

Install the BioStar Software

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1 System Requirements

BioStar supports the following operating systems:

- Windows 8 (32-bit and 64-bit system)
- Windows 7 (32-bit or 64-bit platform)
- Windows Server 2008 R2
- Windows Vista
- Windows XP, Service Pack 1 or later
- Windows Server 2003
- Windows 2000, Service Pack 4 or later

The minimum system requirements for installing and operating the BioStar software include the following:

- CPU: Intel Pentium or similar processor, capable of processing speeds of 1GHz or faster
- RAM: 512MB
- HDD: 5GB

However, Sensor recommends the following hardware configuration for optimal performance:

- CPU: Intel Pentium Dual Core or similar processor, capable of processing speeds of 2GHz or faster
- RAM: 1GB for Windows XP; 2GB for other operating systems
- HDD: 10GB

2. Run the BioStar Installer

You should run the BioStar installer when you desire to install both the server and client applications on the same PC and are willing to use the MS SQL Server Express database with default settings. You will be required to intervene in the express installation process only when MS SQL Server or a variation is already installed. In this case, you will be asked whether or not you wish to install MS SQL Server Express.

If you choose not to install the express version, you will be required to provide the correct authentication details, as described in step 7 of section 2.3.

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Attention: If you have installed a previous installation on the machine with BioStar installer, remove the old version before running the BioStar Installer.

The installer will install the following components:

- BioStar server application
- Auxiliary libraries: OpenSSL and Microsoft Visual C++ Redistributable
- MS SQL Server Express
- BioStar client application
- BADB Conv (database migration tool)

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Before you run the BioStar installer, close all other open applications.

If you have previously installed BioAdmin on the same machine, ensure that you stop the BioAdmin server before beginning the installation.

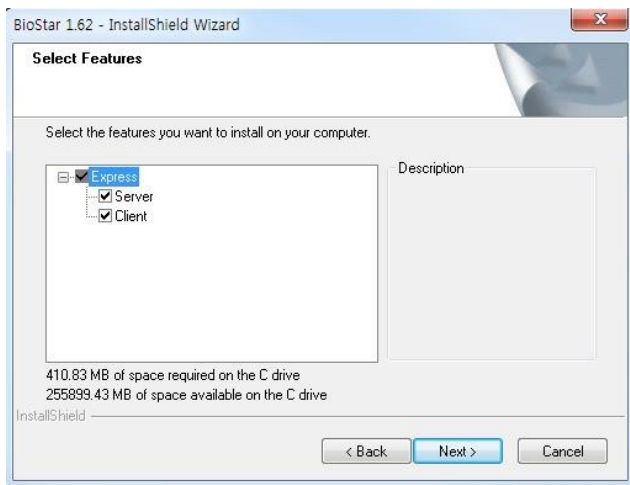
To run the installer:

1. Insert the BioStar installation CD into a compatible media drive.
2. Locate the installation directory and run BioStar 1.8 Setup.
3. Follow the on-screen prompts to begin the installation.
4. During the installation, you will be asked to select the language of your preference. Select a language, then click Next to proceed.



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5. Make sure that both the Server and Client applications are selected in the Select Features dialog box, then click Next to proceed.



6. Follow the instructions on the screen to finish the installation.

4. Install the BioStar Server Application

If you do not choose to install the BioStar server and client applications together, you need to select only the application you would like to install at the Select Features dialog box during the installation of the BioStar Setup.

After you ensure that your system meets the minimum requirements listed in section 1 close all other open applications.

If you have previously installed BioAdmin on the same machine, ensure that you stop the BioAdmin server before beginning the installation.

Attention: If you have installed a previous installation on the machine with BioStar installer, remove the old version before running the BioStar Installer.

The installer includes the following components:

- BioStar server application
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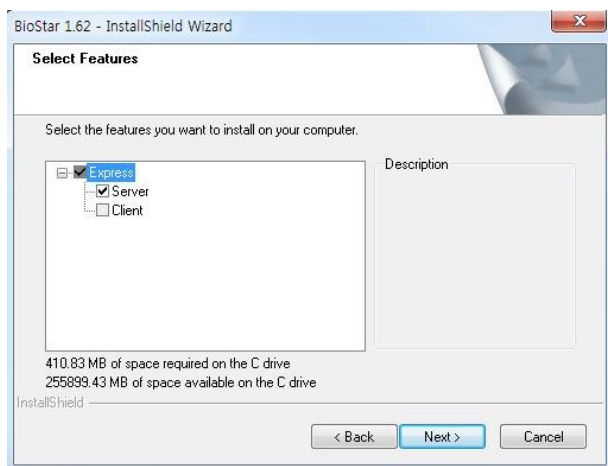
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To install the BioStar server application:

1. Insert the BioStar installation CD into a compatible media drive.
2. Locate the installation directory and run BioStar 1.8 Setup.
3. Follow the on-screen prompts to begin the installation.
4. During the installation, you will be asked to select the language of your preference. Select a language, then click Next to proceed.



