chapter contains instructions for uninstalling WebCT Campus Edition 4.1 on a UNIX and Microsoft Windows operating system.
<i>Chapter 4: Upgrading to WebCT CE</i> on page 41	This chapter contains instructions for upgrading to WebCT Campus Edition 4.1 on a UNIX and Microsoft Windows operating system.
<i>Chapter 5: Installing WebCT Language Plug-Ins</i> on page 91	This chapter contains instructions for installing WebCT Language Plug-ins.

CONVENTIONS

The following conventions are used in this guide:

⇒

An arrow at the beginning of a line indicates that, due to page width restrictions, the text on this line is continued from the previous line. Both lines should be treated as a single line.

In the case of commands entered at the command prompt, the user must enter everything together on the same line without pressing Enter. For example,

```
license -activate /home/  
⇒webctl/webct
```

should be entered as

```
license -activate /home/webctl/webct
```

<angle_brackets>

Unless appearing within HTML or XML code, angle brackets (less than/greater than symbols) indicate a placeholder or variable that should be replaced with an actual value as indicated by the text between them. For example,

```
<webct_install_directory>
```

should be replaced with the actual directory where WebCT Campus Edition is installed.

italic

Words in italic indicate text that appears in the user interface, such as a window title or a label. It can also indicate a hyperlink on a web page. For example,

The *Configuration* screen appears.

bold

Words in bold indicate button text or user interface elements that you click. For example,

Click **OK**.

`courier`

Courier font is used for URLs, e-mail addresses, file names, key names, and text appearing in the console. For example,

```
www.webct.com
```

CONTACTING WEBCT

If you have any questions or suggestions concerning WebCT Campus Edition, go to www.webct.com/productrequest

For questions or suggestions concerning this or other documentation, please send an e-mail to docfeedback@webct.com

CHAPTER 1: SYSTEM REQUIREMENTS

This chapter includes the following sections:

- *Server Operating System Requirements*, see below
- *Hardware Requirements* on page 2
- *Client Operating System Requirements* on page 3
- *Browser Requirements* on page 4

SERVER OPERATING SYSTEM REQUIREMENTS

Before installing or upgrading to WebCT Campus Edition 4.1, ensure your server meets the server software requirements.

WebCT Campus Edition 4.1 is compatible with the following server operating systems:

- Microsoft Windows 2000 Server SP4 operating system
- Microsoft Windows 2000 Advanced Server SP4 operating system
- Red Hat® Linux® 7.3 (Kernel 2.4.18-3) operating system for Intel® processors

Important: If you are using Red Hat Linux 7.3, you must install the Red Hat Linux 6.2 libstdc++ compatibility package. For installation instructions, see *Installing the Red Hat Linux 6.2 libstdc++ Compatibility Package* on page 1.

- Red Hat Enterprise Linux AS 2.1 (Kernel 2.4.9-e3) operating system for Intel processors
- Red Hat Enterprise Linux ES 2.1 (Kernel 2.4.9-e3) operating system for Intel processors
- Sun™ SPARC™ Solaris™ 8 operating system
- Sun SPARC Solaris 9 operating system

INSTALLING THE RED HAT LINUX 6.2 LIBSTDC++ COMPATIBILITY PACKAGE

At the time of publication, the most recent version of this package is `compat-libstdc++-6.2-2.9.0.16.i386.rpm`.

To find out if the package is installed

➤ Type: `rpm -q compat-libstdc++-6.2`

If the package is installed, the package name displays.

To install the package

1. Download the file from <http://rpmfind.net/linux/RPM/redhat/7.3/i386/compat-libstdc++-6.2-2.9.0.16.i386.html>
2. Log in as root and type:

```
rpm -i compat-libstdc++-6.2-2.9.0.16.i386.rpm
```

PERL

Perl is the primary scripting/programming language for most of the programs and program modules in WebCT Campus Edition 4.1. Perl 5.6.1 is bundled with the WebCT Campus Edition 4.1 distribution file. Installing WebCT Campus Edition 4.1 also installs Perl within a WebCT directory.

For information on Perl, visit the Perl web site at www.perl.com

Warning for Windows users

Because WebCT Campus Edition 4.1 uses a newer version of Perl (version 5.6.1), do not install WebCT Campus Edition 4.1 with WebCT 3.6.x or earlier on the same Windows operating system. WebCT Campus Edition 3.7.x, 3.8.x, 4.0.x, and 4.1 use the same version of Perl and can be installed on the same Windows operating system.

APACHE

You must use the Apache 2.0 web server software included in the WebCT Campus Edition 4.1 distribution file. The Apache server installs in its own directory (`<webct_install_directory>/webct/server/`) and does not overwrite or modify any existing Apache server included with your operating system.

HARDWARE REQUIREMENTS

To maximize the success of your WebCT Campus Edition 4.1 installation, WebCT Professional Services can help determine the best hardware configuration for your institution. For more information, contact WebCT Support at support@webct.com

The table on page 3 provides a guideline for minimum hardware requirements. Additional storage may be required as you add more courses, larger courses, or a greater numbers of students.

NOTE FOR UNIX USERS

- WebCT Campus Edition 4.1 creates a large number of small files. We recommend you create a drive partition specifically formatted for WebCT Campus Edition 4.1. Configure the partition with a lot of inodes and a small block size, for example, 1 inode for each 4 KB of file space.
- NFS® is not supported.

Operating System	Suggested Minimum Hardware Requirement
<ul style="list-style-type: none">• Microsoft Windows 2000 Server SP4 operating system• Microsoft Windows 2000 Advanced Server SP4 operating system	<ul style="list-style-type: none">• Dual 1 GHz Intel Pentium III processors• 2 GB RAM• 72 GB in a hardware RAID-1 or RAID-5 configuration OR <ul style="list-style-type: none">• Single 1.8 GHz Pentium IV processor• 2 GB RAM• 72 GB in a hardware RAID-1 or RAID-5 configuration
<ul style="list-style-type: none">• Red Hat Linux 7.3 (Kernel 2.4.18-3) operating system for Intel processors• Red Hat Enterprise Linux AS 2.1 (Kernel 2.4.9-e3) operating system for Intel processors• Red Hat Enterprise Linux ES 2.1 (Kernel 2.4.9-e3) operating system for Intel processors	<ul style="list-style-type: none">• Single 1 GHz Intel Pentium III processor• 2 GB RAM• 72 GB in a hardware RAID-1 or RAID-5 configuration
<ul style="list-style-type: none">• Sun SPARC Solaris 8 operating system• Sun SPARC Solaris 9 operating system	<ul style="list-style-type: none">• Sun Fire 280R (2 x 750 MHz Ultra SPARC III processor)• 2 GB RAM• 72 GB in a hardware RAID-1 or RAID-5 configuration

CLIENT OPERATING SYSTEM REQUIREMENTS

Users connecting to the WebCT server must meet the following client operating system requirements:

- Mac® OS 9 operating system software
- Mac OS X v10.1.x operating system software
- Max OS X v10.2.x operating system software

- Microsoft Windows 98 Second Edition operating system
- Microsoft Windows 2000 operating system
- Microsoft Windows XP operating system

BROWSER REQUIREMENTS

For the most up-to-date information about supported browsers, go to the WebCT Browser Tune-up page at www.webct.com/tuneup

At the time of publication, the following browsers are supported for all WebCT Campus Edition 4.1 users.

If you are using the Mac OS 9 operating system software, the following browsers are supported:

- Microsoft® Internet Explorer 5.1 browser
- Netscape® Navigator® 6.2.x browser

If you are using the Mac OS X v10.1.x operating system software, the following browsers are supported:

- AOL® for Mac OS X browsers
- Microsoft Internet Explorer 5.1 browser
- Netscape Navigator 6.2.x browser
- Netscape Navigator 7.0 browser

If you are using the Mac OS X v10.2.x operating system software, the following browsers are supported:

- AOL for Mac OS X browsers
- Microsoft Internet Explorer 5.2 browser
- Netscape Navigator 6.2.x browser
- Netscape Navigator 7.0 browser

If you are using the Microsoft Windows 98 Second Edition, Microsoft Windows 2000, or Microsoft Windows XP operating system, the following browsers are supported:

- AOL 7.0 browser
- AOL 8.0 browser
- Microsoft Internet Explorer 5.0 browser
- Microsoft Internet Explorer 5.5 browser

Note: Microsoft Internet Explorer 5.5 SP1 is not supported.

- Microsoft Internet Explorer 6.0 browser

Installation and Upgrade Guide:
WebCT Campus Edition™ 4.1

- Netscape Navigator 6.2.x browser
- Netscape Navigator 7.0 browser

Note:

- For all browsers, enable JavaScript™.
- To use *Chat*, *Whiteboard*, the edit-on® Pro HTML editor, and the WebEQ™ Equation Editor, enable Java™.
- To use ticket-based authentication, client browsers must allow cookies.
- To use all features in *Content Module*, client browsers must allow cookies.
- For all browsers, enable cascading style sheets (.css).
- For all users, set cached pages to update “automatically” (Microsoft Internet Explorer, and Netscape Navigator 6.2.x), or “when the page is out of date” (Netscape Navigator 7.0).

CHAPTER 2: INSTALLING WEBCT CE 4.1

This chapter includes the following sections:

- *Notes for Student Information System Users*, see below
- *Installing WebCT CE 4.1 on a UNIX Operating System* on page 7
- *Installing WebCT CE 4.1 on a Windows Operating System* on page 21

NOTES FOR STUDENT INFORMATION SYSTEM USERS

If you are a student information system (SIS) user, read this section before installing WebCT.

Using WebCT/SCT or WebCT/SCT/Campus Pipeline

If you are implementing or currently using an integrated installation of WebCT Campus Edition/SCT Banner® or Plus™, or WebCT Campus Edition/SCT Banner or Plus/Campus Pipeline™, note the following:

Note: For more information, refer to the *Guide to Integrating SCT with WebCT Campus Edition 4.1*.

- If you are implementing an integrated installation for the first time, you must do a new installation of WebCT Campus Edition 4.1 on a dedicated server.
- If you are running a previous version of WebCT Campus Edition and are upgrading to 4.1, you may also need to upgrade other components of the Connected Learning Solution. Before you upgrade, check the Connected Learning Solution Dependencies at www.webct.com/service/ViewContent?contentID=15572771
For the latest patch and fix recommendations, contact WebCT Support at support@webct.com

Using WebCT/Datatel

If you are implementing or currently using an integrated installation of WebCT Campus Edition/Datatel Colleague®, note the following:

Note: For more information, refer to the *Guide to Integrating Datatel with WebCT Campus Edition 4.1*.

- If you are implementing an integrated installation for the first time, you must do a new installation of WebCT Campus Edition 4.1 on a dedicated server.
- If you are running a previous version of WebCT Campus Edition, you must do a new installation of WebCT Campus Edition 4.1 on a dedicated server. After successfully installing version 4.1 and separately move any course backups from the previous version to 4.1, you can uninstall the previous version.

INSTALLING WEBCT CE 4.1 ON A UNIX OPERATING SYSTEM

Before installing WebCT Campus Edition 4.1, ensure your server meets the server software requirements. See *Chapter 1: System Requirements*, “*Server Operating System Requirements*” on page 1.

Important:

- For portions of the installation, you need root access to your UNIX operating system.
- To install WebCT Campus Edition 4.1, we recommend that you create a separate UNIX user that has ownership over all the WebCT Campus Edition files. For the purposes of this document, this user will be referred to as the WebCT UNIX user. For more information on creating a user, refer to your operating system’s manuals.

Installing WebCT Campus Edition 4.1 on a UNIX operating system involves the following general steps:

1. Installing the WebCT CE 4.1 distribution file on your server. For details, see page 8.
2. Installing and starting the license server. For details, see page 11.

Note: If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license request for all or both versions. To change the start and stop paths in `/etc/webct/S96WebCTLICENSE` to reflect the location of the 4.1 license server, see *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 14.

3. Activating the WebCT Campus Edition 4.1 instance on your server. For details, see page 14.
4. Starting the WebCT server. For details, see page 15.
5. Logging in to the WebCT administrator interface and changing the default administrator password. For details, see page 15.
6. Entering the WebCT Campus Edition 4.1 license key(s). For details, see page 16.

Note: If you restore courses from an earlier WebCT version, we recommend that you upgrade the restored course databases to the WebCT Campus Edition 4.1 format at one time. For instructions, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 3, Course Management*, “Upgrading Course Databases to the WebCT Campus Edition 4.1 format.”

INSTALLING THE WEBCT CE 4.1 DISTRIBUTION FILE ON YOUR SERVER

The first step of installing WebCT Campus Edition 4.1 is to install the WebCT Campus Edition 4.1 distribution file on your server.

1. Ensure you are logged in as the WebCT UNIX user and NOT as the root user.
2. Go to <http://download.webct.com> and follow the links to download WebCT Campus Edition 4.1. You will be prompted to enter your user name (e-mail address) and password (your license key).
3. Locate the appropriate distribution file for your server's operating system.
4. Download the WebCT Campus Edition 4.1 distribution file and the accompanying MD5 checksum (same file name, but with an .md5 extension).
5. Verify the integrity of the downloaded distribution file by comparing it against the MD5 checksum. For more information, see *The MD5 Checksum* on page 11.
6. Decompress and untar the distribution file by typing:

```
gunzip -c <filename> | tar -xvf -
```

The file decompresses and is untarred into a directory called `webct-4.1.0.xx`.
7. Change to the `webct-4.1.0.xx` directory created in the previous step.
8. Type: `./install`. The *WebCT Campus Edition 4.1 Installation* screen appears.
9. Read the *Introduction* and press `Enter`. The *Configuration* screen appears.
10. From the *Configuration* screen, do the following:
 - a. If you want to change the directory in which WebCT Campus Edition 4.1 will be installed, press `1`, press `Enter`, and follow the screen prompts.
 - b. To proceed, press `P` and press `Enter`. The *Apache configuration* screen appears.
11. From the *Apache configuration* screen:
 - a. Do the following:
 - If you want to modify the administrator e-mail address, press `1`, press `Enter`, and type the new e-mail address.

Note: You can also modify the administrator e-mail address in the administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Administrator E-mail Address.”

- If you want to modify the server port number, press 2, press **Enter**, and type the new port number.

Note:

- The default server port is 8900 but it can be any unoccupied port. We recommend you use port 80.
- The port must be open in your firewall.
- If you want to run the Apache server on a port less than or equal to 1024, (for example, port 80), you must start WebCT as the root user.
- If you want to change the server name, press 3, press **Enter**, and type the fully qualified hostname for the WebCT server.

Important: If you plan to configure your WebCT Campus Edition 4.1 installation to support the SSL protocol and select the *Secure passwords* option, you must enter a fully qualified hostname that contains a local name, second-level domain, and top-level domain. That is, the hostname must contain at least two dots, for example, `webct.school.edu`. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Configuring WebCT to Use the SSL Protocol on a UNIX Operating System,” “Specifying the SSL setting (UNIX).”

If necessary, after installation, you can change the fully qualified hostname for the WebCT server. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Changing the WebCT Server Name on a UNIX Operating System.”

- b. To proceed, press **P** and press **Enter**. The *Port configuration* screen appears.

12. From the *Port configuration* screen:

- a. Do the following:

- If you want to modify the *Chat* port, press 1, press **Enter**, and type a unique port number.

Note:

- The default *Chat* port is 4445 but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.

- You can also modify the *Chat* port in the administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management, "Setting the Chat, Whiteboard, and Java Servlet Engine Ports."*
- If you want to modify the *Whiteboard* port, press 2, press `Enter`, and type a unique port number.

Note:

- The default *Whiteboard* port is 4567 but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Whiteboard* port in the administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management, "Setting the Chat, Whiteboard, and Java Servlet Engine Ports."*
- If you want to modify the *Java Servlet Engine* port, press 3, press `Enter`, and type a unique port number.

Note:

- The default *Java Servlet Engine* port is 8009 but it can be any unoccupied port above 1024.
 - The port should NOT be open in your firewall.
 - You can also modify the *Java Servlet Engine* port in the administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management, "Setting the Chat, Whiteboard, and Java Servlet Engine Port."*
- b. To proceed, press `P` and press `Enter`. The *Installation complete* screen appears.
13. When the installation is complete, the URL for the administrator server page, the administrator login ID, and the administrator password are displayed. Make note of these.
14. Do one of the following:
- If you are running only WebCT Campus Edition 4.1 on the server, go to the next section, *Installing and Starting the License Server* on page 11.
 - If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. Go to the section, *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 14.

The MD5 Checksum

An MD5 checksum is a unique, 128-bit cryptographic message digest value derived from the contents of the file. After you download the distribution file, we recommend you use the checksum to verify the successful transfer of the file.

In order to verify a file against its MD5 checksum, you must use an MD5 utility. You can obtain an MD5 utility (in either binary or source code form) from one of the sites listed below. If you are not familiar with the process of compiling programs from source code, download one of the binary distributions. Refer to the documentation included with the utility for instructions on how to use it.

For Solaris source code:

```
ftp://ftp.sunfreeware.com/pub/freeware/SOURCES/md5  
⇒-6142000.tar.gz
```

For Solaris binaries:

```
ftp://ftp.sunfreeware.com/pub/freeware/sparc/8/md5-6142000  
⇒-sol8-sparc-local.gz
```

For Windows and Linux binaries:

```
http://www.shen.myby.co.uk/threel/tech/tools/md5.htm
```

INSTALLING AND STARTING THE LICENSE SERVER

After you install the WebCT Campus Edition 4.1 distribution file, the second step of installing WebCT Campus Edition 4.1 is to install and start the license server.

