

The **Education** EdgeTM

Administration Guide for NetClassroom

102111

©2011 Blackbaud, Inc. This publication, or any part thereof, may not be reproduced or transmitted in any form or by any means, electronic, or mechanical, including photocopying, recording, storage in an information retrieval system, or otherwise, without the prior written permission of Blackbaud, Inc.

The information in this manual has been carefully checked and is believed to be accurate. Blackbaud, Inc., assumes no responsibility for any inaccuracies, errors, or omissions in this manual. In no event will Blackbaud, Inc., be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of damages.

In the interest of continuing product development, Blackbaud, Inc., reserves the right to make improvements in this manual and the products it describes at any time, without notice or obligation.

The Raiser's Edge, MatchFinder, ParaGon, RE:Alum, RE:Event, RE:Member, RE:Queue, RE:Tribute, RE:Volunteer, RE:Zip, RE:Open, and Blackbaud are registered trademarks of Blackbaud, Inc.

All other products and company names mentioned herein are trademarks of their respective holder.

EE-AdministrationGuideforNetClassroom-102111

Contents



INTRODUCTION	1
How Does NetClassroom Interact with Faculty Access for the Web?	2
Implementation Checklist	3
INSTALL NETCLASSROOM	7
Installation and Security Considerations	8
Network Security	9
Install NetClassroom	10
Set Up Security Privileges	16
Changing the Session Timeout	31
Troubleshooting	32
Updates	37
Web Terminology	37
INDEX	41

Introduction



How Does NetClassroom Interact with Faculty Access for the Web?	2
Implementation Checklist	3

Using the optional module *NetClassroom*, you can give students and their relations online access to information in your **Education Edge** database. For example, you can allow parents to view grades so they can quickly evaluate their children's performance between report cards.

NetClassroom is a secure method of online communication. Users have view-only access to the information with the exceptions of changing addresses and passwords and course requests and enrollment.

Based on your *NetClassroom* setup, students and relations can:

- View the student's schedule.
- Enter course requests (students).
- Enroll in classes (students).
- View and approve course requests (relations).
- View class enrollments (relations).
- View the school's course catalog and calendar.
- View the student's marking column grades.
- View the student's report card.
- View the student's transcript.
- View the student's attendance.
- View the student's conduct.
- View billing statements.
- View the student's progress on meeting the requirements of a diploma (if you have the optional module *Graduation Requirement Management*).
- Change their address information.
- Change their password.
- Contact faculty via email.

If your teachers use the online gradebook in *Faculty Access for the Web*, you can also give your *NetClassroom* users rights to:

- View assignment details and download documents associated with assignments.
- View assignment grades and comments.
- View a running average for each marking column including a breakdown by assignment category (for example, Homework, Quizzes, and Tests).
- View class announcements.

How Does NetClassroom Interact with Faculty Access for the Web?

Gradebook. Teachers using the gradebook in *Faculty Access for the Web* can select to display their class assignments and assignment grades in *NetClassroom*. By entering dates in the **Student Date Due** and **Show Assignment** columns on the Assignments page in *Faculty Access for the Web*, each teacher controls the assignments *NetClassroom* users can view. To show an assignment grade in *NetClassroom*, teachers enter a date in the **Show Grade** column for the assignment.

When setting rights to features in *NetClassroom*, you control whether *NetClassroom* users can view assignments, grades, and running averages from *Faculty Access for the Web*.

Course requests. You can grant view and edit rights for course requests to *Faculty Access for the Web* users. *Faculty Access for the Web* users can view, edit, and approve course requests and see whether each relation has approved a student's requests. *NetClassroom* users can see whether a faculty member has approved each request.

For more information about planning user rights to *Faculty Access for the Web*, see the User Rights chapter of the *Administration Guide for Faculty Access for the Web*.

Implementation Checklist

Review this checklist for a comprehensive overview of all steps involved in implementing *NetClassroom*. Complete all steps before allowing students and relations access to *NetClassroom*.

- Plan to implement *NetClassroom* when you and your staff can devote sufficient time to learning about the program, including installation and establishing school policies. Our experienced consultants can help you plan your implementation. For information about our consulting services, contact us at solutions@blackbaud.com or 1-800-443-9441.
- Confirm your Web server hardware and software meet our system recommendations. Visit our Web site at support.blackbaud.com to find detailed system recommendations.

Note: We strongly recommend you consult with an Internet security analyst to ensure that you fully secure the Web server from unauthorized access.

- Review the Installing *NetClassroom* chapter of this guide for important installation and network security considerations and instructions for installing *NetClassroom* and setting up security privileges. Securing the Web server against outside attacks is vital. We cannot be held responsible for any unauthorized access to your Web server. We strongly recommend you consult with an Internet security analyst to ensure that you fully secure the Web server from unauthorized access. From the Microsoft IT Web site at www.microsoft.com/technet or the Microsoft Developer Network Web site at www.msdn.microsoft.com, you can access more information about securing your Web server.
- Determine the times you want *NetClassroom* available to users. Because users can access *NetClassroom* only when the **Education Edge** database is running, you may want to implement a procedure for the automatic startup of the database after the daily backup is completed.
- Set up *NetClassroom* in *Configuration* in **Registrar's Office**. For more information about each of these areas, see the *Configuration Guide for Registrar's Office*:
 - Customize** — You can customize *NetClassroom* for your school by renaming "NetClassroom"; replacing the *NetClassroom* logo; linking the logo to your school's URL; setting colors of various elements of *NetClassroom*; and listing additional Web sites to appear on users' Home pages.
 - Features** — You can select which features are available to relations and which features are available to students.
 - Grades and Years to Display** — You can select which marking columns and academic years are available to *NetClassroom* users.
 - Registration Setup** — You can set up how course requests and enrollments should work in *NetClassroom*. For example, you select which exceptions should be checked.

You create a setup for each school, academic year, and session combination. In a setup, you can enter instructions to appear on the page, specify whether students can enter requests or enroll in classes, and define groups of students within the setup.

In each group of students, you specify when students can access the Registration page, when their relations can view information, and control the courses for which they can enter requests or enroll in classes. You can group students however you want. For example, you may group students by grade level, or you may group students in an Honors Math group versus a Regular Math group depending on the type of math course they took in the previous year.

- Announcements** — You can enter announcements to appear on *NetClassroom* users' Home pages. You control the date range for when each announcement appears and to which schools each announcement applies.
- Course Catalog Setup** — You can select the information to appear for courses in the course catalog in *NetClassroom*.
- Schedule Setup** — You can select the information to appear for courses and class meetings on schedules in *NetClassroom*.
- Miscellaneous** — You can select how to format marking column grades and faculty names appearing in *NetClassroom*.
- If your organization uses *Faculty Access for the Web* and plans to display assignment information in *NetClassroom*, educate teachers about *NetClassroom* before giving users access to *NetClassroom*. For information about planning for the integration between *NetClassroom* and *Faculty Access for the Web*, see the Implementation Checklist in the Introduction chapter of the *Administration Guide for Faculty Access for the Web*.
- Consider which relations can access student information in *NetClassroom*. For a relation to be able to view a student's information, the checkbox in the **View NetClassroom** column should be marked for that relation on the Relationships tab of the student record in *The Education Edge*.
- Users must have user IDs and passwords to enter *NetClassroom*. After you install *NetClassroom*, new fields for user IDs and passwords appear on student, faculty/staff, and individual records in *Records* in **Registrar's Office**. You can manually enter this information on records. You can also automatically generate this information on records using either of the following methods:
 - Set Business Rules** — After you install *NetClassroom*, new business rules appear in *Configuration* in **Registrar's Office**. You can set a business rule to automatically generate user IDs and passwords for new or updated student records based on selected statuses and grade levels. You can set a business rule to automatically generate user IDs and passwords for new or updated individual and faculty/staff records based on selected relationships. For more information about business rules, see the *Configuration Guide for Registrar's Office*.
 - Generate NetClassroom IDs** — After you install *NetClassroom*, a **Generate NetClassroom IDs** link appears in *Administration* in **Registrar's Office**. By clicking this link, you can select existing student, individual, and faculty/staff records for which to automatically generate user IDs and passwords. For more information about generating *NetClassroom* IDs through *Administration*, see the *Administration Guide for The Education Edge*.

Note: When you give users their online user IDs and passwords, tell them they must not enter extra spaces before or between characters.

- Inform students and relations of their user IDs and passwords. You can use *Query* and *Export* to extract the information from the database and create letters to send to users. For example, create a dynamic student query of students with a status of "Current Student". Consider setting an office policy to run the queries and exports on a monthly basis so you can systematically inform new eligible users about their online information. If you plan to run the queries and exports on a regular basis, include "Date added" in the criteria of the query. Create an export filtering by the query and export the fields for informal salutation, address, user ID, and password. Merge the extracted fields into a letter set up in *Microsoft Word*. For more information about creating *Word* document merges in *The Education Edge*, see the *Export Guide for The Education Edge*.

Warning: To give users accurate information about your *NetClassroom* setup, edit the sample information sheet to list only the features you offer.

- We recommend you create an information sheet about features in *NetClassroom* to give to users along with the letter containing their user IDs and passwords. For your convenience, we provide a sample information sheet in Microsoft *Word* on our Web site at userguides.blackbaud.com. You can find the sample information sheet in the NetClassroom section of The Education Edge User Guides page. The sample information sheet describes every *NetClassroom* feature. To avoid confusing your users, edit the information to list only the features your users can access in *NetClassroom*.
- If you are planning to use online course requests and enrollment in *NetClassroom*, we recommend you plan out your process and clearly communicate that process to everyone involved, including students, parents, teachers, and advisors.
 - Will students enter course requests in *NetClassroom*?
 - Will parents approve course requests through *NetClassroom*? If so, what happens if a parent does not approve a request?
 - Will teachers, advisors, administrators, or a combination, approve course requests through *Faculty Access for the Web*? If so, what happens if a teacher/advisor/administrator does not approve a request?
 - Will students enroll in classes through *NetClassroom*?
 - Students cannot enter partial requests or enroll in different classes of a course in different terms through *NetClassroom*. Plan to address scheduling needs such as these through **Registrar's Office**.
 - Decide how to handle new students entering course requests after your standard course request time period. You can allow these students to enter their requests in *NetClassroom* and proceed through the same approval process, or you can enter their requests directly into **Registrar's Office** and they will automatically be considered approved.
 - Review the course rules that affect online course requests—rules with (1) **Use rule when enrolling students** checked on the scheduling rule in Registrar Setup in *Configuration* and (2) "Always" selected in the **When to Use** column on the Rules tab of the course record in *Records*. If a student adds or deletes a course with a rule, the additional course will be added or deleted when the student clicks **Submit**.

Warning: To give users accurate information about your online course request and enrollment processes, customize the tutorials.

- If students and parents will be accessing the Registration page in *NetClassroom*, we recommend providing tutorials for students to learn how to enter course requests and enroll in classes and for parents to learn how to approve student requests and review student enrollments. For your convenience, we provide sample tutorials in Microsoft *Word* on our Web site at userguides.blackbaud.com. You can find the tutorials in the NetClassroom section of The Education Edge User Guides page. To avoid confusing your users, customize these tutorials to match your own online course request and enrollment processes.

Install NetClassroom



Installation and Security Considerations	8
Windows Server 2003 64x	9
Network Security	9
Install NetClassroom	10
Run NetClassroom with Multiple Databases	15
Set Up NetClassroom to Use Windows Authentication	16
Set Up Security Privileges	16
Windows Server 2008	16
Install Internet Information Services (IIS) 7	17
Set Up Security on Windows Server 2008	18
Windows Server 2003	24
Set Up Security on Windows Server 2003	24
Additional Installation Steps for Windows Server 2003	30
Changing the Session Timeout	31
Troubleshooting	32
Login Errors	32
Failed Logins	33
Anonymous Users for Windows Server 2008	33
Anonymous Users for Windows Server 2003	34
Windows Server 2003 Notes	37
Updates	37
Web Terminology	37

Warning: We do not accept any responsibility for unauthorized access of your system. We strongly recommend you use knowledgeable technical staff or consulting services to determine your organization's security needs.

To use *NetClassroom*, you must have a Web server. We recommend you use a dedicated server for *NetClassroom*.

To find detailed system recommendations for *NetClassroom*, visit our website at www.blackbaud.com.

This chapter details the installation process and security concerns of *NetClassroom*. When using *NetClassroom* on the Internet, we recommend setting security to limit access to your *NetClassroom* website and your **Education Edge** database. We do not accept any responsibility for unauthorized access of your system. Use knowledgeable technical staff or consulting services to determine your organization's security needs.

Installation and Security Considerations

Review these considerations before installing *NetClassroom*.

Note: Hardware requirements are subject to change and are updated as necessary. Visit our website at support.blackbaud.com for the most recent hardware requirements.

