



Studio Enterprise™

Installation & Configuration Guide

Bluebeam® Studio Enterprise (“Software”)

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Introduction

This guide covers the installation of Bluebeam® Studio Enterprise. This server enables you to store your Studio Projects as well as host your Bluebeam online collaboration Sessions on your own local server.

Before installing Bluebeam Studio Enterprise, you will need to have several prerequisites in place. This document will show you how to install and configure these prerequisites for your Studio Enterprise installation.

The next sections of this document will guide you through the Bluebeam Studio Enterprise installation process and usage of the Studio Enterprise management tools.

System and Hardware Requirements

This section covers the minimum system and hardware requirements for Bluebeam Studio Enterprise.

Supported Operating Systems

Bluebeam Studio Enterprise is supported on the following Operating Systems:

- Microsoft Windows Server 2012 R2 64-bit
- Microsoft Windows Server 2012 64-bit
- Microsoft Windows Server 2008 R2 64-bit
- Microsoft Windows 7 SP1 64-bit (for evaluation only; not to be used in a Production environment)

Microsoft SQL Server

Bluebeam Studio Enterprise is compatible with the following SQL Server Database Management Systems:

- Microsoft SQL Server 2012
- Microsoft SQL Server 2012 Express
- Microsoft SQL Server 2008 R2
- Microsoft SQL Server 2008 R2 Express

If SQL Server is not yet installed in your environment, please see ["Installing a New Instance of SQL Server"](#) on page 8.

If SQL Server is already installed, please see ["Configuring an Existing Instance of SQL Server"](#) on page 12.

Microsoft .NET Framework 4.5

Bluebeam Studio Enterprise requires the installation of Microsoft .NET Framework 4.5.

Microsoft Internet Information Services (IIS)

Bluebeam Studio Enterprise is compatible with the following versions of IIS:

- IIS 8.5
- IIS 8

- IIS 7.5
- IIS 7

Microsoft Message Queue (MSMQ)

Bluebeam Studio Enterprise requires the installation of MSMQ.

SMTP Email Server

Bluebeam Studio Enterprise requires access to an email account on a SMTP server that will be used to send email Session invitations and other communications to Session hosts and attendees. Studio Enterprise requires the following information:

- SMTP Email server address
- SMTP Email server's outgoing port
- Email address for Studio Enterprise
- Password for the email account
- The reply-to email address for email sent from the Studio Enterprise

Firewall Configuration

Firewall settings for both Studio Enterprise and the Bluebeam Revu clients need to be configured to ensure proper connectivity to one another. The Studio Enterprise requires the following firewall settings to be configured:

- SQL Server¹
- SMTP Email Server¹
- HTTPS on IIS²
- Network Discovery to confirm that other machines can access it²
- The *Bluebeam.Studio.Service.exe* listens in on port 7398 and opens connections on other ports; therefore, it must be a trusted program in your firewall configuration²

Certificate Requirements and Deployment

Bluebeam Studio Enterprise and Revu clients use SSL certificate-based authentication to encrypt the data connection. All Revu clients are required to have a certificate installed that allows them to authenticate Studio Enterprise. Likewise, Studio Enterprise requires that certificate to operate.

¹ Must be configured manually.

² Can be configured automatically if using Windows Firewall during the Studio Enterprise installation process.

Studio administrators can set up a domain or wildcard certificate to configure Studio Enterprise. The installation process allows Studio administrators to create a self-signed certificate on the fly. Once the certificate has been created, the certificate may be distributed to individual workstations either via Group Policy or manual installation.

Hardware Requirements

Hardware requirements are based on a number of factors, including the expected number of simultaneous Studio Sessions, the number and size of PDF files for Studio Sessions, the size and number of markups in Studio Sessions, and the size and number of Studio Projects. It is recommended that you consult with Bluebeam technical support if you would like assistance estimating the anticipated usage of Studio when defining hardware.

Processor

Bluebeam Studio Enterprise is supported on 64-bit architecture environments. For the best performance, it is recommended to run Studio Enterprise on at least a 64-bit dual core architecture or better.

RAM

For 64-bit architecture Operating Systems, at least 8 GB of RAM is recommended.

Disk Space

Since Bluebeam Studio Enterprise can be installed on one machine and the database installed on another machine, there are two sets of Disk Space requirements:

Database Disk Space Requirements

It is estimated that users will need at least 100 GB of disk space for the database; however, the disk space requirement depends on the size of the files and markups that occupy the database.

Studio Enterprise Disk Space Requirements

It is recommended that the machine that Studio Enterprise is installed on has at least 100 GB of space available.

Network

Network connections tend to be the main bottleneck impacting Bluebeam Studio's performance. It is recommended that the server running Bluebeam Studio Enterprise be connected via a gigabit network.

Installing and Configuring the Prerequisites

Configuring Microsoft SQL Server

The Microsoft SQL Server requirements for the Bluebeam Studio Enterprise are summarized below:

- Bluebeam Studio Enterprise requires a SQL Server account with the following permissions:
 - Create Databases
 - Create/Drop Tables
 - Create/Drop Indexes
 - Create/Drop Foreign Key Constraints
 - Create/Retrieve/Update/Delete Records
- The SQL browser service must be enabled and configured properly if the database will be located on a different machine other than Bluebeam Studio Enterprise.

The remainder of this section describes the installation and configuration of a Microsoft SQL server 2008 R2. Other versions of SQL Server are supported; refer to Configuring Microsoft SQL Server for more details. For further details and reference related to the installation and configuration of SQL Server, refer to the appropriate Microsoft documentation available on the Microsoft website.

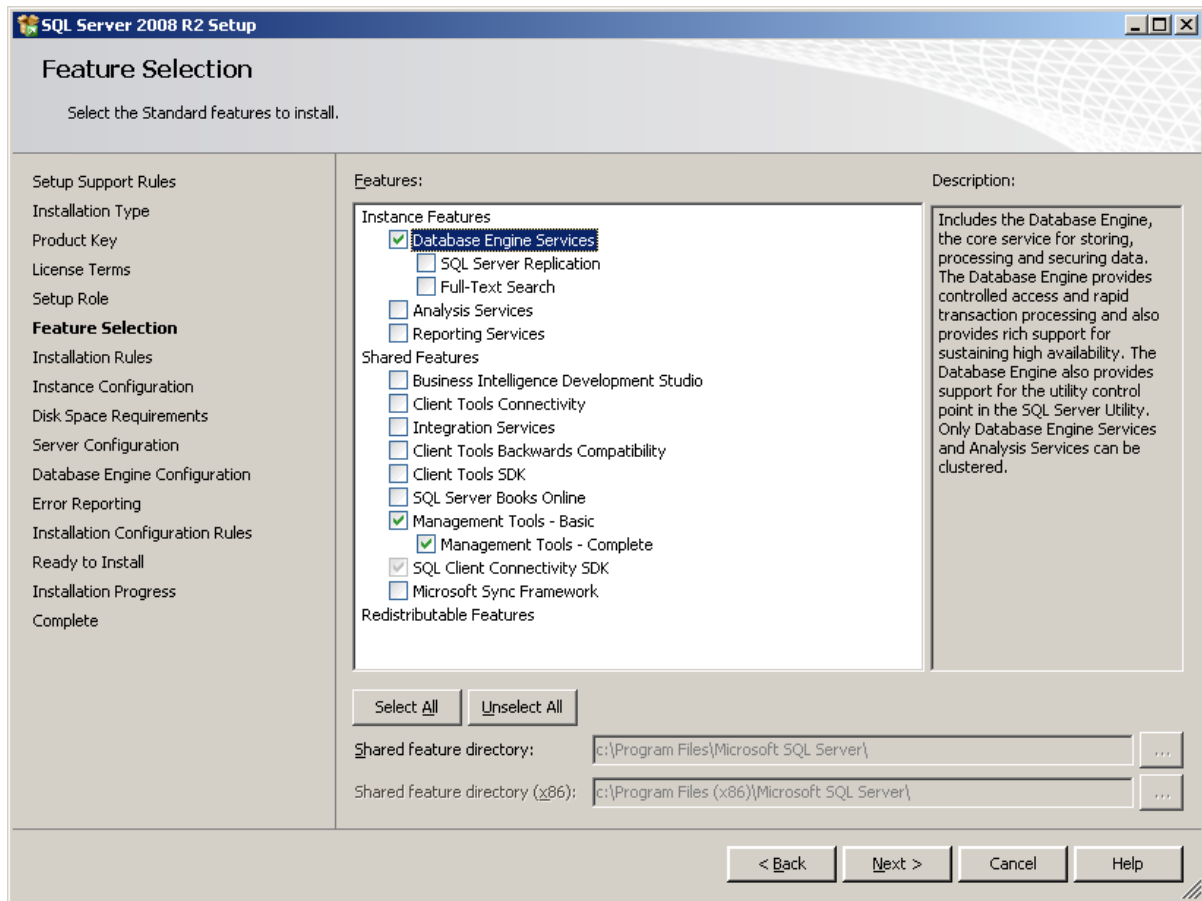
Installing a New Instance of SQL Server

When installing SQL Server for the first time, it is possible to configure it for Bluebeam Studio Enterprise by adhering to the following suggestions:

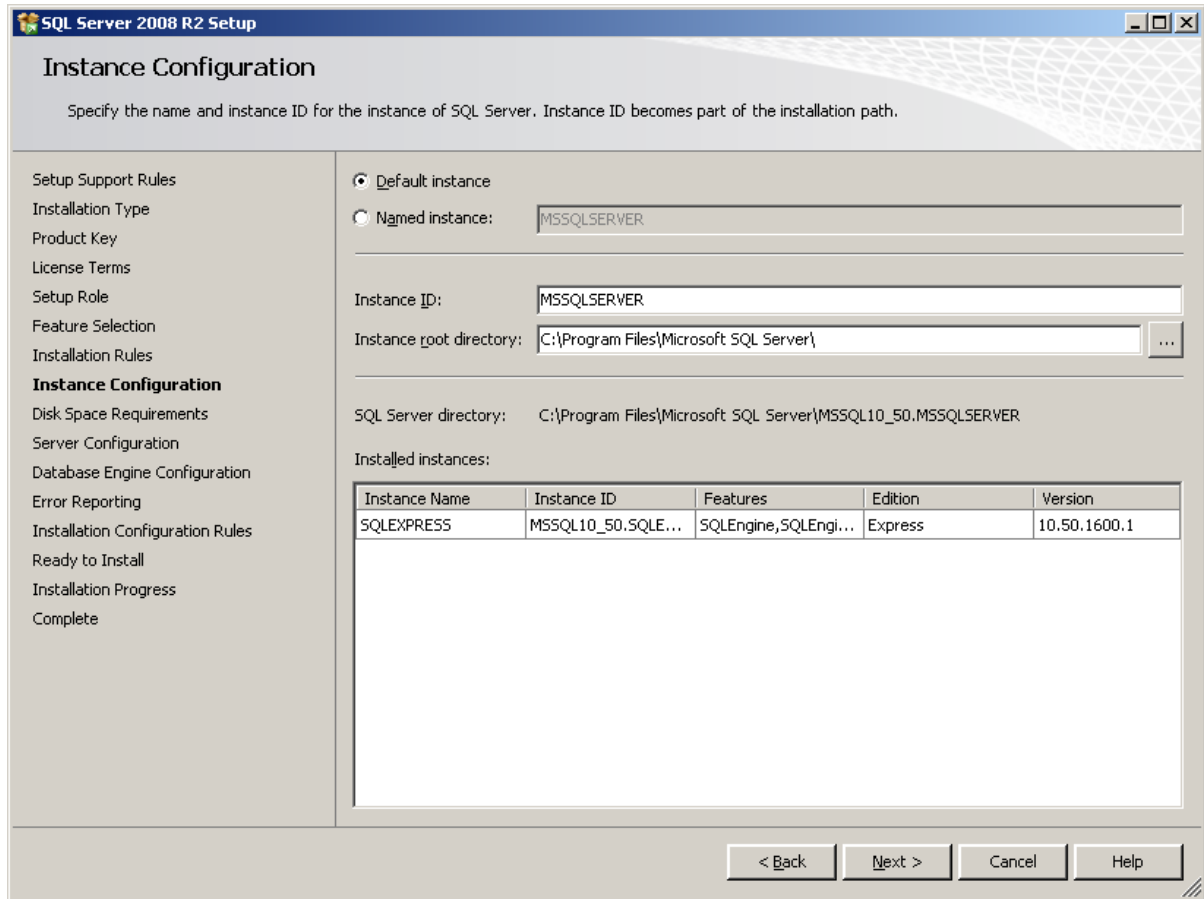
1. Load the SQL Server installer, click **Installation** on the left and then click **New installation or add features to an existing installation** on the right.



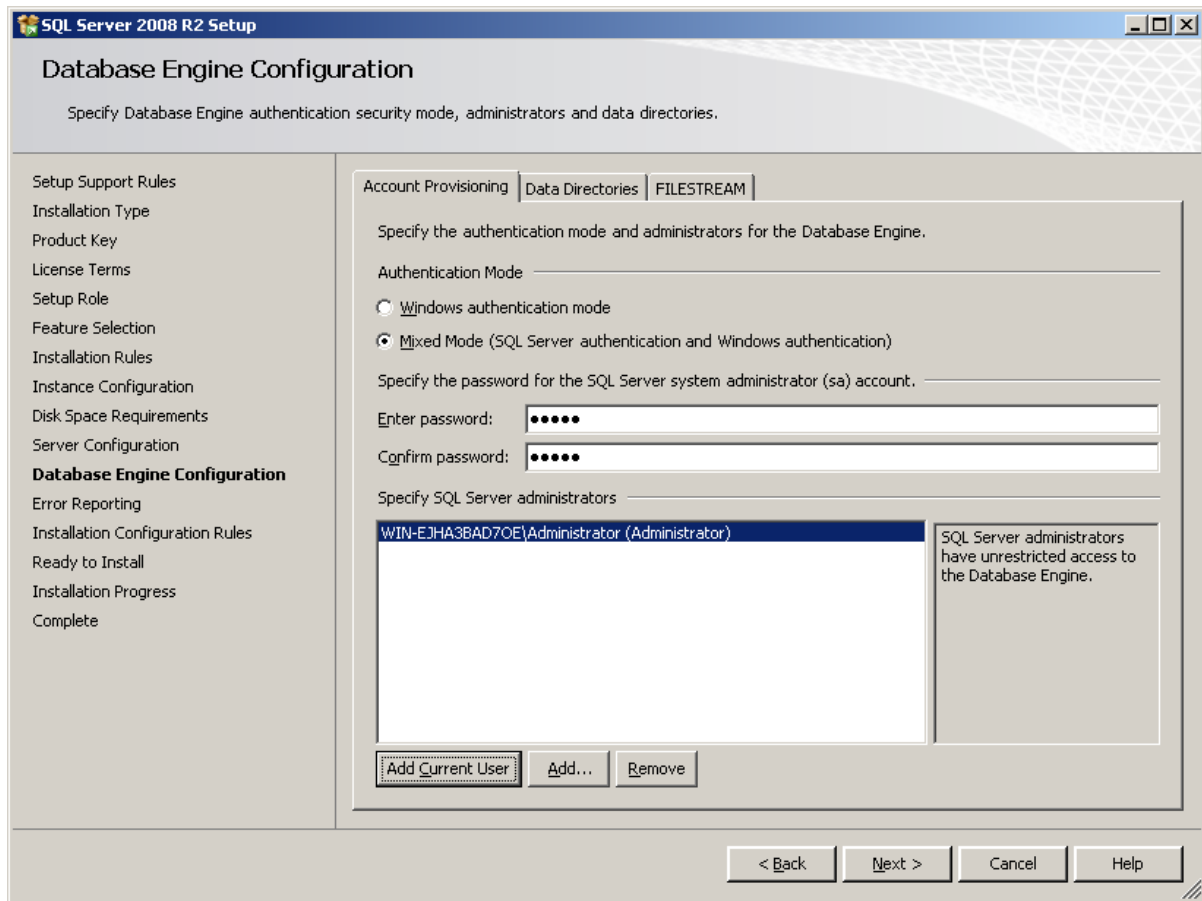
2. Follow the instructions on the install wizard until reaching the **Feature Selection** page. This page allows users to select the feature **Database Engine Services**—the primary module that runs the SQL Server. Users may also choose to install the **Management Tools**, which includes *SQL Server Management Studio*. Installing *SQL Server Management Studio* is not a requirement for Bluebeam Studio Enterprise, but it can prove to be a useful tool when administering a SQL Server database.



3. Continue through the wizard until reaching the **Instance Configuration** page. This page configures the SQL Server Instance name used to identify the database management system. If users choose **Default Instance**, then the installer will automatically specify the name **MSSQLSERVER**.



- Continue through the wizard until reaching the **Database Engine Configuration** page. This page configures the Authentication Mode. Make sure to select **Mixed Mode**. It will then ask users to specify a password for the “sa” user account. This page also requires that a Windows user account be specified for the SQL Server Administrator. The account specified will gain access to SQL Server using Windows Authentication.



5. Continue through with the rest of the installation. Keep track of the name of the machine hosting the server, the database instance name and the password for the “sa” account. These pieces of information will be requested during the Bluebeam Studio Enterprise installation process.