- If you are running only WebCT Campus Edition 4.1 (and *not* WebCT Campus Edition 3.7.x, 3.8.x, or 4.0.x simultaneously) on the server, you must install the license server as either the WebCT UNIX user or as the root user:
 - If you are NOT running WebCT Campus Edition as the root user, go to the next section, *Installing and starting the license server as the WebCT UNIX user*.
 - If you are running multiple instances of WebCT Campus Edition as different WebCT UNIX users, go to *Installing and starting the license server as the root user* on page 13.

Important: Install one license server for each server that is running WebCT Campus Edition 4.1 or install one license server for multiple WebCT servers as long as the license server has access to the drive on which WebCT Campus Edition 4.1 is installed on the other computers.

- If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. Go to the section, *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 14.

Installing and starting the license server as the WebCT UNIX user

If you are running only WebCT Campus Edition 4.1 (and *not* WebCT Campus Edition 3.7.x, 3.8.x, or 4.0.x simultaneously) on the server and are NOT running WebCT Campus Edition 4.1 as the root user, use the following instructions to install and start the license server as the WebCT UNIX user.

1. Log in as the root user.
2. Create the following directory:

```
/etc/webct
```

For example:

```
mkdir /etc/webct
```

3. Change the owner and group of /etc/webct/ to the owner and group of the WebCT UNIX user.

For example:

```
chown -R webct:webct /etc/webct
```

4. Log out as the root user.
5. Log in as the WebCT UNIX user.
6. Decide on which unoccupied port to run the license server.

Important:

- The port cannot be the same as the WebCT server's port or any other occupied port.
 - We recommend that you block the license server port at the firewall.
7. Do one of the following:
 - If you are not using virtual IPs, go to the next step.
 - If you are using virtual IPs, before installing the license server specify the IP the license server will listen on by following the steps below:
 - a. From /etc/webct, use a text editor to create a file named `server_ip`.
 - b. In this file, type the IP you licensed with WebCT.
 - c. Save the file.
 8. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin/
```

9. Install the license server by typing:

```
./license -install <port>
```

For example:

```
./license -install 5555
```

10. Manually start the license server by typing:

```
/etc/webct/S96WebCTLICENSE start
```

11. Go to the section, *Activating the WebCT CE 4.1 Instance on Your Server* on page 14.

Installing and starting the license server as the root user

If you are running only WebCT Campus Edition 4.1 (and *not* WebCT Campus Edition 3.7.x, 3.8.x, or 4.0.x simultaneously) on the server and are running multiple instances of WebCT Campus Edition 4.1 as different WebCT UNIX users, install the license server as the root user.

1. Log in as the root user.
2. Decide on which unoccupied port to run the license server.

Important:

- The port cannot be the same as the WebCT server's port, or any other occupied port.
 - We recommend that you block the license server port at the firewall.
3. If you are using virtual IPs, before installing the license server you must specify on which IP the license server will listen:
 - a. From `/etc/webct`, use a text editor to create a file named `server_ip`.
 - b. In this file, type the IP you licensed with WebCT.
 - c. Save the file.

4. Change the directory by typing:

```
cd <webct_install_directory>/webct/generic/admin
```

5. Install the license server by typing:

```
./license -install <port>
```

For example:

```
./license -install 5555
```

6. Manually start the license server by typing:

```
/etc/webct/S96WebCTLICENSE start
```

7. Go to the section, *Activating the WebCT CE 4.1 Instance on Your Server* on page 14.

Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)

If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions.

1. Stop the WebCT Campus Edition 3.7, 3.8, or 4.0 license server by typing:

```
/etc/webct/S96WebCTLICENSE stop
```

2. Using a text editor, open the file `/etc/webct/S96WebCTLICENSE`.
3. Change the start and stop paths to reflect the location of the 4.1 license server:

For example:

```
start() {/home/webct_new/webct-  
⇒4.1/webct/webct/generic/admin/license -start}  
stop() {/home/webct_new/webct-  
⇒4.1/webct/webct/generic/admin/license -shutdown}
```

4. Manually start the 4.1 license server by typing:

```
/etc/webct/S96WebCTLICENSE start
```

5. Go to the next section, *Activating the WebCT CE 4.1 Instance on Your Server*.

ACTIVATING THE WEBCT CE 4.1 INSTANCE ON YOUR SERVER

After you install the license server, the third step of installing WebCT Campus Edition 4.1 is to activate the WebCT Campus Edition 4.1 instance on your server.

1. Do one of the following:

- If you installed only one instance of WebCT Campus Edition 4.1 on your server, type:

```
./license -activate <webct_install_directory>/webct
```

For example, type:

```
./license -activate /home/webct1/webct
```

- If you installed more than one instance of WebCT Campus Edition 4.1 on your server, to activate each instance:
 - a. Locate the WebCT Campus Edition 4.1 license key information for the instance you want to activate. In the next step, you will enter the instance number that is provided in the sentence, “*When you run the license –activate command...*” For example, “*When you run the license –activate command, specify 0 as the last parameter,*” where 0 is the instance number of the primary installation.
 - b. Type:

```
./license -activate <webct_install_directory>/  
⇒webct <instance_number>
```

For example, to activate the primary instance of WebCT Campus Edition 4.1 that is installed in `/home/webct1/`, type:

```
./license -activate /home/webct1/webct 0
```

Note: You must enter a different instance number for each WebCT Campus Edition 4.1 instance that is installed. For example, the second WebCT instance is 1.

2. Go to the next section, *Starting the WebCT Server*.

STARTING THE WEBCT SERVER

After you activate the WebCT Campus Edition 4.1 instance on your server, the fourth step of installing WebCT Campus Edition 4.1 is to start the WebCT server.

1. If you are running the WebCT Campus Edition 4.1 server as root, log in as the root user.
2. Type: `<webct_install_directory>/webct/webctctl start`.

Note: If you want the license server and the WebCT server to automatically start when your UNIX operating system is powered up or restarted, see the section, *Autostarting WebCT CE 4.1 on the UNIX Operating System* on page 19.

3. Go to the next section, *Logging In to the WebCT Administrator Interface and Changing the Default Administrator Password*.

LOGGING IN TO THE WEBCT ADMINISTRATOR INTERFACE AND CHANGING THE DEFAULT ADMINISTRATOR PASSWORD

After you start the WebCT server, the fifth step of installing WebCT Campus Edition 4.1 is to log in to the WebCT administrator interface and change the default administrator password.

1. Open a web browser and enter the URL for the administrator server page.

For example:

```
http://<webct_server>:<port>/webct/admin/admin.pl
```

You are prompted to enter your user name and password.

2. Complete the text boxes:
 - a. In the *User Name* text box, enter `admin`.
 - b. In the *Password* text box, enter `webct`.

- c. Click **OK**. The *WebCT Administrator* screen appears and you are prompted to change your password.
3. From the *Admin* toolbar, click **Password**. The *Administrator Password* screen appears.
4. Complete the text boxes:
 - a. In the *Enter your original password* text box, enter `webct`.
 - b. Enter and confirm your new password. The password must be a minimum of five characters.
 - c. Click **Continue**. A success screen appears.
5. Click **Continue**. You are prompted to log in with your new password.
6. Enter your new password and click **OK**. The *WebCT Administrator* screen appears.
7. Go to the next section, *Entering the WebCT CE 4.1 License Key(s)*.

ENTERING THE WEBCT CE 4.1 LICENSE KEY(S)

After you log in to the WebCT administrator interface and change the default administrator password, the sixth and final step of installing WebCT Campus Edition 4.1 is to enter the WebCT Campus Edition 4.1 license key(s).

If you are running multiple instances of WebCT Campus Edition 4.1, you must enter a different license key for each WebCT Campus Edition 4.1 instance that is installed.

Ensure that the key you enter corresponds to the appropriate instance.

1. From the *WebCT Administrator* screen, from the *Admin* toolbar, click **Server Mgmt**. The *Server Mgmt* toolbar appears.
2. From the *Server Mgmt* toolbar, click **License**. The *License* toolbar appears.
3. From the *License* toolbar, click **Enter Key**. The *License Key Entry* screen appears.
4. In the *Enter the license key* text box, enter the license key and click **Continue**. A success message appears.
5. Click **Continue**. The *License Information* screen appears and the license key is applied to the WebCT Campus Edition 4.1 instance.

For supported license options, see page 17. For optional license features, see page 18.

Important License Information

Make a note of the following:

- If the license server is stopped and becomes invalid:
 - An e-mail is sent to the WebCT administrator*.
 - All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication are disabled.

- If a license is within four weeks of expiring or if the user count reaches 90 percent of the licensed limit, an e-mail is sent to the WebCT administrator*.
- If a license has expired, the following events occur:

Immediately after expiry	<ul style="list-style-type: none"> • An e-mail is sent daily to the WebCT administrator*. • Notification appears in the WebCT administrator interface.
Two weeks after expiry	Notification appears in the WebCT designer interface.
Four weeks after expiry	All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication, are disabled.

*In order to receive e-mail notification, after you install WebCT, ensure you set the administrator e-mail address and select the setting, *Allow server to send mail*. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Administrator E-mail Address” and “Allowing the Server to Send E-mail.”

LICENSE OPTIONS

The following license options are supported.

Note: To use these options, you must change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```

Option	Description
<code>./license -activate</code>	<p>Activates licensing for an instance of WebCT Campus Edition and installs the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to activate the first instance that is installed in <code>/home/webct1/</code>, type:</p> <pre>./license -activate /home/ ⇒webct1/webct 0</pre> <p>Option:</p> <p><code>-overwrite</code> records the new license over the existing license.</p>

Option	Description
<code>./license -deactivate</code>	Deactivates licensing for an instance of WebCT Campus Edition and removes the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to deactivate the first instance that is installed in <code>/home/webct1/</code> , type: <code>./license -deactivate /home/</code> <code>⇒webct1/webct 0</code>
<code>./license -install</code>	Installs the license server.
<code>./license -list</code>	Lists the currently active installations handled by the license server.
<code>./license -port</code>	<ul style="list-style-type: none">Changes the port on which the license server operates and updates the license server configuration files. For example, if you inadvertently chose an already-occupied port for the license server, you can change it by typing: <code>./license -port <new_port></code>If using virtual IPs, use this option to ensure all activated instances reflect the correct server IP.
<code>./license -remove</code>	Uninstalls the license server.
<code>./license -shutdown</code>	Shuts down the license server.
<code>./license -start</code>	Starts the license server.

OPTIONAL LICENSE FEATURES

Optional license features include:

- *Specifying recognized IPs*, see below
- *Using virtual IPs* on page 19

Specifying recognized IPs

As a security measure, to ensure that only recognized IPs connect to the license server, use the following instructions to specify the IPs and system names that are allowed to send requests to the license server.

1. From `/etc/webct`, use a text editor (for example, `vi`) to create a file named `valid_clients.txt`.
2. In this file, list the following (one per line):

- the IP of the license server
 - each IP or system name running the WebCT Campus Edition software that is allowed to send requests to the license server.
3. Save the file.
 4. Stop the license server by typing:

```
./license -shutdown
```
 5. Start the license server by typing:

```
./license -start
```

Using virtual IPs

If you are using virtual IPs, before installing the license server you must specify on which IP the license server will listen.

Although the server IP should be defined prior to installing the license server, it is possible to change it after. To do so, follow these instructions.

Note: If you already received a license for the old IP, you need to get a new license based on your new server IP address. Contact WebCT Support at support@webct.com

1. From `/etc/webct`, use a text editor (for example, `vi`) to create a file named `server_ip`.
2. In this file, type the IP you licensed with WebCT.
3. Save the file.
4. Stop the license server by typing:

```
./license -shutdown
```
5. Start the license server by typing:

```
./license -start
```
6. To ensure all activated instances reflect the correct server IP, type:

```
./license -port <xxx>
```

For example:

```
./license -port 5555
```

AUTOSTARTING WEBCT CE 4.1 ON THE UNIX OPERATING SYSTEM

You need root access to perform this procedure.

You can set the license server and the WebCT server to automatically start when your UNIX operating system is powered up or restarted. This procedure is optional.

To autostart WebCT CE 4.1 on the UNIX operating system

1. Depending on how you access the WebCT server, start and stop it using one of the following methods:

- If you need root access to start and stop the WebCT server or if your WebCT server is listening on a port less than or equal to 1024:

In `/etc/<platform_startup_directory>` (for example, `/etc/rc.d/rc3.d`), create a symbolic link to the webct control (`webctctl` file) for each WebCT Campus Edition instance.

For example:

```
ln -s <webct_primary_install_directory>/webct/webctctl  
⇒S96WebCTInstance0  
ln -s <webct_secondary_install_directory>/webct/webctctl  
⇒S96WebCTInstance1
```

where `<webct_primary_install_directory>` is the primary installation directory and where `<webct_secondary_install_directory>` is the secondary installation directory.

OR

- If you can start and stop the WebCT server as the WebCT UNIX user:

In `/etc/<platform_startup_directory>` (for example, `/etc/rc.d/rc3.d`), create a startup script for each WebCT Campus Edition instance with this content:

```
#!/bin/sh  
  
su <webct_UNIX_user> -c "<webct_primary>/webct/webctctl  
start"
```

where `<webct_UNIX_user>` is the WebCT UNIX user.

2. Save the script for each WebCT Campus Edition instance with a file name that identifies it as the auto startup script for the WebCT server.

For example:

```
S96WebCTInstance0
```

3. To make the startup script executable, type:

```
chmod 555 S96WebCTInstance0
```

4. Autostart the license server:

In `/etc/<platform_startup_directory>`

For example:

```
/etc/rc.d/rc3.d
```

create a symbolic link to the license server startup script:

```
ln -s /etc/webct/S96WebCTLICENSE
```

INSTALLING WEBCT CE 4.1 ON A WINDOWS OPERATING SYSTEM

Before installing WebCT Campus Edition 4.1, ensure your server meets the server software requirements. See *Chapter 1: System Requirements, “Server Operating System Requirements”* on page 1.

Important:

- Because WebCT Campus Edition 4.1 uses a newer version of Perl (version 5.6.1), do not install WebCT Campus Edition 4.1 with WebCT 3.6.x or earlier on the same Windows operating system. WebCT Campus Edition 3.7.x, 3.8.x, 4.0.x and 4.1 use the same version of Perl and can be installed on the same Windows operating system.
- During installation, if you choose to start or stop any services using the Windows *Control Panel* instead of the Windows command line, ensure that you close the *Services* window before continuing with the installation. If you do not close the *Services* window, the WebCT service may be deleted or disabled.

Throughout the installation procedures, these instructions assume your main Windows directory is C : \WINNT.

Installing WebCT Campus Edition 4.1 on a Windows operating system involves the following general steps:

1. Installing the WebCT CE 4.1 distribution file on your server. For details, see page 22.
2. Taking ownership of the WebCT service on Windows 2000. This step is optional. For details, see page 24.
3. Installing the license server. For details, see page 25.

Note: If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license request for all or both versions. See *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 27.

4. Activating the WebCT Campus Edition 4.1 instance (copy) on your server and starting the license server. For details, see page 28.
5. Logging in to the WebCT administrator interface and changing the default administrator password. For details, see page 29.
6. Entering the WebCT Campus Edition 4.1 license key(s). For details, see page 30.

Note: If you restore courses from an earlier WebCT version, we recommend that you upgrade the restored course databases to the WebCT Campus Edition 4.1 format at one time. For instructions, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 3, Course Management*, “Upgrading Course Databases to the WebCT Campus Edition 4.1 format.”

INSTALLING THE WEBCT CE 4.1 DISTRIBUTION FILE ON YOUR SERVER

The first step of installing WebCT Campus Edition 4.1 is to install the WebCT Campus Edition 4.1 distribution file on your server.

1. The InstallShield for WebCT creates a copy of the installation engine software in the Program Files folder. To eliminate the possibility of pre-existing files causing a conflict, in C:\Program Files\Common Files\InstallShield, rename or delete the Engine folder.
2. Go to <http://download.webct.com> and follow the links to download WebCT Campus Edition 4.1. You will be prompted to enter your user name (e-mail address) and password (your license key).
3. Locate the appropriate distribution file for your server's operating system.
4. Download the WebCT Campus Edition 4.1 distribution file and the accompanying MD5 checksum (same file name, but with an .md5 extension).
5. Verify the integrity of your downloaded distribution file by comparing it against the MD5 checksum. For more information, see *The MD5 Checksum* on page 11.
6. Unzip the distribution file.
7. Go to the directory containing the unzipped files.
8. Double-click Setup.exe. The *Welcome to the InstallShield Wizard for WebCT* dialog box appears.
9. Click **Next**. The *Choose Destination Location* dialog box appears.
10. Choose the destination for the WebCT Campus Edition 4.1 installation and do one of the following:

Important: Do not install WebCT Campus Edition 4.1 into a directory that has spaces in the name.

- To install to the default destination directory, click **Next**.
- To install to a different directory:
 - a. Click **Browse**.
 - b. Select the directory and click **Next**.

The *Enter Service Name* dialog box appears.

11. Enter a name for the WebCT service. The default name is WebCT, but you can enter any name that is not being used by an existing service.
12. Click **Next**. The *Enter Port Number* dialog box appears.
13. Enter the server port number or accept the default.

Note:

- The default server port is 8900, but it can be any unoccupied port. We recommend you use port 80.
- The port must be open in your firewall.

14. Click **Next**. The *Enter Hostname* dialog box appears.
15. Enter the fully qualified hostname for the WebCT server.

For example:

`webct.school.edu`

Important: If you plan to configure your WebCT Campus Edition 4.1 installation to support the SSL protocol and select the *Secure passwords* option, you must enter a fully qualified hostname that contains a local name, second-level domain, and top-level domain. That is, the hostname must contain at least two dots, for example, `webct.school.edu`. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Configuring WebCT to Use the SSL Protocol on a Windows Operating System,” “Specifying the SSL setting (Windows).”

If necessary, after installation, you can change the fully qualified hostname of the WebCT server. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Changing the WebCT Server Name on a Windows Operating System.”

16. Click **Next**. The *Enter Chat Port Number* dialog box appears.
17. Enter the *Chat* port number or accept the default.

Note:

- The default *Chat* port is 4445, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Chat* port in the administrator interface.

18. Click **Next**. The *Whiteboard Port Number* dialog box appears.
19. Enter the *Whiteboard* port number or accept the default.

Note:

- The default *Whiteboard* port is 4567, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Whiteboard* port in the administrator interface.

20. Click **Next**. The *Java Servlet Engine Port Number* dialog box appears.

21. Enter the *Java Servlet Engine* port number or accept the default.

Note:

- The default *Java Servlet Engine* port is 8009, but it can be any unoccupied port above 1024.
- The port must NOT be open in your firewall.
- You can also modify the *Java Servlet Engine* port in the administrator interface.

22. Click **Next**. The *Start Copying Files* dialog box appears.

23. Review the settings and do one of the following:

- To keep the settings, click **Next**. The *Setup Status* dialog box appears and the files start installing. When the files finish installing, the *InstallShield Wizard Complete* dialog box appears and you may be prompted to restart your server.
- To change the settings, click **Back** and repeat steps 11 through 23 as necessary.

24. Do one of the following:

- If you are prompted to restart your server, select *Yes* and click **Finish**. Your server restarts and the distribution files are installed.
- If you are not prompted to restart your server, click **Finish**.

25. Go to the next section, *Taking Ownership of the WebCT Service on Windows 2000*.

TAKING OWNERSHIP OF THE WEBCT SERVICE ON WINDOWS 2000

This is an optional but recommended step.

After you install the WebCT Campus Edition 4.1 distribution file, the second step of installing WebCT Campus Edition 4.1 is to take ownership of the WebCT service.

By default, the WebCT (Apache) service is registered to run as the system user (the LocalSystem account). For security and troubleshooting, WebCT strongly recommends that you create a new account to run the WebCT service.

1. Stop the WebCT service:

- a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.

- b. In the *Services* window, locate the WebCT service.
 - c. Right-click the service and click **Stop**.
 - d. Close the *Services* window.
2. In *Computer Management*, create a new domain user account. Ensure you make a note of the password for the new user account.
3. Assign the new user account the right to *Log on as a service* and *Act as part of the operating system*.
4. Confirm that the new user account is a member of the Users group.
5. Give the new user account change rights to the entire WebCT installation directory.
6. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
7. Double-click the WebCT service. The *Properties* dialog box appears.
8. Click the **Log on** tab.
9. Under *Log on as*, select *This account* and click **Browse**. The *Select User* dialog box appears.
10. Locate and select the new user account and click **OK**.
11. Enter and confirm the password for the new user account.
12. Start the WebCT service:
 - a. In the *Services* window, locate the WebCT service.
 - b. Right-click the service and click **Start**.
 - c. Close the *Services* window.
13. Go to the next section, *Installing the License Server*.

INSTALLING THE LICENSE SERVER

After you install the WebCT Campus Edition 4.1 distribution file and, optionally, take ownership of the WebCT service, the third step of installing WebCT Campus Edition 4.1 is to install the license server.

- If you are running only WebCT Campus Edition 4.1 (and *not* WebCT Campus Edition 3.7.x, 3.8.x, or 4.0.x simultaneously) on the server, you must install the license server. See *Installing the license server* on page 26.
- If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. Go to *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 27.

Installing the license server

If you are running only WebCT Campus Edition 4.1 (and *not* WebCT CE 3.7.x, 3.8.x, or 4.0.x simultaneously) on the server, you must install the license server.

Important:

- Install one license server for each server that is running WebCT Campus Edition 4.1 or install one license server for multiple WebCT servers as long as the license server has access to the drive on which WebCT Campus Edition 4.1 is installed on the other servers.
- Installing the license server creates the directory C:\WINNT\webct. WebCT needs write access to create and write to this directory.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press `Enter`. A command window appears.
2. Change the directory by typing:

```
cd <webct_install_directory>\webct\webct\generic\admin\
```
3. Decide on which unoccupied port to run the license server:

Important:

- The port for the license server cannot be the same as the port for the WebCT server.
 - We recommend that you block the license server port at the firewall.
4. If you are using virtual IPs, before installing the license server you must specify on which IP the license server will listen:
 - a. Using a text editor (for example, Notepad), create a file named `server_ip`.
 - b. In this file, type the IP you licensed with WebCT.
 - c. Save the file in C:\WINNT\webct\.
 5. Install the license server by typing:

```
license -install <port>
```

For example:

```
license -install 5555
```
 6. Go to the section, *Activating the WebCT CE 4.1 Instance on Your Server and Starting the License Server* on page 28.

Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)

If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions.

1. Stop the WebCT Campus Edition 3.7, 3.8, or 4.0 license server:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. In the *Services* window, locate the *WebCT License Server* service.
 - c. Right-click **WebCT License Server** and click **Stop**.
 - d. Close the *Services* window.
2. Temporarily relocate the `webct` directory:
 - a. From Windows Explorer, go to the directory `C:\WINNT`.
 - b. Select the directory `webct`.
 - c. Cut and paste the `webct` directory to a temporary location, for example, your Windows desktop.
3. Remove the license server for the WebCT Campus Edition 3.7, 3.8, or 4.0 instance to be uninstalled:
 - a. To open a command window, in Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press `Enter`. A command window appears.
 - c. From the Windows command line, change the directory by typing:
`cd <webct_install_directory>\webct\webct\generic\admin`
 - d. Remove the license server by typing:
`license -remove`
4. From the `<new_webct_4.1_install_directory>\webct\webct\⇒generic\admin` directory, install the license server:
 - a. From the Windows command line, change the directory by typing:
`cd <new_webct_4.1_install_directory>\webct\webct\⇒generic\admin`
 - b. Install the license server by typing:
`license -install <port>`
For example:
`license -install 5555`

5. From Windows Explorer, from C : \WINNT, delete the new webct directory.
6. From the temporary location that you selected in step 2.c., cut and paste the webct directory to C : \WINNT.
7. Go to the next section, *Activating the WebCT CE 4.1 Instance on Your Server and Starting the License Server*.

ACTIVATING THE WEBCT CE 4.1 INSTANCE ON YOUR SERVER AND STARTING THE LICENSE SERVER

After you install the license server, the fourth step of installing WebCT Campus Edition 4.1 is to activate the WebCT Campus Edition 4.1 instance on your server and start the license server.

1. Do one of the following:
 - If you installed only one instance of WebCT Campus Edition 4.1 on your server, type:

```
license -activate <webct_install_directory>\webct
```

For example, type:

```
license -activate D:\WebCT\webct
```
 - If you installed more than one instance of WebCT Campus Edition 4.1 on your server, to activate each instance:
 - a. Locate the WebCT Campus Edition 4.1 license key information for the instance you want to activate. In the next step, you will enter the instance number that is provided in the sentence, “*When you run the license –activate command....*” For example, “*When you run the license –activate command, specify 0 as the last parameter,*” where 0 is the instance number of the primary installation.
 - b. Type:

```
license -activate <webct_install_directory>\  
⇒webct <instance_number>
```

For example, to activate the primary instance of WebCT Campus Edition 4.1 that is installed in D : \WebCT, type:

```
license -activate D:\WebCT\webct 0
```

Note: You must enter a different instance number for each WebCT Campus Edition 4.1 instance that is installed. For example, the second WebCT instance is 1.

You are prompted to start the license server.
2. To start the license server:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.

- b. In the *Services* window, locate the *WebCT License Server* service.
- c. Right-click **WebCT License Server** and click **Start**.
- d. Close the *Services* window.

Note: By default, the license server and the WebCT service are set to automatically start when your Windows operating system is powered up or restarted. If you want to manually start the license server and the WebCT service when your Windows operating system is powered up or restarted, see *Changing the Startup Type of the License Server and WebCT Service on the Windows Operating System* on page 33.

3. Go to the next section, *Logging In to the WebCT Administrator Interface and Changing the Default Administrator Password*.

LOGGING IN TO THE WEBCT ADMINISTRATOR INTERFACE AND CHANGING THE DEFAULT ADMINISTRATOR PASSWORD

After you activate the WebCT Campus Edition 4.1 instance on your server and start the license server, the fifth step of installing WebCT Campus Edition 4.1 is to log in to the WebCT administrator interface and change the default administrator password.

1. Open a web browser and enter the URL for the administrator server page.
For example:
`http://<webct_server>:<port>/webct/admin/admin.pl`
You are prompted to enter your user name and password.
2. Complete the text boxes:
 - a. In the *User Name* text box, enter `admin`.
 - b. In the *Password* text box, enter `webct`.
 - c. Click **OK**. The *WebCT Administrator* screen appears and you are prompted to change your password.
3. From the *Admin* toolbar, click **Password**. The *Administrator Password* screen appears.
4. Complete the text boxes:
 - a. In the *Enter your original password* text box, enter `webct`.
 - b. Enter and confirm your new password. The password must be a minimum of five characters.
 - c. Click **Continue**. A success screen appears.
5. Click **Continue**. You are prompted to log in with your new password.
6. Enter your new password and click **OK**. The *WebCT Administrator* screen appears.

7. Go to the next section, *Entering the WebCT CE 4.1 License Key(s)*.

ENTERING THE WEBCT CE 4.1 LICENSE KEY(S)

After you log in to the WebCT administrator interface and change the default administrator password, the sixth and final step of installing WebCT Campus Edition 4.1 is to enter the WebCT Campus Edition 4.1 license key(s).

If you are running multiple instances of WebCT Campus Edition 4.1, you must enter a different license key for each WebCT Campus Edition 4.1 instance that is installed.

Ensure that the key entered corresponds to the appropriate instance.

1. From the *WebCT Administrator* screen, from the *Admin* toolbar, click **Server Mgmt**. The *Server Mgmt* toolbar appears.
2. From the *Server Mgmt* toolbar, click **License**. The *License* toolbar appears.
3. From the *License* toolbar, click **Enter Key**. The *License Key Entry* screen appears.
4. In the *Enter the license key* text box, enter the license key and click **Continue**. A success message appears.
5. Click **Continue**. The *License Information* screen appears and the license key is applied to the WebCT Campus Edition 4.1 instance.

For supported license options, see page 31. For optional license features, see page 32.

Important License Information

Make a note of the following:

- If the license server is stopped and becomes invalid:
 - An e-mail is sent to the WebCT administrator*.
 - All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication are disabled.
- If a license is within four weeks of expiring or if the user count reaches 90 percent of the licensed limit, an e-mail is sent to the WebCT administrator*.
- If a license has expired, the following events occur:

Immediately after expiry	<ul style="list-style-type: none">• An e-mail is sent daily to the WebCT administrator*.• Notification appears in the WebCT administrator interface.
Two weeks after expiry	Notification appears in the WebCT designer interface.
Four weeks after expiry	All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication, are disabled.

*In order to receive e-mail notification, after you install WebCT, ensure you set the administrator e-mail address and select the setting, *Allow server to send mail*. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “*Setting the Administrator E-mail Address*” and “*Allowing the Server to Send E-mail*.”

LICENSE OPTIONS

The license options on page 31 are supported.

Note: To use these options, you must change the directory to:

```
<webct_install_directory>\webct\webct\generic\admin
```

Option	Description
<code>license -activate</code>	Activates licensing for an instance of WebCT Campus Edition and installs the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to activate the first instance that is installed in <code>/home/webct1/</code> , type: <code>license -activate /home/</code> <code>⇒webct1/webct 0</code> Option: <code>-overwrite</code> records the new license over the existing license.
<code>license -deactivate</code>	Deactivates licensing for an instance of WebCT Campus Edition and removes the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to deactivate the first instance that is installed in <code>/home/webct1/</code> , type: <code>license -deactivate /home/</code> <code>⇒webct1/webct 0</code>
<code>license -install</code>	Installs the license server.
<code>license -list</code>	Lists the currently active installations handled by the license server.

Option	Description
<code>license -port</code>	<ul style="list-style-type: none">Changes the port on which the license server operates and updates the license server configuration files. For example, if you inadvertently chose an already-occupied port for the license server, you can change it by typing: <code>license -port <new_port></code>If using virtual IPs, use this option to ensure all activated instances reflect the correct server IP.
<code>license -remove</code>	Uninstalls the license server.
<code>license -shutdown</code>	Shuts down the license server.
<code>license -start</code>	Starts the license server.

OPTIONAL LICENSE FEATURES

Optional license features include:

- *Specifying recognized IPs* on page 32
- *Using virtual IPs* on page 33

Specifying recognized IPs

As a security measure, to ensure that only recognized IPs connect to the license server, use the following instructions to specify the IPs and system names that are allowed to send requests to the license server.

1. Using a text editor (for example, Notepad), create a file named `valid_clients.txt`.
2. In this file, list the following (one per line):
 - the IP of the license server
 - each IP or system name running WebCT software that is allowed to send requests to the license server.
3. Save the file in `C:\WINNT\webct\`.
4. Stop the license server by typing:
`license -shutdown`
5. Start the license server by typing:
`license -start`

Using virtual IPs

If you are using virtual IPs, before installing the license server or activating WebCT Campus Edition 4.1 instances, you must specify on which IP the license server will listen.

Although the server IP should be defined prior to installing the license server, it is possible to change it after. To do so, use the following procedure.

Note: If you already received a license for the old IP, you need to get a new license based on your new server IP address. Contact WebCT Support at support@webct.com

1. Using a text editor (for example, Notepad), create a file named `server_ip`.
2. In this file, type the IP you licensed with WebCT.
3. Save the file in `C:\WINNT\webct\`.
4. Stop the license server by typing:

```
license -shutdown
```
5. Start the license server by typing:

```
license -start
```
6. To ensure all activated instances reflect the correct server IP, type:

```
license -port <xxx>
```


For example: `license -port 5555`

CHANGING THE STARTUP TYPE OF THE LICENSE SERVER AND WEBCT SERVICE ON THE WINDOWS OPERATING SYSTEM

The license server and the WebCT service are set to automatically start when the Windows operating system is powered up or restarted. If you do not want the license server and the WebCT service to start automatically each time the Windows operating system starts, use the following procedure to change the startup type to *Manual*.

1. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
2. Right-click **WebCT License Server** and click **Properties**. The *WebCT License Server Properties* dialog box appears.
3. Click the **General** tab.
4. In the *Startup type* drop-down list, select *Manual* and click **OK**. The WebCT License Server *Startup Type* is updated to *Manual*.
5. Right-click the WebCT service and click **Properties**. The WebCT service's *Properties* dialog box appears.
6. Click the **General** tab.

7. In the *Startup type* drop-down list, select *Manual* and click **OK**. The WebCT service *Startup Type* is updated to *Manual*.
8. Close the *Services* window.

CHAPTER 3: UNINSTALLING WEBCT CE 4.1

This chapter includes the following sections:

- *Uninstalling WebCT CE 4.1 on a UNIX Operating System*, see below
- *Uninstalling WebCT CE 4.1 on a Windows Operating System* on page 37

UNINSTALLING WEBCT CE 4.1 ON A UNIX OPERATING SYSTEM

This section contains the following topics:

- *Uninstalling a Single WebCT CE 4.1 Instance*, see below
- *Uninstalling One of Multiple WebCT CE 4.1 Instances* on page 36

UNINSTALLING A SINGLE WEBCT CE 4.1 INSTANCE

Important: On a UNIX operating system, WebCT Campus Edition 4.1 is contained in one directory.

1. Stop the WebCT server by typing:

```
<webct_install_directory>/webct/webctctl stop
```

2. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```

3. Deactivate the license server by typing:

```
./license -deactivate <webct_install_directory>/  
⇒webct <instance_number>
```

For example:

```
./license -deactivate D:\WebCT\webct 1
```

Note: If you are running multiple instances of WebCT Campus Edition and are uninstalling an instance that is NOT running the license server, go to step 6.

4. Stop the license server by typing:

```
./license -shutdown
```

5. Remove the license server by typing:

```
./license -remove
```

6. Log in as the root user.
7. Remove the WebCT installation directory by typing:

```
rm -r <webct_install_directory>/webct
```
8. Remove any autostart scripts from your server.

UNINSTALLING ONE OF MULTIPLE WEBCT CE 4.1 INSTANCES

If you are running multiple instances of WebCT Campus Edition and plan to uninstall an instance that is NOT running the license server, follow the instructions for *Uninstalling a Single WebCT CE 4.1 Instance* on page 35, omitting steps 4 and 5. If you plan to uninstall the instance that is running the license server, use the follow instructions.

Note: On the UNIX operating system, WebCT Campus Edition 4.1 is contained in one directory.

1. Choose the instance from which you want to run the license server.

Note: If you have installed different versions of WebCT Campus Edition, choose an instance running the latest version. If you have installed the same WebCT Campus Edition version on multiple instances, you can run the license server from any instance.

2. Stop the WebCT server by typing:

```
<webct_install_directory>/webct/webctctl stop
```

3. Stop the license server by typing:

```
/etc/webct/S96WebCTLICENSE stop
```

4. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```

5. Deactivate the license for the instance to be uninstalled by typing:

```
./license -deactivate <webct_install_directory>/  
⇒webct <instance_number>
```

For example:

```
./license -deactivate D:\WebCT\webct 1
```

6. Using a text editor, open the file

```
/etc/webct/S96WebCTLICENSE
```

7. Change the start and stop paths to reflect the new location of the license server.

For example:

```
start() {/home/webct_new/webct-  
⇒4.1/webct/webct/generic/admin/license -start}  
  
stop() {/home/webct_new/webct-  
⇒4.1/webct/webct/generic/admin/license - shutdown}
```

8. Log in as the root user.
9. Manually start the license server by typing:

```
/etc/webct/S96WebCTLICENSE start
```
10. Remove the WebCT installation directory by typing:

```
rm -r <webct_install_directory>/webct
```
11. Remove any autostart scripts from your server.

UNINSTALLING WEBCT CE 4.1 ON A WINDOWS OPERATING SYSTEM

This section contains the following topics:

- *Uninstalling a Single WebCT CE 4.1 Instance*, see below
- *Uninstalling One of Multiple WebCT CE 4.1 Instances* on page 38

UNINSTALLING A SINGLE WEBCT CE 4.1 INSTANCE

WebCT Campus Edition 4.1 can be uninstalled using *Add/Remove Programs*.

1. Deactivate the license server on the instance to be uninstalled:
 - a. To open a command window:
 - i. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - ii. In the *Run* dialog box, type `cmd`, and press **Enter**. A command window appears.
 - b. Change to the WebCT admin directory by typing:

```
cd <webct_install_directory>\webct\webct\generic\admin
```
 - c. Type:

```
license -deactivate <webct_install_directory>\  
=>webct <instance_number>
```

For example:

```
license -deactivate D:\WebCT\webct 1
```
- Note:** If you are running multiple instances of WebCT Campus Edition and are uninstalling an instance that is NOT running the license server, go to step 5.
2. Stop the license server:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. Right-click **WebCT License Server** and click **Stop**.

- c. Close the *Services* window.
3. Remove the license server by typing:

```
license -remove
```
4. From Windows Explorer, from C : \WINNT, delete the `webct` directory.
5. Stop the WebCT service:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. Find the name of the WebCT service. You can find the name in
`<webct_install_directory>\webct\server\service_name`
 - c. Select the WebCT service and click **Stop**.
 - d. Close the *Services* window.
6. Remove WebCT Campus Edition 4.1:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, and double-click **Add/Remove Programs**. The *Add/Remove Programs* window appears.
 - b. Select the item for your WebCT Campus Edition 4.1 installation.
 - c. Click **Remove**. A confirmation message appears.
 - d. Click **OK**. The *InstallShield Wizard Complete* screen appears.
 - e. Select whether you want to restart your server:

Note: If you want to install WebCT Campus Edition again, you must restart your server.

- To restart your server, select *Yes* and click **Finish**. WebCT Campus Edition 4.1 is uninstalled and your server restarts.
- To continue without restarting, select *No* and click **Finish**. WebCT Campus Edition 4.1 is uninstalled.

All files created after WebCT is installed will remain, including course information, course data, and databases. If you want to delete these files, use Windows Explorer.

UNINSTALLING ONE OF MULTIPLE WEBCT CE 4.1 INSTANCES

WebCT Campus Edition 4.1 can be uninstalled using *Add/Remove Programs*.

Note:

- If you are running multiple instances of WebCT Campus Edition and plan to uninstall an instance that is NOT running the license server, follow the instructions for *Uninstalling a Single WebCT Instance* on page 37, omitting steps 2, 3, and 4.

- If you uninstall the instance of WebCT Campus Edition 4.1 that runs the license server, the license server is automatically stopped.
1. Choose the instance from which you want to run the license server.

Note: If you have installed different versions of WebCT, choose an instance running the latest version. If you have installed the same WebCT version on multiple instances, you can run the license server from any instance.
 2. Stop the license server:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. Right-click **WebCT License Server** and click **Stop**.
 - c. Close the *Services* window.
 3. Deactivate the license server on the instance to be uninstalled:
 - a. To open a command window:
 - i. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - ii. In the *Run* dialog box, type `cmd`, and press **Enter**. A command window appears.
 - b. Change to the license server directory by typing:
`cd <webct_install_directory>\webct\webct\generic\admin`
 - c. Type:
`license -deactivate <webct_install_directory>\
⇒webct <instance_number>`
 4. Temporarily relocate the `webct` directory:
 - a. From Windows Explorer, go to the directory `C:\WINNT`.
 - b. Select the directory `webct`.
 - c. Cut and paste the `webct` directory to a temporary location, for example, your Windows desktop.
 5. Remove the license server from the instance to be uninstalled:
 - a. From the Windows command line, change to the directory by typing:
`cd <webct_install_directory>\webct\webct\generic\admin`
 - b. Remove the license server by typing:
`license -remove`
 6. From the new primary instance, install the license server:
 - a. From the Windows command line, change the directory by typing:
`cd <new_webct_install_directory>\webct\webct\generic\
⇒admin`

- b. Install the license server by typing:

```
license -install <port>
```

For example:

```
license -install 5555
```

7. From Windows Explorer, from C : \WINNT, delete the new webct directory.
8. From the temporary location that you selected in step 4.c., cut and paste the webct directory to C : \WINNT.
9. Start the license server:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. Right-click **WebCT License Server** and click **Start**.
10. Remove WebCT Campus Edition 4.1:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, and double-click **Add/Remove Programs**. The *Add/Remove Programs* window appears.
 - b. Select the WebCT instance you are uninstalling.
 - c. Click **Remove**. A confirmation message appears.
 - d. Click **OK**. The *InstallShield Wizard Complete* screen appears.
 - e. Restart your server by selecting *Yes* and clicking **Finish**. WebCT Campus Edition is uninstalled and your server restarts.

All files created after WebCT Campus Edition 4.1 is installed will remain, including course information, course data, and databases. If you want to delete these files, use Windows Explorer.

CHAPTER 4: UPGRADING TO WEBCT CE 4.1

This chapter contains instructions for upgrading to WebCT Campus Edition 4.1.

You can upgrade by installing WebCT Campus Edition 4.1 on top of an earlier version of WebCT on the same server.

Important: If you are upgrading to WebCT Campus Edition 4.1 and any of the following upgrading situations apply, before you start upgrading, contact WebCT Support at support@webct.com:

- Moving the current WebCT installation to a new disk or mount point.
- Moving the current WebCT installation to another server with the same operating system.
- Changing the operating system.
- Changing the operating system and installing a new WebCT version.
- Changing platforms.

If you are using a Student Information System, see the next section, *Notes for Student Information System Users*.

For instructions on upgrading to WebCT Campus Edition 4.1, see the following:

- If you are upgrading to WebCT Campus Edition 4.1 on a UNIX operating system, see *Upgrading to WebCT CE 4.1 on a UNIX Operating System* on page 43
- If you are upgrading to WebCT Campus Edition 4.1 on a Windows operating system, see *Upgrading to WebCT CE 4.1 on a Windows Operating System* on page 66

NOTES FOR STUDENT INFORMATION SYSTEM USERS

If you are a Student Information System (SIS) user, read this section before installing WebCT.

Using WebCT/SCT or WebCT/SCT/Campus Pipeline

If you are implementing or currently using an integrated installation of WebCT Campus Edition/SCT Banner or Plus, or WebCT Campus Edition/SCT Banner or Plus/Campus Pipeline™, note the following:

Note: For more information, refer to the *Guide to Integrating SCT with WebCT Campus Edition 4.1*.

- If you are implementing an integrated installation for the first time, you must do a new installation of WebCT Campus Edition 4.1 on a dedicated server.
- If you are running a previous version of WebCT Campus Edition and are upgrading to 4.1, you may also need to upgrade other components of the Connected Learning Solution. Before you upgrade, check the Connected Learning Solution Dependencies at www.webct.com/service/ViewContent?contentID=15572771
For the latest patch and fix recommendations, contact WebCT Support at support@webct.com

Using WebCT/Datatel

If you are implementing or currently using an integrated installation of WebCT Campus Edition/Datatel Colleague, note the following:

Note: For more information, refer to the *Guide to Integrating Datatel with WebCT Campus Edition 4.1*.

- If you are implementing an integrated installation for the first time, you must do a new installation of WebCT Campus Edition 4.1 on a dedicated server.
- If you are running a previous version of WebCT Campus Edition, you must do a new installation of WebCT Campus Edition 4.1 on a dedicated server. After successfully installing version 4.1 and separately move any course backups from the previous version to 4.1, you can uninstall the previous version.

For instructions on upgrading to WebCT Campus Edition 4.1, see the following:

- If you are upgrading to WebCT Campus Edition 4.1 on a UNIX operating system, see *Upgrading to WebCT CE 4.1 on a UNIX Operating System* below.
- If you are upgrading to WebCT Campus Edition 4.1 on a Windows operating system, see *Upgrading to WebCT CE 4.1 on a Windows Operating System* on page 66.

UPGRADING TO WEBCT CE 4.1 ON A UNIX OPERATING SYSTEM

Before upgrading to WebCT Campus Edition 4.1, ensure your server meets the server software requirements. See *Chapter 1: System Requirements*, “*Server Operating System Requirements*” on page 1.

To find instructions for upgrading from your current version of WebCT to WebCT Campus Edition 4.1, see the following table.

Current WebCT version	See the following section
WebCT Campus Edition 4.0.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.7.x, 3.8.x, or 4.0.x on a UNIX Operating System</i> on page 43
WebCT Campus Edition 3.8.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.7.x, 3.8.x, or 4.0.x on a UNIX Operating System</i> on page 43
WebCT Campus Edition 3.7.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.7.x, 3.8.x, or 4.0.x on a UNIX Operating System</i> on page 43
WebCT Campus Edition 3.6.x WebCT Standard Edition™ 3.6.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.6.x or WebCT Standard Edition 3.6.x on a UNIX Operating System</i> on page 53
WebCT 3.5.x and earlier	WebCT strongly recommends that you do a new installation of WebCT Campus Edition 4.1 but, if you choose, you can upgrade to WebCT Campus Edition 4.1. For example, if you are currently using WebCT 3.5.x, you can first upgrade to WebCT 3.6 and then upgrade to WebCT Campus Edition 4.1. For instructions on upgrading to WebCT 3.6, see the <i>WebCT 3.6, System Administrator's Guide, Chapter 3, Upgrading WebCT</i> .

UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.7.x, 3.8.x, OR 4.0.x ON A UNIX OPERATING SYSTEM

Upgrading to WebCT Campus Edition 4.1 from WebCT Campus Edition 3.7.x, 3.8.x, or 4.0.x involves the following general steps:

1. Backing up the entire WebCT installation directory. (If a problem occurs with the upgrade, you can restore the backup and revert to the original version of WebCT Campus Edition.)
2. Stopping the license server and the WebCT server. For details, see page 45.
3. Installing the WebCT Campus Edition 4.1 distribution file on your server. For details, see page 45.
 - a. If the global data is in a character set other than ISO-8559-1, you must convert the global data to the UTF-8 character set by running the convert script. For details, see page 49.
 - b. If you are running WebCT Campus Edition 4.1 and any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. To change the start and stop paths in `/etc/webct/S96WebCTLICENSE` to reflect the location of the 4.1 license server, see *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 50.
4. Upgrading course databases to the WebCT Campus Edition 4.1 format. This is an optional step. For details, see page 50.
5. Starting the license server. For details, see page 51.
6. Activating the WebCT Campus Edition 4.1 instance (copy) on your server. For details, see page 51.
7. Starting the WebCT server. For details, see page 51.
8. Verifying that the WebCT Campus Edition 3.7, 3.8, or 4.0 license key is valid. For details, see page 52.
9. Enabling the Course Design Center in existing courses. This is an optional step. For details, see page 52.

Important:

- For portions of the upgrade, you need root access to your UNIX operating system.
- We recommend that you create a separate user that has ownership over all the WebCT files to install WebCT Campus Edition 4.1. For the purposes of this document, this user will be referred to as the WebCT UNIX user. For more information on creating a user, refer to your operating system's manuals.
- If you have customized your Apache installation to be upgraded or want to access old Apache logs, they are stored in
`<webct_installation_directory>/webct/server.old.n`
where `n` is the old instance number.

These files are archived for your reference but can be deleted.

Stopping the license server and the WebCT server

After you back up the entire WebCT installation directory, the second step of upgrading to WebCT Campus Edition 4.1 is to stop the license server and the WebCT server.

1. Log in as the WebCT UNIX user.
2. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```
3. Stop the license server:
 - a. If you are running the license server as root, log in as the root user.
 - b. Do one of the following:
 - If you are upgrading from WebCT Campus Edition 3.7.x, type:

```
./license -stop
```
 - If you are upgrading from WebCT Campus Edition 3.8.x or 4.0.x, type:

```
./license -shutdown
```
4. Stop the WebCT server:
 - a. If you are running the WebCT server as root, log in as the root user.
 - b. Type: `<webct_install_directory>/webct/webctctl stop`.
5. If you are upgrading from WebCT Campus Edition 3.7.x:
 - a. Stop the *Chat* service by typing:

```
kill -9 `cat  
<webct_install_directory>/webct/webct/generic/public/chat/  
⇒logs/chat.pid`
```
 - b. Stop the *Whiteboard* service by typing:

```
kill -9 `cat  
<webct_install_directory>/webct/webct/generic/public/  
⇒whiteboard.pid`  
  
and  
  
kill -9 `cat  
<webct_install_directory>/webct/webct/generic/public/  
⇒tcp2udp.pid`
```
6. Go to the next section, *Installing the WebCT CE 4.1 distribution file on your server*.

Installing the WebCT CE 4.1 distribution file on your server

After you have stopped the license server and the WebCT server, the third step of upgrading to WebCT Campus Edition 4.1 is to install the WebCT Campus Edition 4.1 distribution file on your server.

1. Ensure you are logged in as the WebCT UNIX user and NOT as the root user.

2. Go to <http://download.webct.com> and follow the links to download WebCT Campus Edition 4.1. You will be prompted to enter your user name (e-mail address) and password (your license key).
3. Locate the appropriate distribution file for your server's operating system.
4. Download the WebCT Campus Edition 4.1 distribution file and the accompanying MD5 checksum (same file name, but with an .md5 extension).
5. Verify the integrity of your downloaded distribution file by comparing it against the MD5 checksum. For more information, see *Chapter 2: Installing WebCT CE 4.1*, "The MD5 Checksum" on page 11.
6. Decompress the distribution file by typing:

```
gunzip -c <filename> | tar -xvf -
```

The file decompresses and is untarred into a directory called `webct-4.1.0.xx`.
7. Change to the `webct-4.1.0.xx` directory created in the previous step.
8. Type: `./install <path_to_existing_installation>`. The *WebCT Campus Edition 4.1 Installation* screen appears.
9. Read the *Introduction* and press Enter. The *Configuration* screen appears.
10. Press P and press Enter. The *Old Version Found* screen appears.
11. Press P and press Enter.
12. Do one of the following:
 - If the *Apache configuration* screen appears, go to step 13.
 - If WebCT detects that a 3.8.x or earlier Language Plug-in is installed on an earlier version of WebCT, a warning message appears. You cannot use a 3.8.x or earlier Language Plug-in with WebCT Campus Edition 4.1. You must install a WebCT Campus Edition 4.0 Language Plug-in. If you do not install a WebCT Campus Edition 4.0 Language Plug-in, any existing courses will use English by default. Do one of the following:
 - If you want to continue with the installation, press Y and press Enter. The *Apache configuration* screen appears.
 - If you do not want to continue with the installation, press N and press Enter.
13. From the *Apache configuration* screen:
 - a. Do the following:
 - If you want to modify the administrator e-mail address, press 1, press Enter, and type the new e-mail address.

Note: You can also modify the administrator e-mail address in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Administrator E-mail Address.”

- If you want to modify the WebCT server port number, press 2, press Enter, and type the new port number.

Note:

- The default server port is 8900, but it can be any unoccupied port. We recommend you use port 80.
- The port must be open in your firewall.
- If you want to run the WebCT server on a port less than or equal to 1024 (for example, port 80), you must start WebCT as the root user.
- If you want to change the server name, press 3, press Enter, and type the fully qualified domain name for the WebCT server.

Important: If you plan to configure your WebCT Campus Edition 4.1 installation to support the SSL protocol and select the *Secure passwords* option, you must enter a fully qualified domain name that contains a local name, second-level domain, and top-level domain. That is, the domain name must contain at least two dots, for example, webct.school.edu. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Configuring WebCT to Use the SSL Protocol on a UNIX Operating System,” “Specifying the SSL setting (UNIX).”

If necessary, after installation, you can change the fully qualified domain name for the WebCT server. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Changing the WebCT Server Name on a UNIX Operating System.”

- b. To proceed, press P and press Enter. The *Port configuration* screen appears.

14. From the *Port configuration* screen:

- a. Do the following:

- If you want to modify the *Chat* port, press 1, press Enter, and type a unique port number.

Note:

- The default *Chat* port is 4445, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.

- You can also modify the *Chat* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “*Setting the Chat, Whiteboard, and Java Servlet Engine Ports.*”
- If you want to modify the *Whiteboard* port, press 2, press `Enter`, and type a unique port number.

Note:

- The default *Whiteboard* port is 4567, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Whiteboard* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “*Setting the Chat, Whiteboard, and Java Servlet Engine Ports.*”
- If you want to modify the *Java Servlet Engine* port, press 3, and type a unique port number.

Note:

- The default *Java Servlet Engine* port is 8009 but it can be any unoccupied port above 1024.
- The port should NOT be open in your firewall.
- You can also modify the *Java Servlet Engine* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “*Setting the Chat, Whiteboard, and Java Servlet Engine Ports.*”

- b. To proceed, press `P` and press `Enter`.

15. Do one of the following:

- If the *Upgrade Installation* screen appears, go to step 16.
- If the *Select installation upgrade options* screen appears, you are prompted to convert the global data to the UTF-8 character set. In WebCT Campus Edition 4.1, global data, which includes data in the administrator interface and in *myWebCT*, is stored in the UTF-8 character set. In order to use WebCT Campus Edition 4.1, you must convert the global data to the UTF-8 character set. Do one of the following:
 - If the global data is stored in the ISO-8859-1 character set, to convert the global data to the UTF-8 character set, press 1, press `Enter`, and follow the screen prompts.

- If the global data is stored in a character set other than ISO-8859-1, convert the global data to the UTF-8 character set in the next section. Go to step 16.
16. To proceed with the installation, press **P** and press **Enter**. *The Installation is Now Complete* screen appears.
 17. When the installation is complete, the URL for the administrator server page, the administrator login ID, and the administrator password display. Make note of these.
 18. Do one of the following:
 - If the global data is in the UTF-8 character set and you are running only WebCT Campus Edition 4.1 on the server, go to the section, *Upgrading course databases to the WebCT CE 4.1 format* on page 50.
 - If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. Go to the section, *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 50.
 - If your global data is stored in a character set other than ISO-8859-1, before you can use WebCT Campus Edition 4.1, you must convert your global data to the UTF-8 character set. Go to the next section, *Converting global data to the UTF-8 character set*.

Converting global data to the UTF-8 character set

WebCT Campus Edition 4.1 supports both the ISO-8859-1 and UTF-8 character sets. Global data, which includes data in the administrator interface and in *myWebCT*, must be converted to the UTF-8 character set, or you will not be able to use WebCT Campus Edition 4.1.

If your data is stored in a character set other than ISO-8859-1, use the following instructions to convert the global data.

1. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```
2. Run the convert script by typing:

```
./convert-data.pl --charset=<your_original_character_set>
```
3. If you want, check to see which files were converted in the file

```
<webct_install_directory>/webct/webct/generic/admin/  
⇒database/converted_files.
```
4. Do one of the following:
 - If you are running only WebCT Campus Edition 4.1 on the server, go to the section, *Upgrading course databases to the WebCT CE 4.1 format* on page 50.

- If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all versions. Go to the next section, *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)*.

Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)

If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all versions. Use the following instructions to change the start and stop paths in `/etc/webct/S96WebCTLICENSE` to reflect the location of the 4.1 license server.

1. Using a text editor, open the file `/etc/webct/S96WebCTLICENSE`.
2. Change the start and stop paths to reflect the location of the 4.1 license server:

For example:

```
start() {  
    /home/webct_new/webct-4.1/webct/webct/generic/admin/  
⇒license -start}  
stop() {  
    /home/webct_new/webct-4.1/webct/webct/generic/admin/  
⇒license -shutdown}
```

3. Go to the next section, *Upgrading course databases to the WebCT CE 4.1 format*.

Upgrading course databases to the WebCT CE 4.1 format

After you install the WebCT Campus Edition 4.1 distribution file, the fourth step of upgrading to WebCT Campus Edition 4.1 is to upgrade course databases to the WebCT Campus Edition 4.1 format.

To reduce the load on the server when courses begin, we recommend that you use the following instructions to upgrade all course databases to the WebCT Campus Edition 4.1 format at one time.

Note: This is an optional, but recommended, step. If you do not perform this step, course databases will upgrade automatically to the WebCT Campus Edition 4.1 format when students log in to their courses.

This procedure may take 10 to 30 minutes or longer to complete, depending on the number of courses on the server and the number of students in the courses.

1. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/bin
```

2. Type: `./run_upgrades.pl`.
3. Go to the next section, *Starting the license server*.

Starting the license server

After you install the WebCT Campus Edition 4.1 distribution file and, optionally, upgrade course databases to the WebCT Campus Edition 4.1 format, the fifth step of upgrading to WebCT Campus Edition 4.1 is to start the license server.

1. Do the following:
 - a. If you are running the license server as root, log in as the root user.
 - b. Type: `/etc/webct/S96WebCTLICENSE start`.
2. Go to the next section, *Activating the WebCT CE 4.1 instance on your server*.

Activating the WebCT CE 4.1 instance on your server

After you start the license server, the sixth step of upgrading to WebCT Campus Edition 4.1 is to activate the WebCT Campus Edition 4.1 instance on your server.

1. Do one of the following:
 - If you installed only one instance of WebCT Campus Edition 4.1 on your server, type:
`./license -activate <webct_install_directory>/webct`
For example, type:
`./license -activate /home/webct1/webct`
 - If you installed more than one instance of WebCT Campus Edition 4.1 on your server, activate each instance by doing the following:
 - a. Locate the WebCT Campus Edition 3.7, 3.8, or 4.0 license key information for the instance you want to activate. In the next step, you will enter the instance number that is provided in the sentence, “*When you run the license –activate command...*” For example, “*When you run the license –activate command, specify 0 as the last parameter,*” where 0 is the instance number of the primary installation.
 - b. Type:
`./license -activate <webct_install_directory>/
⇒webct <instance_number>`
For example, to activate the primary instance of WebCT Campus Edition 4.1 that is installed in `/home/webct1/`, type:
`./license -activate /home/webct1/webct 0`
 2. Go to the next section, *Starting the WebCT server*.
- Note:** You must enter a different instance number for each WebCT Campus Edition 4.1 instance that is installed.

Starting the WebCT server

After you activate each WebCT Campus Edition 4.1 instance on your server, the seventh step of upgrading to WebCT Campus Edition 4.1 is to start the WebCT server.

1. Start the WebCT server:
 - a. If you are running the WebCT server as root, log in as the root user.
 - b. Type: `<webct_install_directory>/webct/webctctl start`.
2. Go to the next section, *Verifying that the WebCT CE 3.7, 3.8, or 4.0 license key is valid*.

Verifying that the WebCT CE 3.7, 3.8, or 4.0 license key is valid

After you start the WebCT server, the eighth step of upgrading to WebCT Campus Edition 4.1 is to verify that the WebCT Campus Edition 3.7, 3.8, or 4.0 license key is valid.

1. Log in to the WebCT Campus Edition 4.1 administrator interface.
2. From *Admin* toolbar, click **Server Mgmt**. The *Server Mgmt* toolbar appears.
3. From the *Server Mgmt* toolbar, click **License**. The *License Information* screen appears. Ensure that the system is licensed and the *Evaluation* is *Valid*. If the system is not licensed, contact WebCT Support at support@webct.com.
4. Go to the next section, *Enabling the Course Design Center in existing courses*.

Enabling the Course Design Center in existing courses

This is an optional, but recommended, step.

After you verify that the WebCT CE 3.7, 3.8, or 4.0 license key is valid, the ninth and final step of upgrading to WebCT Campus Edition 4.1 is to enable the *Course Design Center* so designers can use the wizards to add and edit content in their existing courses.

1. Log in as the WebCT UNIX user.
2. Change the directory by typing:
`cd <webct_install_directory>/webct/webct/generic/bin`
3. Enable the wizards by doing one of the following:
 - enable the wizards in all courses by typing: `./enable_wizards.pl`
 - enable the wizards in one course by typing: `./enable_wizards.pl <courseid>`

UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.6.X OR WEBCT STANDARD EDITION 3.6.X ON A UNIX OPERATING SYSTEM

Upgrading to WebCT Campus Edition 4.1 from WebCT Campus Edition 3.6.x or WebCT Standard Edition 3.6.x involves the following general steps:

1. Backing up the entire WebCT installation directory. (If a problem occurs with the upgrade, you can restore the backup and revert to the original version of WebCT.)
2. Stopping the WebCT server, the *Chat* service, and the *Whiteboard* service. For details, see page 53.
3. Installing the WebCT Campus Edition 4.1 distribution file on your server. For details, see page 54.
 - a. If the global data is in a character set other than ISO-8559-1, you must convert the global data to the UTF-8 character set by running the convert script. For details, see page 57.
4. Upgrading course databases to the WebCT Campus Edition 4.1 format. This is an optional step. For details, see page 58.
5. Installing and starting the license server. For details, see page 58.
6. Activating the WebCT Campus Edition 4.1 instance (copy) on your server. For details, see page 60.
7. Starting the WebCT server. For details, see page 61.
8. Entering the WebCT Campus Edition 4.1 license key (s). For details, see page 61.
9. Enabling the Course Design Center in existing courses. This is an optional step. For details, see page 66.

Stopping the WebCT server, the Chat service, and the Whiteboard service

After you back up the entire WebCT installation directory, the second step of upgrading the WebCT Campus Edition 4.1 is to stop the WebCT server, the *Chat* service, and the *Whiteboard* service.

1. Log in as the WebCT UNIX user.
2. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```
3. Stop the WebCT server:
 - a. If you are running the WebCT server as root, log in as the root user.
 - b. Type: `<webct_install_directory>/webct/server/bin/
⇒apachectl stop`.
4. Stop the *Chat* service by typing:

```
kill -9 `cat  
<webct_install_directory>/webct/webct/generic/public/chat/  
⇒logs/chat.pid`
```

5. Stop the *Whiteboard* service by typing:

```
kill -9 `cat  
<webct_install_directory>/webct/webct/generic/public/  
⇒whiteboard.pid`
```

and

```
kill -9 `cat  
<webct_install_directory>/webct/webct/generic/public/  
⇒tcp2udp.pid`
```

6. Go to the next section, *Installing the WebCT CE 4.1 distribution file on your server*.

Installing the WebCT CE 4.1 distribution file on your server

After you stop the WebCT server, the *Chat* service, and the *Whiteboard* service, the third step of upgrading to WebCT Campus Edition 4.1 is to install the WebCT Campus Edition 4.1 distribution file.

1. Ensure you are logged in as the WebCT UNIX user and NOT as the root user.
2. Go to <http://download.webct.com> and follow the links to download WebCT Campus Edition 4.1. You will be prompted to enter your user name (e-mail address) and password (your license key).
3. Locate the appropriate distribution file for your server's operating system.
4. Download the WebCT Campus Edition WebCT Campus Edition™ distribution file and the accompanying MD5 checksum (same file name, but with an .md5 extension).
5. Verify the integrity of your downloaded distribution file by comparing it against the MD5 checksum. For more information, see *Chapter 2: Installing WebCT CE 4.1*, "The MD5 Checksum" on page 11.

6. Decompress the distribution file by typing:

```
gunzip -c <filename> | tar -xvf -
```

The file decompresses and is untarred into a directory called `webct-4.1.0.xx`.

7. Change to the `webct-4.1.0.xx` directory created in the previous step.
8. Type: `./install <path_to_existing_installation>`. The *WebCT Campus Edition 4.1 Installation* screen appears.
9. Read the *Introduction* and press Enter. The *Configuration* screen appears.
10. Press P and press Enter. The *Old Version Found* screen appears.
11. Press P and press Enter.
12. Do one of the following:

- If the *Apache configuration* screen appears, go to step 13.
- If WebCT detects that an earlier Language Plug-in is installed on an earlier version of WebCT, a warning message appears. You cannot use an earlier Language Plug-in with WebCT Campus Edition 4.1. You must install a WebCT Campus Edition 4.0 Language Plug-in. If you do not install a WebCT Campus Edition 4.0 Language Plug-in, any existing courses will use English by default. Do one of the following:
 - If you want to continue with the installation, press Y and press Enter. The *Apache configuration* screen appears.
 - If you do not want to continue with the installation, press N and press Enter.

13. From the *Apache configuration* screen:

- a. Do the following:
 - If you want to modify the administrator e-mail address, press 1, press Enter, and type the new e-mail address.

Note: You can also modify the administrator e-mail address in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Administrator E-mail Address.”

- If you want to modify the WebCT server port number, press 2, press Enter, and type the new port number.

Note:

- The default server port is 8900, but it can be any unoccupied port. We recommend you use port 80.
- The port must be open in your firewall.
- If you want to run the WebCT server on a port less than or equal to 1024 (for example, port 80), you must start WebCT as the root user.
- If you want to change the server name, press 3, press Enter, and type the fully qualified domain name for the WebCT server.

Important: If you plan to configure your WebCT Campus Edition 4.1 installation to support the SSL protocol and select the *Secure passwords* option, you must enter a fully qualified domain name that contains a local name, second-level domain, and top-level domain. That is, the domain name must contain at least two dots, for example, `webct.school.edu`.
For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Configuring WebCT to Use the SSL Protocol on a UNIX Operating System,” “Specifying the SSL setting (UNIX).”
If necessary, after installation, you can change the fully qualified domain name for the WebCT server. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Changing the WebCT Server Name on a UNIX Operating System.”

b. To proceed, press `P` and press `Enter`. The *Port configuration* screen appears.

14. From the *Port configuration* screen:

a. Do the following:

- If you want to modify the *Chat* port, press `1`, press `Enter`, and type a unique port number.

Note:

- The default *Chat* port is 4445, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Chat* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Chat, Whiteboard, and Java Servlet Engine Ports.”
- If you want to modify the *Whiteboard* port, press `2`, press `Enter`, and type a unique port number.

Note:

- The default *Whiteboard* port is 4567, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Whiteboard* port in the administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Chat, Whiteboard, and Java Servlet Engine Ports.”

- If you want to modify the *Java Servlet Engine* port, press 3, and type a unique port number.

Note:

- The default *Java Servlet Engine* port is 8009 but it can be any unoccupied port above 1024.
- The port should NOT be open in your firewall.
- You can also modify the *Java Servlet Engine* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Chat, Whiteboard, and Java Servlet Engine Ports.”

b. To proceed, press P and press Enter. The *Upgrade Installation* screen appears.

15. In WebCT Campus Edition 4.1, global data, which includes data in the administrator interface and in *myWebCT*, is stored in the UTF-8 character set. In order to use WebCT Campus Edition 4.1, you must convert the global data to the UTF-8 character set. From the *Upgrade Installation* screen, do one of the following:

- If the global data is stored in the ISO-8859-1 character set, to convert the global data to the UTF-8 character set, press 1, press Enter, and follow the screen prompts.
- If the global data is stored in a character set other than ISO-8859-1, convert the global data to the UTF-8 character set in the next section. Go to step 16.

16. To proceed with the installation, press P and press Enter. The *Installation is Now Complete* screen appears.

17. When the installation is complete, the URL for the administrator server page, the administrator login ID, and the administrator password display. Make note of these.

18. Do the following:

- If the global data is in the UTF-8 character set, go to the section, *Upgrading course databases to the WebCT CE 4.1 format* on page 58.
- If the global data is stored in a character set other than ISO-8559-1, before you can use WebCT Campus Edition 4.1, you must convert your global data to the UTF-8 character set. Go to the next section, *Converting global data to the UTF-8 character set*.

Converting global data to the UTF-8 character set

WebCT Campus Edition 4.1 supports both the ISO-8859-1 and UTF-8 character sets. Global data, which includes data in the administrator interface and in *myWebCT*, must be converted to the UTF-8 character set, or you will not be able to use WebCT Campus Edition 4.1.

If your data is stored in a character set other than ISO-8859-1, use the following instructions to convert the global data.

1. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```

2. Run the convert script by typing:

```
./convert-data.pl --charset=<your_original_character_set>
```

3. If you want, check to see which files were converted in the file

```
<webct_install_directory>/webct/webct/generic/admin/  
⇒database/converted_files.
```

4. Go to the next section, *Upgrading course databases to the WebCT CE 4.1 format*.

Upgrading course databases to the WebCT CE 4.1 format

After you install the WebCT Campus Edition 4.1 distribution file, the fourth step of upgrading to WebCT Campus Edition 4.1 is to upgrade course databases to the WebCT Campus Edition 4.1 format.

To reduce the load on the server when courses begin, we recommend that you use the following instructions to upgrade all course databases to the WebCT Campus Edition 4.1 format at one time.

Note: This is an optional, but recommended, step. If you do not perform this step, course databases will be upgraded automatically to the WebCT Campus Edition 4.1 format when students log in to their courses.

This procedure may take 10 to 30 minutes or longer to complete, depending on the number of courses on the server and the number of students in the courses.