- Make sure your hardware meets the minimum processing speed and memory requirements. Visit our website at support.blackbaud.com for more information about system requirements.
- You must have a CD-ROM drive you can access from the Web server.
- We recommend a separate Web server for *NetClassroom*. We support *NetClassroom* on *Windows Server 2003*. Before you begin the installation process, make sure IIS and SMTP are installed and running. You can set these services to start automatically upon reboot.
- NetClassroom* requires .NET Framework 2.0 SP1. If you do not have .NET Framework 2.0 SP1 already installed, it will be installed for you.
- In *Windows Server 2003*, ASP.NET is part of the operating system. Make sure both ASP.NET and IIS are installed. You can install these from the Control Panel. Within the World Wide Web Service, make sure you also install Active Server Pages, Server Side Includes, and World Wide Web Service.
- If you use *Windows Server 2008*, *Internet Information Services 7 (IIS7)* components are no longer installed by default. You must install IIS7 for use with *NetClassroom*. Before you install *NetClassroom*, you must install the IIS7 roles. For more information about how to install IIS7, see Knowledgebase Solution BB521642 at www.blackbaud.com/support/knowledgebase/kb.aspx.
- The **Education Edge** client components must be installed on the Web server before you can install *NetClassroom*. Use the deployment package located on the database server to install **The Education Edge**. After you install **The Education Edge** client components, you must reboot your Web server and open **The Education Edge** before installing *NetClassroom*.
- Review your school's LAN/WAN/Internet connectivity and decide on a topology for including the *NetClassroom* server. For example, if students and relations will access *NetClassroom* from their homes, we recommend you allow Internet traffic.
- If users will access *NetClassroom* from home or outside the school's intranet, you must plan and implement a secure firewall strategy. We do not accept any responsibility for the unauthorized access of your system. Use knowledgeable technical staff or consulting services to determine your organization's security needs. We recommend the use of Secure Sockets Layer (SSL), a robust and secure Internet encryption and authentication method. SSL is a data security method available with IIS. Visit the Verisign website at www.verisign.com for more information about SSL.

Warning: We strongly advise that an ISP does NOT host *NetClassroom* because the **Education Edge** database would be exposed on the Internet.

- To set up an Internet connection, contact a local Internet Service Provider (ISP). Your ISP can register your domain name. We do not advise that your ISP hosts *NetClassroom*. *NetClassroom* is closely integrated with the **Education Edge** database and therefore requires a direct connection to the **Education Edge** database. We strongly recommend that the **Education Edge** database is not exposed on the Internet, which would be required for an ISP to host *NetClassroom*.
- Determine the protocol to use to connect the Web server and the database server. We recommend TCP/IP; however, the protocol you use depends on the protocol specified on the **Education Edge** database server.
- Set up a permanent connection between the Web server and the **Education Edge** database. For important information about setting up and maintaining your Web environment, read "Network Security" on page 9.
- For security reasons, we recommend you install both **Education Edge** and *NetClassroom* to directories on local drives formatted with the NTFS file system, which allows you to tightly control secure access to the files on the Web server. FAT formatted hard disks are not secure. To find out whether the drive is NTFS or FAT, right-click the drive letter in *Windows Explorer* and select **Properties**. The file system type appears on the General tab.
- Install Microsoft's *Internet Explorer* (IE) version 6, 7, or 8 on the Web server, if it is not already installed.
- Either Microsoft's *Internet Explorer* (IE) or Mozilla's *Firefox* must be installed on each user's workstation. We support *NetClassroom* with *Internet Explorer* (version 6, 7, or 8) on the PC and with *Firefox* on the Macintosh. Other browsers are not supported and may not operate or display information correctly in *NetClassroom*.
- To limit the number of login attempts per *NetClassroom* user, create a login page with that functionality. You can require users to access your login page before they access the *NetClassroom* login page.

Windows Server 2003 and 2008 64x

NetClassroom requires Internet Information Services (IIS) be in 32-bit mode when you install on *Windows Server 2003 64x* or *Windows Server 2008*. If you install *NetClassroom* on *Windows Server 2003 64x* or *Windows Server 2008* and IIS is running in 64-bit mode, you will receive a prompt during the installation process asking you to switch to 32-bit mode. If you choose **Yes**, IIS will be switched to 32-bit mode but this may prevent other 3rd party websites that require 64-bit IIS to fail. Please contact your 3rd party vendor. If you choose **No**, IIS must be manually switched to 32-bit mode prior to running Blackbaud websites.

For more information about switching to 32-bit mode, see <http://support.microsoft.com/kb/894435>.

Network Security

If you are planning to use *NetClassroom* over an Internet connection, set up security to limit access to the database. We do not accept any responsibility for the unauthorized access of your system. To determine your organization's security needs, use knowledgeable technical staff or consulting services.

Note: For more information about SSL installation and configuration, consult your IIS documentation and the Microsoft and VeriSign websites.

You can configure *NetClassroom* to allow secure connections to the *NetClassroom* site. This complex issue has many solutions. No matter which security configuration you select, we recommend enabling your IIS server to run Secure Sockets Layer (SSL). SSL provides a level of encryption to all incoming and outgoing HTTP requests equal to that of an online banking or secure e-Commerce site. SSL affords a level of safety to information traveling on the Internet.

This section provides you with basic information to consider when making decisions regarding *NetClassroom*. We recommend you discuss these options with your network administrator, firewall vendor, or ISP.

Your users can access *NetClassroom* via your intranet or the Internet.

Intranet. You can run *NetClassroom* on a Web server within your organization accessible only to those logged into the internal network. This method is secure because all users are authenticated as valid users of the internal network before gaining access to *NetClassroom*. It does not provide access to the program directly from your external website.

Internet. *NetClassroom* can run on a Web server visible on the Internet so you can access the website from a browser through an external Internet connection.

The Web server must be located on the same network as the **Education Edge** database; it should not be hosted by your ISP unless your ISP hosts your database server as well. Using this method, others may see your website but cannot log into the site without user names and passwords. If you use a firewall to prohibit access to the internal network through the Internet, determine how to grant access to the **Education Edge** database from your Web server.

Firewall Issues. If you plan to install *NetClassroom* on an Internet server, you need to consider where to place the **Education Edge** database. The database most likely needs to be on your organization's network, behind the firewall. This reduces the chance of unauthorized access.

Confer with knowledgeable staff and consultants to select a security option that safely grants the Web server access to the database through the firewall. Your options depend on the make and model of your firewall. For more information, we recommend you consult with your firewall vendor or ISP.

Examples of security options include:

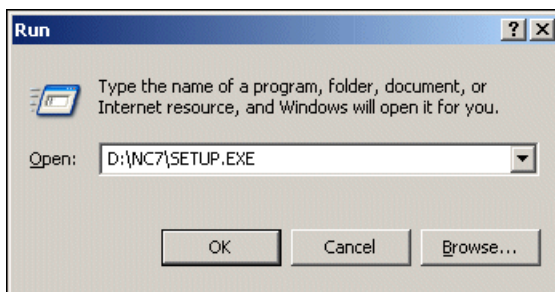
- **Opening a “pinhole” in the firewall.** A pinhole is a designated port in the firewall that provides access to the database. With *NetClassroom*, you can limit database transactions to the assigned port.
- **Using packet filtering.** Some firewalls allow access to computers within a specified IP address range. A filter is added between the Web server and the Internet to prohibit access to the Web server unless a predefined address is used.
- **Using Secure Sockets Layer (SSL).** Secure Sockets Layer (SSL) is a data security method available as part of your IIS program. SSL encrypts all data passing between the Web browser and the client (workstation). The data is secure while in transit through the firewall and is decrypted when the client accesses it.

Install NetClassroom

After you have reviewed security considerations and set up your Web server, you can install *NetClassroom* on the Web server.

► Install NetClassroom

1. On the *Windows* taskbar, select **Start, Run**. The Run screen appears.



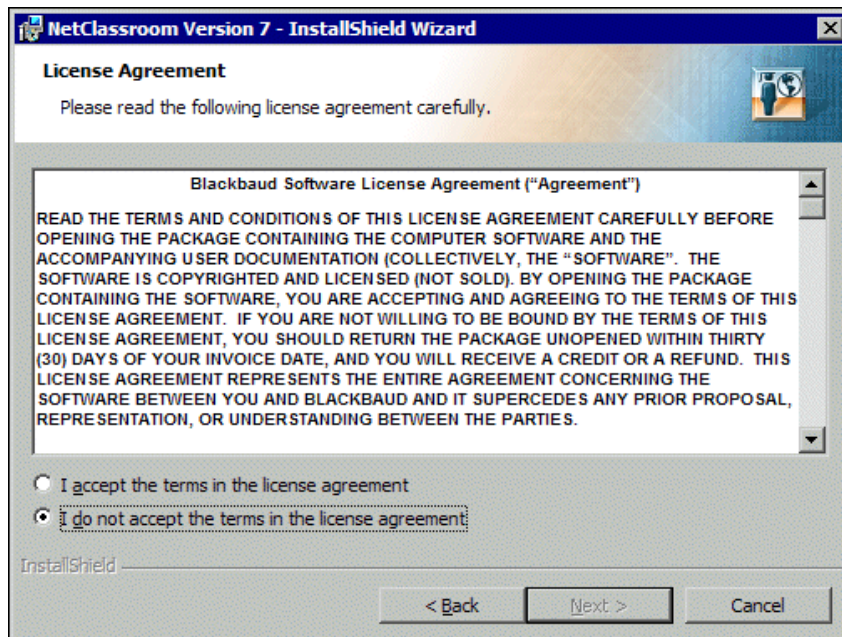
2. In the **Open** field, enter the path to the “Setup.exe” file located in the NC7 folder on the installation CD-ROM. You can use the **Browse** button to locate this file.

Note: *NetClassroom* requires .NET Framework 2.0 SP1. If you do not have .NET Framework 2.0 SP1 already installed, it will be installed for you.

3. Click **OK**. The InstallShield Wizard welcome screen appears.

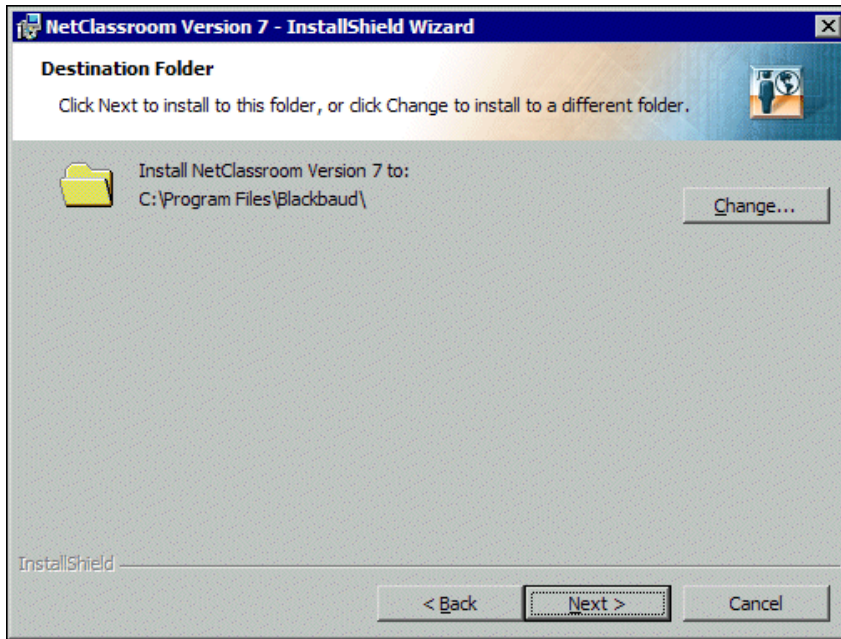


4. Click **Next**. The License Agreement screen appears.

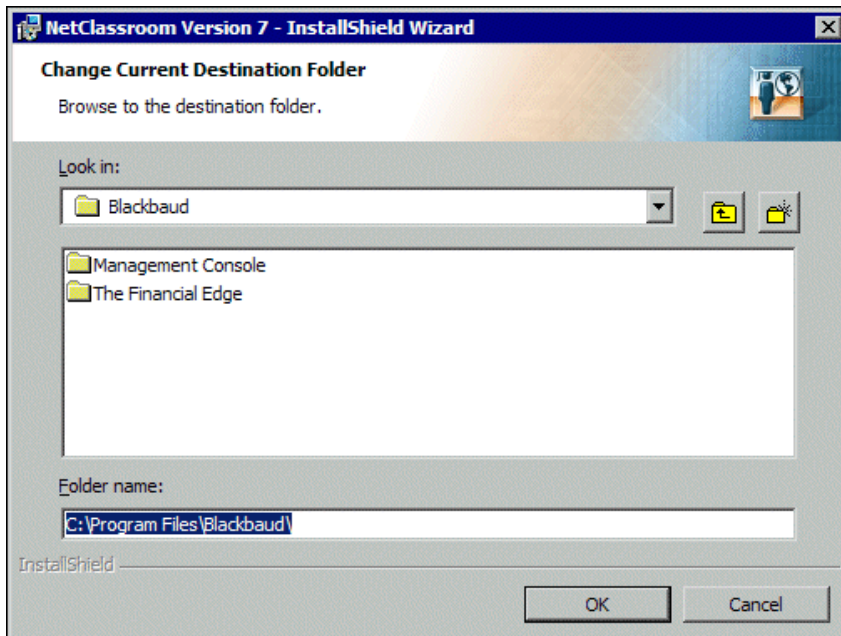


5. Read the license agreement, and if you accept the terms, mark **I accept the terms of the license agreement**. If you mark **I do not accept the terms of the license agreement**, you cannot continue with the installation.