Configuring an Existing Instance of SQL Server

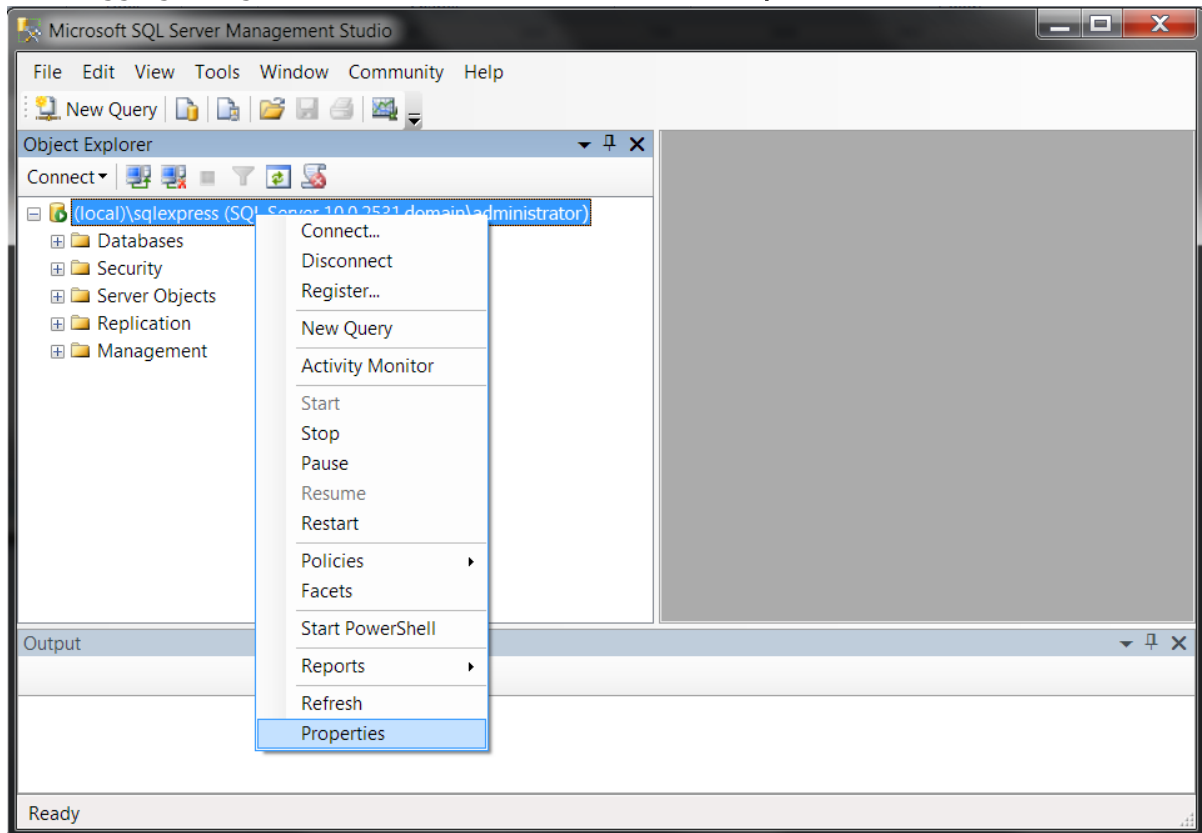
If SQL Server has already been installed, it will need to be configured so Bluebeam Studio Enterprise can connect to it. This section can be used as a guide to configure a SQL Server database that only uses Windows Authentication into one that uses Mixed Mode Authentication. If the state of SQL Server is unknown, this section can also be used to verify that SQL Server is configured properly for Bluebeam Studio Enterprise.

1. The best way to update SQL Server from an unknown state is to log in to the machine hosting it and connect with Windows Authentication¹.

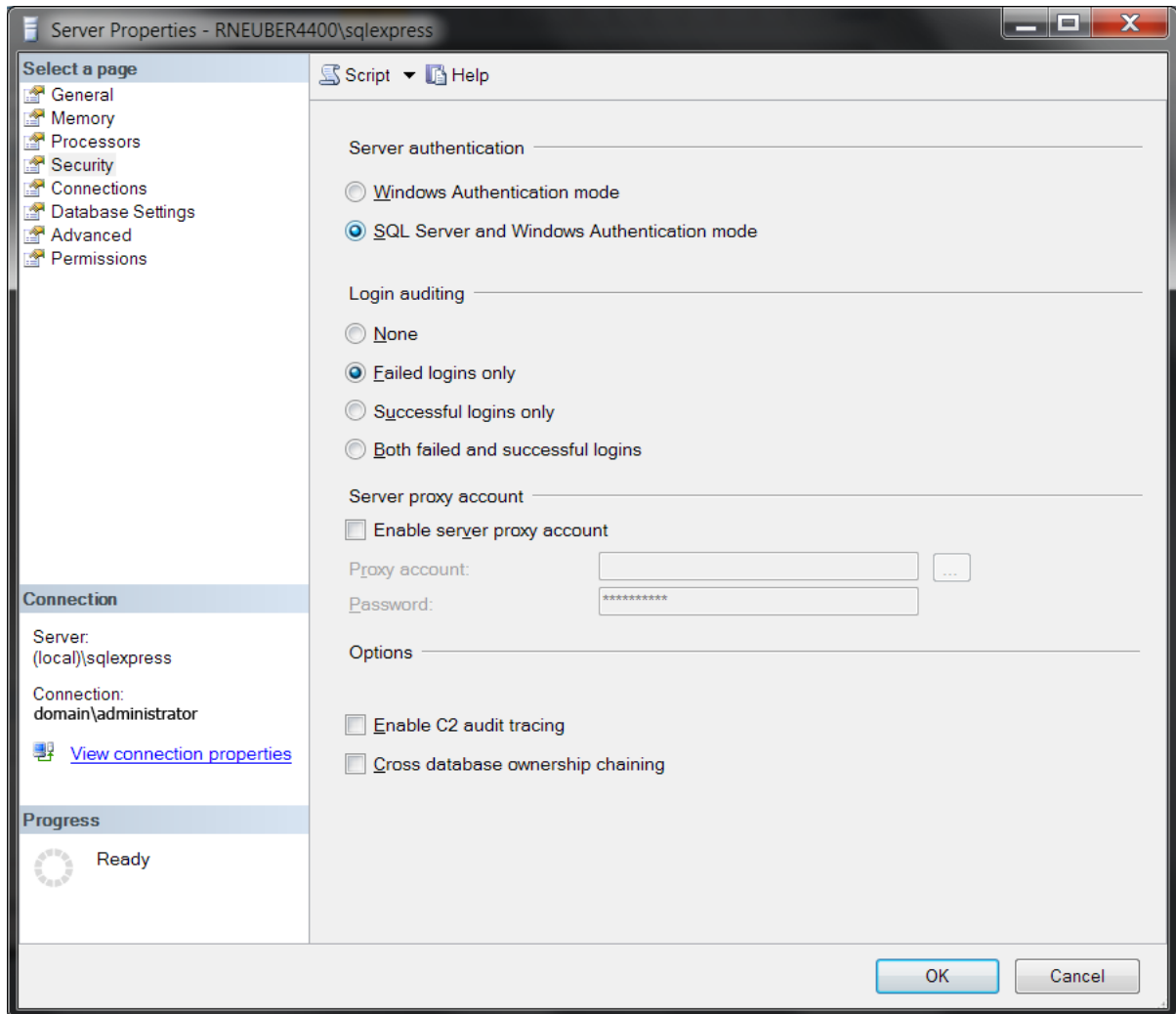
¹This may fail depending on the account used during SQL Server’s setup.



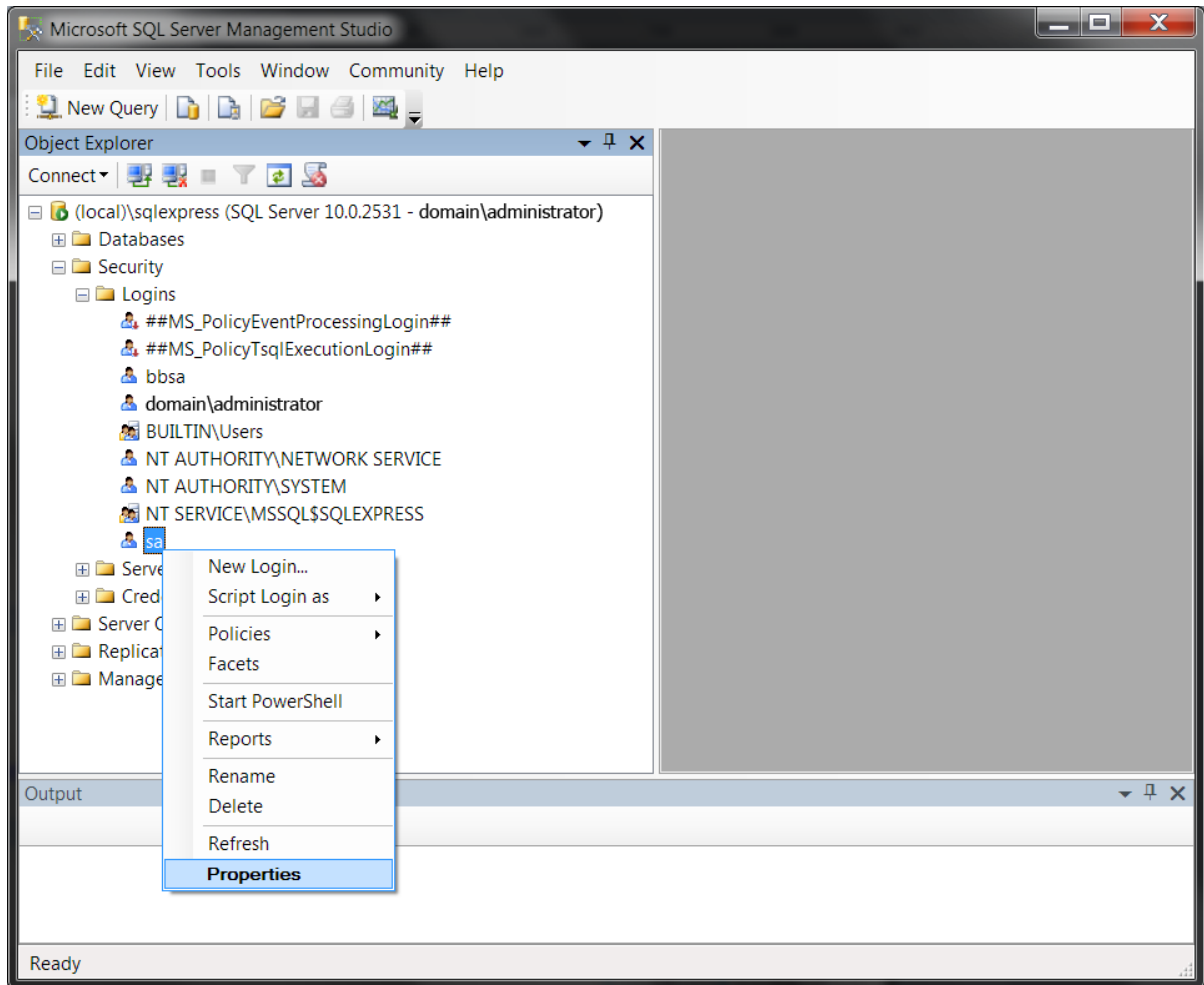
2. After logging in, right-click on the root node and select **Properties**.



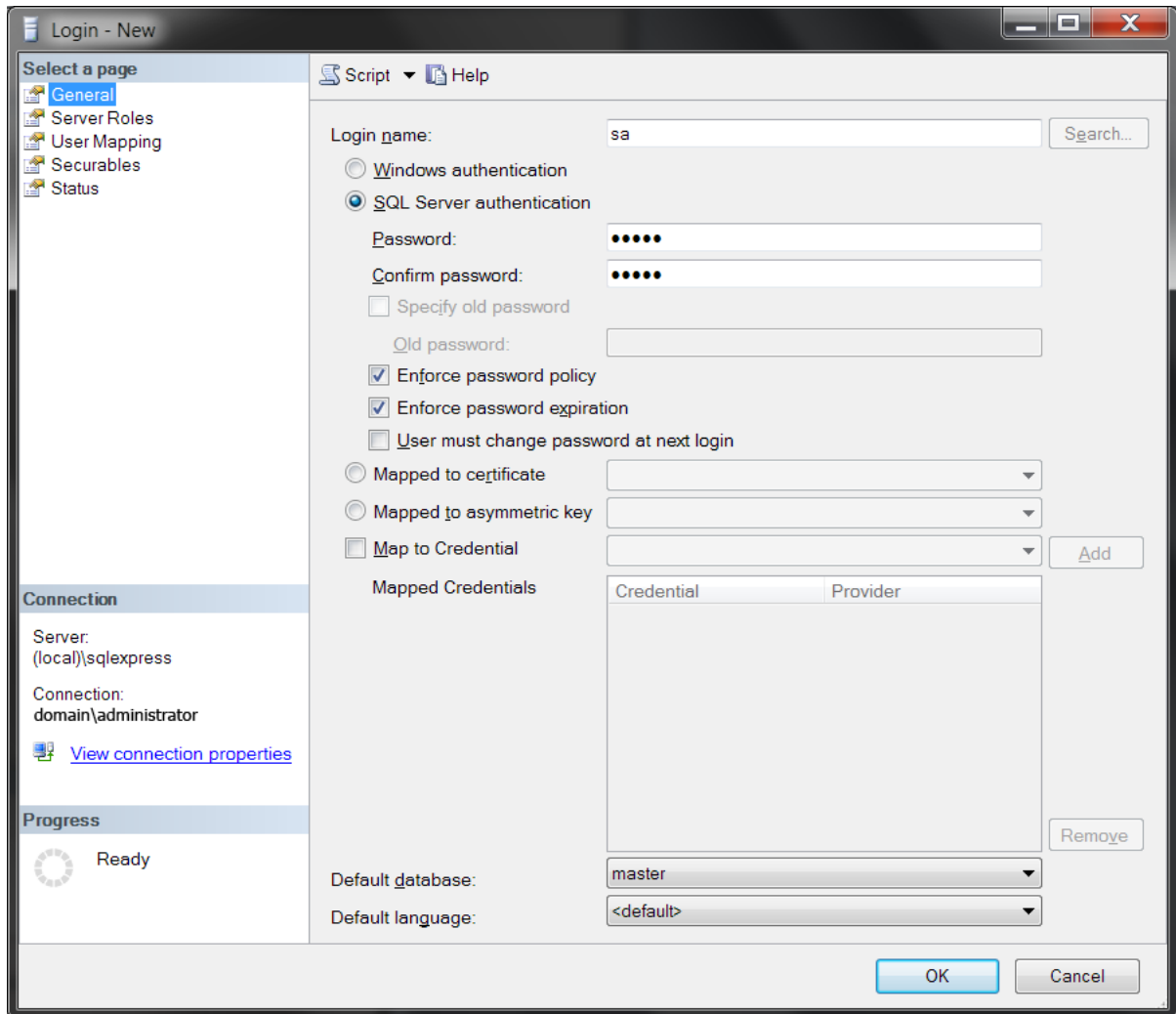
3. Select **SQL Server and Windows Authentication Mode** and click **OK**.



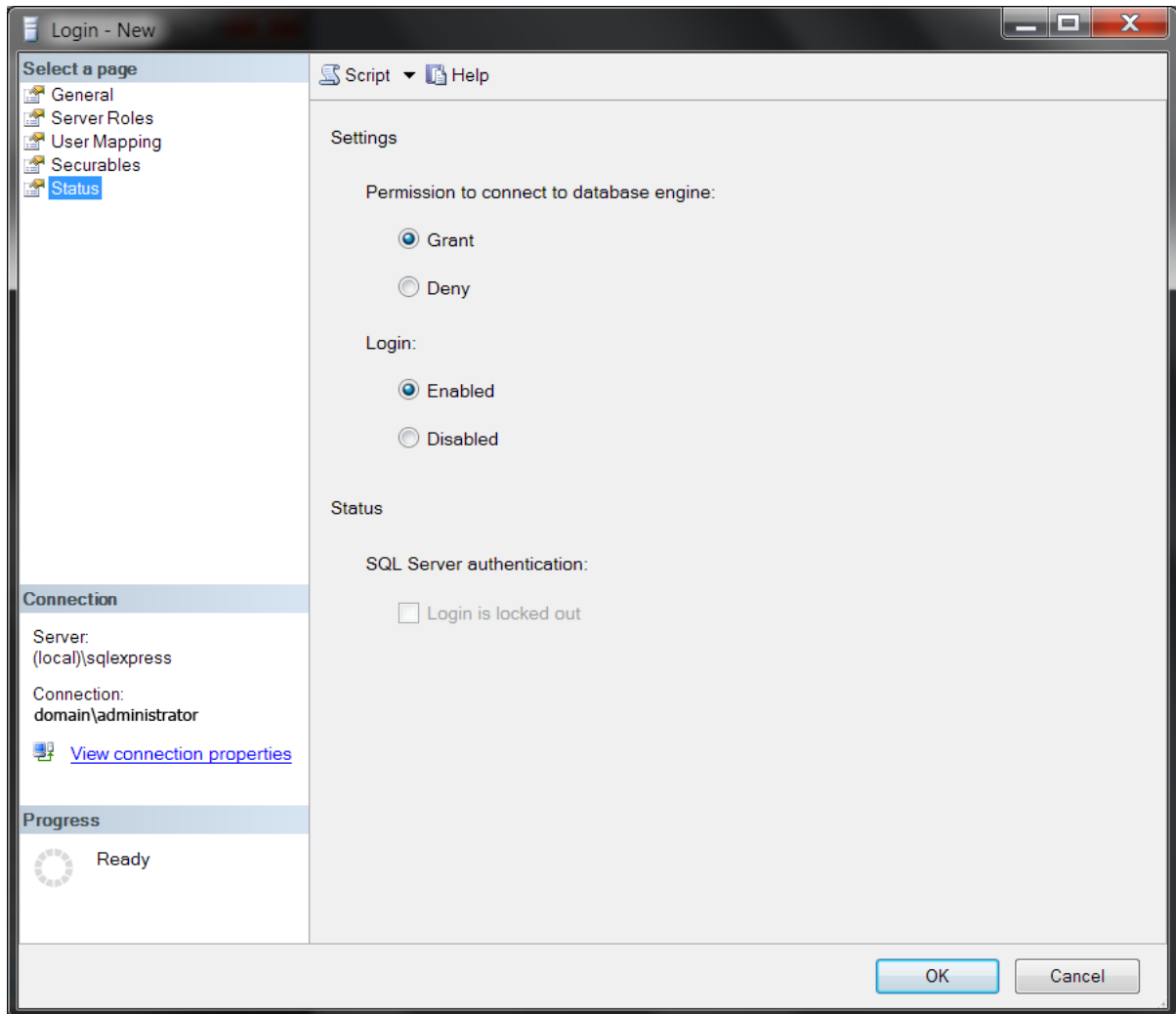
4. Right-click the “sa” account and select **Properties**.