To upgrade course databases to the WebCT CE 4.1 format

1. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/bin
```

2. Type: `./run_upgrades.pl`.

3. Go to the next section, *Installing and starting the license server*.

Installing and starting the license server

After you install the WebCT Campus Edition 4.1 distribution file and, optionally, upgrade course databases to the WebCT Campus Edition 4.1 format, the fifth step of upgrading to WebCT Campus Edition 4.1 is to install the license server.

Depending on how you are running WebCT, you can install the license server either as the WebCT UNIX user or as the root user.

- If you are NOT running WebCT Campus Edition as the root user, go to the next section, *Installing and starting the license server as the WebCT UNIX user*.

- If you are running multiple instances of WebCT as different WebCT UNIX users, you must install the license server as the root user. Go to the section, *Installing and starting the license server as the root user* on page 60.

Installing and starting the license server as the WebCT UNIX user

1. Log in as the root user.
2. Create the following directory:
`/etc/webct`
For example:
`mkdir /etc/webct`
3. Change the owner and group of `/etc/webct/` to the owner and group of the WebCT UNIX user.
For example:
`chown -R webct:webct /etc/webct`
4. Log out as the root user.
5. Log in as the WebCT UNIX user.
6. Decide on which unoccupied port to run the license server.

Important:

- The port cannot be the same as the WebCT server's port, or any other occupied port.
 - We recommend that you block the license server port at the firewall.
7. If you are using virtual IPs, before installing the license server you must specify on which IP the license server will listen:
 - a. From `/etc/webct`, use a text editor to create a file named `server_ip`.
 - b. In this file, type the IP you licensed with WebCT.
 - c. Save the file.
 8. Change the directory by typing:
`cd <webct_install_directory>/webct/webct/generic/admin/`
 9. Install the license server by typing:
`./license -install <port>`
For example:
`./license -install 5555`
 10. Manually start the license server by typing:
`/etc/webct/S96WebCTLICENSE start`
 11. Go to the section, *Activating the WebCT CE 4.1 instance on your server* on page 60.

Installing and starting the license server as the root user

If you are running multiple instances of WebCT as different WebCT UNIX users, you must install the license server as the root user.

1. Log in as the root user.
2. Decide on which unoccupied port to run the license server.

Important:

- The port cannot be the same as the WebCT server's port, or any other occupied port.
 - We recommend that you block the license server port at the firewall.
3. If you are using virtual IPs, before installing the license server you must specify on which IP the license server will listen:
 - a. From `/etc/webct`, use a text editor to create a file named `server_ip`.
 - b. In this file, type the IP you licensed with WebCT.
 - c. Save the file.
 4. Change the directory by typing:

```
cd <webct_install_directory>/webct/generic/admin
```
 5. Install the license server by typing:

```
./license -install <port>
```

For example:

```
./license -install 5555
```
 6. Manually start the license server by typing:

```
/etc/webct/S96WebCTLICENSE start
```
 7. Go to the next section, *Activating the WebCT CE 4.1 instance on your server*.

Activating the WebCT CE 4.1 instance on your server

After you install and start the license server, the sixth step of upgrading to WebCT Campus Edition 4.1 is to activate the WebCT Campus Edition 4.1 instance on your server.

1. Do one of the following:
 - If you installed only one instance of WebCT Campus Edition 4.1 on your server, type:

```
./license -activate <webct_install_directory>/webct
```

For example, type:

```
./license -activate /home/webct1/webct
```
 - If you installed more than one instance of WebCT Campus Edition 4.1 on your server, activate each instance by doing the following:

- a. Locate the WebCT Campus Edition 4.1 license key information for the instance you want to activate. In the next step, you will enter the instance number that is provided in the sentence, “*When you run the license –activate command....*” For example, “*When you run the license –activate command, specify 0 as the last parameter,*” where 0 is the instance number of the primary installation.

- b. Type:

```
./license -activate <webct_install_directory>/  
⇒webct <instance_number>
```

For example, to activate the first instance of WebCT that is installed in /home/webctl/, type:

```
./license -activate /home/webctl/webct 0
```

Note: You must enter a different instance number for each WebCT instance that is installed.

2. Go to the next section, *Starting the WebCT server*.

Starting the WebCT server

After you activate the WebCT Campus Edition 4.1 instance on your server, the seventh step of upgrading to WebCT Campus Edition 4.1 is to start the WebCT Campus Edition 4.1 server.

1. Type:

```
<webct_install_directory>/webct/webctl start
```

Note: If you want to autostart the license server and the WebCT server, see the section, *Autostarting WebCT CE 4.1 on the UNIX operating system* on page 65.

2. Go to the next section, *Entering the WebCT CE 4.1 license key(s)*.

Entering the WebCT CE 4.1 license key(s)

After you start the WebCT Campus Edition 4.1 server, the eighth step of upgrading to WebCT Campus Edition 4.1 is to enter the WebCT Campus Edition 4.1 license key (s). You cannot use the WebCT 3.6 license key(s) with WebCT Campus Edition 4.1.

If you are running multiple instances of WebCT Campus Edition 4.1, you must enter a different license key for each WebCT Campus Edition 4.1 instance that is installed.

Ensure that the key entered corresponds to the appropriate instance.

1. Log in to the WebCT Campus Edition 4.1 administrator interface.
2. From the *Admin* toolbar, click **Server Mgmt**. The *Server Mgmt* toolbar appears.
3. From the *Server Mgmt* toolbar, click **License**. The *License* toolbar appears.
4. From the *License* toolbar, click **Enter Key**. The *License Key Entry* screen appears.

5. In the *Enter the license key* text box, enter the license key and click **Continue**. A success message appears.
6. Click **Continue**. The *License Information* screen appears and the license key is applied to the WebCT Campus Edition 4.1 instance.

For supported license options, see page 62. For optional license features, see page 63.

7. Go to the next section, *Enabling the Course Design Center in existing courses* on page 66.

Important License Information

Make a note of the following:

- If the license server is stopped and becomes invalid:
 - An e-mail is sent to the WebCT administrator*.
 - All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication are disabled.
- If a license is within four weeks of expiring or if the user count reaches 90 percent of the licensed limit, an e-mail is sent to the WebCT administrator*.
- If a license has expired, the following events occur:

Immediately after expiry	<ul style="list-style-type: none">• An e-mail is sent daily to the WebCT administrator*.• Notification appears in the WebCT administrator interface.
Two weeks after expiry	Notification appears in the WebCT designer interface.
Four weeks after expiry	All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication, are disabled.

*In order to receive e-mail notification, after you upgrade, ensure you set the administrator e-mail address and select the setting, *Allow server to send mail*. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “*Setting the Administrator E-mail Address*” and “*Allowing the Server to Send E-mail*.”

License options

The following license options are supported.

Note: To use these options, you must change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/admin
```

Option	Description
<code>./license -activate</code>	<p>Activates licensing for an instance of WebCT Campus Edition and installs the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to activate the first instance that is installed in <code>/home/webctl/</code>, type:</p> <pre>./license -activate /home/ ⇒webctl/webct 0</pre> <p>Option:</p> <p><code>-overwrite</code> records the new license over the existing license.</p>
<code>./license -deactivate</code>	<p>Deactivates licensing for an instance of WebCT and removes the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to deactivate the first instance that is installed in <code>/home/webctl/</code>, type:</p> <pre>./license -deactivate /home/ ⇒webctl/webct 0</pre>
<code>./license -install</code>	Installs the license server.
<code>./license -list</code>	Lists the currently active installations handled by the license server.
<code>./license -port</code>	<ul style="list-style-type: none"> Changes the port on which the license server operates and updates the license server configuration files. For example, if you inadvertently chose an already-occupied port for the license server, you can change it by typing: <pre>./license -port <new_port></pre> If using virtual IPs, use this option to ensure all activated instances reflect the correct server IP.
<code>./license -remove</code>	Uninstalls the license server.
<code>./license -shutdown</code>	Shuts down the license server.
<code>./license -start</code>	Starts the license server.

Optional license features

Optional license features include:

- *Specifying recognized IPs*, see below
- *Using virtual IPs* on page 64

Specifying recognized IPs

As a security measure, to ensure that only recognized IPs connect to the license server, use the following instructions to specify the IPs and system names that are allowed to send requests to the license server.

1. From `/etc/webct`, use a text editor to create a file named `valid_clients.txt`.
2. In this file, list the following (one per line):
 - the IP of the license server
 - each IP or system name running WebCT software that is allowed to send requests to the license server.
3. Save the file.
4. Stop the license server by typing:
`./license -shutdown`
5. Start the license server by typing:
`./license -start`

Using virtual IPs

If you are using virtual IPs, before installing the license server you must specify on which IP the license server will listen.

Although the server IP should be defined prior to installing the license server, it is possible to change it after. To do so, follow these steps.

Note: If you already received a license for the old IP, you need to get a new license based on the new server IP address. Contact WebCT Support at support@webct.com

1. From `/etc/webct`, use a text editor (for example, `vi`) to create a file named `server_ip`.
2. In this file, type the IP you licensed with WebCT.
3. Save the file.
4. Stop the license server by typing:
`./license -shutdown`
5. Start the license server by typing:
`./license -start`
6. To ensure all activated instances reflect the correct server IP, type:
`./license -port <xxx>`

For example:

```
./license -port 5555
```

Autostarting WebCT CE 4.1 on the UNIX operating system

You need root access to perform this procedure.

You can automatically start the license server and the WebCT server when your UNIX operating system is powered up or rebooted.

1. Depending on how you access the WebCT service, start and stop it using one of the following methods:

- If you need root access to start and stop the WebCT service or if your WebCT service is listening on a port less than or equal to 1024:

In `/etc/<platform_startup_directory>` (for example, `/etc/rc.d/rc3.d`), create a symbolic link to the webct control (`webctctl` file) for each WebCT instance.

For example:

```
ln -s <webct_primary_install_directory>/webct/webctctl
S96WebCTInstance0
ln -s <webct_secondary_install_directory>/webct/webctctl
⇒ S96WebCTInstance1
```

where `<webct_primary_install_directory>` is the primary installation directory and where `<webct_secondary_install_directory>` is the secondary installation directory.

OR

- If you can start and stop the WebCT service as the WebCT UNIX user:

In `/etc/<platform_startup_directory>` (for example, `/etc/rc.d/rc3.d`), create a startup script for each instance with this content:

```
#!/bin/sh
su <webct_UNIX_user> -c "<webct_primary>/webct/webctctl
⇒ start"
```

where `<webct_UNIX_user>` is the WebCT UNIX user.

2. Save the script for each WebCT instance with a file name that identifies it as the auto startup script for the WebCT service.

For example:

`S96WebCTInstance0`

3. To make the startup script executable, type:

```
chmod 555 S96WebCTInstance0
```

4. Autostart the license server:

In `/etc/<platform_startup_directory>`

For example:

```
/etc/rc.d/rc3.d
```

create a symbolic link to the license server startup script:

```
ln -s /etc/webct/S96WebCTLICENSE
```

Enabling the Course Design Center in existing courses

This is an optional, but recommended, step.

After you enter the WebCT Campus Edition 4.1 license key(s), the ninth and final step of upgrading to WebCT Campus Edition 4.1 is to enable the *Course Design Center* so designers can use the wizards to add and edit content in their existing courses.

1. Log in as the WebCT UNIX user.

2. Change the directory by typing:

```
cd <webct_install_directory>/webct/webct/generic/bin
```

3. Enable the wizards by doing one of the following:

- enable the wizards in all courses by typing: `./enable_wizards.pl`
- enable the wizards in one course by typing: `./enable_wizards.pl <courseid>`

UPGRADING TO WEBCT CE 4.1 ON A WINDOWS OPERATING SYSTEM

Before upgrading to WebCT Campus Edition 4.1, ensure your server meets the server software requirements. See *Chapter 1: System Requirements*, “*Server Operating System Requirements*” on page 1.

Important:

- WebCT Campus Edition 4.1 uses a newer version of Perl (version 5.6.1). Do not install WebCT Campus Edition 4.1 with WebCT 3.6.x or earlier on the same Windows operating system. WebCT Campus Edition 3.7.x, 3.8.x, 4.0.x and 4.1 use the same version of Perl and can be installed on the same Windows operating system.
- During the installation, if you choose to start or stop any services using the Windows *Control Panel* instead of the Windows command line, ensure that you close the *Services* window before continuing with the installation. If you do not close the *Services* window, the WebCT service may be deleted or disabled.
- If you have customized your Apache installation to be upgraded or want to access old Apache logs, they are stored in
`<webct_installation_directory>\webct\server.old.n`
where n is the old instance number.

These files are archived for your reference but can be deleted.

Throughout the upgrading procedures, these instructions assume your main Windows directory is C:\WINNT.

To find instructions for upgrading from your current version of WebCT to WebCT Campus Edition 4.1, see the following table.

Current WebCT version	See the following section
WebCT Campus Edition 4.0.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.7.x, 3.8.x, or 4.0.x on a Windows Operating System on page 67</i>
WebCT Campus Edition 3.8.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.7.x, 3.8.x, or 4.0.x on a Windows Operating System on page 67.</i>
WebCT Campus Edition 3.7.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.7.x, 3.8.x, or 4.0.x on a Windows Operating System on page 67.</i>
WebCT Campus Edition 3.6.x WebCT Standard Edition 3.6.x	<i>Upgrading to WebCT CE 4.1 from WebCT CE 3.6.x or WebCT Standard Edition 3.6.x on a Windows Operating System on page 77.</i>
WebCT 3.5.x and earlier	WebCT strongly recommends that you do a new installation of WebCT Campus Edition 4.1 but, if you choose, you can upgrade to WebCT Campus Edition 4.1. For example, if you are currently using WebCT 3.5.x, you can first upgrade to WebCT 3.6 and then upgrade to WebCT Campus Edition 4.1. For instructions on upgrading to WebCT 3.6, see the <i>WebCT 3.6, System Administrator's Guide, Chapter 3, Upgrading WebCT</i> .

UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.7.x, 3.8.x, OR 4.0.x ON A WINDOWS OPERATING SYSTEM

Upgrading to WebCT Campus Edition 4.1 from WebCT Campus Edition 3.7.x, 3.8.x, or 4.0.x involves the following general steps:

1. Stopping the license server and the WebCT service. For details, see page 68.
2. Backing up the entire WebCT installation directory. (If a problem occurs with the upgrade, you can restore the backup and revert to the original version of WebCT Campus Edition.)
3. Installing the WebCT Campus Edition 4.1 distribution file. For details, see page 69.

- a. If the global data is in a character set other than ISO-8559-1, you must convert the global data to the UTF-8 character set by running the convert script. For details, see page 72.
 - b. If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. To change the start and stop paths in `/etc/webct/S96WebCTLICENSE` to reflect the location of the 4.1 license server, go to *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 73.
4. Upgrading course databases to the WebCT Campus Edition 4.1 format. This is an optional step. For details, see page 74.
 5. Taking ownership of the WebCT service. This is an optional step. For details, see page 74.
 6. Activating the WebCT Campus Edition 4.1 instance (copy) on your server and starting the license server. For details, see page 75.
 7. Verifying that the WebCT Campus Edition 3.7, 3.8, or 4.0 license key is valid. For details, see page 76.
 8. Enabling the Course Design Center in existing courses. This is an optional step. For details, see page 77.

Stopping the license server and the WebCT service

The first step of upgrading to WebCT Campus Edition 4.1 is to stop the license server and the WebCT service.

1. If you are upgrading from WebCT Campus Edition 3.7.x, restart your server.
2. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
3. Stop the license server:
 - a. In the *Services* window, locate the *WebCT License Server* service.
 - b. Right-click **WebCT License Server** and click **Stop**.
4. Stop the WebCT service:
 - a. In the *Services* window, locate the WebCT service.
 - b. Right-click the service and click **Stop**.
5. Close the *Services* window.
6. Before you go to the next section, *Installing the WebCT CE 4.1 distribution file on your server*, ensure you back up the entire WebCT installation directory.

Installing the WebCT CE 4.1 distribution file on your server

After you stop the license server and the WebCT service, and back up your entire WebCT installation directory, the third step of upgrading to WebCT Campus Edition 4.1 is to install the WebCT Campus Edition 4.1 distribution file on your server.

1. The InstallShield for WebCT creates a copy of the installation engine software in the Program Files folder. To eliminate the possibility of pre-existing files causing a conflict, in C:\Program Files\Common Files\InstallShield, rename or delete the Engine folder.
2. Go to <http://download.webct.com> and follow the links to download WebCT Campus Edition 4.1. You will be prompted to enter your user name (e-mail address) and password (your license key).
3. Locate the appropriate distribution file for your server's operating system.
4. Download the WebCT Campus Edition 4.1 distribution file and the accompanying MD5 checksum (same file name, but with an .md5 extension).
5. Verify the integrity of your downloaded distribution file by comparing it against the MD5 checksum. For more information, see *Chapter 2: Installing WebCT CE 4.1*, "The MD5 Checksum" on page 11.
6. Unzip the distribution file.
7. Go to the directory containing the unzipped files.
8. Double-click Setup.exe. The *Welcome to the InstallShield Wizard for WebCT* dialog box appears.
9. Click **Next**. The *Choose Destination Location* dialog box appears.
10. Choose the destination for the WebCT Campus Edition 4.1 installation and do one of the following:

Important: Do not install WebCT Campus Edition 4.1 into a directory that has spaces in the name.

- To install to the default destination directory, click **Next**.
 - To install to a different directory:
 - a. Click **Browse**.
 - b. Select the directory and click **Next**.
11. Do one of the following:
 - If the *Enter Service Name* dialog box appears, go to step 12.

- If WebCT detects that a 3.8.x or earlier Language Plug-in is installed on an earlier version of WebCT, a warning message appears. You cannot use a 3.8.x or earlier Language Plug-in with WebCT Campus Edition 4.1. You must install a WebCT Campus Edition 4.0 Language Plug-in. If you do not install a WebCT Campus Edition 4.0 Language Plug-in, any existing courses will use English by default. Do one of the following:
 - If you want to continue with the installation, click **Yes**. The *Enter Service Name* dialog box appears.
 - If you do not want to continue with the installation, click **No**. The InstallShield Wizard for WebCT closes.
12. Enter a name for the WebCT service. The default name is `WebCT`, but you can enter any name that is not being used by an existing service.
13. Click **Next**. The *Enter Port Number* dialog box appears.
14. Enter the server port number or accept the default.

Note:

- The default server port is 8900, but it can be any unoccupied port. We recommend you use port 80.
 - The port must be open in your firewall.
15. Click **Next**. The *Enter Hostname* dialog box appears.
16. Enter the fully qualified hostname for the WebCT server.