6. Click **Next**. The Destination Folder screen appears.

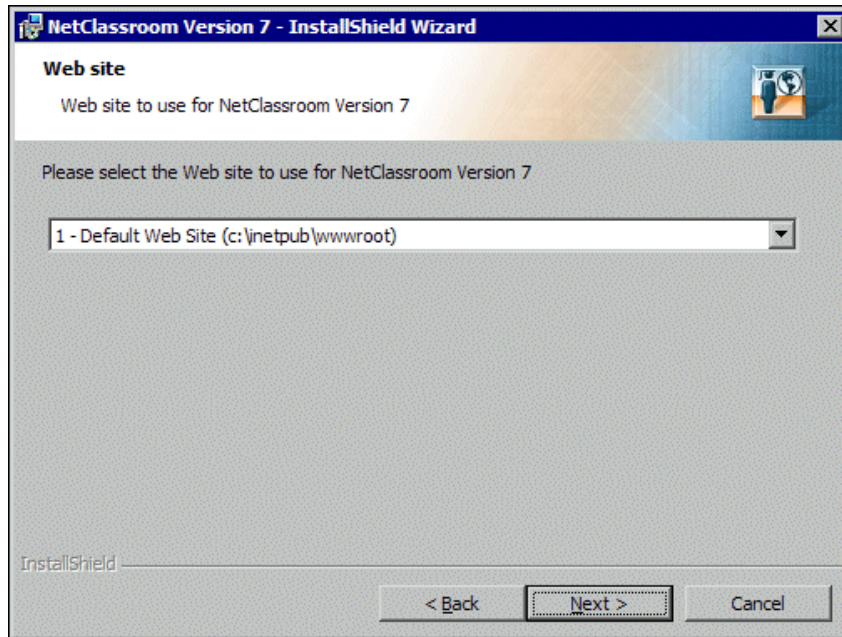


7. On this screen you can choose where you want to install *NetClassroom*. We recommend you accept the default destination folder.
If you want to change the default location, click **Change** to access the Change Current Destination Folder screen.

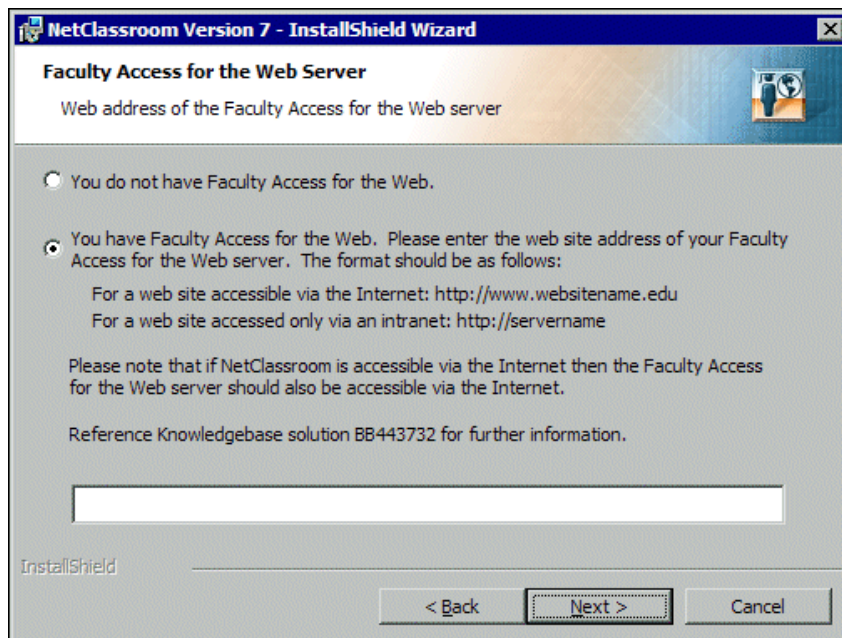


8. Browse to the folder where you want to install the program and click **OK** to return to the Destination Folder screen.

9. Click **Next**. The Web site screen appears.

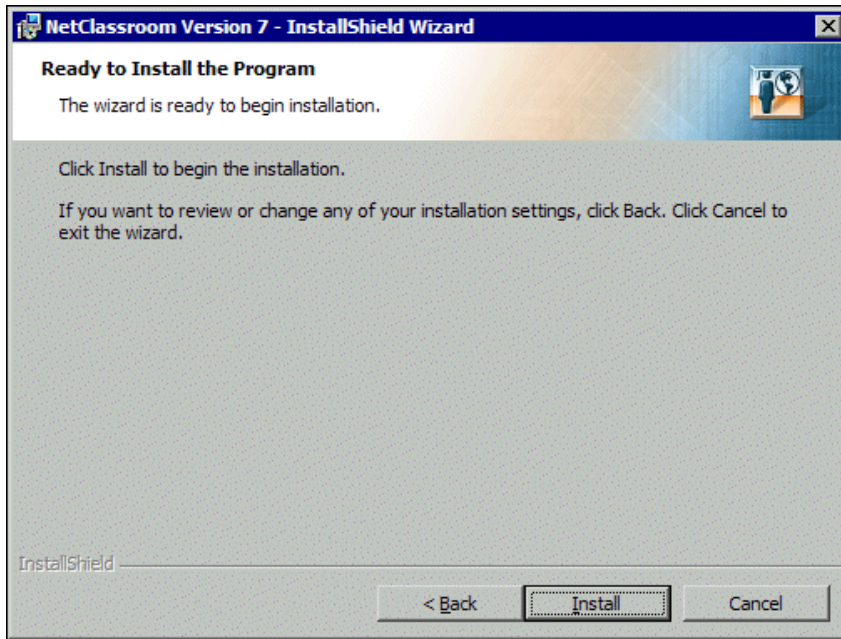


10. Select the Web site to use. The installation process creates a Virtual Directory named “NetClassroom7” on the selected site.
11. Click **Next**. The Faculty Access for the Web Server screen appears.

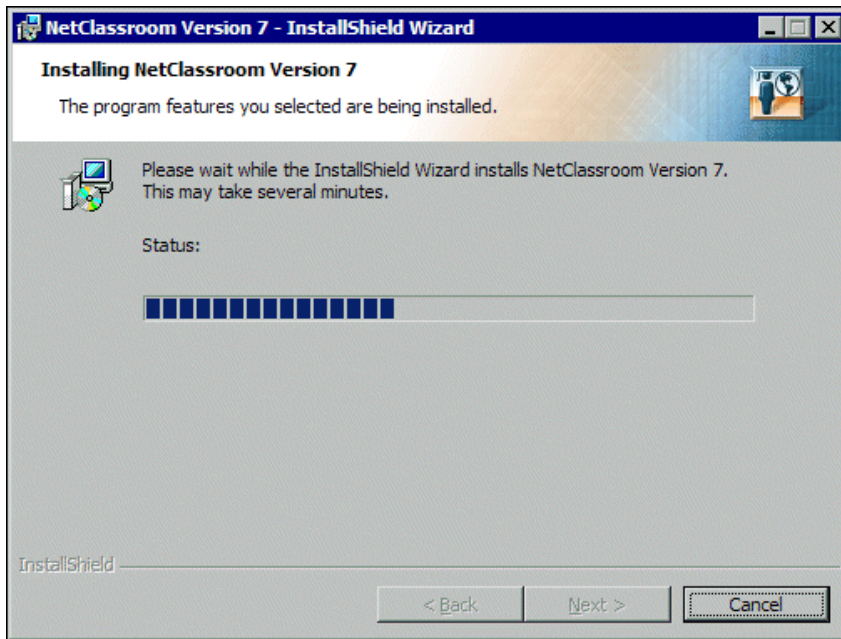


12. If you do not have *Faculty Access for the Web*, mark the first option and click **Next**.
If you have *Faculty Access for the Web*, mark the second option and enter the web address for your Faculty Access for the Web server. Before entering the web address, please note the required formats listed on the screen.

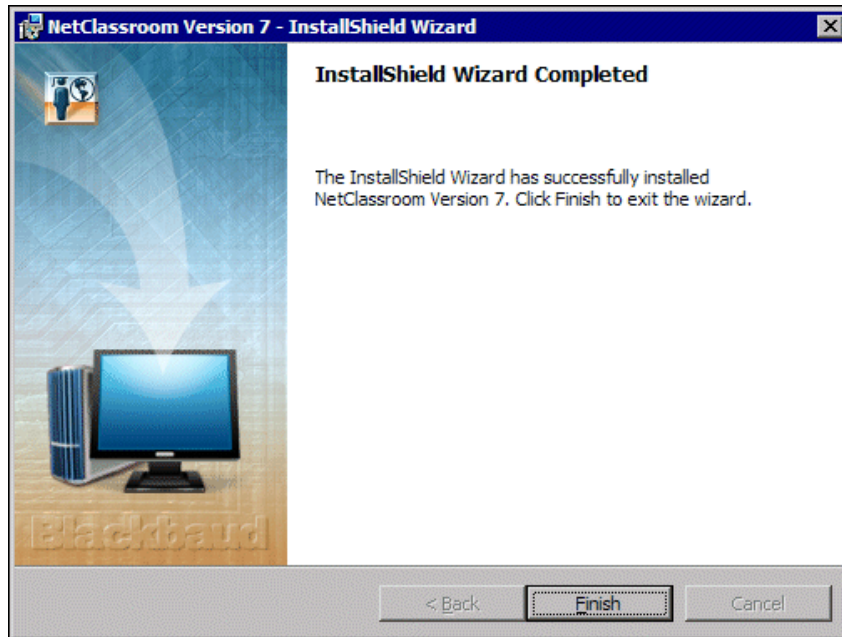
13. Click **Next**. The Ready to Install the Program screen appears.



14. Click **Install** to begin the installation process. The Installing NetClassroom Version 7 screen appears displaying the installation status.



When the installation is complete, the InstallShield Wizard Completed screen appears.



15. To close the InstallShield Wizard, click **Finish**. An icon for *NetClassroom* appears on the desktop of the Web server.

Run NetClassroom with Multiple Databases

If you have multiple **Education Edge** databases, you must designate the database you want to use with *NetClassroom*.

Warning: If you want to run *NetClassroom* with multiple databases at the same time, you must install *NetClassroom* on a separate Web server for each database.

The following procedure describes how to link *NetClassroom* to the database you choose. If you want to run *NetClassroom* with multiple databases at the same time, you must install *NetClassroom* on a separate Web server for each database and follow this procedure for each instance.

► Link NetClassroom to a database

1. Open your system registry after *NetClassroom* is installed. To open your registry, select **Start, Run** from the *Windows* taskbar. In the **Open** field, enter "regedit" and click **OK**.
2. Locate the lines under Local_Machine\Software\Blackbaud that read AFNINI_XX where XX represents one of your databases.
3. Expand each line and click General to determine what database you want to use with *NetClassroom*. Use the number represented by XX when you get to step 6.
4. In *Windows Explorer* or My Computer, locate the directory where you installed *NetClassroom*. The default directory is C:\Program Files\Blackbaud\NC7.
5. Open the Web.config file using *Notepad*. You should see a line that reads <add key="AFNINI" value="1" />.
6. Change the 1 to the number determined in step 3.

Set Up NetClassroom to Use Windows Authentication

If you have configured your **Education Edge** database to use Windows Authentication and it resides on a separate server, you will need to edit the Web.config file to enter a user name and password of a *Windows* user that can be authenticated on the domain and has access to the database. The Web.config file resides in the NC7 folder created by the installation process. Detailed instructions are in the <system.web> section of the Web.config file, usually following the <authentication> sub-section as shown below:

```
<!--
```

If your database uses Windows Authentication and resides on a separate server, you will need to use the settings below, and replace the userName and password with a specific windows user that has access to SQL Server. If the database and web server reside on the same machine, then the line above is sufficient.

```
<identity impersonate="true" userName="administrator"
password="password"/>
```

```
-->
```

The section will look like the example below after modification:

```
<!--
```

If your database uses Windows Authentication and resides on a separate server, you will need to use the settings below, and replace the userName and password with a specific windows user that has access to SQL Server. If the database and web server reside on the same machine, then the line above is sufficient.

```
<identity impersonate="true" userName="administrator"
password="password"/>
```

```
-->
```

```
<identity impersonate="true" userName="windowsUserName"
password="password"/>
```

Replace windowsUserName with the user name that has access to the **Education Edge** database.

The password will be in clear text and can be read by anyone who has access to the Web.config file.

For security purposes, we recommend you encrypt the user name and password and store them elsewhere. For instructions, visit www.microsoft.com and see Knowledge Base Article #329290.

Set Up Security Privileges

Warning: Securing your Web server against outside attacks is vitally important. We cannot be held responsible for any unauthorized access to your Web server.

Securing your Web server against outside attacks is vitally important. We cannot be held responsible for any unauthorized access to your Web server. We strongly recommend you consult with an Internet security analyst to ensure you fully secure the Web server from unauthorized access. You can access more information about securing a *Windows* Web server from the Microsoft IT website at www.microsoft.com/technet or the Microsoft Developer Network website at www.msdn.microsoft.com.

This section provides procedures for *Windows Server 2003* and *Windows Server 2008*.