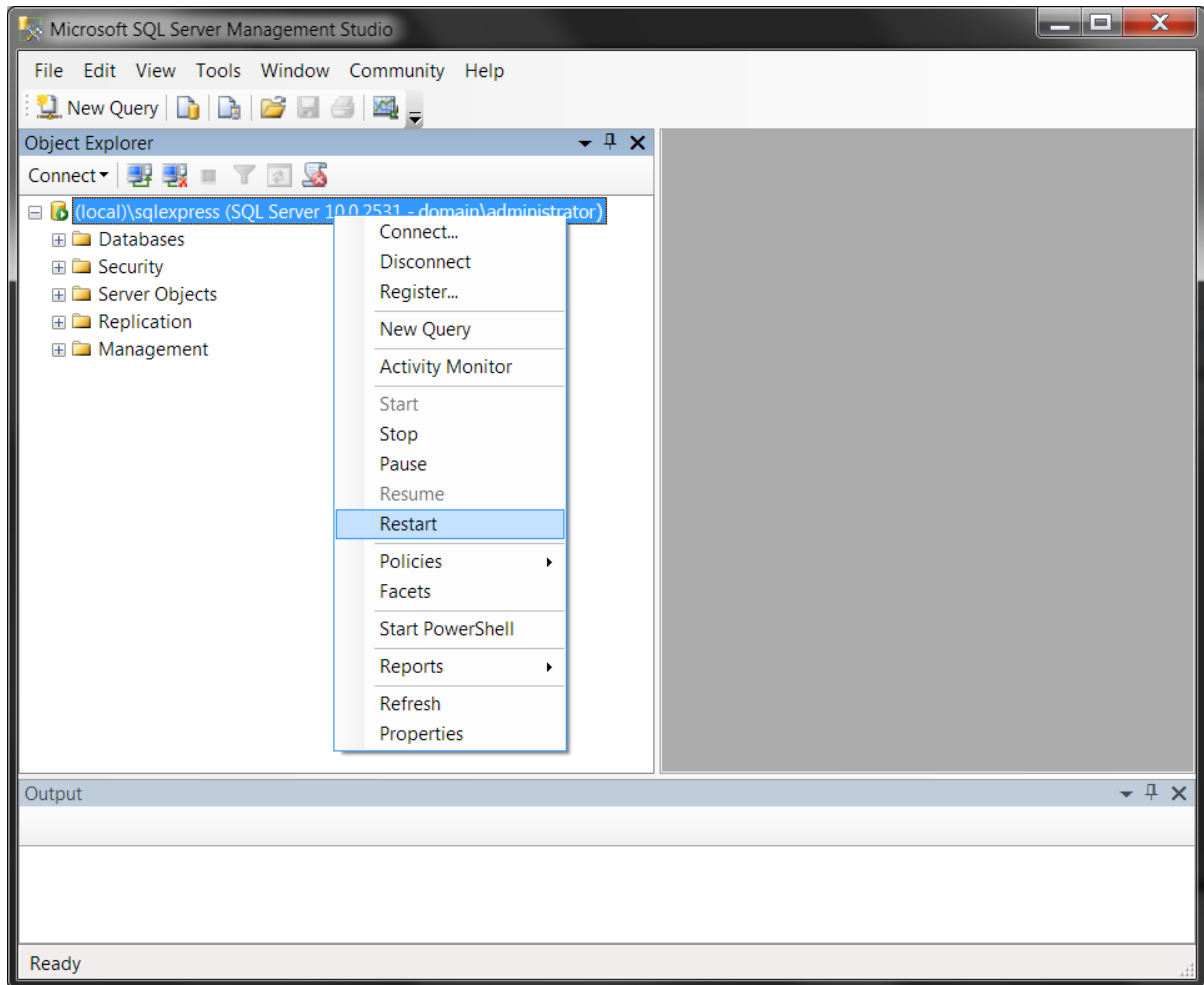
5. On the **General** page, select **SQL Server Authentication**. Update or reset the password for this account. Finally, make sure that a **Default database** is selected; don't leave it blank.



6. On the **Status** page, select the following **Settings**:
 - **Permission to connect to database engine=Grant**
 - **Login = Enabled**



7. Right-click root and select **Restart**.

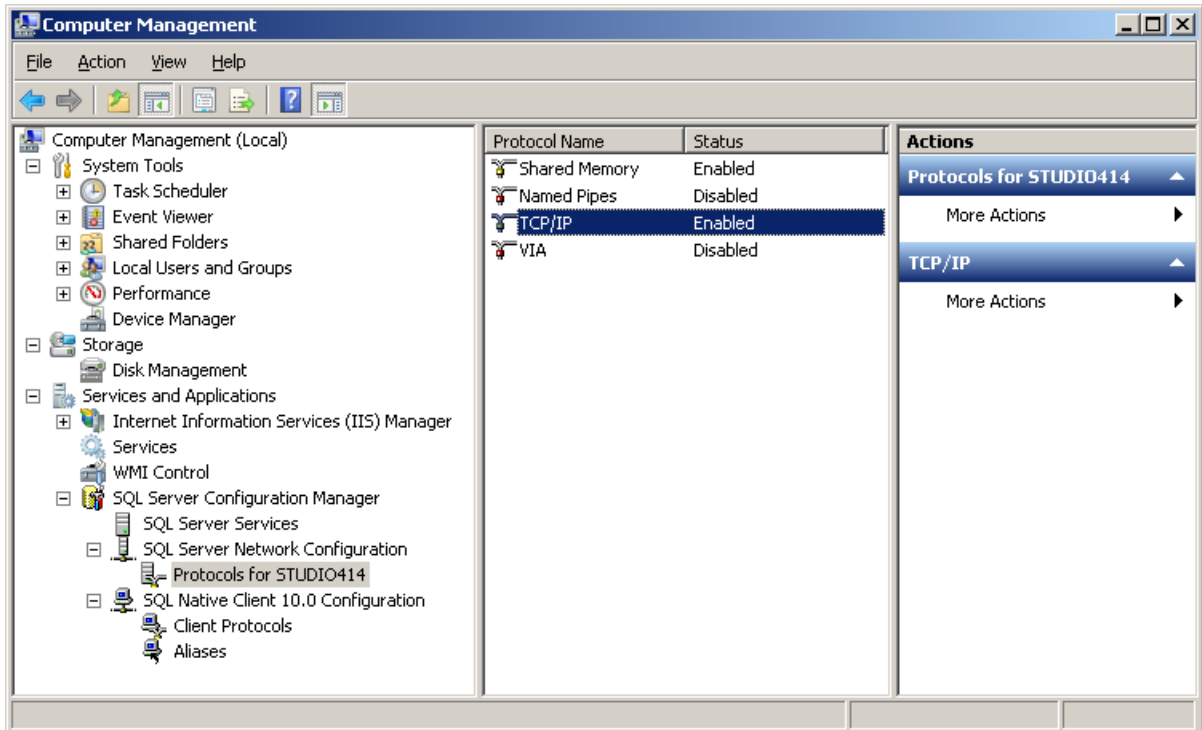


Once SQL Server restarts, administrators will be able to connect using SQL Server Authentication and the “sa” account. Try logging into SQL Server Management Studio using the “sa” account as a quick test to verify that it has been set up correctly.

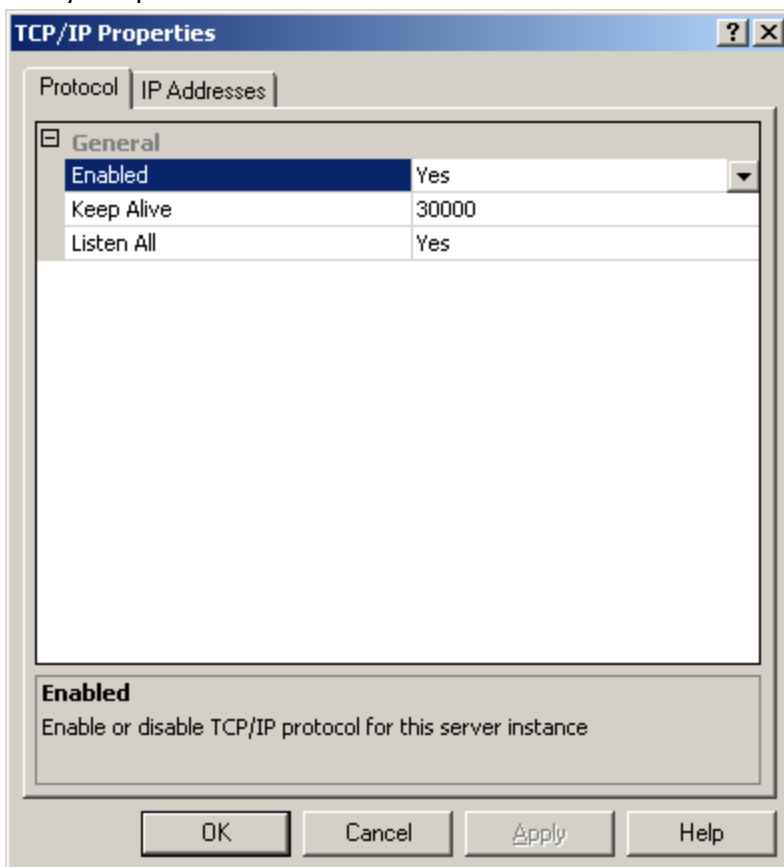
Configuring a SQL Server's Accessibility

Bluebeam Studio Enterprise and the SQL Server do not need to run on the same server hardware. It is possible to have a dedicated SQL Server machine and a separate dedicated Studio Enterprise machine. However, this configuration requires that SQL Server be configured to allow remote connections. The Windows tool *compmgmt.msc* can configure the SQL Server Browser to allow remote connections.

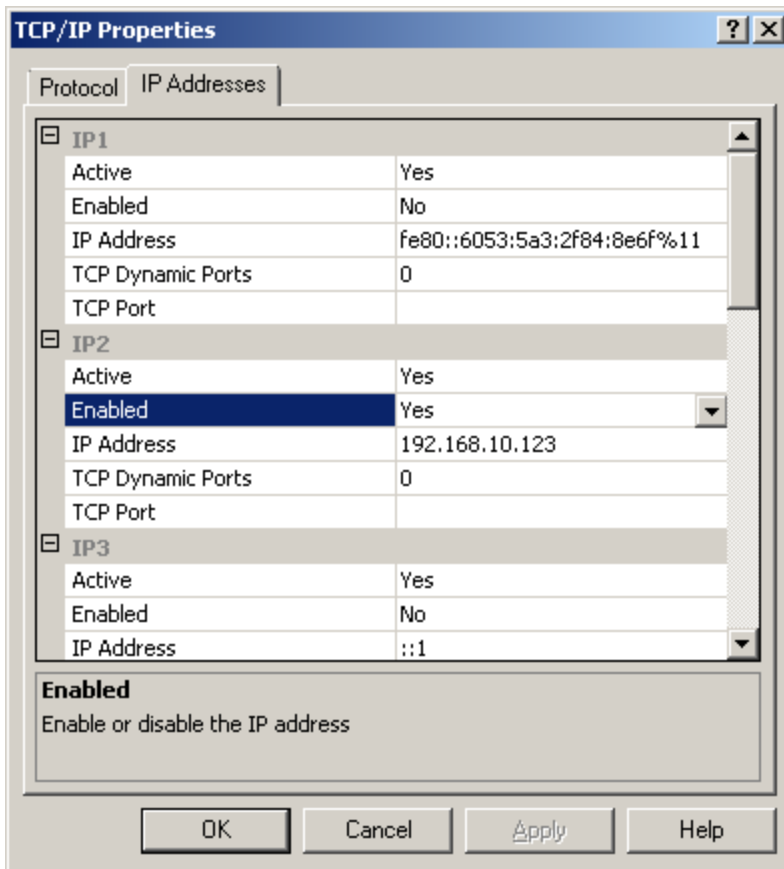
1. Run *compmgmt.msc*. The **Computer Management** tool appears.
2. Go to **Services and Applications > SQL Server Configuration Manager > SQL Server Network Configuration and Protocols** and double-click **TCP/IP**.



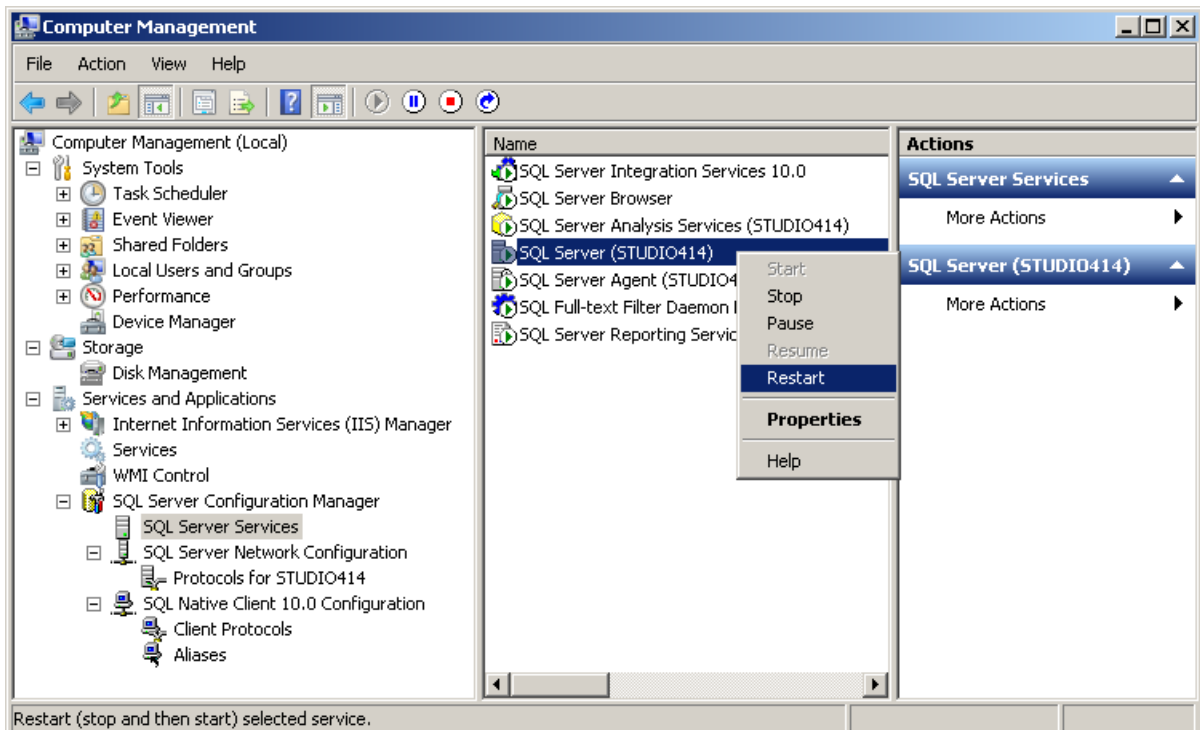
3. Verify the protocol is enabled.



4. Select the **IP Addresses** tab and enable at least one of the IP Addresses, then click **OK**.



- In the Computer Management tool, go to **Services and Applications > SQL Server Configuration Manager > SQL Server Services** and restart (right-click > **Restart**) the **SQL Server Browser** and **SQL Server** nodes.



Configuring the Firewall to Allow Remote Connections

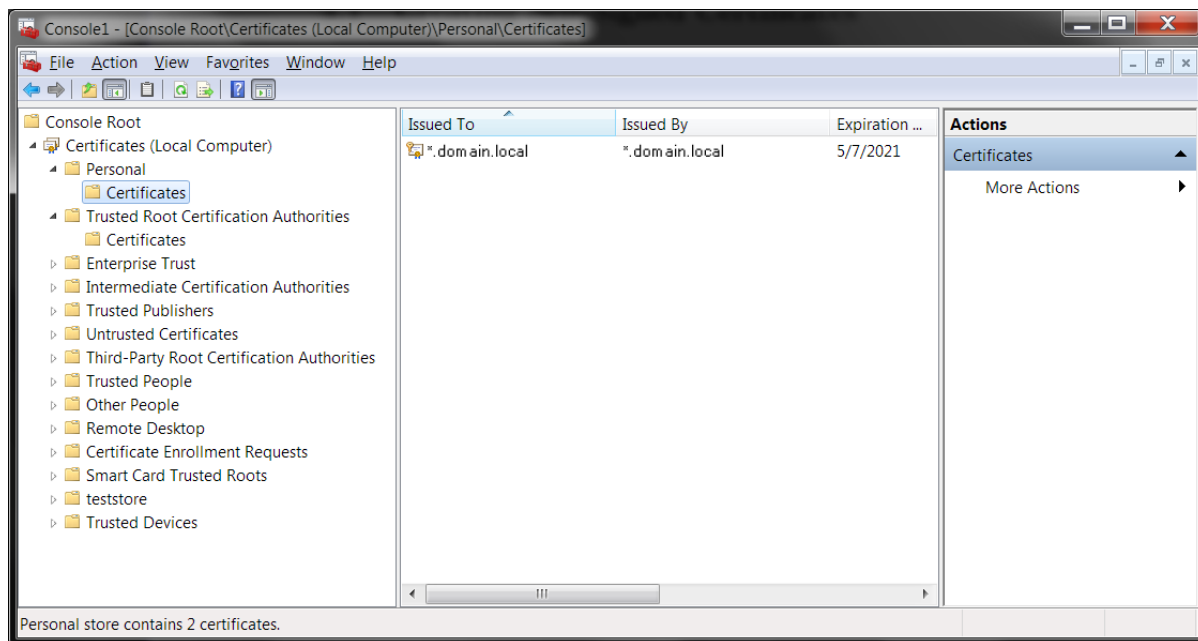
If using Windows Firewall, users must add an Inbound Rule in the Firewall Manager to trust SQL Server. By default, SQL Server is installed at `C:\Program Files\Microsoft SQL Server\MSSQL10_50.MSSQLSERVER\MSSQL\Binn\Sqlservr.exe`.

Certificate Requirements and Deployment

Bluebeam Studio Enterprise uses SSL to communicate securely with Bluebeam Revu clients. SSL uses certificate-based authentication, which requires that both the Studio Enterprise and the Revu client have access to the same certificate.

Using Existing, Self-Signed, Domain and Wildcard Certificates

If a certificate is obtained from a trusted certificate authority, install the certificate onto the Local Machine's **Personal** store for the Bluebeam Studio Enterprise to be able to access it. This can be accomplished with the **Microsoft Management Center** (*mmc.exe*). Once it has been installed, the Bluebeam Studio Enterprise installer will allow users to select it.



Deploying Certificate Through Group Policy

Please refer to the following external resources for a guide on deploying a self-signed certificate through user Group Policy. Microsoft provides an official method and additional resources, which are listed below for further assistance:

Microsoft Resources

<http://technet.microsoft.com/en-us/library/bb742376.aspx>

[http://technet.microsoft.com/en-us/library/cc770315\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc770315(WS.10).aspx)

<http://technet.microsoft.com/en-us/library/cc754841.aspx>

[http://technet.microsoft.com/en-us/library/cc733922\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc733922(WS.10).aspx)

[http://technet.microsoft.com/en-us/library/cc734054\(WS.10\).aspx](http://technet.microsoft.com/en-us/library/cc734054(WS.10).aspx)

Bluebeam Studio Enterprise

Studio administrators must prepare a SSL certificate and configure their SQL Server database, SMTP server and IIS prior to installing Studio Enterprise. This section covers the installation of Studio Enterprise and its administration. For additional configuration information of the software prerequisites, refer to this document's appendices.

Users upgrading Studio from a previous version must first uninstall the previous version using Programs and Features in the Control Panel. Failure to do so will result in an error message during the installation of the new version of Studio. Please note that only application files are removed; settings are preserved. It is recommended that you back up your database before upgrading.

Bluebeam Studio Installation Wizard

Running the Bluebeam Studio Enterprise installer will invoke the installation wizard.