5. At the Select Features dialog box, click the Client checkbox to uncheck it and exclude the Biostar client application in the installation (both the server and client applications are checked by default), then click Next to proceed.



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6. Follow the instructions on the screen to finish the installation.

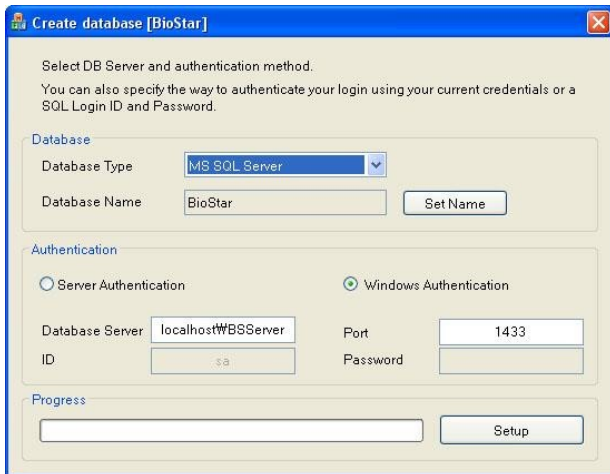
7. During the installation, you will be required to accept the OpenSSL license agreement and select a destination folder for the OpenSSL program files.

8. You will also be asked whether or not you wish to install the MS SQL Server Express edition. If you will use a pre-installed version of MS SQL Server, MySQL or Oracle, you may click No when this message appears. If you decide to use the express edition in this step, you can skip to step 10.

The database setup process will be automated when you install the express edition.

9. When the Create Database [BioStar] dialog box appears, select a database type (MSSQL Server, MySQL or Oracle).

The database server address and port numbers will be automatically populated, but you should verify that they are correct.



Note: The default name for the database is always “BioStar,” to prevent unintentional installation of multiple databases on the same system or database server.

The database name can be changed by editing the DBSetup.exe file. When patching the database server, you will have the option to manually select a database.

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10. If you choose MS SQL Server, you must configure the authentication method as well

- Server authentication: this option uses login IDs and passwords to authenticate users that are created by and stored on the SQL Server. These credentials are not based on Windows user accounts. Users connecting via server authentication must provide their credentials every time that they connect.
- Windows authentication: this option uses Windows users accounts for authentication. When users connect through a Windows user account, the SQL Server validates the account name and password using the Windows principal token in the operating system. The SQL Server does not ask for a password and does not independently validate user identification. Windows authentication is the default authentication mode for MS SQL Server.

Note: You must choose the authentication mode that is supported by the database. You must also provide the proper credentials to create new tables in the database.

11. Click Setup to create the SQL database.

12. When the SQL database setup is complete, click Finish.

13. The setup program will perform a few remaining processes before the server installation is complete. Click Finish.

5. Configure the BioStar Server

In some cases, you may require manual configuration of the BioStar server.

If you are having trouble connecting to the server from the client application, for example, you may need to alter your server settings.

