Fencing Time®

Version 4.7

Server System Guide

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Chapter 1: Fencing Time Server System Overview

The Fencing Time server system centralizes your tournament data so that multiple computers can operate on it simultaneously. This architecture can support many client PCs running in multiple roles: tournament operator, check-in desk, and remote monitor.

Server System Components

The Fencing Time system is comprised of several components. Not all are required to use the server system; however, a fully realized system will include all of the components.

1. **Fencing Time database server (required)**
   The heart of the Fencing Time system is the database server running Microsoft SQL Server Express. A valid Fencing Time Server license must be installed on the server.

2. **Fencing Time clients running in operator mode (required)**
   The Fencing Time clients are the standard Fencing Time application running in "operator" mode. Operator mode allows the user unrestricted access to the tournament data so that they can run the tournament. Each client must have a valid Fencing Time Standard license installed.

3. **Fencing Time check-in kiosk (optional)**
   The Fencing Time check-in kiosk is an app that allows fencers to check-in for events by scanning a barcode on QR code with their federation's membership or license number. Generally, the kiosk can be left unmanned, so many tournament organizers prefer this option for large events. The kiosk app can be run without a license.

4. **Fencing Time clients running in manned check-in mode (optional)**
   Before the check-in kiosk was available, manned Fencing Time clients were run in "check-in" mode. This is a mode that is restricted to only performing check-in activities; check-in clients cannot modify the tournament, events, or scores. The Fencing Time client can be operated in "check-in" mode without a license. When using the check-in mode, a person must be present at the computer to assist fencers with the check-in process.

5. **Remote Monitors (optional)**
   Remote monitors are PCs used to control large displays or projector screens at the venue. These PCs only need to run the Fencing Time Remote Monitor application. Remote monitors do not need an installed license.

6. **Fencing Time Scoring Device Manager and StripView displays (optional)**
   The Scoring Device Manager app is used to interface Fencing Time with network-enabled scoring machines. StripView is an app designed to be run on a PC connected to a large screen at the strip which shows the fencer names, country flag, scores, clock, lamps, etc. These apps are usually only used at large international tournaments like FIE World Cups where the more advanced (and expensive) scoring machines are used.

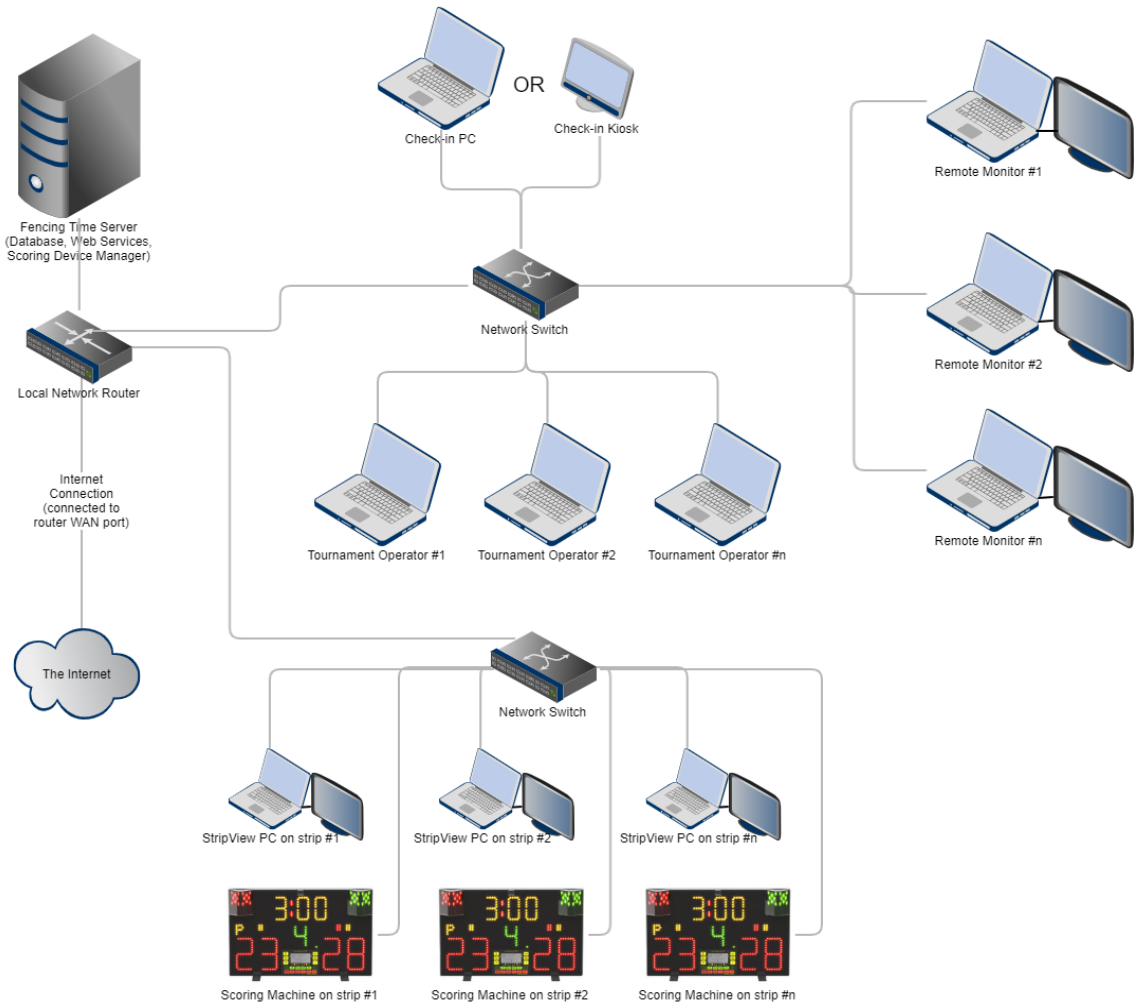
7. **Fencing Time web services (optional, required if using the Kiosk, Remote Monitor and/or Scoring Device Manager apps)**
   The Fencing Time web services are a set of services running on Microsoft's web server, Microsoft IIS (Internet Information Services.) These web services are usually installed on the same PC as the database server for both simplicity and efficiency. These services are needed by the kiosk, remote monitor, and scoring device manager apps for communication with the Fencing Time database server. The web services do not need a license.