If the following requirements are not present or not enabled, the installation wizard will install them for you:

- Microsoft .NET Framework 4.5

- Microsoft SQL Server 2012 Native Client 11

- Microsoft System CLR Types for Microsoft SQL Server 2012 (SQLSysClrTypes.msi)

- Microsoft SQL Server 2012 Transact-SQL ScriptDom

- Microsoft SQL Server 2012 Data-Tier Application Framework (dacframework.msi)

- Microsoft IIS

- Microsoft Message Queue (MSMQ)

If a Microsoft .NET Framework 4.5 installation is required, the installation wizard will download it from the Microsoft website. Please make sure that an Internet connection is available and that <http://www.microsoft.com> is a trusted site.

Bluebeam Studio Enterprise Configuration Wizard

There are two accounts that are used to install and run Bluebeam Studio Enterprise: a Setup Account and a Service Account. These accounts require certain configurations to successfully install and run the software.

Setup Account requirements:

- It must be a member of the following server roles:
 - dbcreator – to create and configure the database
 - securityadmin (during creation only) – to configure the Service Account to run stored procedures and gain access to the database
 - serveradmin – to enable CLR support on the database

Service Account requirements:

- It must be a member of the following user mappings:
 - BluebeamStudio
 - BluebeamCache
 - Both BluebeamStudio and BluebeamCache must have the following database roles:
 - db_datareader
 - db_datawriter
 - Additionally, the database BluebeamStudio must grant the explicit permission to execute stored procedures for the Service Account user. This can be done by running the following query against the user in SQL:

```
GRANT EXECUTE TO [DOMAIN\user]
GO
```

When installing Bluebeam Studio Enterprise, you will have the option to use either SQL authentication or Windows authentication.

- When **SQL authentication** is used, you can specify the Setup Account; the *LocalSystem* account is automatically used as the Service Account.
- When **Windows authentication** is used, you can specify the Service Account; the account currently logged into Windows is automatically used as the Setup Account (this account must meet the conditions for the Setup Account as specified above). In order for the Service Account to authenticate users seamlessly when Windows authentication is used, it must be registered to the following Service Principal Name:

BLUEBEAM/studio

This can be done manually from a powershell command prompt using the following command:

```
setspn -S BLUEBEAM/studio DOMAIN\SERVICEACCOUNTNAME
```

If you ever need to change the Service Account, you must first unregister the BLUEBEAM/studio SPN from DOMAIN\SERVICEACCOUNTNAME before registering the new Service Account.

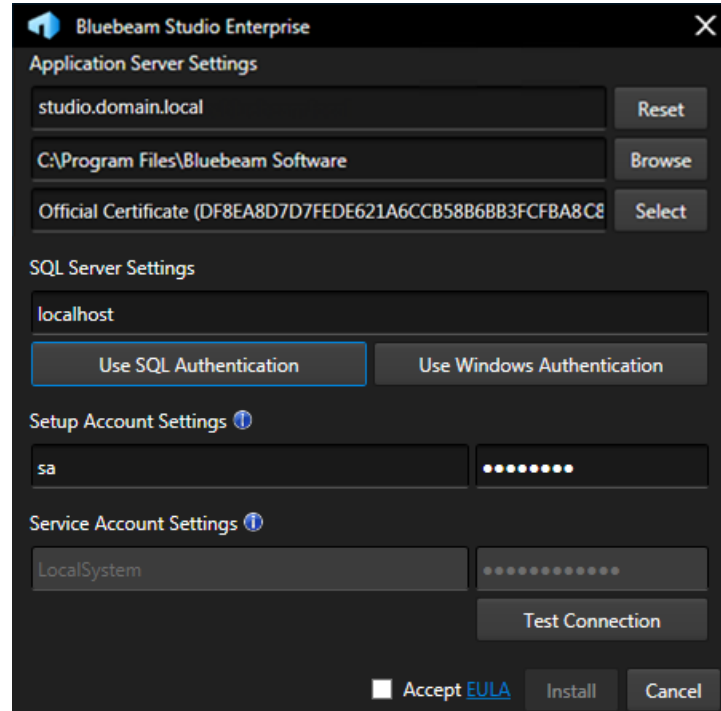
To install Bluebeam Studio Enterprise:

1. Run the Bluebeam Studio Installer. The **Bluebeam Studio Enterprise** installation wizard starts.
2. Select either **Use SQL Authentication** or **Use Win Authentication**, depending on which authentication method you prefer.

3. Under **Application Server Settings**, enter the following information:
 - The **Hostname or IP Address** of the Studio Enterprise server. Click **Reset** to populate this field with the computer name.
 - The **Path to the Local Installation Directory** for the Studio Enterprise application. This must be a local drive. Click **Browse** to navigate to and select a folder.
 - An **SSL Certificate** for the Studio Enterprise Server. This can be a self-signed certificate, if necessary, unless iPads are going to be used to access Studio Enterprise, in which case a 3rd party certificate is required. Click **Select** to choose from the certificates currently installed.

4. If **Use SQL Authentication** has been selected, enter the following under **SQL Server Settings**:

- The **SQL Server Hostname and Instance** for the SQL server that will be used with Studio Enterprise.
- The **SQL Server User Name** that Studio Enterprise will use as the Setup Account.
- The **Password** for the SQL Server User Name being used as the Setup Account.



5. If **Use Win Authentication** has been selected, enter the following under **Service Account Settings**:

- The **Windows Account** that Studio Enterprise will use as the Service Account.
- The **Password** for the Windows Account being used as the Service Account.

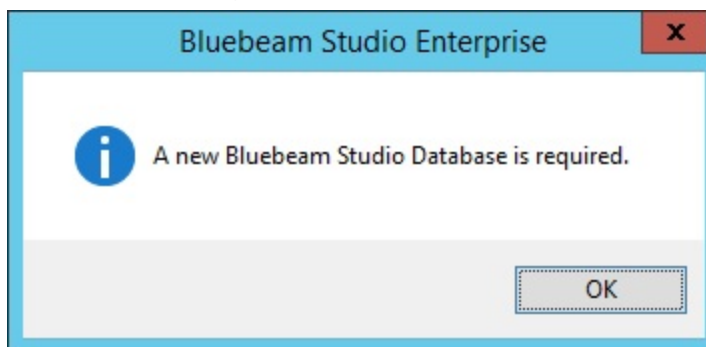
6. Click **Test Connection** to verify the Setup Account and Service Account connections.

7. Click **EULA** and take the opportunity to fully read the End User License Agreement. To accept the agreement, select **Accept EULA**.

8. Click **Install**.

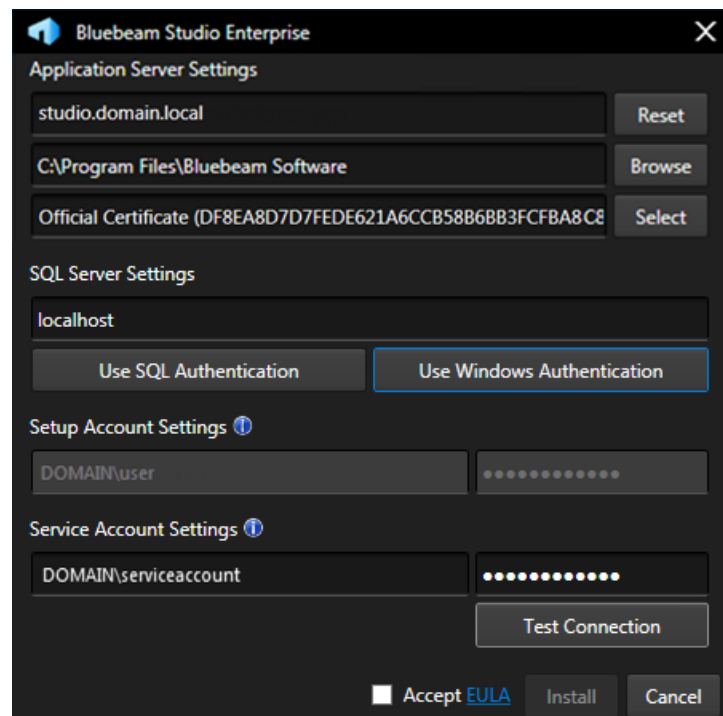
9. If this is a new Studio Enterprise installation:

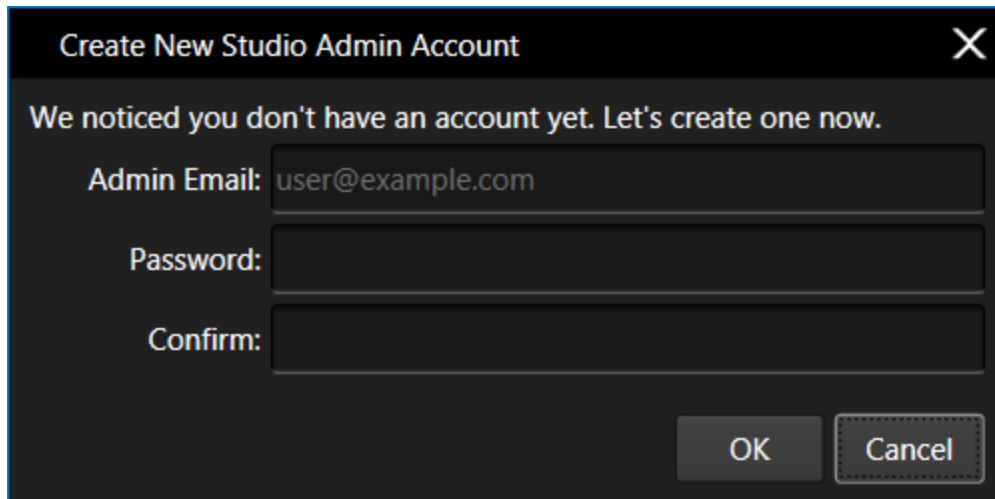
- A dialog box will appear informing you that a new Bluebeam Studio database needs to be created. Click **OK**.



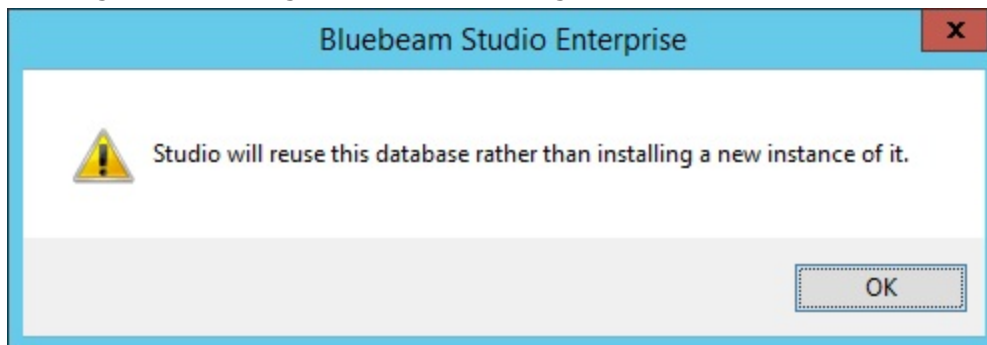
- The **Create New Studio Admin Account** dialog box appears, prompting you to create an admin account for Studio Enterprise. Enter an **Admin Email** and **Password**, then **Confirm** the password and click **OK**.

- Passwords must be between 8 and 32 characters, contain at least one uppercase and one lowercase letter, and contain at least one number and one special character.

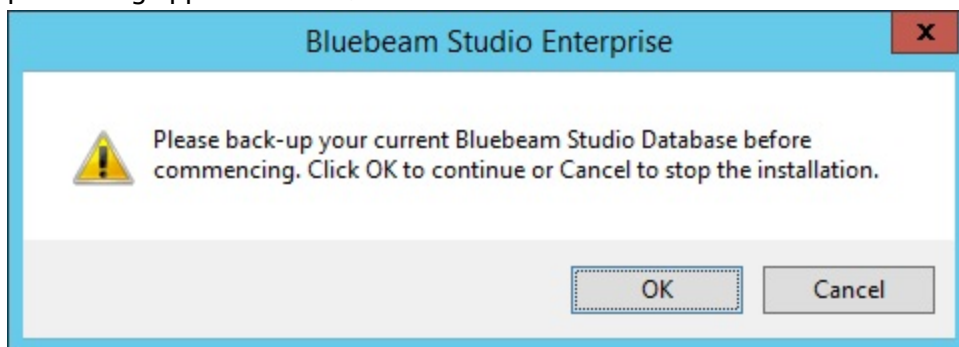




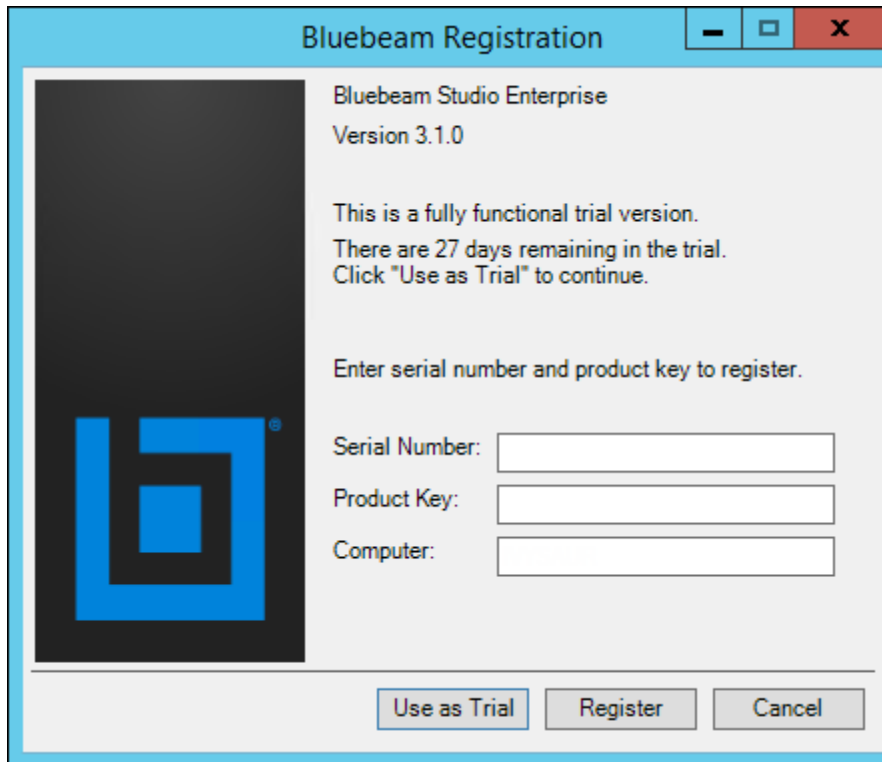
10. If this is an upgrade:
- a. A dialog box informing you that the existing database will be used appears. Click **OK**.



- b. A second dialog box suggesting that you back up your existing database before proceeding appears. Click **OK**.



11. Studio Enterprise installs, then the Bluebeam Registration dialog box appears. Enter your **Serial Number** and **Product Key**, then click **Register**.
 - To use Studio Enterprise on a trial basis, click **Use Trial**. You will need to register Studio Enterprise before the trial expires to ensure uninterrupted use.



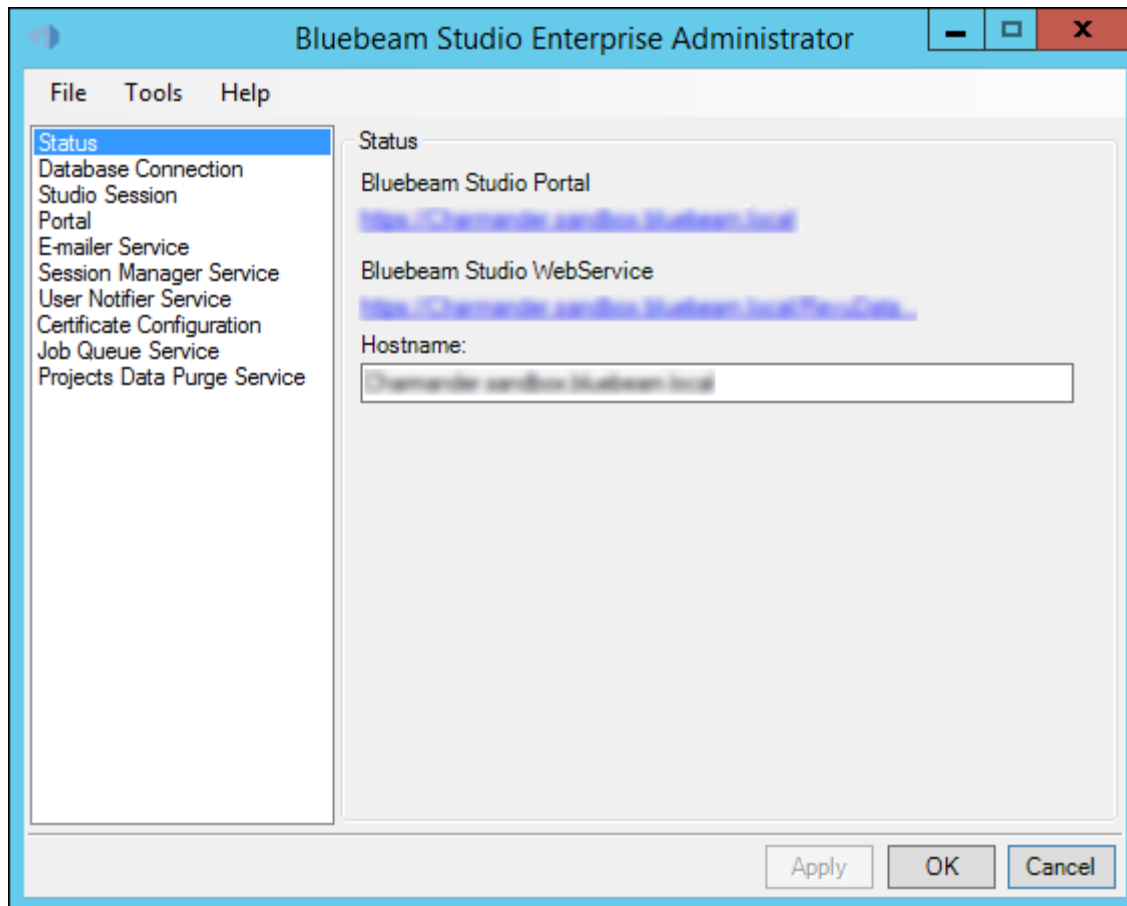
12. The installation process is completed and necessary services are started. Click **Finish** to exit the installer.
13. The Studio Enterprise application is invoked, resulting in two events:
 - a. A web browser window will automatically open to the Studio Enterprise web portal.
 - If this was a new installation, you will be automatically logged in using the Administrator user name and password created earlier.
 - If this was an upgrade, you will need to log in manually.