Windows Server 2008

If you use *Windows Server 2008*, you must use *Internet Information Services (IIS) 7* and have **The Education Edge** version **7.75** or higher. However, in *Windows Server 2008*, *Internet Information Services 7 (IIS7)* components are no longer installed by default. You must install IIS7 for use with *NetClassroom*. Before you install *NetClassroom*, you must install the IIS7 roles. For more information, see "Install Internet Information Services (IIS) 7" on page 17.

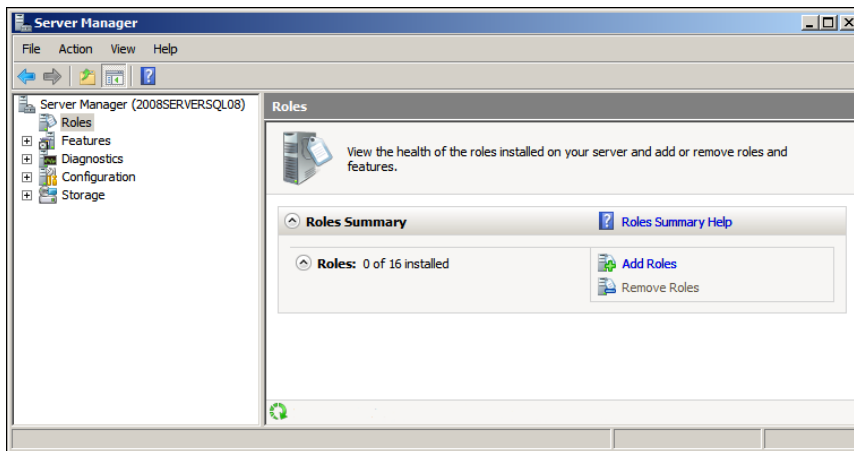
NetClassroom 7.75 or higher requires you to use specific NTFS file and directory permissions. For the IUSR user on your Web server, add the security permissions listed in “Security Rights for Anonymous Users on Windows Server 2008” on page 23 and follow the procedure on “Anonymous User Security on Windows Server 2008” on page 18.

Install Internet Information Services (IIS) 7

If you use *Windows Server 2008* with *NetClassroom*, you need to install *Internet Information Services (IIS) 7* before you install *NetClassroom*.

► Install IIS7

1. From the Start Menu, click **Control Panel**. The Control Panel window appears.
2. Double-click **Programs and Features**. The Programs and Features window appears.
3. Click **Turn Windows features on or off**. The Server Manager window appears.
4. Under Server Manager, click **Roles**.



5. In the right pane, under **Roles Summary**, click **Add Roles**. The Add Roles Wizard appears.
6. On the Select Server Roles screen, select the **Web Server (IIS)** checkbox. The Add features required for Web Server (IIS)? screen appears.
7. Click **Add Required Features**. You return to the Select Server Roles screen.
8. Click **Next** two times.
9. On the Select Role Services screen, in addition to services already selected, select the **Application Development** checkbox. The Add features required for Application Development? screen appears.
10. Click **Add Required Features**. You return to the Select Role Services Screen.
11. Under **Security**, select **Basic Authentication** and **Windows Authentication**. Also, under **Management Tools**, select **IIS 6 Management Compatibility**.
12. Click **Next**. The Confirm Installation Selections screen appears.
13. Click **Install**. After Web Server (IIS) and Windows Process Activation Service install, the Installation Results screen appears.
14. Click **Close**.

Set Up Security on Windows Server 2008

When you use *Windows Server 2008*, you can set up security for anonymous users or you can set up a more secure site that does not use anonymous access. To prevent anonymous access, you can disable it after the *NetClassroom* installation. For more information about disabling anonymous access, see “Anonymous Users for Windows Server 2003” on page 34.

Anonymous User Security on Windows Server 2008

This procedure assumes you are operating the Web server with an Anonymous User account.

The *NetClassroom* installation program automatically assigns the Anonymous User account to the IUSR user. By setting security privileges for the user, you set access rights for anonymous users.

The Anonymous User account is used by all Web browsers when accessing files on the Web server. File and directory security rights you grant to this account are the rights for all individuals accessing your Web server while browsing *NetClassroom*.

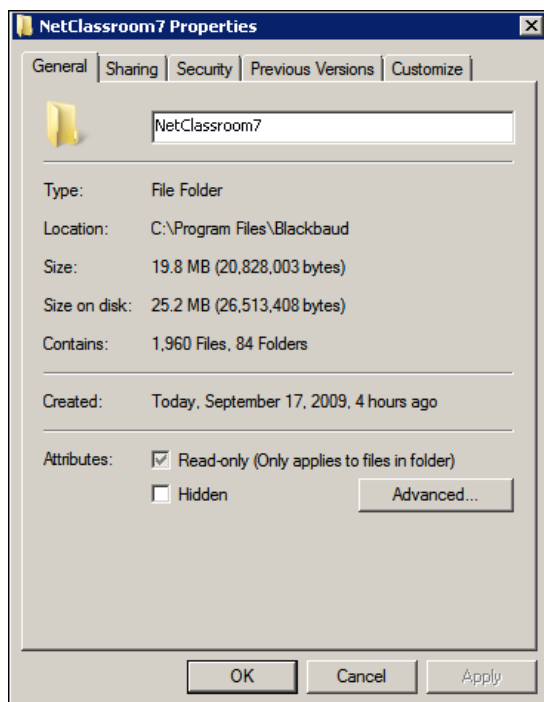
The Anonymous User account is created by the IIS installation. The account is typically a local *Windows 2008* account on the server with the name IUSR. If you are not sure which user account is the anonymous user, see “Determine the account used when a user logs into the Web server as an Anonymous User on Windows Server 2008” on page 33.

▶ Set anonymous user access permissions on Windows Server 2008

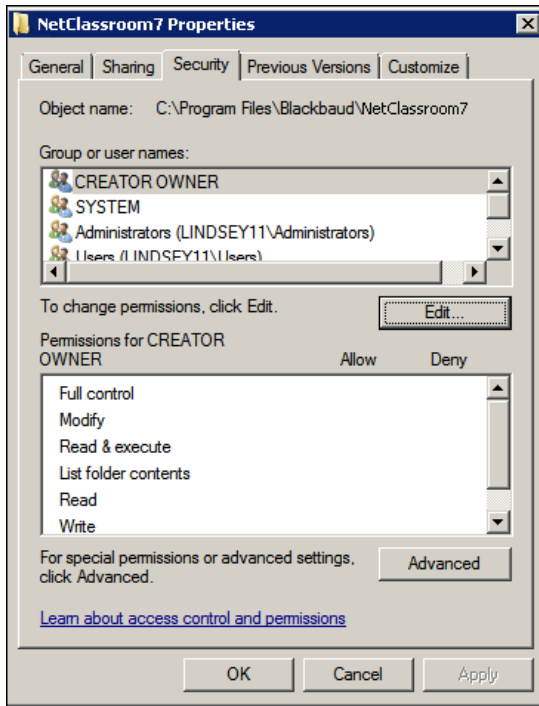
The installation process creates the IUSR user and automatically adds the Anonymous User account. You can set permissions for anonymous users by setting permissions for IUSR.

For the full listing of directories and corresponding permissions to set, see “Security Rights for Anonymous Users on Windows Server 2008” on page 23. This procedure uses the main *NetClassroom* directory as an example.

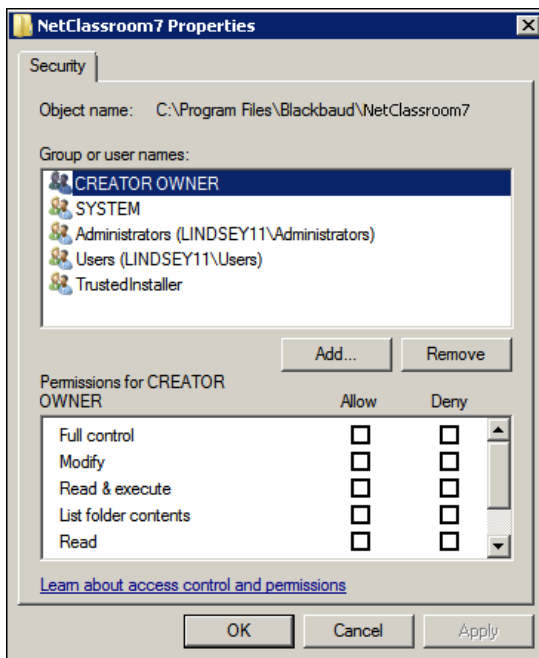
1. Open *Windows Explorer* or *My Computer* and locate the directory where you installed *NetClassroom*. The default directory is C:\Program Files\Blackbaud.
2. Right-click the *NetClassroom* folder and select **Properties**. The *NetClassroom Properties* screen appears.



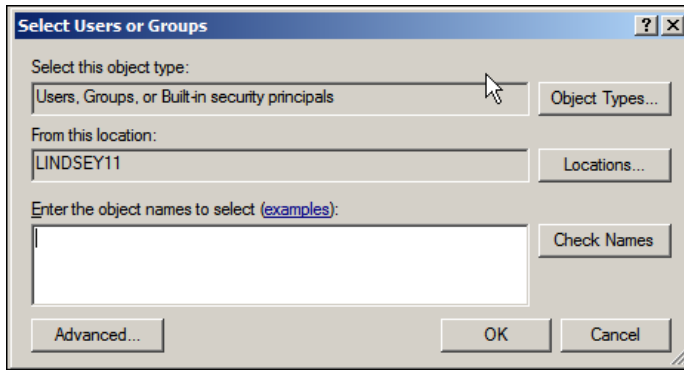
3. Select the Security tab.



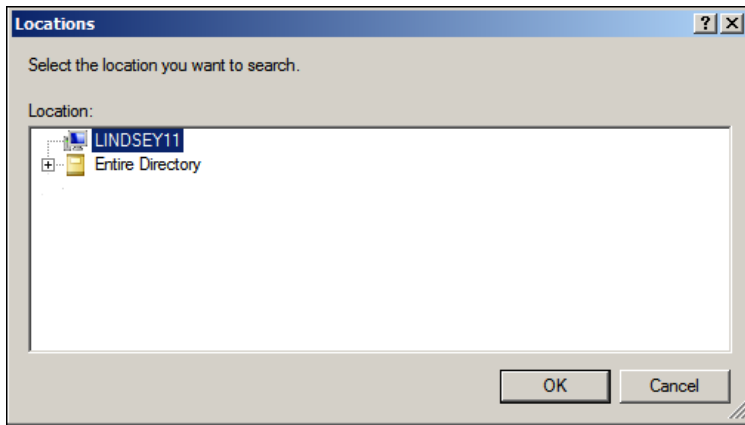
4. To add the IUSR to this list and give the group read and execute rights to the NetClassroom directory, click **Edit**. The Permissions for NetClassroom screen appears.



5. Click **Add**. The Select Users or Groups screen appears.



6. To select the computer name of the Web server, click the **Locations** button. The Locations screen appears.



7. Select the location and click **OK** to return to the Select Users or Groups screen.

- In the **Enter the object names to select** box, enter the name of the Web server and IUSR. To search for and select this information, you can click **Advanced** under the box. The screen expands.

Select Users or Groups [?] [X]

Select this object type:

From this location:

Common Queries

Name:

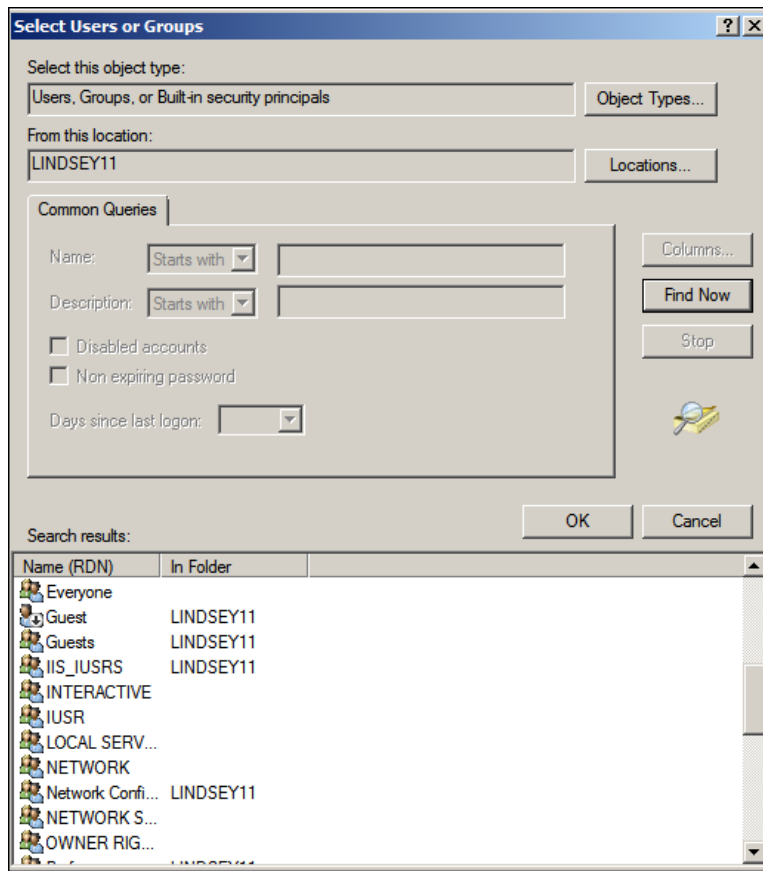
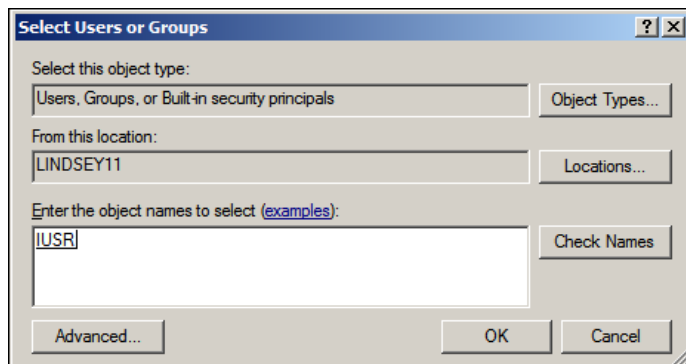
Description:

Disabled accounts
 Non expiring password

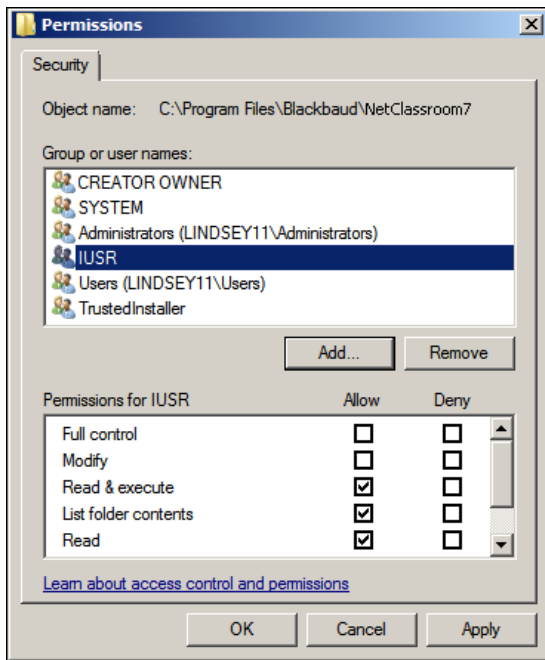
Days since last logon:

Search results:

Name (RDN)	In Folder

9. Click **Find Now**.10. In the search results list, select IUSR and click **OK**. You return to the Select Users or Groups screen.

- To return to the Permissions for NetClassroom screen, click **OK**. IUSR appears in the **Group or user names** box.



- In the **Read & Execute** and **Read** rows, mark **Allow**.
- Click **OK**. The security settings change. You return to the FAWeb7 Properties screen.
- To close the NetClassroom Properties screen, click **OK**.
- Repeat this procedure to set permissions for other directories listed in the next section.

Security Rights for Anonymous Users on Windows Server 2008

Permissions include Read (R), Read and Excute (X), Write (W), and Modify (M).

Folder	Folder Permissions	File Permissions	User or Group
All parent folders of NetClassroom	R	R	IUSR
NetClassroom folder	RX	RX	IUSR
The Financial Edge Folder	RX	RX	IUSR
The Financial Edge /SysDBfolder	RXW	RXW	IUSR
System 32	R	R	IUSR
System Temp	RXW	RXW	IUSR
Program Files\Common Files\Blackbaud	RX	RX	IUSR

Program Files\Common Files\System	RX	RX	IUSR
The Financial Edge /SysDBfolder	RXW	RXW	Network Service
BBWebClient folder	RX	RX	Network Service
\Program Files\Blackbaud\Downloadable Documents	RXWM	RXWM	Network Service
\Program Files\Blackbaud\NetClassroom\PDF	RXW	RXW	Network Service

Windows Server 2003

After you install *NetClassroom*, you must set access privileges to certain files and directories. During installation, the setup program creates a user group called BBNETCLASSROOMGROUP. The BBNETCLASSROOMGROUP refers to the grouping of users who have access to *NetClassroom*. The Anonymous Users, usually IUSR_<WebServer>, and the WAM (Web Application Manager) User, usually IWAM_<WebServer>, are added to the BBFEWebGroup, where <WebServer> is the computer name of your Web server. Grant special directory permissions for *NetClassroom* to the BBNETCLASSROOMGROUP. Do not grant special directory permissions to individual user accounts. If necessary, you can add more required individual user accounts to the BBNETCLASSROOMGROUP. Anonymous access is enabled by default. You can disable anonymous access to require users to enter *Windows* user names and passwords for extra security.

Set Up Security on Windows Server 2003

Using *Windows Server 2003*, you can set up security for anonymous users or you can set up a more secure site that does not use anonymous access. To prevent anonymous access, you can disable it after the *NetClassroom* installation. For more information about disabling anonymous access, see “Additional Installation Steps for Windows Server 2003” on page 30.

Anonymous User Security on Windows Server 2003

This procedure assumes you are operating the Web server with an Anonymous User account.

The *NetClassroom* installation program automatically assigns the Anonymous User account to the BBNETCLASSROOMGROUP user group. By setting security privileges for the group, you set access rights for anonymous users.

The Anonymous User account is used by all Web browsers when accessing files on the Web server. File and directory security rights you grant to this account are the rights for all individuals accessing your Web server while browsing *NetClassroom*.

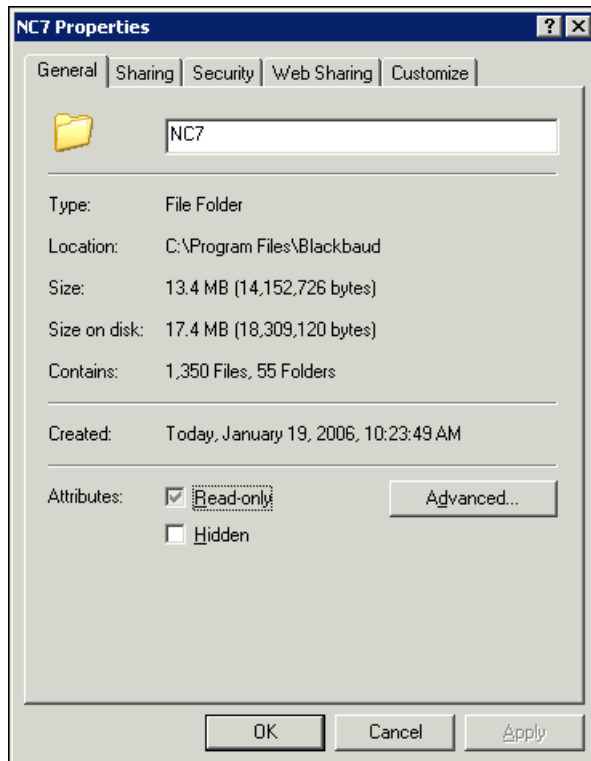
The Anonymous User account is created by the IIS installation. The account is typically a local *Windows 2003* account on the server with the name IUSR_<WebServer>, where <WebServer> is the computer name of your Web server. If you are not sure which user account is the anonymous user, see “Determining the account used when a user logs into the Web server as an Anonymous User on Windows Server 2003” on page 35.

► **Set anonymous user access permissions on Windows Server 2003**

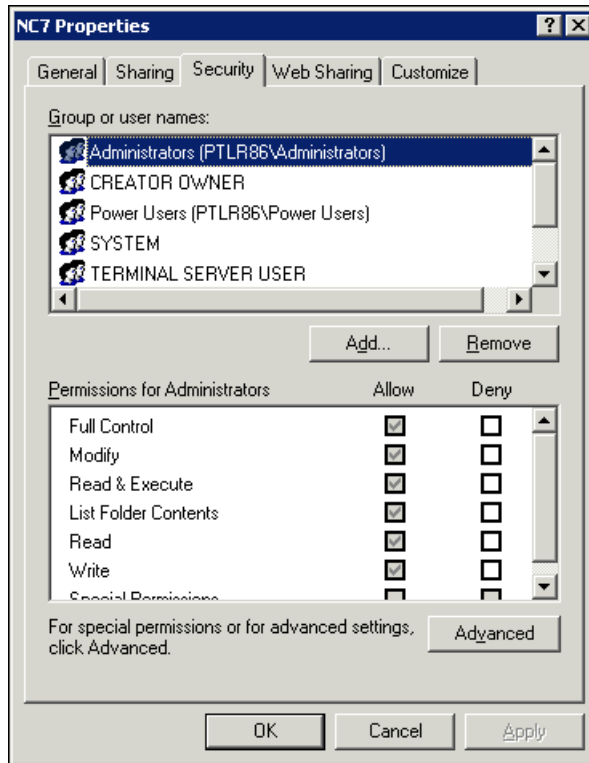
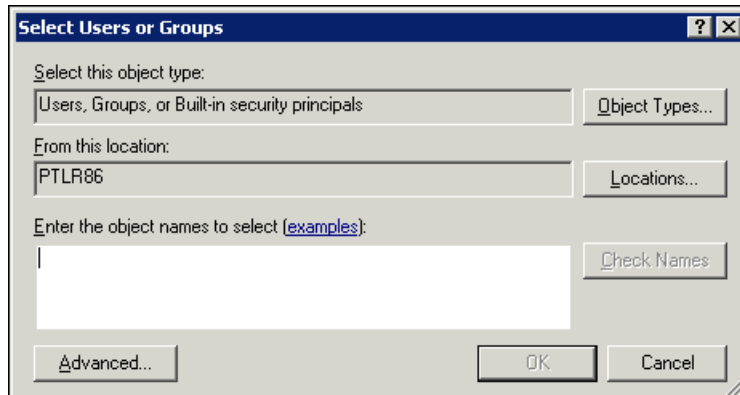
The installation process creates the BBNETCLASSROOMGROUP user group and automatically adds the Anonymous User account to the group. You can set access permissions for anonymous users by establishing settings for the BBNETCLASSROOMGROUP.

For the full list of directories and corresponding permissions to set, see “Security Rights for Anonymous Users on Windows Server 2003” on page 30. This procedure uses the main NetClassroom directory as an example.

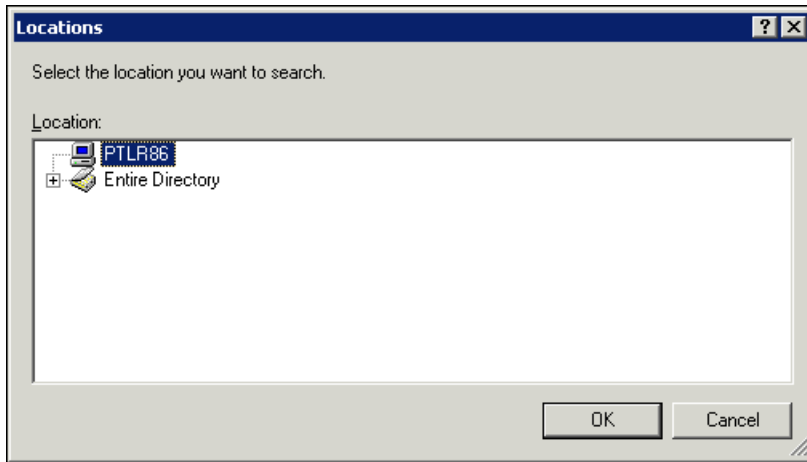
1. Open *Windows Explorer* or *My Computer* and locate the directory where you installed *NetClassroom*. The default directory is C:\Program Files\Blackbaud\NC7.
2. Right-click the NC7 folder and select **Properties**. The NC7 Properties screen appears.



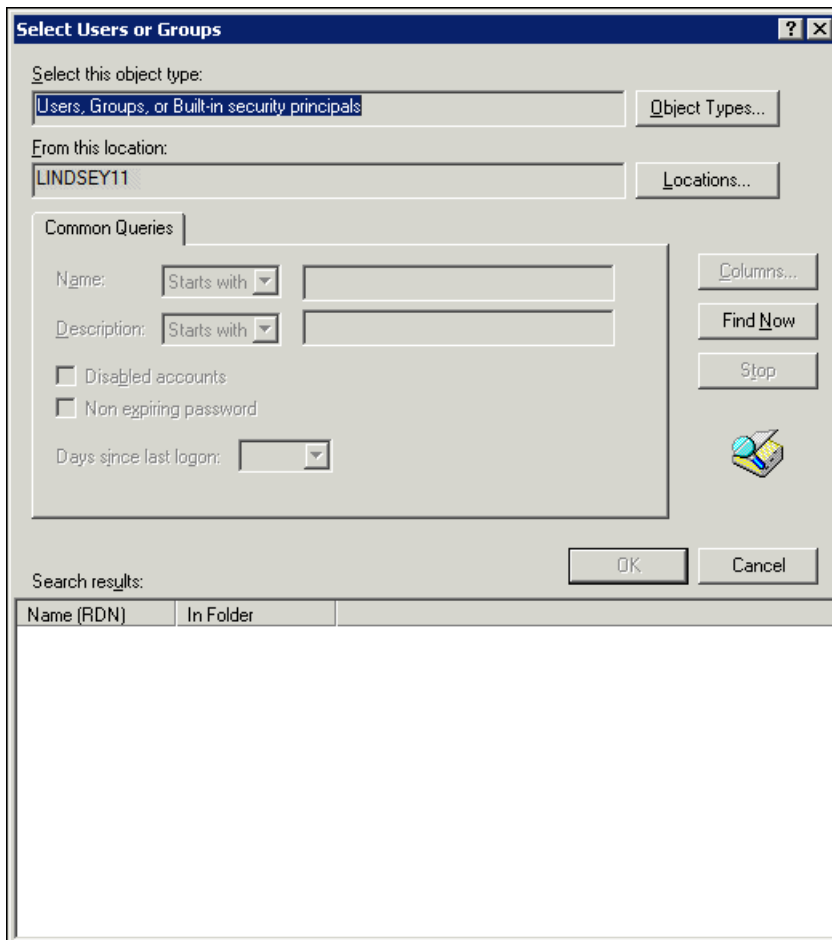
3. Select the Security tab.