For example:

`webct.school.edu`

Important: If you plan to configure your WebCT Campus Edition 4.1 installation to support the SSL protocol and select the *Secure passwords* option, you must enter a fully qualified hostname that contains a local name, second-level domain, and top-level domain. That is, the hostname must contain at least two dots, for example, `webct.school.edu`. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Configuring WebCT to Use the SSL Protocol on a Windows Operating System,” “Specifying the SSL setting (Windows).”

If necessary, after installation, you can change the fully qualified hostname of the WebCT server. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Changing the WebCT Server Name on a Windows Operating System.”

17. Click **Next**. The *Enter Chat Port Number* dialog box appears.
18. Enter the *Chat* port number or accept the default.

Note:

- The default *Chat* port is 4445, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Chat* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management, "Setting the Chat, Whiteboard, and Java Servlet Engine Ports."*

19. Click **Next**. The *Whiteboard Port Number* dialog box appears.

20. Enter the *Whiteboard* port number or accept the default.

Note:

- The default *Whiteboard* port is 4567, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Whiteboard* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management, "Setting the Chat, Whiteboard, and Java Servlet Engine Ports."*

21. Click **Next**. The *Enter Java Servlet Engine Port Number* dialog box appears.

22. Enter the *Java Servlet Engine* port number or accept the default.

Note:

- The default *Java Servlet Engine* port is 8009, but it can be any unoccupied port above 1024.
- The port must NOT be open in your firewall.
- You can also modify the *Java Servlet Engine* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management, "Setting the Chat, Whiteboard, and Java Servlet Engine Ports."*

23. Click **Next** and do one of the following:

- If the *Start Copying Files* dialog box appears, go to step 24.
- If the *Select installation upgrade options* dialog box appears, you are prompted to convert the global data to the UTF-8 character set. In WebCT Campus Edition 4.1, global data, which includes data in the administrator interface and in *myWebCT*, is stored in the UTF-8 character set. In order to use WebCT Campus Edition 4.1, you must convert the global data to the UTF-8 character set. Do one of the following:

- If the global data is stored in the ISO-8859-1 character set, to convert the global data to the UTF-8 character set, ensure *Convert global data from iso-8859-1 to utf-8* is selected and click **Next**.
- If the global data is stored in a character set other than ISO-8859-1, convert the global data to the UTF-8 character set in the next section. Clear the *Convert global data from iso-8859-1 to utf-8* check box and click **Next**.

The *Start Copying Files* dialog box appears.

24. Before copying the program files, review the *Current Settings* and do one of the following:

- To keep the settings, click **Next**. The *Setup Status* dialog box appears and the files start installing. When the files finish installing, the *InstallShield Wizard Complete* dialog box appears and you may be prompted to restart your server.
- To change the settings, click **Back** and repeat steps 12 through 24 as necessary.

25. Do one of the following:

- If you are prompted to restart your server, select *Yes* and click **Finish**. Your server restarts and the distribution files are installed.
- If you are not prompted to restart your server, click **Finish**.

26. Do one of the following:

- If the global data is in the UTF-8 character set and you are running only WebCT Campus Edition 4.1 on the server, go to the section, *Upgrading course databases to the WebCT CE 4.1 format* on page 74.
- If the global data is in the UTF-8 character set and you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. Go to the section, *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)* on page 73.
- If the global data is stored in a character set other than ISO-8859-1, before you can use WebCT Campus Edition 4.1, you must convert the global data to the UTF-8 character set. Go to the next section, *Converting global data to the UTF-8 character set*.

Converting global data to the UTF-8 character set

WebCT Campus Edition 4.1 supports both the ISO-8859-1 and UTF-8 character sets. Global data, which includes data in the administrator interface and in *myWebCT*, must be converted to the UTF-8 character set, or you will not be able to use WebCT Campus Edition 4.1.

If your data is stored in a character set other than ISO-8859-1, use the following instructions to you convert the global data.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press **Enter**. A command window appears.
2. Change the directory by typing:
`cd <webct_install_directory>\webct\webct\generic\admin`
3. Run the convert script by typing:
`convert-data.pl --charset=<your_original_character_set>`
4. If you want, check to see which files were converted in the file
`<webct_install_directory>\webct\webct\generic\admin\
⇒database\converted_files.`
5. Do one of the following:
 - If you are running only WebCT Campus Edition 4.1 on the server, go to the section, *Upgrading course databases to the WebCT CE 4.1 format* on page 74.
 - If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions. Go to the next section, *Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)*.

Using the 4.1 license server to handle the license requests for WebCT CE 4.1 and any other version(s) of WebCT CE (version 3.7 or later)

If you are running WebCT Campus Edition 4.1 with any other version(s) of WebCT CE (version 3.7 or later) on the same server, we recommend that you use the 4.1 license server to handle the license requests for all or both versions.

1. Temporarily relocate the `webct` directory:
 - a. From Windows Explorer, go to the directory `C:\WINNT`.
 - b. Select the directory `webct`.
 - c. Cut and paste the `webct` directory to a temporary location, for example, your Windows desktop.
2. Remove the license server for the WebCT Campus Edition 3.7.x, 3.8.x, or 4.0.x instance to be uninstalled:
 - a. To open a command window, in Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press **Enter**. A command window appears.
 - c. From the Windows command line, type:
`cd <webct_install_directory>\webct\webct\generic\admin`
 - d. Remove the license server by typing:

```
license -remove
```

3. From the <new_webct_4.1_install_directory>\webct\webct\
⇒generic\admin directory, install the license server:
 - a. From the Windows command line, type:

```
cd <new_webct_4.1_install_directory>\webct\webct\  
⇒generic\admin
```
 - b. Install the license server by typing:

```
license -install <port>
```

For example:

```
license -install 5555
```
4. From Windows Explorer, from C:\WINNT, delete the new webct directory.
5. From the temporary location that you selected in step 1.c., cut and paste the webct directory to C:\WINNT.
6. Go to the next section, *Upgrading course databases to the WebCT CE 4.1 format*.

Upgrading course databases to the WebCT CE 4.1 format

After you install the WebCT Campus Edition 4.1 distribution file, the fourth step of upgrading to WebCT Campus Edition 4.1 is to upgrade course databases to the WebCT Campus Edition 4.1 format.

In order to reduce the load on the server when courses begin, we recommend that you use the following instructions to upgrade all course databases to the WebCT Campus Edition 4.1 format at one time.

Note: This is an optional, but recommended, step. If you do not perform this step, course databases will upgrade automatically to the WebCT Campus Edition 4.1 format when students log in to their courses.

This procedure may take 10 to 30 minutes or longer to complete, depending on the number of courses on the server and the number of students in the courses.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press **Enter**. A command window appears.
2. Change the directory by typing:

```
cd <webct_install_directory>\webct\webct\generic\bin
```
3. Type: `run_upgrades.pl`. The databases are upgraded.
4. Go to the next section, *Taking ownership of the WebCT Service on Windows 2000*.

Taking ownership of the WebCT Service on Windows 2000

This is an optional, but recommended, step.

After you install the WebCT Campus Edition 4.1 distribution file and, optionally, upgrade course databases to the WebCT Campus Edition 4.1 format, the fifth step of upgrading to WebCT Campus Edition 4.1 is to take ownership of the WebCT service.

By default, the WebCT (Apache) service is registered to run as the system user (the LocalSystem account). For security and troubleshooting, WebCT strongly recommends that you create a new account to run the WebCT service.

1. Stop the WebCT service:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. In the *Services* window, locate the WebCT service.
 - c. Right-click the service and click **Stop**.
2. In *Computer Management*, create a new domain user account. Ensure you make a note of the password for the new user account.
3. Assign the new user account the right to *Log on as a service* and *Act as part of the operating system*.
4. Confirm that the new user account is a member of the Users group.
5. Give the new user account change rights to the entire WebCT installation directory.
6. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
7. Double-click the WebCT service. The *Properties* dialog box appears.
8. Click the **Log on** tab.
9. Under *Log on as*, select *This account* and click **Browse**. The *Select User* dialog box appears.
10. Locate and select the new user account and click **OK**.
11. Enter and confirm the password for the new user account.
12. Start the WebCT service:
 - a. In the *Services* window, locate the WebCT service.
 - b. Right-click the service and click **Start**.
13. Go to the next section, *Activating the WebCT CE 4.1 instance on your server and starting the license server*.

Activating the WebCT CE 4.1 instance on your server and starting the license server

After you install the WebCT Campus Edition 4.1 distribution file and, optionally, upgrade course databases to the WebCT Campus Edition 4.1 format and/or take ownership of the WebCT service, the sixth step of upgrading to WebCT Campus Edition 4.1 is to activate the WebCT Campus Edition 4.1 instance on your server and start the license server.

1. Do one of the following:

- If you installed only one instance of WebCT Campus Edition 4.1 on your server, type:

```
license -activate <webct_install_directory>\webct
```

For example, type:

```
license -activate D:\WebCT\webct
```

- If you installed more than one instance of WebCT Campus Edition 4.1 on your server, to activate each instance:
 - a. Locate the WebCT Campus Edition 3.7, 3.8, or 4.0 license key information for the instance you want to activate. In the next step, you will enter the instance number that is provided in the sentence, “*When you run the license – activate command...*” For example, “*When you run the license –activate command, specify 0 as the last parameter,*” where 0 is the instance number of the primary installation.

b. Type:

```
license -activate <webct_install_directory>\  
⇒webct <instance_number>
```

For example, to activate the primary instance of WebCT Campus Edition 4.1 that is installed in D:\WebCT, type:

```
license -activate D:\WebCT\webct 0
```

Note: You must enter a different instance number for each WebCT Campus Edition 4.1 instance that is installed.

You are prompted to start the license server.

2. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
3. Start the license server:
 - a. In the *Services* window, locate the *WebCT License Server* service.
 - b. Right-click **WebCT License Server** and click **Start**.
4. Go to the next section, *Verifying that the WebCT Campus Edition 3.7, 3.8, or 4.0 license key is valid*.

Verifying that the WebCT Campus Edition 3.7, 3.8, or 4.0 license key is valid

After you activate the WebCT Campus Edition 4.1 instance on your server and start the license server, the seventh step of upgrading to WebCT Campus Edition 4.1 is to verify that the WebCT Campus Edition 3.7, 3.8, or 4.0 license key is valid.

1. Log in to the WebCT Campus Edition 4.1 administrator interface.
2. From the *Admin* toolbar, click **Server Mgmt**. The *Server Mgmt* toolbar appears.

3. From the *Server Mgmt* toolbar, click **License**. The *License Information* screen appears. Ensure that the system is licensed and the *Evaluation* is *Valid*. If the system is not licensed, contact WebCT Support at support@webct.com
4. Go to the next section, *Enabling the Course Design Center in existing courses*.

Enabling the Course Design Center in existing courses

This is an optional, but recommended, step.

After you verify that the WebCT Campus Edition 3.7, 3.8, or 4.0 license key is valid, the eighth and final step of upgrading to WebCT Campus Edition 4.1 is to enable the *Course Design Center* so designers can use the wizards to add and edit content in their existing courses.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press `Enter`. A command window appears.
2. Change the directory by typing:

```
cd <webct_install_directory>\webct\webct\generic\bin
```
3. Enable the wizards by doing one of the following:
 - enable the wizards in all courses by typing:

```
enable_wizards.pl
```
 - enable the wizards in one course by typing:

```
enable_wizards.pl <courseid>
```

UPGRADING TO WEBCT CE 4.1 FROM WEBCT CE 3.6.X OR WEBCT STANDARD EDITION 3.6.X ON A WINDOWS OPERATING SYSTEM

Upgrading to WebCT Campus Edition 4.1 from WebCT Campus Edition 3.6.x or WebCT Standard Edition 3.6.x involves the following general steps:

1. Restarting the server and stopping the WebCT service. For details, see the next section.
2. Backing up the entire WebCT installation directory. (If a problem occurs with the upgrade, you can restore the backup and revert to the original version of WebCT.)
3. Installing the WebCT Campus Edition 4.1 distribution file on your server. For details, see page 78.
 - a. Converting global data to the UTF-8 character set. This step is necessary only if you do not the convert global data during installation. For details, see page 82.
4. Upgrading course databases to the WebCT Campus Edition format. This is an optional step. For details, see page 82.

5. Taking ownership of the WebCT service. This is an optional step. For details, see page 83.
6. Installing the license server. For details, see page 84.
7. Activating the WebCT Campus Edition 4.1 instance on your server and starting the license server. For details, see page 84.
8. Entering the WebCT Campus Edition 4.1 license key. For details, see page 86.
9. Enabling the Course Design Center in existing courses. This is an optional step. For details, see page 90.

Restarting the server and stopping the WebCT service

The first step of upgrading to WebCT Campus Edition 4.1 is to restart the server and stop the WebCT service.

1. Restart the server.
2. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
3. Stop the WebCT service:
 - a. In the *Services* window, locate the WebCT service.
 - b. Right-click the service and click **Stop**.
4. Close the *Services* window.
5. Before you go to the next section, *Installing the WebCT CE 4.1 distribution file on your server*, ensure you back up the entire WebCT installation directory.

Installing the WebCT CE 4.1 distribution file on your server

After you stop the WebCT service and back up the entire WebCT installation directory, the next step of upgrading to WebCT Campus Edition 4.1 is to install the WebCT Campus Edition 4.1 distribution file on your server.

1. The InstallShield for WebCT creates a copy of the installation engine software in the Program Files folder. To eliminate the possibility of pre-existing files causing a conflict, in C:\Program Files\Common Files\InstallShield, rename or delete the Engine folder.
2. Go to <http://download.webct.com> and follow the links to download WebCT Campus Edition 4.1. You will be prompted to enter your user name (e-mail address) and password (your license key).
3. Locate the appropriate distribution file for your server's operating system.
4. Download the WebCT Campus Edition 4.1 distribution file and the accompanying MD5 checksum (same file name, but with an .md5 extension).
5. Verify the integrity of your downloaded distribution file by comparing it against the MD5 checksum. For more information, see *Chapter 2: Installing WebCT CE 4.1*, "The MD5 Checksum" on page 11.

6. Unzip the distribution file.
7. Go to the directory containing the unzipped files.
8. Double-click `Setup.exe`. The *Welcome to the InstallShield Wizard for WebCT* dialog box appears.
9. Click **Next**. The *Choose Destination Location* dialog box appears.
10. Choose the destination for the WebCT Campus Edition 4.1 installation and do one of the following:

Important: Do not install WebCT Campus Edition 4.1 into a directory that has spaces in the name.

- To install to the default destination directory, click **Next**.
 - To install to a different directory:
 - a. Click **Browse**.
 - b. Select the directory and click **Next**.
11. Do one of the following:
 - If the *Enter Service Name* dialog box appears, go to step 12.
 - If WebCT detects that an earlier Language Plug-in is installed on an earlier version of WebCT, a warning message appears. You cannot use an earlier Language Plug-in with WebCT Campus Edition 4.1. You must install a WebCT Campus Edition 4.0 Language Plug-in. If you do not install a WebCT Campus Edition 4.0 Language Plug-in, any existing courses will use English by default. Do one of the following:
 - If you want to continue with the installation, click **Yes**. The *Enter Service Name* dialog box appears.
 - If you do not want to continue with the installation, click **No**. The InstallShield Wizard for WebCT closes.
 12. Enter a name for the WebCT service. The default name is `WebCT`, but you can enter any name that is not being used by an existing service.
 13. Click **Next**. The *Enter Port Number* dialog box appears.
 14. Enter the server port number or accept the default.

Note:

- The default server port is 8900, but it can be any unoccupied port. We recommend you use port 80.
 - The port must be open in your firewall.
15. Click **Next**. The *Enter Hostname* dialog box appears.
 16. Enter the fully qualified hostname for the WebCT server.

For example:

`webct.school.edu`

Important: If you plan to configure your WebCT Campus Edition 4.1 installation to support the SSL protocol and select the *Secure passwords* option, you must enter a fully qualified hostname that contains a local name, second-level domain, and top-level domain. That is, the hostname must contain at least two dots, for example, `webct.school.edu`. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Configuring WebCT to Use the SSL Protocol on a Windows Operating System,” “Specifying the SSL setting (Windows).”

If necessary, after installation, you can change the fully qualified hostname of the WebCT server. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Changing the WebCT Server Name on a Windows Operating System.”

17. Click **Next**. The *Enter Chat Port Number* dialog box appears.

18. Enter the *Chat* port number or accept the default.

Note:

- The default *Chat* port is 4445, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Chat* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Chat, Whiteboard, and Java Servlet Engine Ports.”

19. Click **Next**. The *Whiteboard Port Number* dialog box appears.

20. Enter the *Whiteboard* port number or accept the default.

Note:

- The default *Whiteboard* port is 4567, but it can be any unoccupied TCP port above 1024.
- The port must be open in your firewall.
- You can also modify the *Whiteboard* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “Setting the Chat, Whiteboard, and Java Servlet Engine Ports.”

21. Click **Next**. The *Enter Java Servlet Engine Port Number* dialog box appears.

22. Enter the *Java Servlet Engine* port number or accept the default.

Note:

- The default *Java Servlet Engine* port is 8009, but it can be any unoccupied port above 1024.
- The port must NOT be open in your firewall.
- You can also modify the *Java Servlet Engine* port in the WebCT Campus Edition administrator interface. See the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “*Setting the Chat, Whiteboard, and Java Servlet Engine Ports.*”

23. Click **Next**. The *Select installation upgrade options* screen appears.

24. In WebCT Campus Edition 4.1, global data, which includes data in the administrator interface and in *myWebCT*, is stored in the UTF-8 character set. In order to use WebCT Campus Edition 4.1, you must convert the global data to the UTF-8 character set. Do one of the following:

- If the global data is stored in the ISO-8859-1 character set, to convert the global data to the UTF-8 character set, ensure *Convert global data from iso-8859-1 to utf-8* is selected and click **Next**.
- If the global data is stored in a character set other than ISO-8859-1, convert the global data to the UTF-8 character set in the next section. Clear the *Convert global data from iso-8859-1 to utf-8* check box and click **Next**.