Note: The Studio Portal requires JavaScript to be enabled. Portal configurations can be done from another machine if JavaScript is not enabled on the server.
 - b. The **Bluebeam Studio Enterprise Administrator** dialog box appears, open to the **E-mailer Service** tab.
 - To configure Studio Enterprise to be able to send email notification to Studio users, select **Enable E-mail Notifications**, then enter the necessary information for your SMTP server and click **OK**.

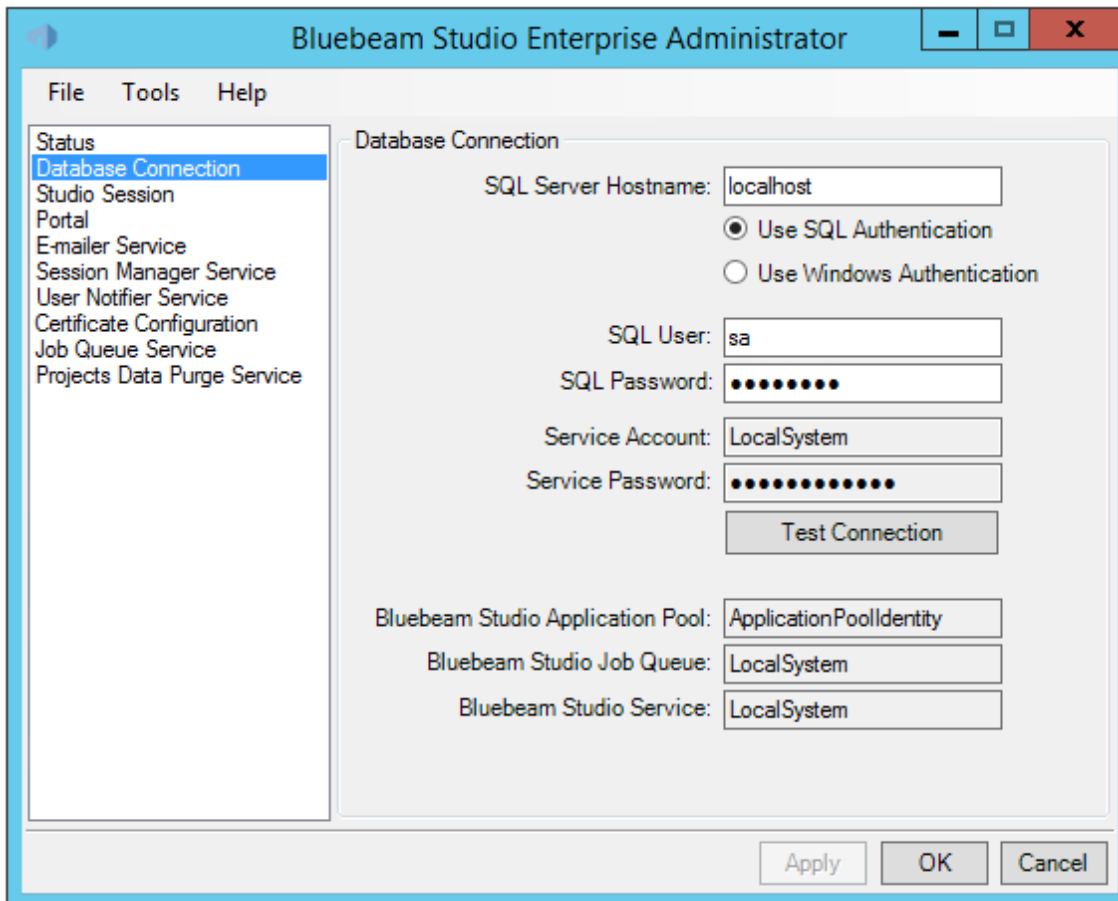
Studio Enterprise Administrator

Once Bluebeam Studio Enterprise has been installed, Studio administrators may administer and reconfigure Studio Enterprise with the Studio Enterprise Administrator application. It is important to note that any changes made to Studio Enterprise's configuration will require the server to be restarted.

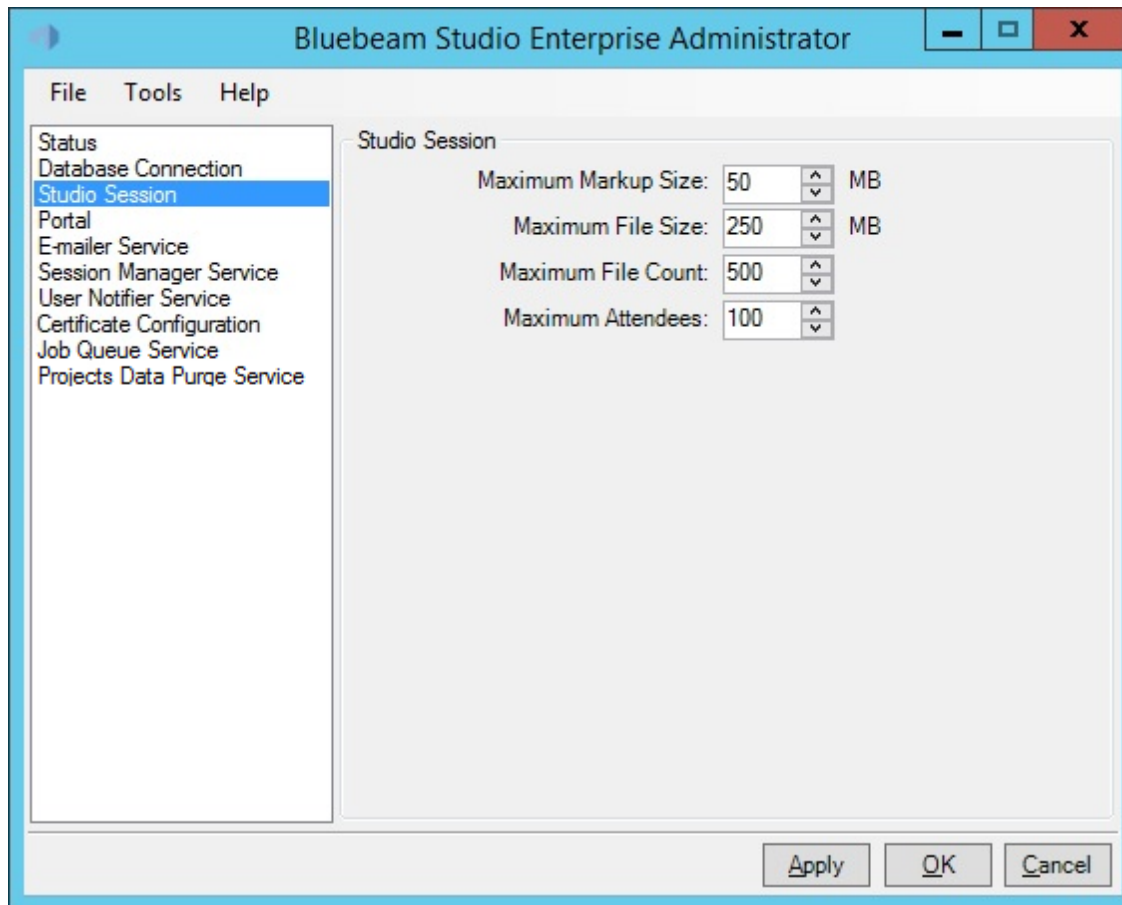
The **Status** tab allows Studio administrators to quickly access the Bluebeam Studio Portal and Web Service and change the Studio Enterprise Hostname (note that any change to the Hostname will not take effect until the Studio Enterprise is restarted; go to **Tools > Restart Server** to restart Studio Enterprise).



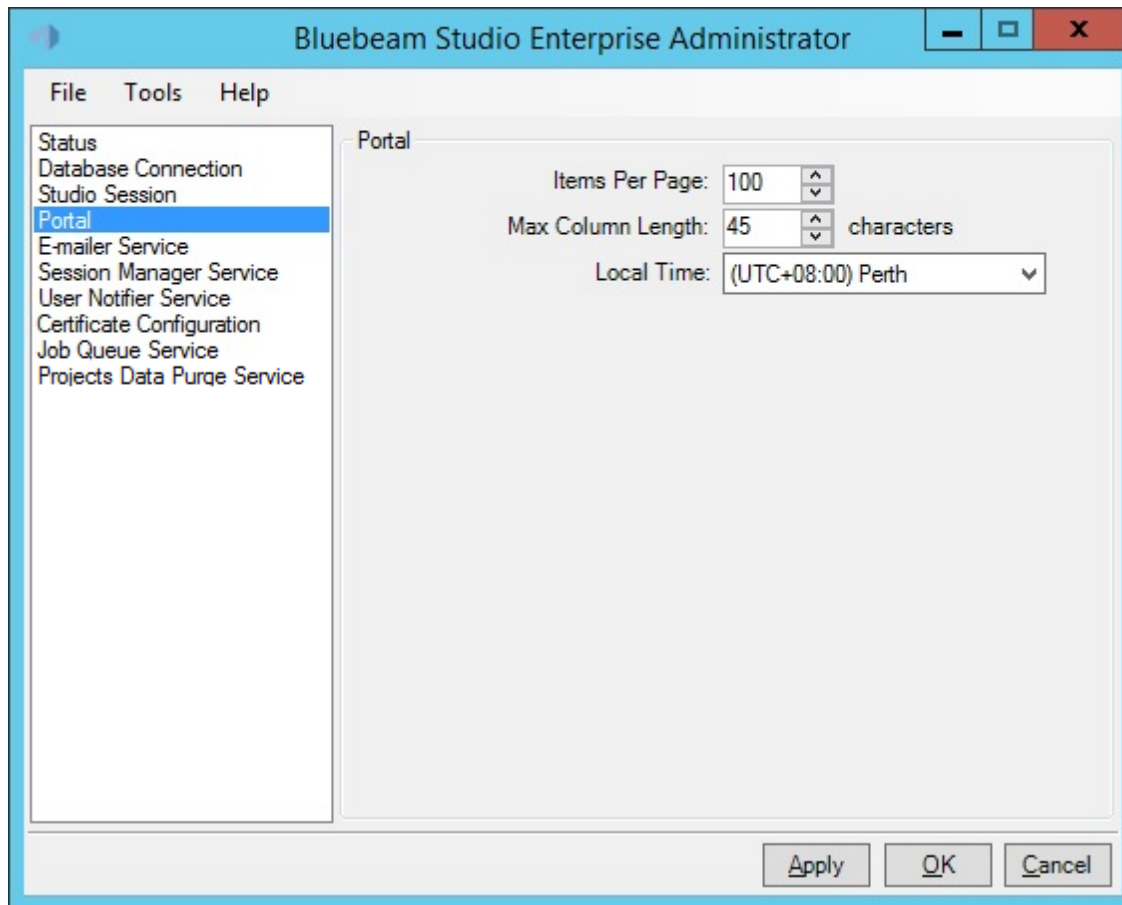
The **Database Connection** tab allows Studio administrators to change the database connection and authentication method used by Studio Enterprise. If moving the SQL Server to a different machine, Studio Enterprise can be reconfigured to access the new SQL Server machine.



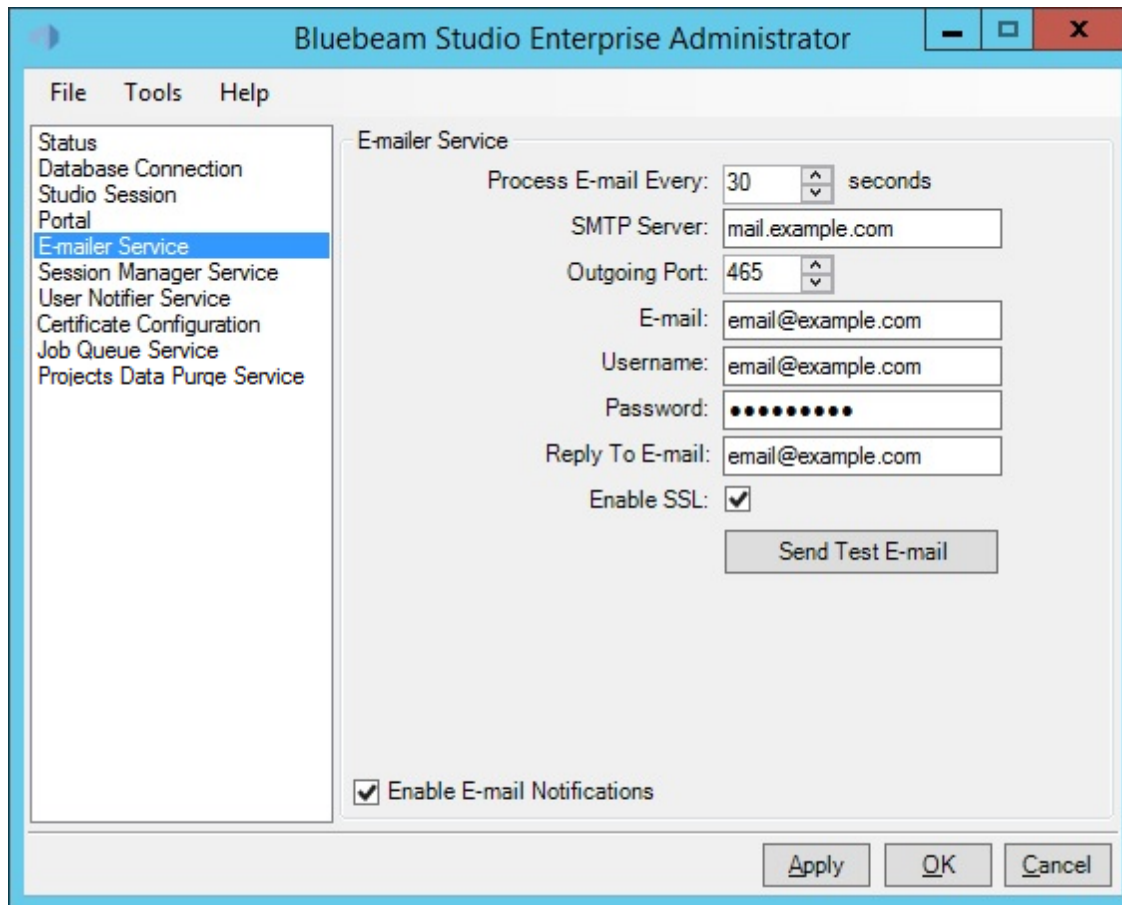
The **Studio Session** tab allows Studio administrators to modify settings for individual Studio Enterprise Sessions.



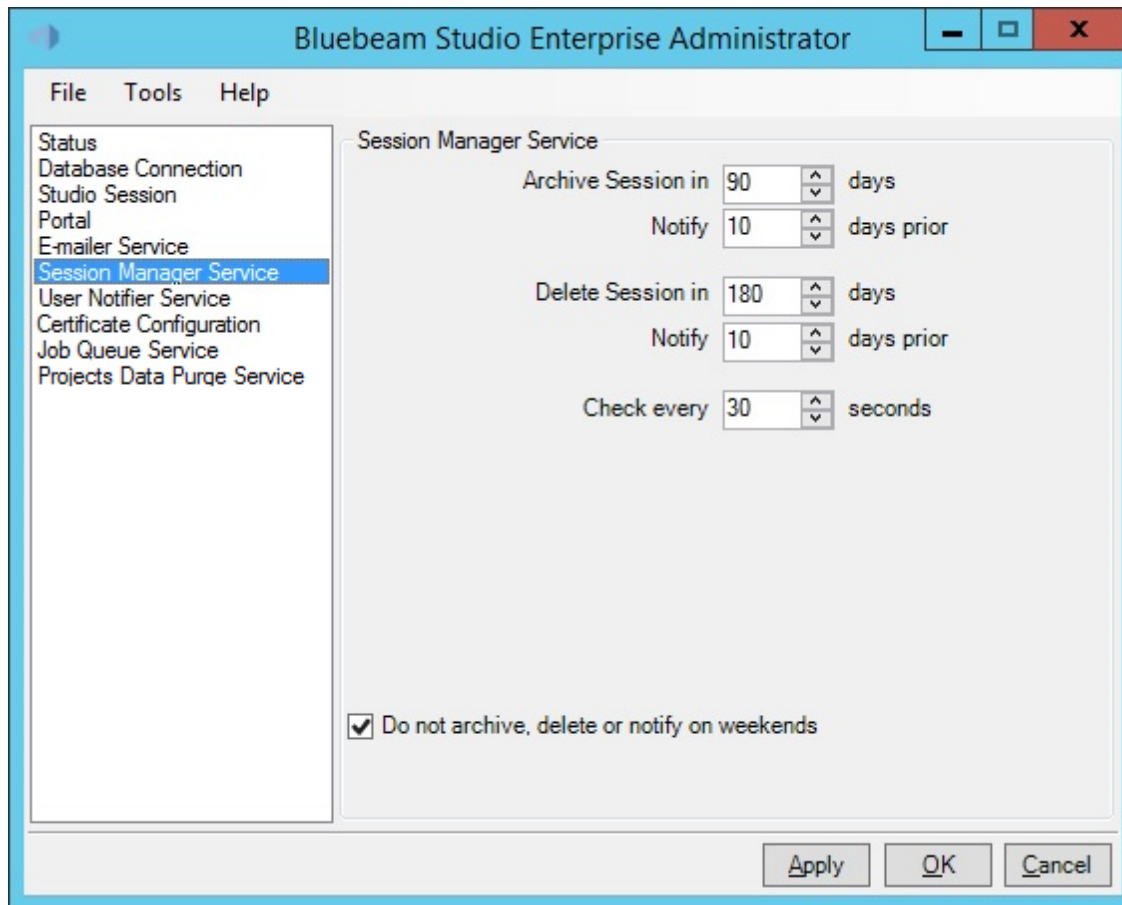
The **Portal** tab allows Studio administrators to modify settings that the Portal uses to display information. The Max Column Length applies to only a subset of columns throughout various tables. Most notably, the Email address and Name columns.