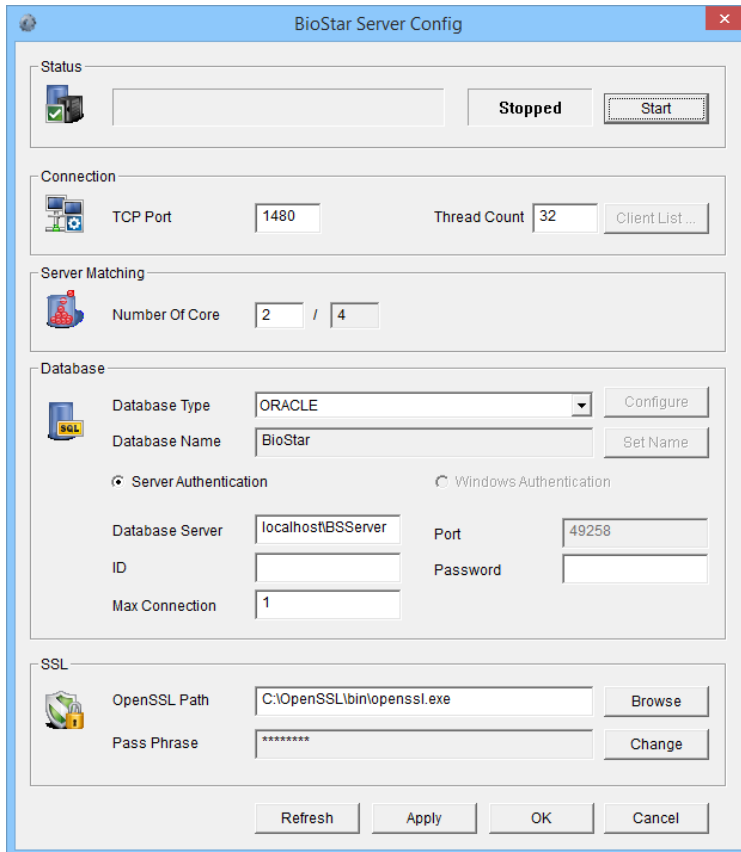
In addition, you must stop and restart the server application to apply any changes you have made to server configurations or database settings.

On desktop, click BioStar Server Config to start BioStar Server setting program. Or, in Windows, Start > All programs > BioStar 1.8 > Server Service > BioStar Server Config

Server matching: When matching servers, system is supported to be improved according to numbers of the system CPU cores as matcher features have been enhanced. So, the more core numbers, it is able to expect the faster matching speed. Server matching item of BioStar Server Config supports the settings as follows:

- Number of Core shows the numbers of cores to be used by matcher, and default is 2.

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The image shows the BioStar Server Config window. It has a title bar 'BioStar Server Config' with a close button. The window is divided into several sections:

- Status:** Shows a green checkmark icon, a text box, and buttons for 'Stopped' and 'Start'.
- Connection:** Includes a TCP Port field (1480), a Thread Count field (32), and a 'Client List ...' button.
- Server Matching:** Includes a 'Number Of Core' field (2 / 4).
- Database:** Includes a 'Database Type' dropdown (ORACLE), a 'Database Name' field (BioStar), and buttons for 'Configure' and 'Set Name'. It also has radio buttons for 'Server Authentication' (selected) and 'Windows Authentication'. Below these are fields for 'Database Server' (localhostBSServer), 'Port' (49258), 'ID', 'Password', and 'Max Connection' (1).
- SSL:** Includes an 'OpenSSL Path' field (C:\OpenSSL\bin\openssl.exe) with a 'Browse' button, and a 'Pass Phrase' field (masked with asterisks) with a 'Change' button.

 At the bottom are buttons for 'Refresh', 'Apply', 'OK', and 'Cancel'.

The server configuration utility allows you to monitor and control the following:

- **Status:** view and modify the current status of the BioStar server (Stopped or Started). You can stop and start the server by clicking the Start or Stop button on the right.
- **Connection:** view and modify the details for the connection between the server and devices.
- **TCP Port:** enter the port that devices and client applications use to connect to the server. You should use a port that is not shared with any other software applications. In most cases, you can use the default port (1480).
- **Thread Count:** enter the maximum thread count that the BioStar server can create. You can enter any number between 32 and 512; however, keep in mind a larger thread count will consume more system resources.
- **Client List:** click this button to view a list of devices that are connected to the BioStar server. The list shows the IP address of each device and whether or not a SSL certificate has been issued to the device. You can issue or remove SSL certificates directly from the utility.

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- Database: view and modify database settings. For more information about how to alter these settings, see the procedure for setting up the BioStar server in section 6
- Max Connection: specify the maximum number of connections between the server and the database. In most cases, the default value (1) is appropriate.
- SSL: view or modify the settings for OpenSSL. Click Browse to locate the path for the OpenSSL application or click Change to change the pass phrase.

6. Install the BioStar Client Application

If you do not choose to install the BioStar server and client applications together, you need to select only the application you would like to install at the Select Features dialog box during the installation of the BioStar Setup.