The *Start Copying Files* dialog box appears.

25. Review the *Current Settings* and do one of the following:

- To keep the settings, click **Next**. The *Setup Status* dialog box appears and the files start installing. When the files finish installing, the *InstallShield Wizard Complete* dialog box appears and you may be prompted to restart your server.
- To change the settings, click **Back** and repeat steps 12 through 25 as necessary.

26. Do one of the following:

- If you are prompted to restart your server, select *Yes* and click **Finish**. Your server restarts and the distribution files are installed.
- If you are not prompted to restart your server, click **Finish**.

27. Do the following:

- If the global data is in the UTF-8 character set, go to the section, *Upgrading course databases to the WebCT CE 4.1 format* on page 82.
- If your global data is stored in a character set other than ISO-8559-1, before you can use WebCT Campus Edition 4.1, you must convert your global data to the UTF-8 character set. Go to the next section, *Converting global data to the UTF-8 character set*.

Converting global data to the UTF-8 character set

WebCT Campus Edition 4.1 supports both the ISO-8859-1 and UTF-8 character sets. Global data, which includes data in the administrator interface and in *myWebCT*, must be converted to the UTF-8 character set, or you will not be able to use WebCT Campus Edition 4.1.

If your data is stored in a character set other than ISO-8859-1, use the following instructions to convert the global data.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press **Enter**. A command window appears.
2. Change the directory to:
`<webct_install_directory>\webct\webct\generic\admin`
3. Run the convert script by typing:
`convert-data.pl --charset=<your_original_character_set>`
4. If you want, check to see which files were converted in the file
`<webct_install_directory>\webct\webct\generic\admin\
⇒database\converted_files.`
5. Go to the next section, *Upgrading course databases to the WebCT CE 4.1 format*.

Upgrading course databases to the WebCT CE 4.1 format

After you install the WebCT Campus Edition 4.1 distribution file, the fourth step of upgrading to WebCT Campus Edition 4.1 is to upgrade course databases to the WebCT Campus Edition 4.1 format.

In order to reduce the load on the server when courses begin, we recommend that you use the following instructions to upgrade all course databases to the WebCT Campus Edition 4.1 format at one time.

Note: This is an optional, but recommended, step. If you do not perform this step, course databases will upgrade automatically to the WebCT Campus Edition 4.1 format when students log in to their courses.

This procedure may take 10 to 30 minutes or longer to complete, depending on the number of courses on the server and the number of students in the courses.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press **Enter**. A command window appears.
2. Change the directory by typing:
`cd <webct_install_directory>\webct\webct\generic\bin`
3. Type: `run_upgrades.pl`. The databases are upgraded.

4. Go to the next section, *Taking ownership of the WebCT Service on Windows 2000*.

Taking ownership of the WebCT Service on Windows 2000

This is an optional, but recommended, step.

After you install the WebCT Campus Edition 4.1 distribution file and, optionally, upgrade course databases to the WebCT Campus Edition 4.1 format, the fifth step of upgrading to WebCT Campus Edition 4.1 is to take ownership of the WebCT service.

By default, the WebCT (Apache) service is registered to run as the system user (the LocalSystem account). For security and troubleshooting, WebCT strongly recommends that you create a new account to run the WebCT service.

1. Stop the WebCT service:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. In the *Services* window, locate the WebCT service.
 - c. Right-click the service and click **Stop**.
2. In *Computer Management*, create a new domain user account. Ensure you make a note of the password for the new user account.
3. Assign the new user account the right to *Log on as a service* and *Act as part of the operating system*.
4. Confirm that the new user account is a member of the Users group.
5. Give the new user account change rights to the entire WebCT installation directory.
6. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
7. Double-click the WebCT service. The *Properties* dialog box appears.
8. Click the **Log on** tab.
9. Under *Log on as*, select *This account* and click **Browse**. The *Select User* dialog box appears.
10. Locate and select the new user account and click **OK**.
11. Enter and confirm the password for the new user account.
12. Start the WebCT service:
 - a. In the *Services* window, locate the WebCT service.
 - b. Right-click the service and click **Stop**.
13. Go to the next section, *Installing the license server*.

Installing the license server

After you install the WebCT Campus Edition 4.1 distribution file and, optionally, upgrade course databases to the WebCT Campus Edition 4.1 format and take ownership of the WebCT service, the sixth step of upgrading to WebCT Campus Edition 4.1 is to install the license server.

Important: Installing the license server creates the directory `C:\WINNT\webct`. WebCT needs write access to create and write to the `C:\WINNT\webct` directory.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press **Enter**. A command window appears.
2. Change the directory to:
`<webct_install_directory>\webct\webct\generic\admin\`
3. Decide on which unoccupied port to run the license server:

Important:

- The port for the license server cannot be the same as the port for the WebCT server.
 - We recommend that you block the license server port at the firewall.
4. If you are using virtual IPs, before installing the license server you must specify on which IP the license server will listen:
 - a. Using a text editor (for example, Notepad), create a file named `server_ip`.
 - b. In this file, type the IP you licensed with WebCT.
 - c. Save the file in `C:\WINNT\webct\`.
 5. Install the license server by typing:
`license -install <port>`
For example:
`license -install 5555`
 6. Go to the next section, *Activating the WebCT CE 4.1 instance on your server and starting the license server*.

Activating the WebCT CE 4.1 instance on your server and starting the license server

After you install the license server, the seventh step of upgrading to WebCT Campus Edition 4.1 is to activate the WebCT Campus Edition 4.1 instance on your server and start the license server.

1. Do one of the following:

- If you installed only one instance of WebCT Campus Edition 4.1 on your server, type:

```
license -activate <webct_install_directory>\webct
```

For example, type:

```
license -activate D:\WebCT\webct
```

- If you installed more than one instance of WebCT Campus Edition 4.1 on your server, to activate each instance:
 - a. Locate the WebCT Campus Edition 4.1 license key information for the instance you want to activate. In the next step, you will enter the instance number that is provided in the sentence, “*When you run the license –activate command....*” For example, “*When you run the license –activate command, specify 0 as the last parameter,*” where 0 is the instance number of the primary installation.

- b. Type:

```
license -activate <webct_install_directory>\  
=>webct <instance_number>
```

For example, to activate the primary instance of WebCT Campus Edition 4.1 that is installed in D:\WebCT, type:

```
license -activate D:\WebCT\webct 0
```

Note: You must enter a different instance number for each WebCT Campus Edition 4.1 instance that is installed.

You are prompted to start the license server.

2. To start the license server:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. In the *Services* window, locate the *WebCT License Server* service.
 - c. Right-click **WebCT License Server** and click **Start**. The license server starts.

Tip: If the license server does not start, to start the license server, restart your server. If the license server still does not start, contact WebCT Support at support@webct.com

By default, the license server and the WebCT service are set to automatically start when the Windows operating system is powered up or restarted. You can change this setting so that you have to manually start the license server and the WebCT service when the Windows operating system is powered up or restarted. See *Changing the Startup Type of the license server and WebCT service on the Windows operating system* on page 89.

3. Go to the next section, *Entering the WebCT CE 4.1 license key(s)*.

Entering the WebCT CE 4.1 license key(s)

After you activate the WebCT Campus Edition 4.1 instance on your server and start the license server, the eighth of upgrading to WebCT Campus Edition 4.1 is to enter the WebCT Campus Edition 4.1 license key(s).

You cannot use your WebCT 3.6 license key(s) with WebCT Campus Edition 4.1.

You must enter a different license key for each WebCT Campus Edition 4.1 instance that is installed. Ensure that the key entered corresponds to the appropriate instance.

1. Log in to the WebCT Campus Edition 4.1 administrator interface.
2. From the *Admin* toolbar, click **Server Mgmt.** The *Server Mgmt* toolbar appears.
3. From the *Server Mgmt* toolbar, click **License.** The *License* toolbar appears.
4. From the *License* toolbar, click **Enter Key.** The *License Key Entry* screen appears.
5. In the *Enter the license key* text box, enter the license key and click **Continue.** A success message appears.
6. Click **Continue.** The license key is applied to the instance.

For supported license options, see page 87. For optional license features, see page 88.

Important License Information

Make a note of the following:

- If the license server is stopped and becomes invalid:
 - An e-mail is sent to the WebCT administrator*.
 - All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication are disabled.
- If a license is within four weeks of expiring or if the user count reaches 90 percent of the licensed limit, an e-mail is sent to the WebCT administrator*.
- If a license has expired, the following events occur:

Immediately after expiry	<ul style="list-style-type: none">• An e-mail is sent daily to the WebCT administrator*.• Notification appears in the WebCT administrator interface.
Two weeks after expiry	Notification appears in the WebCT designer interface.
Four weeks after expiry	All license options, including Standard API, IMS API, IMS Receiver, external authentication, and customized authentication, are disabled.

*In order to receive e-mail notification, after you upgrade, ensure you set the administrator e-mail address and select the setting, *Allow server to send mail*. For more information, see the appropriate version of the *System Administrator's Guide: WebCT Campus Edition, Chapter 2, Server Management*, “*Setting the Administrator E-mail Address*” and “*Allowing the Server to Send E-mail*.”

License options

The following license options are supported.

Note: To use these options, you must change the directory to:

```
<webct_install_directory>\webct\webct\generic\admin
```

Option	Description
<code>license -activate</code>	Activates licensing for an instance of WebCT Campus Edition and installs the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to activate the first instance that is installed in <code>/home/webct1/</code> , type: <code>license -activate /home/ ⇒webct1/webct 0</code> Option: <code>-overwrite</code> records the new license over the existing license.
<code>license -deactivate</code>	Deactivates licensing for an instance of WebCT Campus Edition and removes the configuration file that points to the license server. For example, if you install multiple instances of WebCT, to deactivate the first instance that is installed in <code>/home/webct1/</code> , type: <code>license -deactivate /home/ ⇒webct1/webct 0</code>
<code>license -install</code>	Installs the license server.
<code>license -list</code>	Lists the currently active installations handled by the license server.

Option	Description
<code>license -port</code>	<ul style="list-style-type: none">Changes the port on which the license server operates and updates the license server configuration files. For example, if you inadvertently chose an already-occupied port for the license server, you can change it by typing: <code>license -port <new_port></code>If using virtual IPs, use this option to ensure all activated instances reflect the correct server IP.
<code>license -remove</code>	Uninstalls the license server.
<code>license -shutdown</code>	Shuts down the license server.
<code>license -start</code>	Starts the license server.

Optional license features

Optional license features include:

- *Specifying recognized IPs*, see below
- *Using virtual IPs* on page 89

Specifying recognized IPs

As a security measure, to ensure that only recognized IPs connect to the license server, use the following instructions to specify the IPs and system names that are allowed to send requests to the license server.

1. Using a text editor (for example, Notepad), create a file named `valid_clients.txt`.
2. In this file, list the following (one per line):
 - the IP of the license server
 - each IP or system name running WebCT software that is allowed to send requests to the license server.
3. Save the file in `C:\WINNT\webct\`.
4. Stop the license server by typing:
`license -shutdown`
5. Start the license server by typing:
`license -start`

Using virtual IPs

If you are using virtual IPs, before installing the license server or activating WebCT Campus Edition 4.1 instances, you must specify on which IP the license server will listen.

Although the server IP should be defined prior to installing the license server, it is possible to change it after. To do so, follow these steps.

Note: If you have already received a license for the old IP, you need to get a new license based on your new server IP address. Contact WebCT Support at support@webct.com

1. Using a text editor (for example, Notepad), create a file named `server_ip`.
2. In this file, type the IP you licensed with WebCT.
3. Save the file in `C:\WINNT\webct\`.

4. Stop the license server by typing:

```
license -shutdown
```

5. Start the license server by typing:

```
license -start
```

6. To ensure all activated instances reflect the correct server IP, type:

```
license -port <xxx>
```

For example:

```
license -port 5555
```

Changing the Startup Type of the license server and WebCT service on the Windows operating system

The license server and the WebCT service are set to automatically start when the Windows operating system is powered up or restarted. If you do not want the license server and the WebCT service to start automatically each time the Windows operating system starts, use the following procedure to change the startup type to *Manual*.

1. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
2. Right-click **WebCT License Server** and click **Properties**. The *WebCT License Server Properties* dialog box appears.
3. Click the **General** tab.
4. In the *Startup type* drop-down list, select *Manual* and click **OK**. The WebCT License Server *Startup Type* is updated to *Manual*.
5. Right-click the WebCT service and click **Properties**. The WebCT service's *Properties* dialog box appears.
6. Click the **General** tab.

7. In the *Startup type* drop-down list, select *Manual* and click **OK**. The WebCT service *Startup Type* is updated to *Manual*.
8. Go to the next section, *Enabling the Course Design Center in existing courses*.

Enabling the Course Design Center in existing courses

This is an optional, but recommended, step.

After you enter the WebCT Campus Edition 4.1 license key(s), the ninth and final step of upgrading to WebCT Campus Edition 4.1 is to enable the *Course Design Center* so designers can use the wizards to add and edit content in their existing courses.

1. Open a command window:
 - a. In Windows, click **Start** and click **Run**. The *Run* dialog box appears.
 - b. In the *Run* dialog box, type `cmd` and press `Enter`. A command window appears.
2. Change the directory by typing:
`cd <webct_install_directory>\webct\webct\generic\bin`
3. Enable the wizards by doing one of the following:
 - enable the wizards in all courses by typing:
`enable_wizards.pl`
 - enable the wizards in one course by typing:
`enable_wizards.pl <courseid>`

CHAPTER 5: INSTALLING WEBCT LANGUAGE PLUG-INS

WebCT CE 4.1 is available in different languages.

A WebCT Language Plug-in is a set of library files that allow WebCT CE to be displayed in a different language.

You can install as many Language Plug-ins as you like on a given system.

INSTALLING LANGUAGE PLUG-INS ON A UNIX OPERATING SYSTEM

Sun SPARC Solaris 8 operating system users:

If you intend to install more than two Language Plug-ins, before you install the Language Plug-ins, we recommend that you increase the shared memory segments setting in `/etc/system`. For instructions, see *Increasing Shared Memory Segments in /etc/system* on page 92.

TO INSTALL LANGUAGE PLUG-INS ON A UNIX OPERATING SYSTEM

1. Go to `www.webct.com/intl/` and click **Language Plug-ins**. The *WebCT Worldwide Language Plug-ins* screen appears.
2. Download the WebCT 4.0 language distribution file appropriate for your server's operating system.
3. Stop the WebCT server:
 - a. If you are running the WebCT server as root, log in as the root user.
 - b. Type: `<webct_install_directory>/webct/webctctl stop`
4. If you are logged in as the root user, log out as the root user and log in as the WebCT UNIX user. The Language Plug-in directory must be owned and installed by the WebCT UNIX user.
5. Decompress and untar the language distribution file by typing:

```
gunzip -c <filename> | tar -xvf -
```

The file decompresses and is untarred into a directory called `language_distribution_4.0.xx`

6. Change to the `language_distribution_4.0.xx` directory created in the previous step.
7. Type `./install_lang.pl`. You must be in the same directory as `install_lang.pl` when you execute this script.

Note: If Perl is not in `/usr/bin/perl`, type:

```
<webct_install_directory>/perl/bin/perl install_lang.pl
```

The *WebCT Language Plug-in Installation* screen appears.

8. Follow the on-screen instructions. If earlier Language Plug-ins are installed on your server, we recommend that you uninstall them first before you install WebCT 4.0 Language Plug-ins.
9. Start the WebCT server:
 - a. If you are running the WebCT server as root, log in as the root user.
 - b. Type: `<webct_install_directory>/webct/webctctl start`

INCREASING SHARED MEMORY SEGMENTS IN /ETC/SYSTEM

This procedure is for Sun SPARC Solaris 8 server operating system users only.

If you intend to install more than two Language Plug-ins, before you install WebCT Language Plug-ins, we recommend that you increase the number of shared memory segments per process.

1. As the root user, edit the file `/etc/system`.
2. Add or update the following line:

```
set shmsys:shminfo_shmseg = 0x100
```
3. Save your changes.
4. Restart your computer.

INSTALLING LANGUAGE PLUG-INS ON A WINDOWS OPERATING SYSTEM

1. Go to `www.webct.com/intl` and click **Language Plug-ins**. The *WebCT Worldwide Language Plug-ins* screen appears.
2. Download the WebCT 4.0 language distribution file appropriate for your server's operating system.
3. Stop the WebCT service:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.

- b. In the *Services* window, locate the WebCT service.
 - c. Right-click the service and click **Stop**.
 - d. Close the *Services* window.
4. Unzip the language distribution file.
5. Go to the directory containing the unzipped files.
6. Double-click `install_lang.pl`. The *WebCT Language Plug-in Installation* command window appears.
7. Follow the on-screen instructions. If earlier Language Plug-ins are installed on your server, we recommend that you uninstall them first before you install WebCT 4.0 Language Plug-ins.
8. Start the WebCT service:
 - a. In Windows, click **Start**, point to **Settings**, click **Control Panel**, double-click **Administrative Tools**, and double-click **Services**. The *Services* window appears.
 - b. In the *Services* window, locate the WebCT service.
 - c. Right-click the service and click **Start**.
 - d. Close the *Services* window.