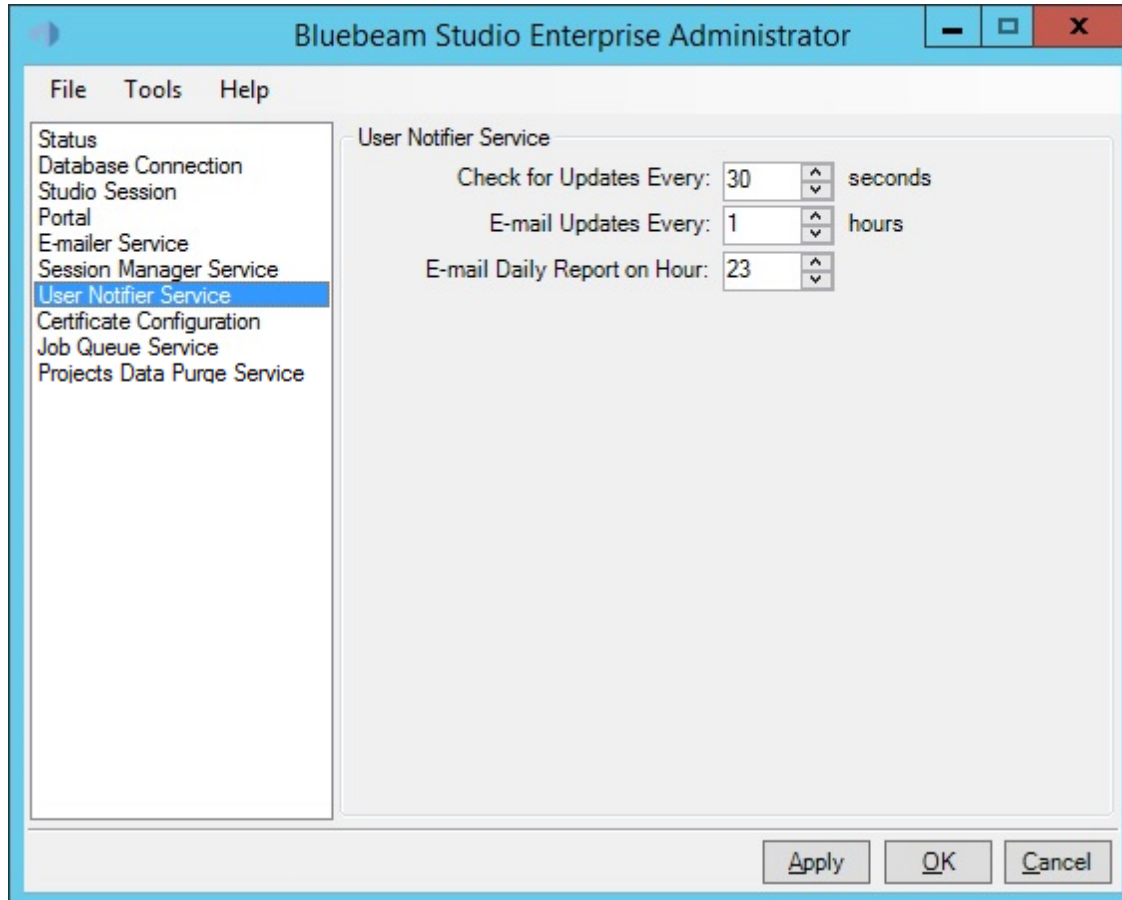
The **E-mailer Service** tab allows Studio administrators to specify the SMTP server information and credentials that Studio Enterprise uses to dispatch emails.



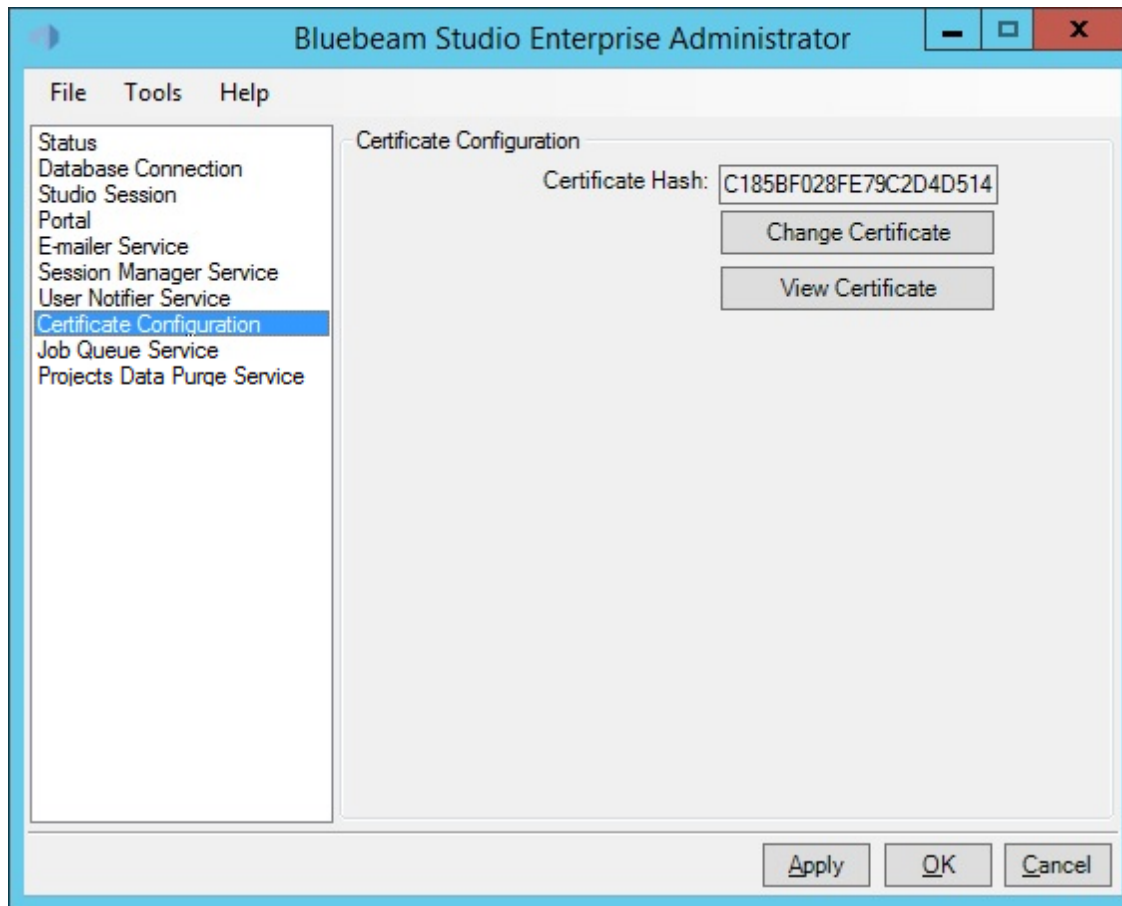
The **Session Manager Service** tab allows Studio administrators to modify the settings for the Session manager.



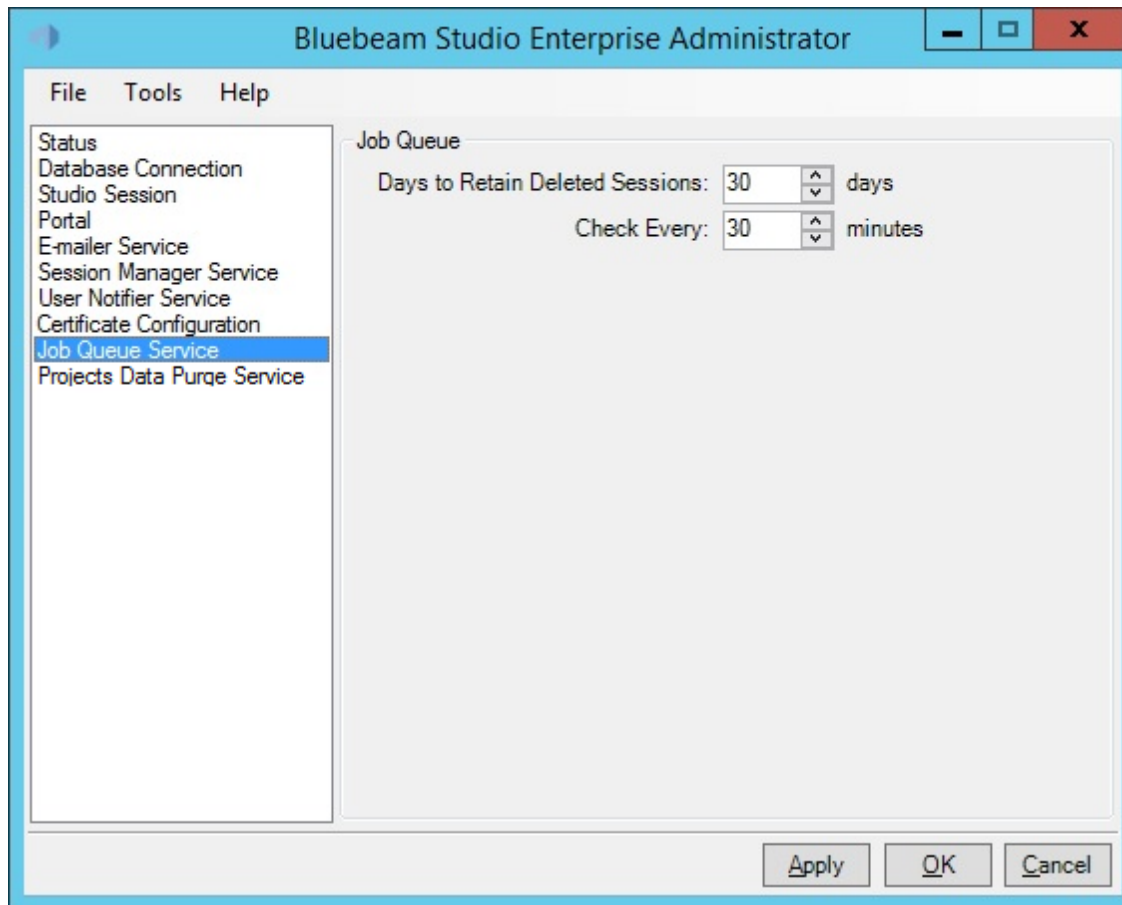
The **User Notifier Service** tab allows Studio administrators to modify when Session owners obtain notifications about the Sessions they create. The User Notifier service will queue messages based on the **Polling Interval**, and then dispatch them based on the **Notify On Hour** setting. Changes to an existing Session will be dispatched based on the **Notify Session Changes After N Hours** setting.



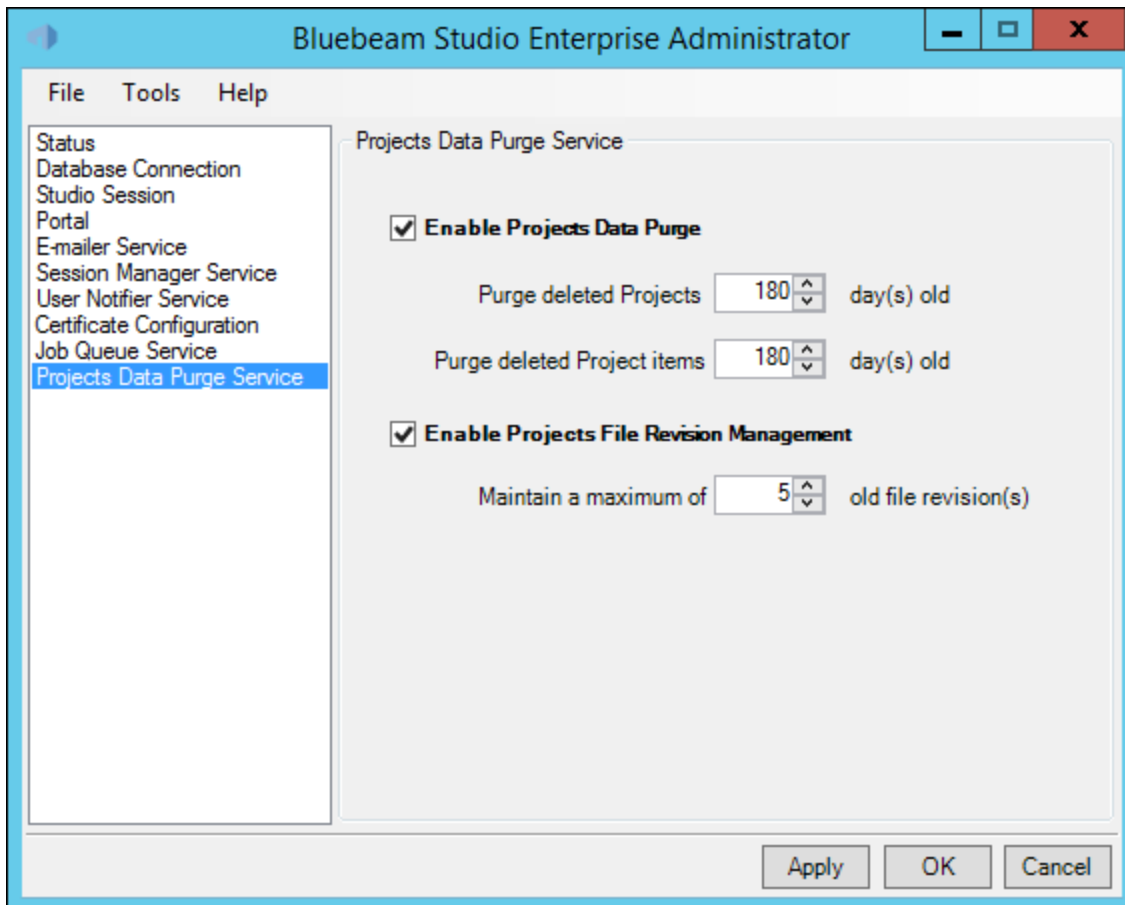
The **Certificate Configuration** tab allows Studio administrators to maintain their SSL certificate. If the SSL certificate expires, then Bluebeam Studio Enterprise can be updated to use a new certificate. However, all Bluebeam Revu clients will need to also install the new certificate.



The **Job Queue Service** tab allows Studio administrators to set the amount of time in which deleted Studio Sessions will be recoverable. The **Check Every** parameter sets the time interval that the Studio Enterprise checks for deleted Sessions to be irrevocably removed.



The **Projects Data Purge Service** tab allows Studio administrators to set an amount of time after which deleted Projects and Project items (files and folders) will be purged from the database. In addition, Project files can be set to retain only a certain number of revisions; older revisions are automatically deleted (note that some actions, such as moving or undeleting a Project file, are tracked in the file's revision history, but do not count as revisions for these purposes).



Studio Portal

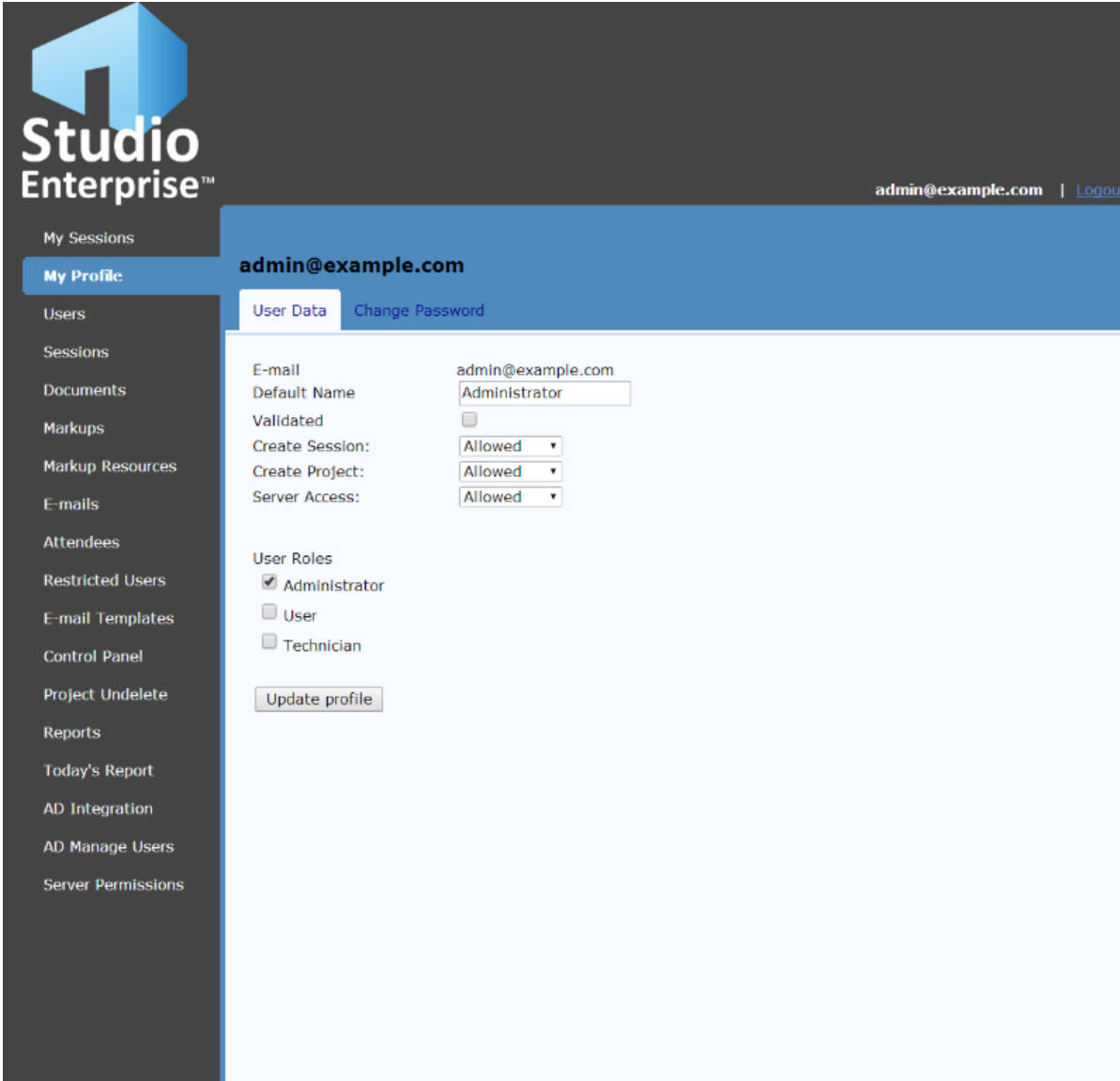
Once Bluebeam Studio Enterprise has been installed, Studio administrators can monitor the status of Bluebeam Studio Enterprise's registered users, files, markups, Sessions and so on, via the Studio Portal. It also provides access to a few reports indicating the productivity of users in Sessions.



From the Studio Enterprise Administrator's Status tab (See "[Studio Enterprise Administrator](#)" on page 29), Studio Administrators can quickly access the Studio Portal. Alternatively, users can enter "https:// <fully-qualified-machine-name>" in a browser's address bar to access the portal. When installing Studio Enterprise for the first time, users are asked to create an Administrator account. Use this account to access the Portal as an Administrator.

Studio Portal requires that JavaScript be enabled.

My Profile



Studio administrators and users can update their profile information and change their Studio password on the **My Profile** tab.

Studio Enterprise User Roles

Administrator

This is the main user role for installing and managing Studio Enterprise. This user has the ability to change Studio Enterprise settings and run reports on usage, has full access to the Admin web portal and so on.

Note: Only those who will be managing and need full access to the server settings should be set as an Administrator.