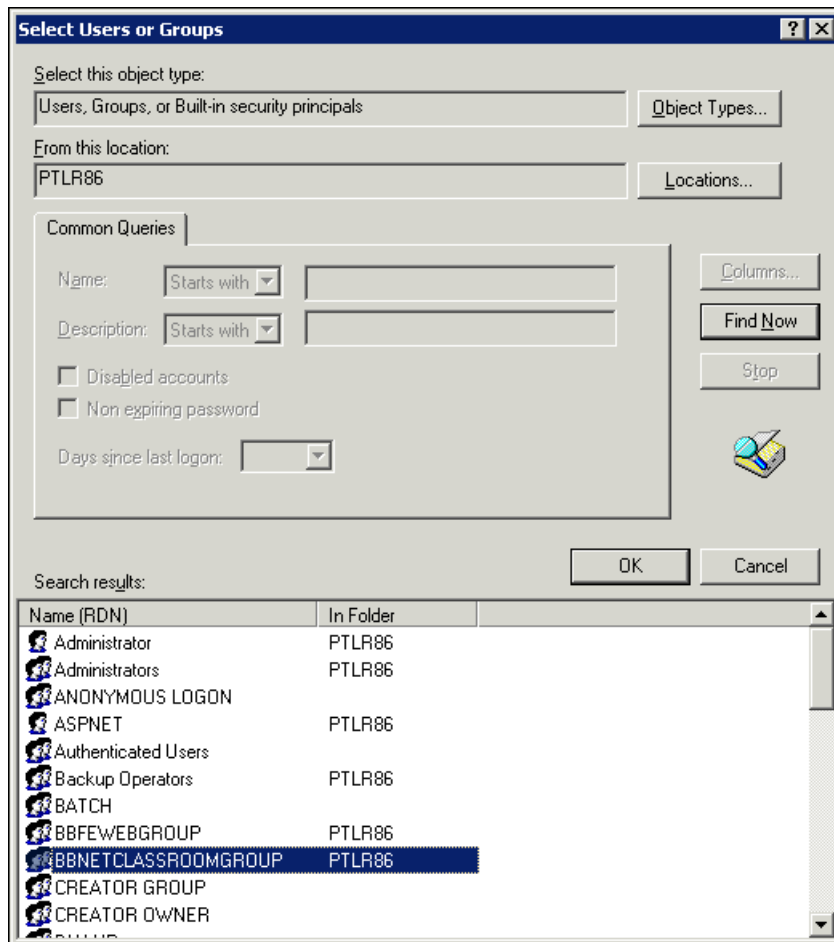
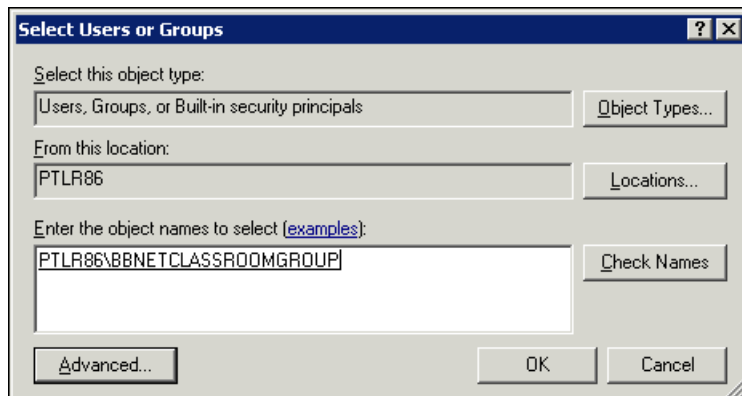
4. To add the BBNETCLASSROOMGROUP to this list and give the group read and execute rights to the NC7 directory, click **Add**. The Select Users or Groups screen appears.

- To select the computer name of the Web server, click the **Locations** button. The Location screen appears.

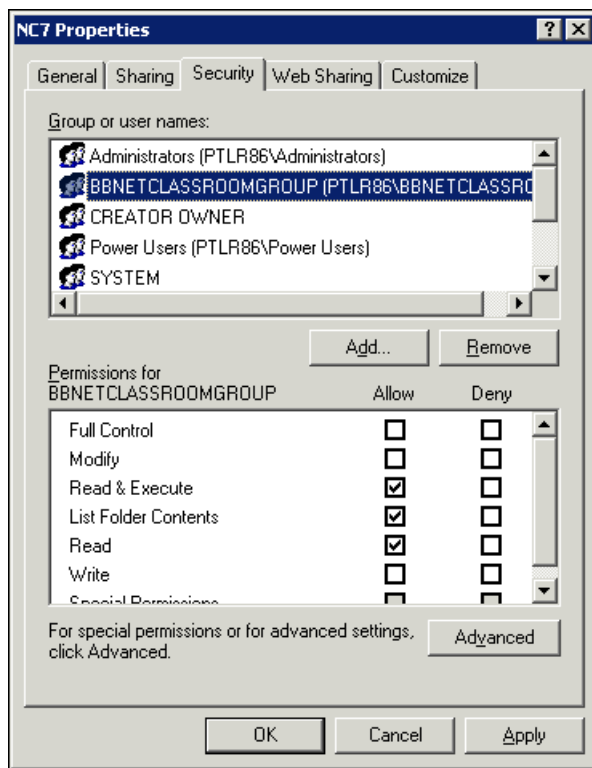


- Select the location and click **OK** to return to the Select Users or Groups screen.
- In the **Enter the object names to select** box, enter the name of the Web server and **BBNETCLASSROOMGROUP**. To search for and select this information, you can click **Advanced** under the box. The screen expands.



8. Click **Find Now**.9. In the search results list, select BBNETCLASSROOMGROUP and click **OK**. You return to the Select Users or Groups screen.

- To return to the NC7 Properties screen, click **OK**. BBNETCLASSROOMGROUP appears in the **Group or user names** box.



- In the **Read & Execute** and **Read** rows, mark **Allow**.
- To close the NC7 Properties screen, click **OK**.
- Repeat this procedure to set permissions for other directories listed in the next section.

Security Rights for Anonymous Users on Windows Server 2003

Folder	Folder Permissions	File Permissions	User or Group
All parent folders of NetClassroom	R	R	BBNetClassroomGroup
The Financial Edge Folder	RX	RX	BBNetClassroomGroup
System32	R	R	BBNetClassroomGroup
System temp	RXW	RXW	BBNetClassroomGroup
Program Files/Common Files/Blackbaud	RX	RX	BBNetClassroomGroup
Program Files/Common Files/System	RX	RX	BBNetClassroomGroup
The Financial Edge/SysDB folder	RXW	RXW	ASPNET/Network Service
The Financial Edge/SysDB folder	RXW	RXW	BBNetClassroomGroup
BBWeb Client folder	RX	RX	ASPNET/Network Service
NetClassroom folder	RX	RX	BBNetClassroomGroup
NetClassroom folder/PDF	RXW	RXW	ASPNET/Network Service

Additional Installation Steps for Windows Server 2003

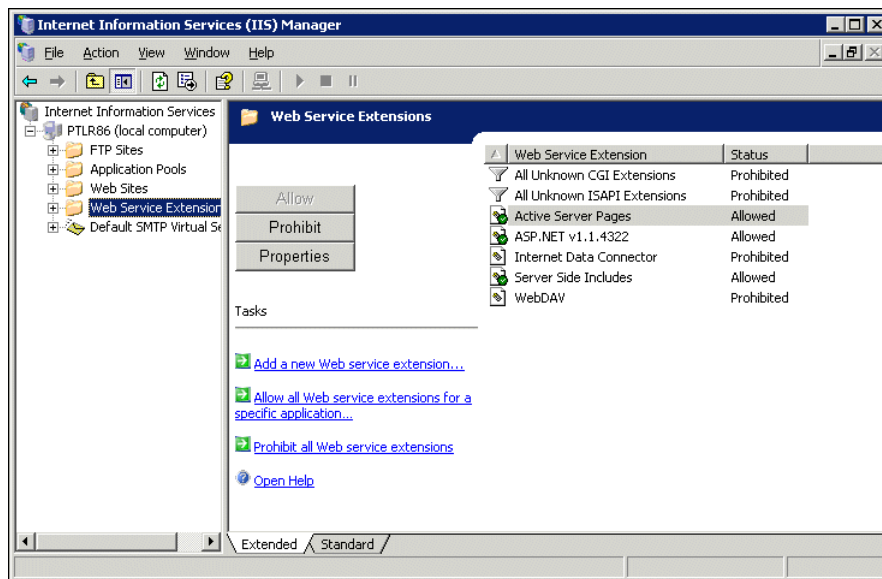
To run *NetClassroom* on *Windows Server 2003*, you must perform several additional steps after the installation completes.

Sub-authentication for anonymous accounts. IIS 6.0 does not enable sub-authentication by default. To enable sub-authentication to manage passwords for anonymous accounts, register IISSubA.dll by clicking **Start, Run** and entering the following command:

```
rundll32.exe C:\Windows\System32\IISSubA.dll;RegisterIISSUBA
```

Note that C:\Windows is the default path for the Windows folder in *Windows Server 2003*. If your installation uses a different path, you must adjust the command accordingly.

Web service extensions. In the Internet Information Services (IIS) Manager, you must highlight Web Service Extensions and change the status to Allow for Server Side Includes, Active Server Pages, and ASP.NET.



Changing the Session Timeout

By default, a user is automatically logged out of a session after 20 minutes without communication between *NetClassroom* pages and the **Education Edge** database (receiving information from the database or saving information to the database). For example, if a student is entering course requests for longer than 20 minutes without saving, his session automatically times out and he loses the data he was entering.

If necessary, you can change the time limit from the default time of 20 minutes by updating the number of minutes in the Web.config file.

Warning: Do not change the session timeout while users are logged in.

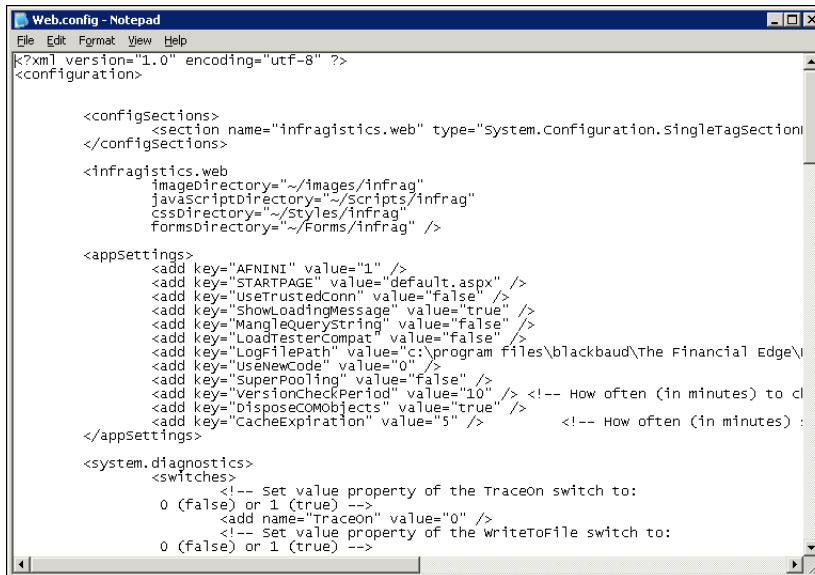
We strongly recommend you do not change the time limit while users are logged into *NetClassroom*. If you do so, each user's session ends and they lose all changes made since they last saved.

▶ Changing the session timeout in the Web.config file

1. Open *Windows Explorer* or *My Computer* and locate the directory where you installed *NetClassroom*. The default directory is C:\Program Files\Blackbaud\NC7.

Warning: Before editing a file, make a backup copy of the file first.