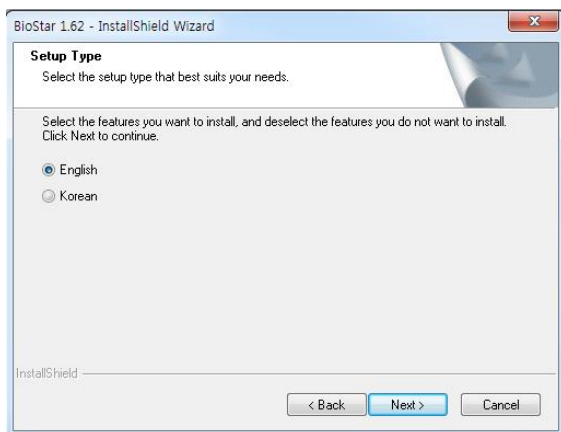
Before you install the BioStar client application, close all other running applications.

The installer includes the following components:

- BioStar server application
- Auxiliary libraries: OpenSSL and Microsoft Visual C++ Redistributable
- MS SQL Server Express
- BioStar client application
- BADB Conv (database migration tool)

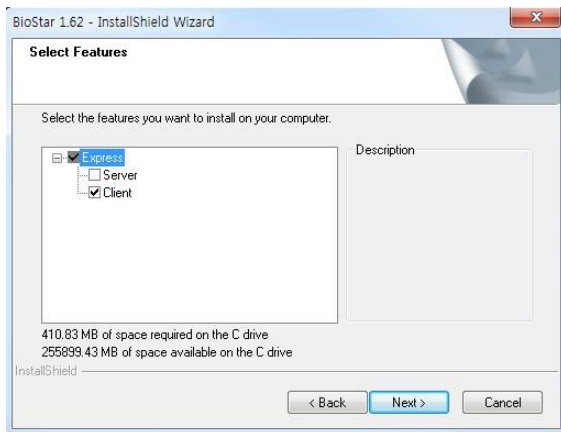
To install BioStar client application:

1. Insert the BioStar installation CD into a compatible media drive.
2. Run BioStar 1.8 Setup to launch the installation wizard.
3. Follow the on-screen prompts to install the BioStar Client.
4. During the installation, you will be asked to select the language of your preference. Select a language, then click Next to proceed.



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5. At the Select Features dialog box, click the Server checkbox to uncheck it and exclude the Biostar server application in the installation (both the server and client applications are checked by default), then click Next to proceed.



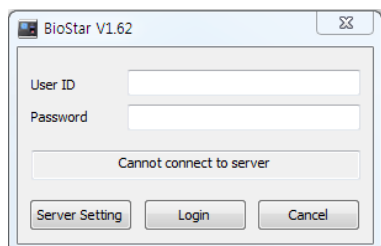
6. Follow the instructions on the screen to finish the installation.

6. Log in to BioStar for the First Time

If you restarted the system after installation, the BioStar server should run automatically in the background. If you have not restarted the system, you may be required to manually connect to the server before proceeding (see section 5). When logging in to BioStar for the first time, you will be prompted to create an administrator account.

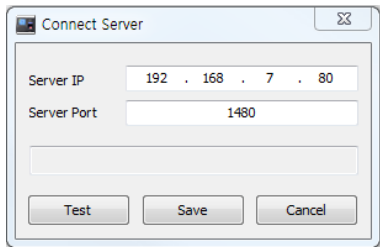
To log in for the first time:

1. Launch the BioStar program. If BioStar successfully connects to the server, the Add New Administrator dialog box will open. In this case, skip to step 6. If BioStar cannot connect to the server, the Login dialog box will open and display the message "Cannot connect to server."



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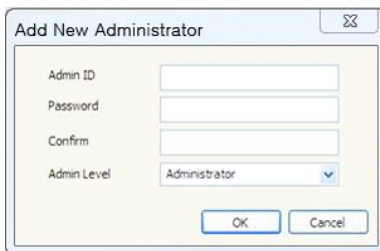
2. Click Server Setting. This will open the Connect Server dialog box.



The 'Connect Server' dialog box contains the following fields and buttons:

- Server IP:** A text field containing '192 . 168 . 7 . 80'.
- Server Port:** A text field containing '1480'.
- Buttons:** 'Test', 'Save', and 'Cancel'.

3. Enter the IP address and port number of the BioStar server.
4. Click Test to verify the connection.
5. Click Save to store the connection settings. This will open the Add New Administrator dialog box.



The 'Add New Administrator' dialog box contains the following fields and buttons:

- Admin ID:** A text field.
- Password:** A text field.
- Confirm:** A text field.
- Admin Level:** A drop-down menu with 'Administrator' selected.
- Buttons:** 'OK' and 'Cancel'.

6. Enter an Admin ID and password, confirm the password, and choose an administration level from the drop-down level.
7. Click OK. This will return you to the Login dialog box.
8. Enter a User ID and password and click Login.