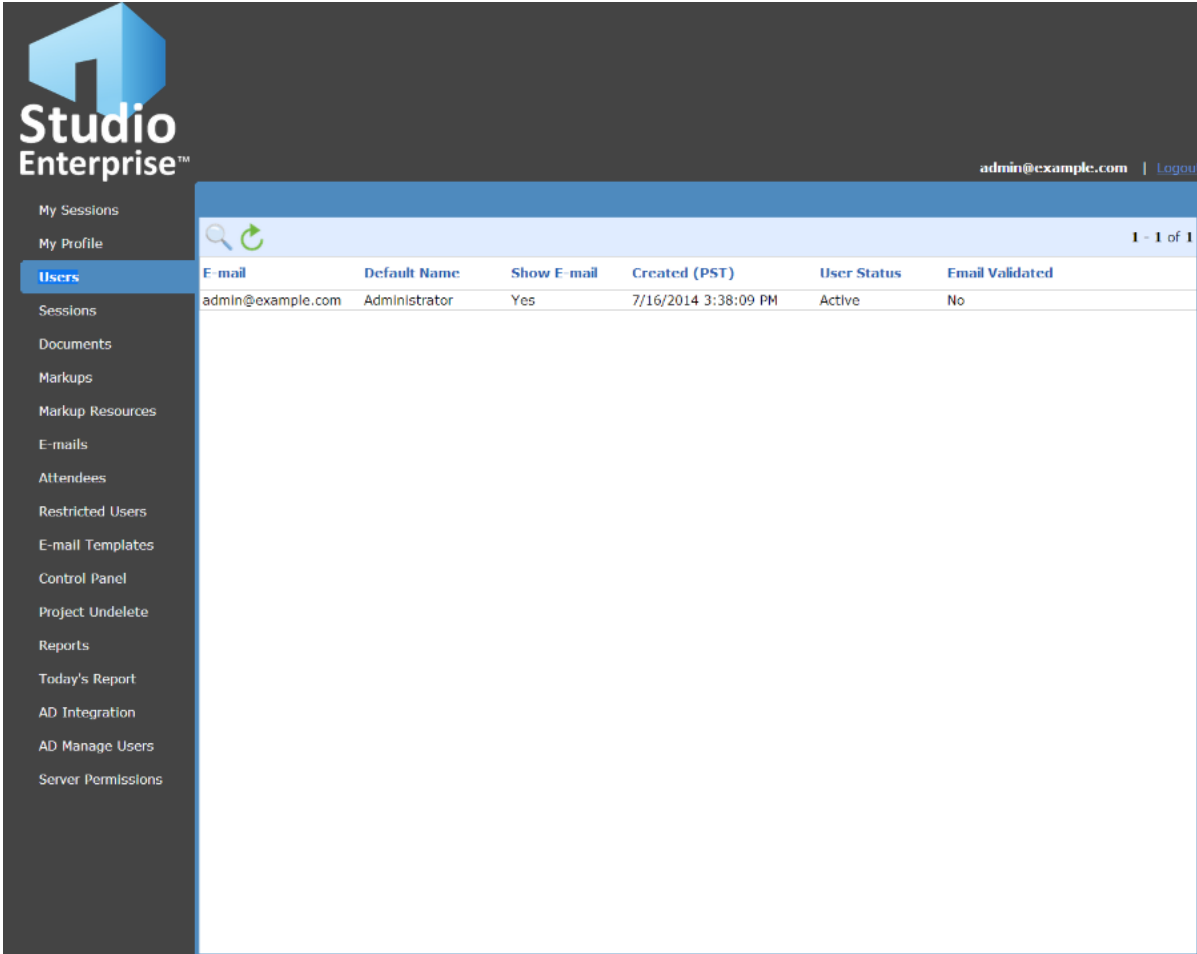
User

This is the default role assigned to users when they create a Studio Enterprise account. This allows the user by default to create and invite others to Sessions and Projects. This user role can only view data in the portal for Sessions they created.

Technician

This user role is used to verify active issues within a Session or Project. A Technician can access any Session/Project without actively participating in it. This user will be able to access the Session/Project and ensure things are running as expected or check for any unusual reported issues without affecting the Session/Project logs.

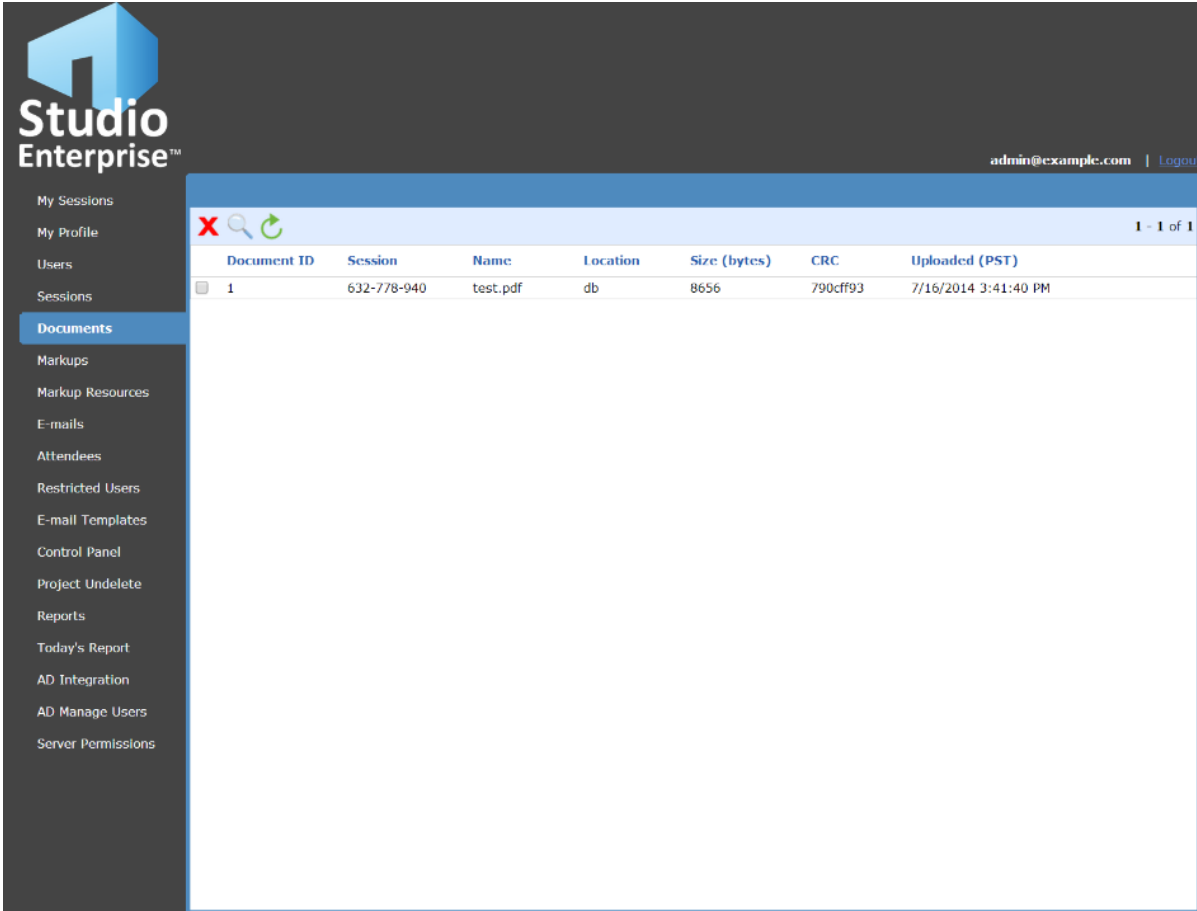
Users



E-mail	Default Name	Show E-mail	Created (PST)	User Status	Email Validated
admin@example.com	Administrator	Yes	7/16/2014 3:38:09 PM	Active	No

The **Users** tab allows the Studio administrators to monitor the number of users registered to Bluebeam Studio Enterprise. Studio Administrators can use the search tool to locate users by email address or user name. Once a user is selected, the Studio Administrator can change User Data and Password settings.

Documents

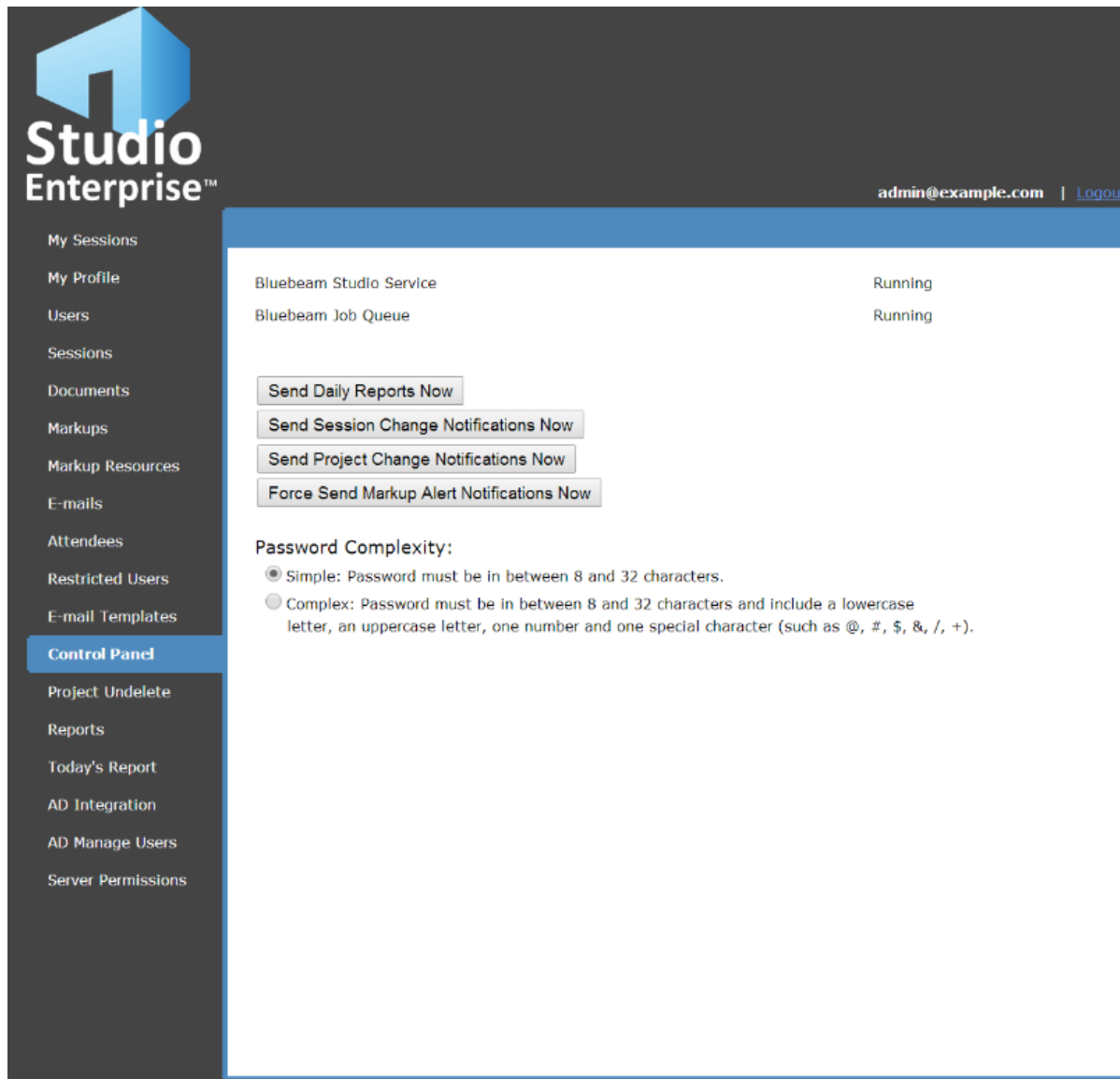


The screenshot shows the Studio Enterprise web interface. On the left is a dark sidebar with the Studio Enterprise logo and a list of navigation items: My Sessions, My Profile, Users, Sessions, Documents (highlighted), Markups, Markup Resources, E-mails, Attendees, Restricted Users, E-mail Templates, Control Panel, Project Undelete, Reports, Today's Report, AD Integration, AD Manage Users, and Server Permissions. The top right of the interface shows the user 'admin@example.com' and a 'Logout' link. The main content area features a table with the following data:

Document ID	Session	Name	Location	Size (bytes)	CRC	Uploaded (PST)
1	632-778-940	test.pdf	db	8656	790cff93	7/16/2014 3:41:40 PM

The **Documents** tab allows the Studio administrators to monitor the number of documents, size, dates, etc. registered into Bluebeam Studio Enterprise Sessions.

Control Panel



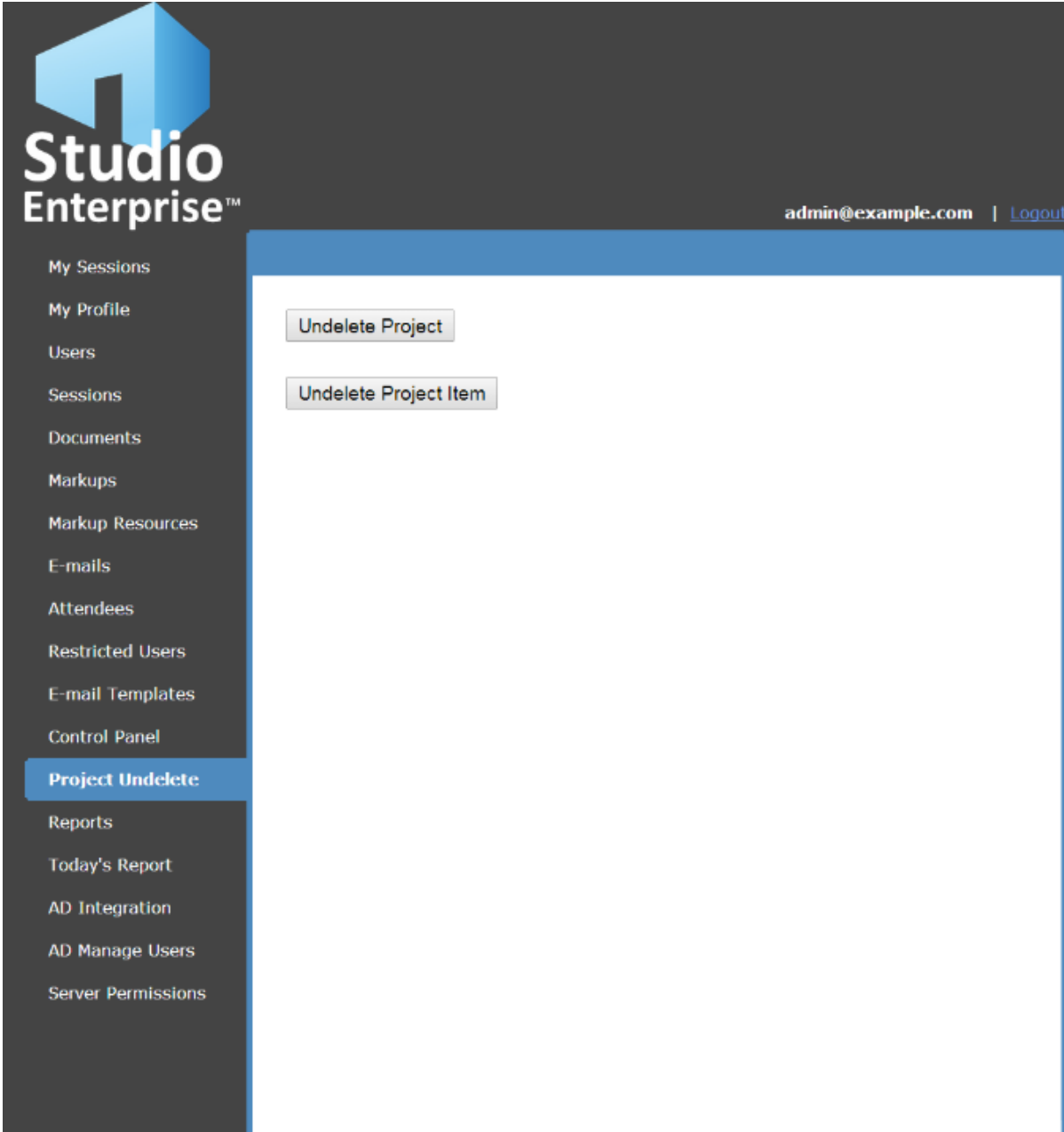
The **Control Panel** tab allows the Studio administrators to set password complexity (changes take place immediately) and send out daily reports and notifications immediately.

By default, Studio Enterprise allows users to establish simple passwords that only need to meet a length requirement. You can require your users to create passwords that are more complex and, thus, more secure. The table below describes the differences between simple and complex passwords in Studio Enterprise.

Changing the password complexity setting only affects passwords that are created after the setting takes effect. Passwords that have already been established do not have to be changed, though if they are, they will need to comply with the new requirements.

Simple vs Complex passwords in Studio Enterprise	Simple	Complex
Must be between 8 and 32 characters	Yes	Yes
Must contain at least 1 lower case letter	No	Yes
Must contain at least 1 upper case letter	No	Yes
Must contain at least 1 number	No	Yes
Must contain at least 1 special character	No	Yes


Project Undelete



The screenshot shows the Studio Enterprise user interface. On the left is a dark sidebar with the Studio Enterprise logo and a list of navigation items. The 'Project Undelete' item is highlighted in blue. The main content area is white and contains two buttons: 'Undelete Project' and 'Undelete Project Item'. The top right of the interface shows the user's email 'admin@example.com' and a 'Logout' link.


The **Project Undelete** tab allows the Studio Administrators to recover deleted Studio Projects and Project documents.

To recover a Studio Project file:

1. Log into the Studio Enterprise Portal.
2. Select the **Project Undelete** tab.
3. Click **Undelete Project Item**.
4. Locate the Project file to be recovered and click **Undelete** to its left. The recovered file will be added back to the Project as a new revision.
 - If the Project file was located in a subfolder that was also deleted, the folder (and any parent folders, as necessary) will be automatically restored as well.
 - To search for a specific Project file, click  **Search** and enter search criteria in one or more of the fields that appear at the top of the screen.

Note: Project files can only be recovered into an active Studio Project. If the file you seek is not found, make sure that the Studio Project has not been deleted as well. If it has, recover the Project first.

To recover a Studio Project:

1. Log into Studio Enterprise.
2. Select the **Project Undelete** tab.
3. Click **Undelete Project**.
4. Locate the Project to be recovered and click **Undelete** to its left. The Project will be recovered to the state it was in at the time of deletion.
 - If certain Project files were deleted before the Project itself was deleted and you want to recover those files as well, you will need to recover those files individually.
 - To search for a specific Project, click  **Search** and enter search criteria in one or more of the fields that appear at the top of the screen.