2. Open the Web.config file with *Notepad*.



```

Web.config - Notepad
File Edit Format View Help
<?xml version="1.0" encoding="utf-8" ?>
<configuration>

  <configSections>
    <section name="infragistics.web" type="system.configuration.singleTagSection" />
  </configSections>

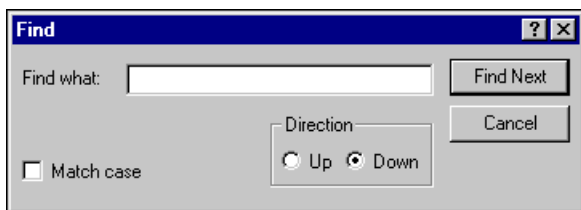
  <infragistics.web
    imageDirectory="~/Images/infrag"
    javascriptDirectory="~/Scripts/infrag"
    cssDirectory="~/Styles/infrag"
    formsDirectory="~/Forms/infrag" />

  <appSettings>
    <add key="AFNINI" value="1" />
    <add key="STARTPAGE" value="default.aspx" />
    <add key="UseTrustedConn" value="false" />
    <add key="ShowLoadingMessage" value="true" />
    <add key="MangleQueryString" value="false" />
    <add key="LoadResterCompat" value="false" />
    <add key="LogFilePath" value="c:\program files\blackbaud\The Financial Edge\" />
    <add key="UseNewCode" value="0" />
    <add key="SuperPooling" value="false" />
    <add key="VersionCheckPeriod" value="10" /> <!-- How often (in minutes) to check for updates -->
    <add key="DisposeCOMObjects" value="true" />
    <add key="CacheExpiration" value="5" /> <!-- How often (in minutes) to refresh the cache -->
  </appSettings>

  <system.diagnostics>
    <switches>
      <!-- Set value property of the Traceon switch to:
      0 (false) or 1 (true) -->
      <add name="Traceon" value="0" />
      <!-- Set value property of the WriteToFile switch to:
      0 (false) or 1 (true) -->
    </switches>
  </system.diagnostics>

```

3. From the menu bar, select **Edit, Find** to open the Find screen.



4. In the **Find what** field, enter "timeout".
5. Once you locate `timeout="20"`, you can change it from 20 to the length of time you want. Please note you will need to change this setting in both the `<authentication>` and `<sessionState>` sections of the Web.config file.
6. From the menu bar, select **File, Save**.

Troubleshooting

This section provides basic troubleshooting information for *NetClassroom*. For other troubleshooting topics, visit our website at www.blackbaud.com to search our Knowledgebase.

Login Errors

If you receive an error message when attempting to log into *NetClassroom* that states a connection with the database cannot be established, a common cause is incorrect security rights on an NTFS-formatted Web server. To resolve incorrect security rights, check the security settings on the NTFS-formatted Web server. For more information about security settings, see "Set Up Security on Windows Server 2003" on page 24.

If you receive a message about an invalid data source name (DSN), you must edit your Web.config file to point to the correct database. For more information about editing the Web.config file, see "Link NetClassroom to a database" on page 15.

Failed Logins

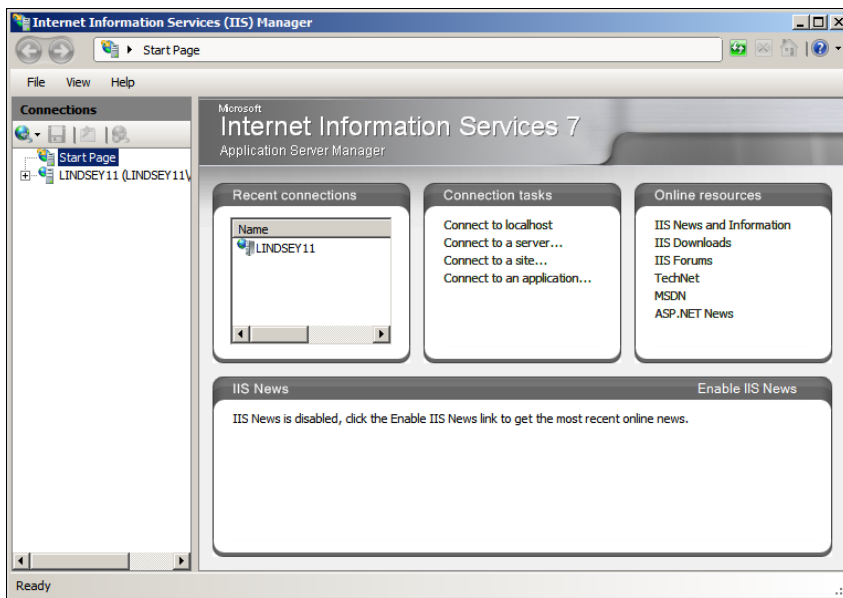
First verify that the user has entered the correct user name and password.

If you still receive an error message stating that the user login has failed, stop and restart the SQL server, then try again.

Anonymous Users for Windows Server 2008

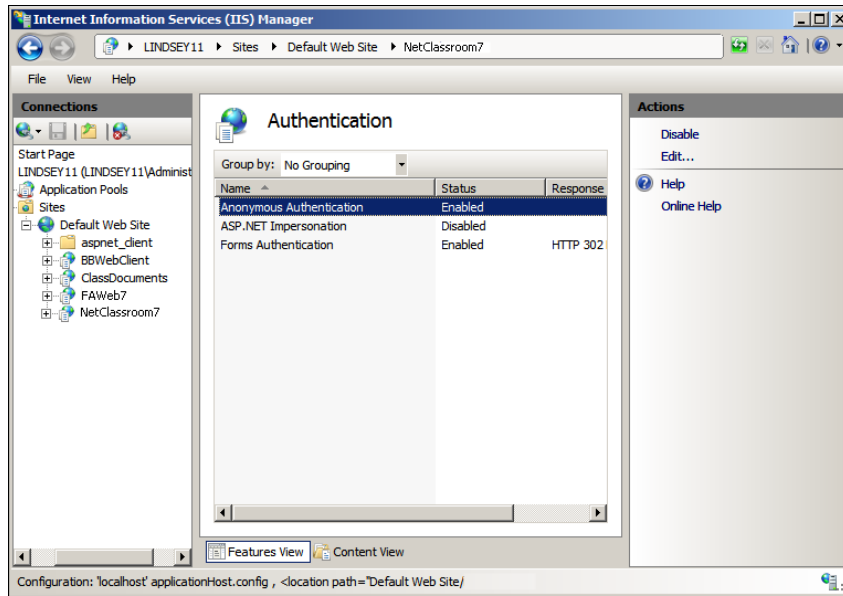
If the Anonymous User does not appear, it may have been changed or deleted. Determine the current Anonymous User account, then add the user.

- ▶ **Determine the account used when a user logs into the Web server as an Anonymous User on Windows Server 2008**
 1. From the Control Panel, select **Administrative Tools, Internet Services Manager**. The Internet Information Services (IIS) Manager screen appears.



2. In the tree view on the left, click the plus sign beside the server name, then beside **Sites**, and then **Default Web Site**.

3. In the Features View, under **IIS**, double-click **Authentication**. The Authentication page appears.



4. Select **Anonymous Authentication**. In the **Status** column, ensure the status is enabled. If it is not, under **Actions**, click **Enable**.
5. Under **Actions**, click **Edit**. The Edit Anonymous Authentication Credentials screen appears.



6. The *Windows 2008* User Account currently selected as the Anonymous User appears in the **Specific user** field. By default, IIS sets the anonymous user account to IUSR.

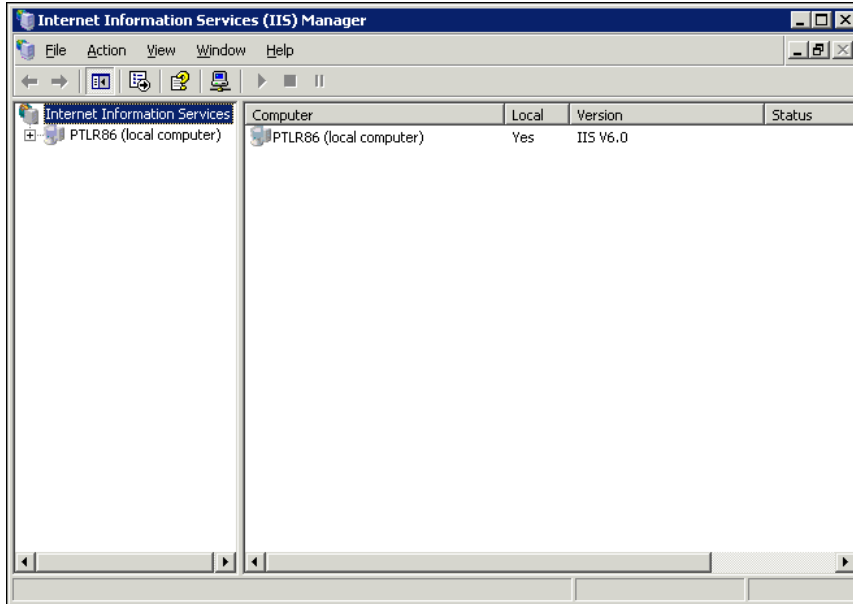
Click **OK**. You return to the Internet Information Services (IIS) Manager screen.

Anonymous Users for Windows Server 2003

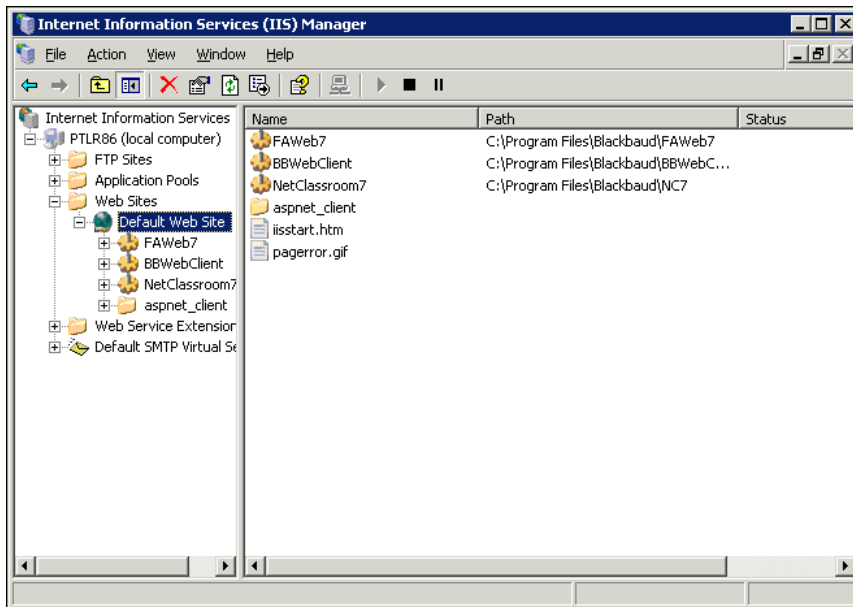
If the Anonymous User does not appear in the BBNETCLASSROOMGROUP user group, it may have been changed or deleted. Determine the current Anonymous User account, then add the user to the BBNETCLASSROOMGROUP.

► **Determining the account used when a user logs into the Web server as an Anonymous User on Windows Server 2003**

1. From the Control Panel, select **Administrative Tools, Internet Information Services (IIS) Manager**. The Internet Information Services (IIS) Manager screen appears.

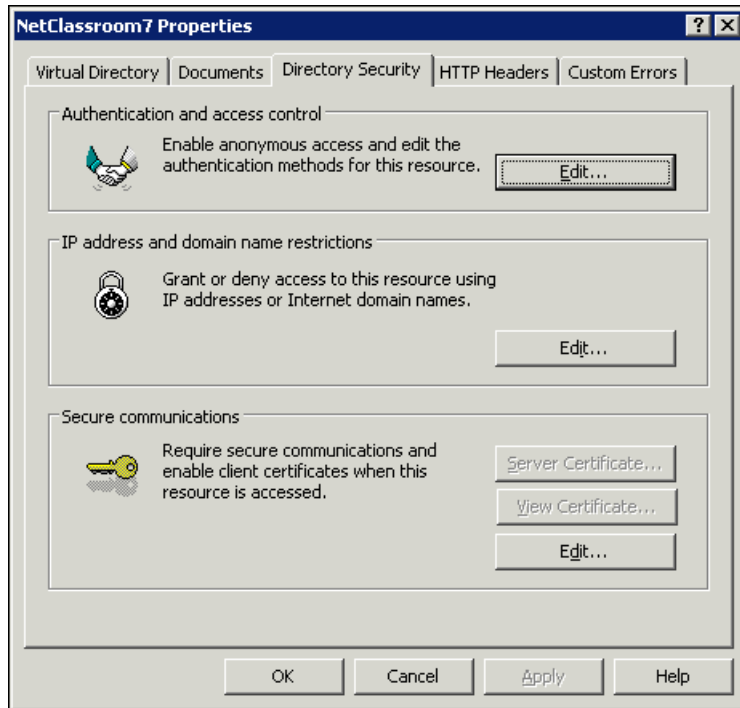


2. In the tree view on the left, click the plus sign beside the server name, then beside **Web Sites**, and then select **Default Web Site**.

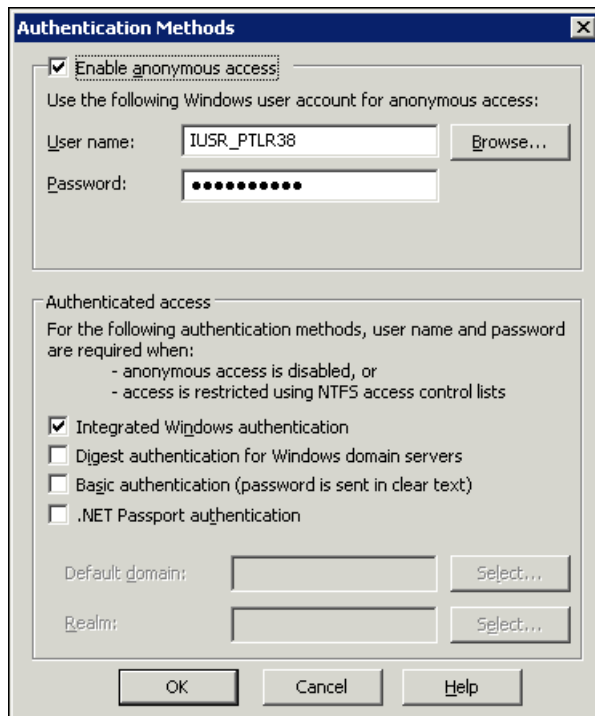


3. Right-click the NetClassroom7 folder and select **Properties**. The NetClassroom7 Properties screen appears.

4. Select the Directory Security tab.



5. In the **Authentication and access control** frame, click **Edit**. The Authentication Methods screen appears.



6. If you allow anonymous access, you should have already marked **Enable anonymous access**. (*NetClassroom* setup marks this by default.)
7. The *Windows 2003* User Account currently selected as the Anonymous User appears in the **User name** field. By default, IIS sets the anonymous user account to IUSR_<WebServer>, where <WebServer> is the computer name of your Web server.