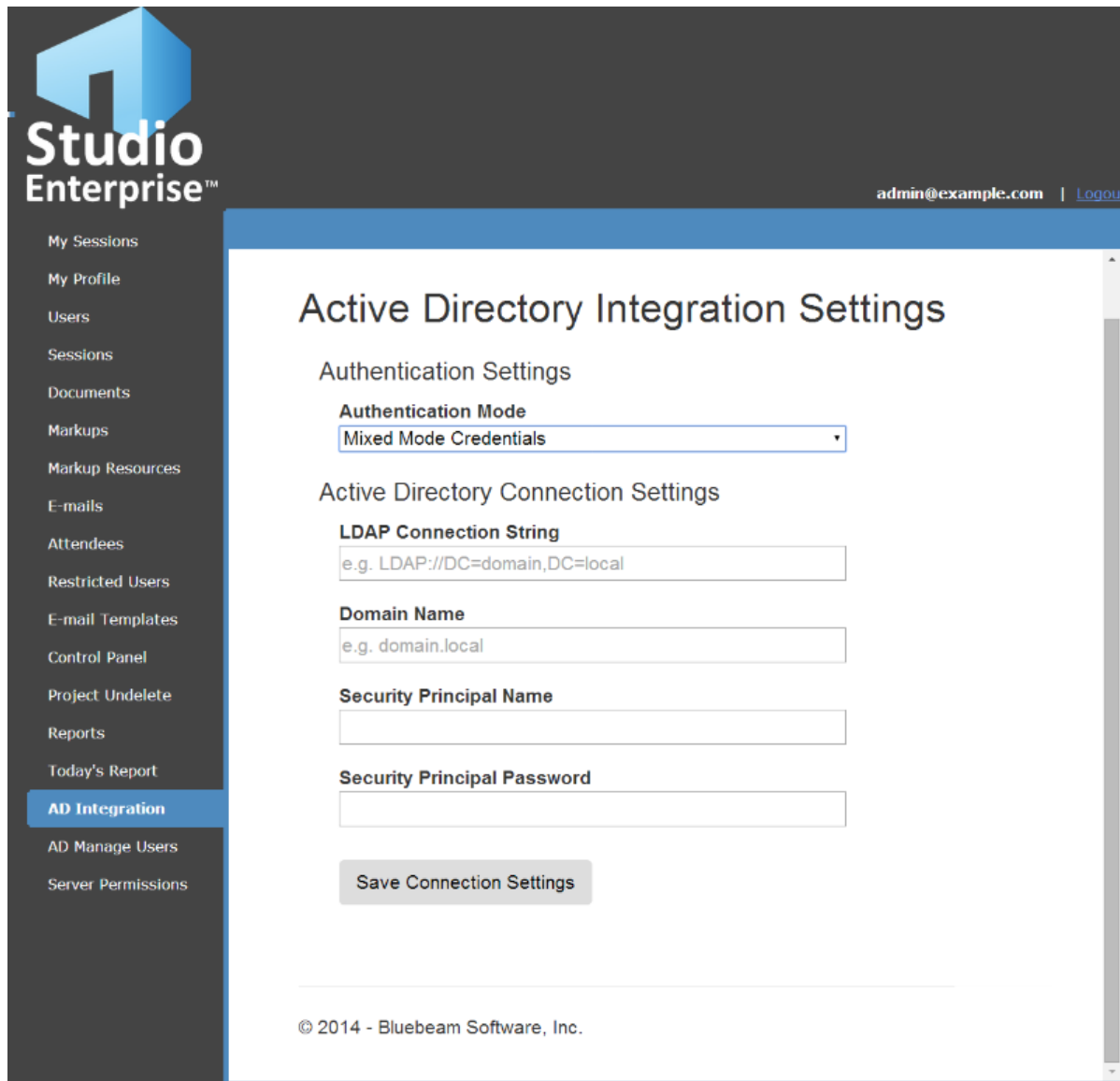
Reports



The **Reports** tab allows the Studio administrators to monitor general usage of Bluebeam Studio Enterprise. It generates reports for the following:

- Sessions Created
- Sessions With Activity
- Sessions Markups Created

AD Integration



The **AD Integration** tab allows the Studio administrators to integrate their Studio Enterprise with their Active Directory domain controller.

Before getting started:

- Set up an Active Directory account to be used as the Security Principal
- Prepare an LDAP connection string
- Ensure that the server is joined to the domain specified in the LDAP string
- Have at least one Studio admin account ready to map to Active Directory
- Ensure that the Security Principal Account is also on the same domain
- Ensure that all users in Active Directory have the first name, last name and email address fields populated. Email addresses must be unique.

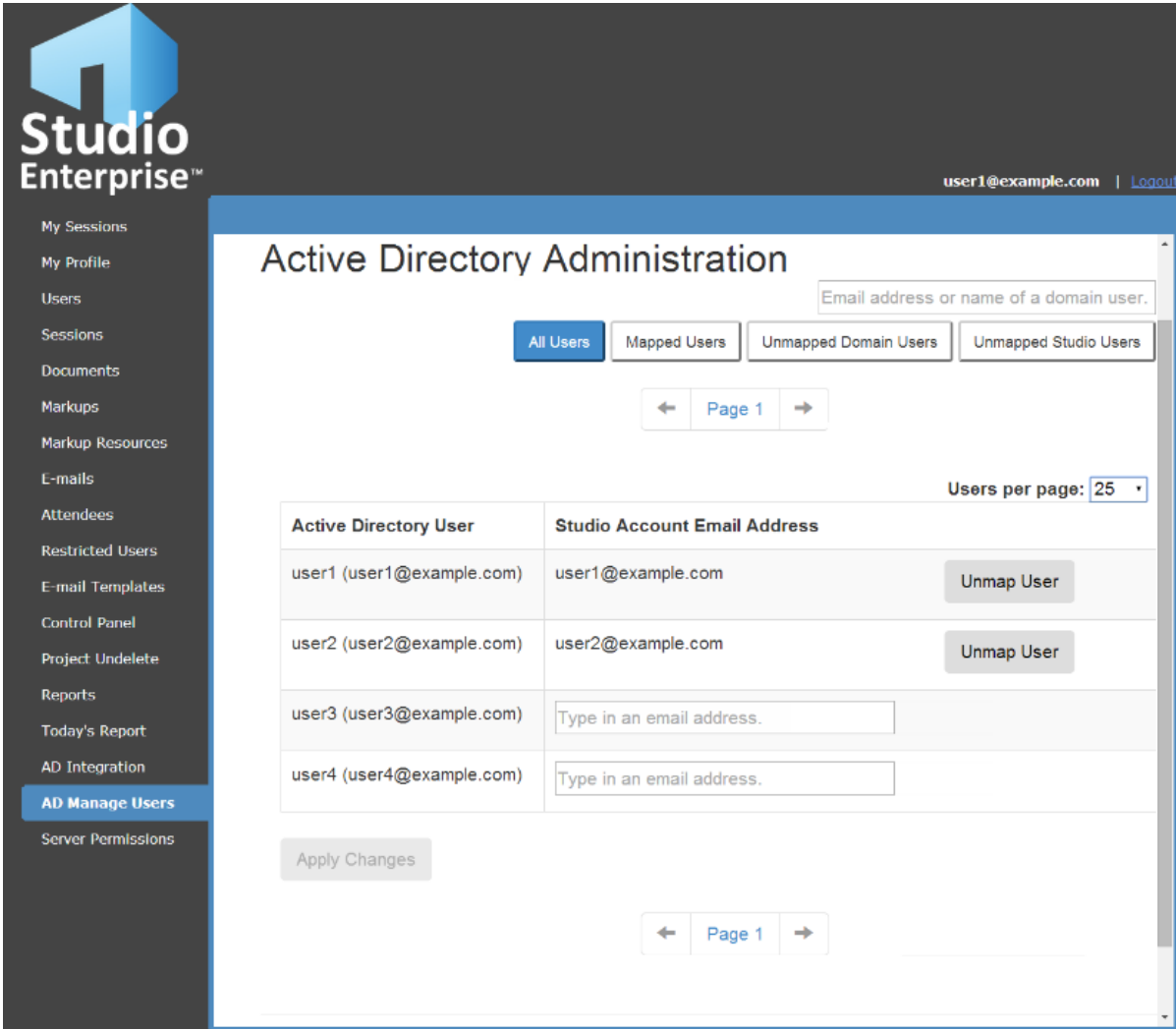
To configure the Active Directory integration settings:

1. Log into the Studio Enterprise Portal.
2. Select the **AD Integration** tab.
3. Configure the following settings, as needed:
 - a. **Authentication Mode:** Choose from the following options:
 - **Mixed Mode Credentials:** Both Studio and Active Directory credentials can be used to access Studio Enterprise.
 - **Active Directory Credentials Only:** Only Active Directory credentials can be used to access Studio Enterprise.

Note: Until at least one administrator account has been mapped to Active Directory, Mixed Mode Credentials must be used. Once a valid administrator account has been properly mapped, Active Directory Credentials Only can be selected.
 - b. **LDAP Connection String:** Enter the desired LDAP connection string for your network. If you would like to use an OU restriction, add it here as part of your LDAP Connection String.
 - If you wish to use AD groups, you will be able to select them on the next screen.
 - There is a known issue with LDAP queries on large sets of users: the Active Directory server might not paginate the results correctly, resulting in a display problem, if more than 1,000 users are returned. See <http://support.microsoft.com/kb/977180/en-us> for more information.
 - c. **Domain Name:** Enter the Active Directory domain.
 - d. **Security Principal Name:** Enter or change the Security Principal.
 - The Security Principal account is what Studio Enterprise uses to access your Active Directory server. It is strongly recommended that this account be one with a password that does not expire. If necessary, go to your Active Directory system and create a Security Principal account for Studio Enterprise (for example, "StudioServer@<yourdomain>") to use as the Security Principal.
 - e. **Security Principal Password:** Enter the password for the Security Principal account.
4. Click **Save Connection Settings**.
5. To use Active Directory groups in addition to LDAP, select **Use AD Groups** and select the desired groups from the list below, then click **Save Group Settings**.
 - When Active Directory groups are used, users must be in both the LDAP Connection String and at least one of the selected Active Directory groups in order to access the server.
6. After enabling Active Directory integration, you might want to map existing users to Active Directory accounts. This enables existing users with Studio accounts to continue to access their existing Sessions and Projects once they switch to Active Directory credentials. There are two ways to do this:

- a. Mapping users automatically: Click **Auto-Map Users** to automatically map users to Active Directory accounts with matching email addresses. Once the mapping is complete, a report specifying which accounts were mapped is generated for your review.
- b. Mapping users manually: Click **Manually Map Users** to jump to the **AD Manage Users** tab (see [See "AD Manage Users" on page below](#)), where you can manually map users to Active Directory accounts. Users whose Studio domain accounts and Active Directory accounts match do not need to be mapped manually; they will be mapped automatically the first time they log in.

AD Manage Users



The screenshot displays the 'AD Manage Users' interface in Studio Enterprise. The sidebar on the left contains navigation links such as 'My Sessions', 'My Profile', 'Users', 'Sessions', 'Documents', 'Markups', 'Markup Resources', 'E-mails', 'Attendees', 'Restricted Users', 'E-mail Templates', 'Control Panel', 'Project Undelete', 'Reports', 'Today's Report', 'AD Integration', 'AD Manage Users' (highlighted), and 'Server Permissions'. The main content area is titled 'Active Directory Administration' and includes a search bar for 'Email address or name of a domain user.' Below the search bar are filter buttons: 'All Users', 'Mapped Users', 'Unmapped Domain Users', and 'Unmapped Studio Users'. A pagination control shows 'Page 1'. A 'Users per page' dropdown is set to '25'. The main table lists users with their Studio Account Email Address and an 'Unmap User' button. The table data is as follows:

Active Directory User	Studio Account Email Address	
user1 (user1@example.com)	user1@example.com	Unmap User
user2 (user2@example.com)	user2@example.com	Unmap User
user3 (user3@example.com)	<input type="text" value="Type in an email address."/>	
user4 (user4@example.com)	<input type="text" value="Type in an email address."/>	

At the bottom of the table area, there is an 'Apply Changes' button and another pagination control showing 'Page 1'.

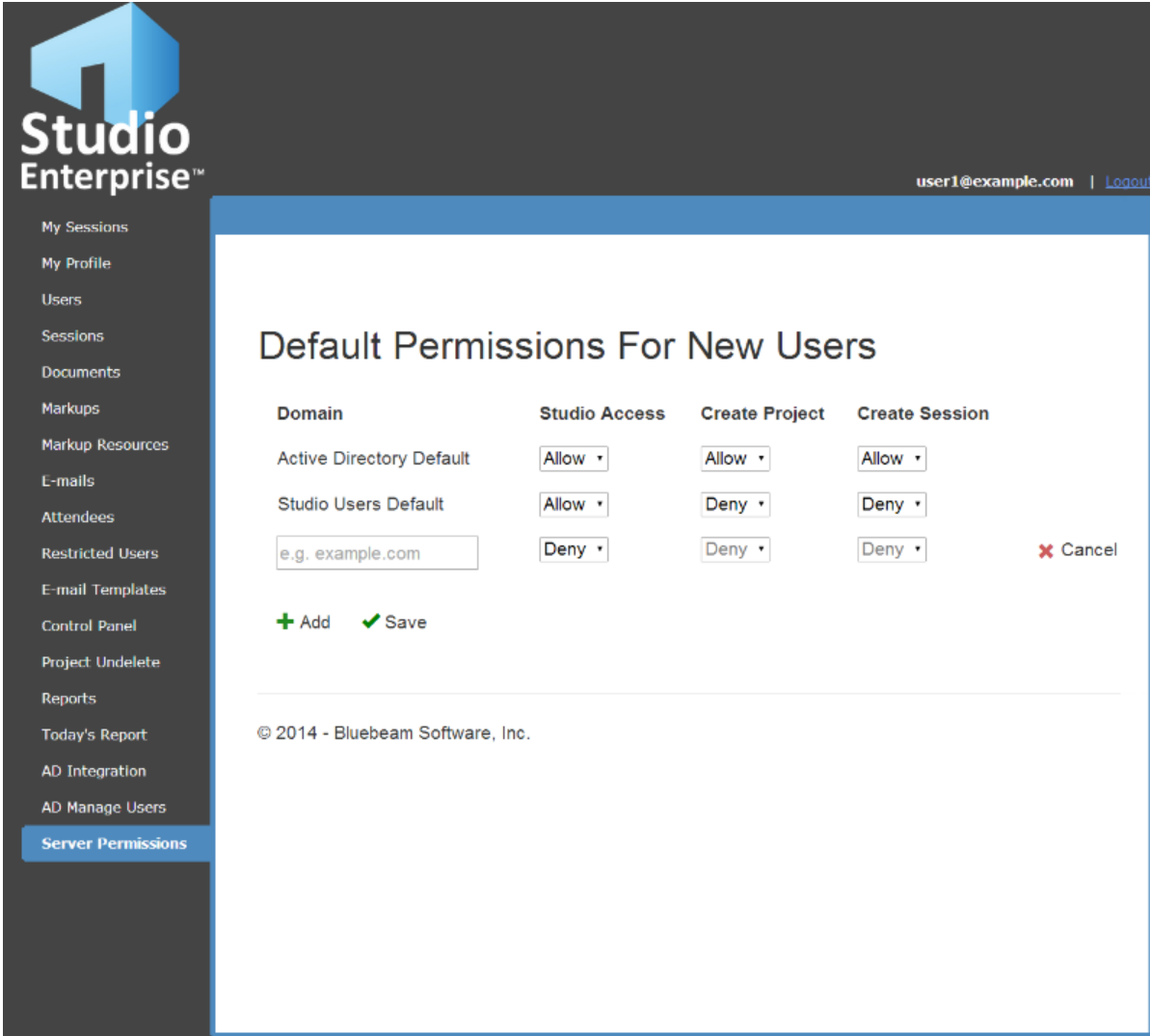
The **AD Manage Users** tab allows the Studio administrators to map Studio Enterprise users to (or unmap them from) Active Directory accounts.

The manual mapping process is described below. There is also an auto-mapping feature on the **AD Integration** tab (See "[AD Integration](#)" on page on page 48) that automatically maps Active Directory accounts to Studio accounts with matching email addresses.

To manually map or unmap an Active Directory account:

1. Log into the Studio Enterprise Portal.
2. Select the **AD Manage Users** tab.
3. Locate the desired user.
 - To search for a specific user, use the search box in the upper-right corner of the screen.
4. To unmap a previously mapped user, click **Unmap User** to the right of their Studio account email address.
5. To map a user's Active Directory account to a Studio account email address, enter the desired Studio account in the corresponding **Studio Account Email Address** field.
6. Click **Apply Changes** at the bottom of the page.

Server Permissions



Studio Enterprise™

user1@example.com | Logout

My Sessions
My Profile
Users
Sessions
Documents
Markups
Markup Resources
E-mails
Attendees
Restricted Users
E-mail Templates
Control Panel
Project Undelete
Reports
Today's Report
AD Integration
AD Manage Users
Server Permissions

Default Permissions For New Users

Domain	Studio Access	Create Project	Create Session
Active Directory Default	Allow ▾	Allow ▾	Allow ▾
Studio Users Default	Allow ▾	Deny ▾	Deny ▾
<input type="text" value="e.g. example.com"/>	Deny ▾	Deny ▾	Deny ▾

+ Add ✓ Save ✖ Cancel

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The **Server Permissions** tab allows the Studio administrators to set default permissions for new users by domain as well as for Active Directory users (when Studio Enterprise is integrated with Active Directory).

There are three permissions that can be enabled:

- **Server Access:** When enabled, the user can log into Studio Enterprise and participate in Studio Projects and Sessions to which they have been invited.
- **Create Project:** When enabled, the user can create Studio Projects on the server. Requires Server Access permissions.
- **Create Session:** When enabled, the user can create Studio Sessions on the server. Requires Server Access permissions.

To configure default server permissions:

1. Log into the Studio Enterprise Portal.
2. Select the **Server Permissions** tab.
3. Select the permissions for **Active Directory Default**, if applicable. These are the default permissions that will be applied to all Active Directory users added going forward.
 - **Active Directory Default** only appears when the **Authentication Mode** established on the **AD Integration** tab (See "[AD Integration](#)" on page on page 48) is set to either **Mixed Mode Credentials** or **Active Directory Credentials Only**.
4. Select the permissions for **Studio Users Default**.
 - For Studio accounts, default permissions are determined by domain. **Studio Users Default** defines the permissions that are applied to any user not captured by a domain-specific set of permissions.
5. To add domain-specific default permissions:
 - a. Click **+** **Add** to add a new row.
 - b. Enter the domain (for example, "domain.com") for this set of permissions in the **Domain** field.
 - c. Select the desired permissions from the corresponding options. By default, no permissions are enabled.
 - d. Repeat this process to add more domains as needed.
 - e. To remove a domain, click **✗ Cancel** to the right of the corresponding row.
 - Active Directory Default and Studio Users Default cannot be removed.
 - f. Click **✓ Save**.