Windows Server 2003 Notes

Before using *Windows Server 2003*, review this section about how *Windows Server 2003* affects *NetClassroom*.

Security Configuration for Internet Explorer. When you attempt to access *NetClassroom* from the *Windows Server 2003* machine, you may receive a message screen stating that content is blocked by the Internet Explorer Enhanced Security Configuration. To resolve this, you need to add the site as a trusted site. On the message screen, click **Add**. Once you are logged into *NetClassroom*, exit *NetClassroom*. Then log in again to ensure that *NetClassroom* displays correctly.

Updating a server machine to Windows Server 2003 with NetClassroom already installed. If you are updating a server machine to *Windows Server 2003*, you must first delete *NetClassroom*. After updating the machine to *Windows Server 2003*, you can reinstall *NetClassroom*.

Uninstalling NetClassroom on a Windows Server 2003 machine. If you are uninstalling *NetClassroom* on a *Windows Server 2003* machine, you may receive a message stating that the IIS Admin Service cannot be stopped and you should stop the IIS Admin Service and rerun Setup. If you receive this message, you need to manually stop the IIS Admin Services before trying to uninstall.

To stop the service, select **Start, Run** from the *Windows* taskbar. In the **Open** field, enter "NET STOP IISADMIN /Y" and click **OK**.

After the service stops, you can uninstall *NetClassroom*. When you complete the uninstall process, restart the IIS Admin Services.

Receive message that NetClassroom requires active server pages support. If you receive a message that active server pages support is required, you are not on the correct version of *NetClassroom*.

Also, you must allow active server pages in IIS. For more information, see "Additional Installation Steps for Windows Server 2003" on page 30.

Updates

For information about updating *NetClassroom* to the latest version, see *The Education Edge Update Guide* for the latest release.

Web Terminology

This section provides an overview of standard Web terminology you may encounter.

ASP. Active Server Page, a specification for a dynamically-created Web page with an *.asp extension that contains either Visual Basic or JavaScript code. When a browser requests an ASP page, the Web server generates a page with HTML code and sends it back to the browser.

Cache. Cache is computer memory with a very short access time. A computer uses it to store frequently used instructions or data. Most Web browsers have a cache setting that stores recently used objects (such as Web pages) for quick viewing. This cache is used primarily for the browser's **Back** button or on websites with the same images on multiple pages.

DMZ. Demilitarized zone, a computer host or small network inserted as a "neutral zone" between a company's private network and the outside public network. It prevents outside users from getting direct access to a server that has company data.

Domain. A group of computers and devices on a network.

Domain name. A name that identifies one or more computers on the network. Domain names are used in Web addresses (see URL). For example, blackbaud.com is the domain name of our Web server located at www.blackbaud.com.

Encryption. The translation of data into a secret code. Encryption is the most effective way to achieve data security.

FAT. File Allocation Table, the table used by an operating system to locate files on a disk.

Firewall. A system designed to prevent unauthorized access to or from a private network. Firewalls can be implemented in both hardware and software or a combination of both. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks, especially intranets, connected to the Internet. All messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

FTP. File Transfer Protocol, the protocol used on the Internet for sending files from one computer to another.

HTML. Hypertext Markup Language, the authoring language used to create documents on the World Wide Web.

HTTP. Hypertext Transfer Protocol, a set of standards that allows Web browsers and Web servers to exchange data. The “http” part of a Web address lets the browser know that the content to follow is HTTP-compatible.

IE. *Internet Explorer*, Microsoft’s Web browser you use to view Web pages. IE is a “graphical browser,” which means it can display graphics as well as text. It can present multimedia information, including sound and video.

IIS. *Internet Information Services*, Microsoft’s software that turns regular *Windows* servers into Web servers. IIS 6.0 comes bundled with *Windows Server 2003*. Because IIS is tightly integrated with the operating system, it is relatively easy to administer.

Internet. A global network connecting millions of computers.

Internet Service Provider. See ISP.

Intranet. A network within an organization accessible only by the organization’s members, employees, or others with authorization.

IP address. An identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255. An example of an IP address is 172.20.0.0.

IPX. Internetwork Packet Exchange, a networking protocol used primarily by the Novell *NetWare* operating systems.

ISP. Internet Service Provider, a company that provides access to the Internet.

LAN. Local area network, a computer network that spans a small area, such as a single building or group of buildings.

NetBIOS. Network Basic Input Output System, an application programming interface (API) that augments the DOS BIOS by adding special functions for local area networks (LANs). Almost all LANs for PCs are based on the NetBIOS. Some LAN manufacturers have extended the NetBIOS, adding additional network capabilities.

NTFS. NT File System, a system *Windows 2003* can use to help keep track of the files on a computer. NTFS provides more security control for the file system than FAT.

Protocol. An agreed-upon format for transmitting data between two devices. The protocol determines:

- The type of error checking used.
- Data compression method (if any).
- How the sending device indicates it has finished sending a message.
- How the receiving device indicates it has received a message.

SMTP. Simple Mail Transfer Protocol, a protocol for sending email messages between servers. Most email systems that send mail over the Internet use SMTP to send messages from one server to another.

SSL. Secure Sockets Layer, a protocol for transmitting private documents via the Internet that encrypts data. Conventionally, URLs that require an SSL connection start with https: instead of http:.

TCP/IP. Transmission Control Protocol/Internet Protocol, the suite of communications protocols used to connect hosts on the Internet. TCP/IP uses several protocols, primarily TCP and IP. TCP deals with how data is broken down for transmission. IP dictates how packets of information are sent. TCP/IP is the standard for transmitting data over networks. Even network operation systems with their own protocols, such as *NetWare*, support TCP/IP.

Topology. Geometric arrangement of devices on a network, such as in a ring or straight line.

URL. Uniform Resource Locator, the global address of documents and other resources on the World Wide Web. For example, the URL of our website is <http://www.blackbaud.com>.

User name. A name used to gain access to a computer system. User names, and often passwords, are required in multi-user systems. In most such systems, users can select their own user names and passwords.

Virtual directory. A directory name used in an address that corresponds to a physical directory on a Web server.

WAN. Wide-area network, a computer network that spans a large area. Usually a system of multiple Local Area Networks connected via public systems, such as telephone lines or satellites. The Internet is the largest existing wide-area network.

Web browser. A software application used to locate and display Web pages. For example, Microsoft's *Internet Explorer* and Mozilla's *Firefox* are Web browsers.

Web server. A computer that delivers (serves up) Web pages. Every Web server has an IP address and possibly a domain name. Any computer can be turned into a Web server by installing Web server software and connecting the computer to the Internet.

WWW. World Wide Web, a system of Internet servers that support specially formatted documents. The documents are formatted in a language called HTML (Hypertext Markup Language) that supports links to other documents, graphics, audio, and video files. Not all Internet servers are part of the World Wide Web.

Index



A

- access privileges 16
- active server page, *see* ASP
- anonymous user
 - determining accounts used 35
 - security 24
 - setting access permissions 25
 - setting security rights 30
 - troubleshooting problems 34
- ASP
 - defined 37
 - support 37
- ASP.NET 8

C

- cache, defined 37
- CD-ROM drive, requirement for installing *NetClassroom* 8
- checklist for implementing *NetClassroom* 3

D

- databases, running multiple in *The Education Edge* 15
- demilitarized zone, *see* DMZ
- designating a database for *NetClassroom* 15
- determining accounts for anonymous access 35
- disabling anonymous access permissions 25
- DMZ, defined 37
- domain name, defined 37
- domain, defined 37

E

- Education Edge, The*
 - installing client components 8
 - linking to *NetClassroom* 15
- encrypted, defined 38

F

- Faculty Access for the Web*
 - assignments 4

- integrating with *NetClassroom* 2
- failed login 33
- FAT, defined 38
- file allocation table, *see* FAT
- file transfer protocol *see* FTP
- firewall
 - defined 38
 - network security 10
 - opening a pinhole 10
 - packet filtering 10
 - requirements for installing *NetClassroom* 8
- FTP, defined 38

G

- getting help 32
- glossary 37

H

- hardware requirement 8
- HTML, defined 38
- HTTP, defined 38
- hypertext markup language, *see* HTML
- hypertext transfer protocol, *see* HTTP

I

- IE
 - defined 38
 - security 37
- IIS
 - anonymous users 35
 - defined 38
- implementation checklist 3
- installing *NetClassroom*
 - additional steps 30
 - CD-ROM drives 8
 - considerations before installation 8
 - firewalls 8
 - hardware requirements 8
 - internet connections 9
 - LANS 8
 - local drives 9
 - login attempts, limiting 9
 - network security 9

- on web server 10
- TCP/IP 9
- WANs 8
- web servers 8, 9
- integrating *NetClassroom* with *Faculty Access for the Web 2*
- internet
 - connections for installing *NetClassroom* 9
 - defined 38
 - network security 9, 10
 - packet filtering 10
- Internet Explorer*, see IE
- Internet Information Services*, see IIS
- internet protocol, see TCP/IP
- internet service provider see ISP
- internetwork packet exchange, see IPX
- intranet
 - defined 38
 - network security 10
- IP address, defined 38
- IPX, defined 38
- ISP, defined 38

L

- LAN
 - defined 38
 - requirements for installing *NetClassroom* 8
- limiting login attempts 9
- linking *NetClassroom* to an **Education Edge** database 15
- local area network, see LAN
- local drive, requirements for installing *NetClassroom* 9
- logging into *NetClassroom*
 - login attempts, limiting 9
 - login errors 32
- login error 32

M

- Microsoft *Internet Explorer* 9
- Mozilla *Firefox* 9

N

- netBIOS, defined 38
- network security
 - firewalls 10
 - internet 10
 - intranet 10
 - overview 9
 - pinholes, opening 10
 - SSL 10
- NT file system, see NTFS

- NTFS, defined 38

O

- opening pinholes in firewalls 10

P

- packet filtering 10
- privileges, defining 16
- protocol, defined 38

R

Registrar's Office

- generating user IDs and passwords 4
- setting up *NetClassroom* 3
- requirement for installing *NetClassroom*
 - CD-ROM drives 8
 - firewalls 8
 - hardware 8
 - internet connections 9
 - LANs 8
 - local drives 9
 - login attempts, limiting 9
 - TCP/IP 9
 - WANs 8
 - web servers 8, 9
- running multiple **Education Edge** databases 15

S

- sample information sheet for users 5
- secure sockets layer, see SSL
- security
 - anonymous users 24
 - configuring for Internet Explorer 37
 - considerations before installing *NetClassroom* 8
 - firewalls 10
 - internet 10
 - intranets 10
 - on networks 9
 - privileges, setting up 16
 - rights for anonymous users 30
 - setting up 24
 - Windows Server 2008* 18
- server
 - Windows Server 2008* 18
- servers, updating 37
- session time limit, changing
 - Web.config file 31
- setting up
 - security
 - Windows Server 2008* 18

simple mail transfer protocol, *see* SMTP

SMTP, defined 38

solving problems 37

anonymous users 34

failed logins 33

login errors 32

overview 32

SSL

defined 38

network security 10

T

TCP/IP

defined 39

requirements for installing *NetClassroom* 9

term 37

time limit for session, changing

Web.config file 31

topology, defined 39

transmission control protocol, *see* TCP/IP

troubleshooting 37

anonymous users 34

ASP support 37

failed logins 33

login errors 32

overview 32

tutorials for requests and enrollment 5

U

uniform resource locator, *see* URL

uninstalling *NetClassroom* 37

updating

NetClassroom 37

servers 37

URL, defined 39

user access permission, anonymous 25

user name, defined 39

using

packet filtering 10

SSL 10

V

virtual directory, defined 39

W

WAN

defined 39

requirements for installing *NetClassroom* 8

web browser, defined 39

web server

defined 39

installing *NetClassroom* 10

NetClassroom

requirements for installing 8, 9

packet filtering 10

security privileges, setting up 16

Windows Server 2008 18

Web service extensions 31

web terminology 37

Web.config file, changing session timeout 31

wide area network, *see* WAN

Windows Authentication, using with *NetClassroom*

16

Windows Server 2003

anonymous users

enabling access rights 30

ASP support 37

security, setting up 24

servers, updating 37

troubleshooting 37

uninstalling *NetClassroom* 37

Windows Server 2008, setting up security 18

world wide web, *see* WWW

WWW, defined 39