System Architecture

The figure below shows a standard server system architecture. In this example, the database server and web services are installed on the same physical computer.

All of the computers in the Fencing Time system must be on the same local area network. A wired network is recommended for all devices, as wireless networks tend to be unreliable

The network used for the Fencing Time system should be a private network not available for general-purpose use. Do not put the Fencing Time system on the same network used to provide public internet access to people at your venue.



Chapter 2: Hardware Requirements

Each component in the server system has slightly different hardware requirements. The following requirements are recommendations; using less powerful PCs will usually work, but you may experience degraded system performance.

All computers running Fencing Time require version 4.7.2 or later of the Microsoft .NET Framework Runtime. If your computer does not have this framework installed, you will be notified during the installation process. If you need to install the .NET 4.7.2 Runtime, it can be downloaded from Microsoft at https://dotnet.microsoft.com/download/dotnet-framework/net472.

Database and Web Server

The database and web services have similar hardware requirements. For simplicity, it is recommended that you install both components on the same PC. There is little reason to separate the two components.

The recommended hardware configuration for the database and web server is a PC with a multi-core CPU running at 2 GHz and a minimum of 4 GB of memory.

The recommended operating system for the database and web server is Windows 11 Professional. The "Starter" and "Home" editions of Windows are not recommended. You must use the 64-bit version of whichever operating system you choose.

The database and web services cannot be installed on Windows XP, Vista, 8, or other ancient versions of Windows.

Operator and Check-in Clients

The standard Fencing Time client can be installed on any PC running Windows 7 or later. A CPU running at 2 GHz with at least 4 GB of memory is recommended.

Remote Monitors

The Fencing Time Remote Monitor software can be run on any PC running Windows 7 or later. Since this is a fairly lightweight application, just about any CPU should work (including Atom-based systems.)

Chapter 3: Network Requirements

In addition to the hardware needed to run the Fencing Time server and related apps, you must have a properly configured network so that the various programs can communicate with each other.

It is essential that you set up your Fencing Time server on a private network, especially if you are using the server at a venue where the network is not under your control (such as a school gymnasium, community center, convention center, etc.) Even if you are running the server at your club (where you have more control over the network), it is still advisable to create a separate network for Fencing Time.

Under no circumstances should you put your server on a public network. This is for several reasons: you have no control over how the network is set up, you may be sharing bandwidth with other users (such as people streaming movies or live TV), and finally, because it exposes your server to security risks.

To set up a private network, you will want to use a **router**. Generally, any consumer-grade router should be sufficient unless you expect to have more than 10 devices (computers, scoring machines, etc.) on the network. If your router does not have enough ports to support all devices, you can add more ports using network **switches**.

Most routers are configured to create a private network using the 192.168.1.xxx address space. This is sufficient for most users, although you can change this in your router configuration if necessary.

It is recommended that you give your server a fixed (static) IP address on the network. Connected scoring machines also utilize static IP addresses. Make certain that the IP addresses assigned to your server and scoring machines are not within the DHCP (dynamic IP address allocation) address range that your router uses. Failure to do this can lead to IP address conflicts.

The Fencing Time system works best when using a wired network. Most routers today provide both wired ports as well as a wireless signal. While wireless is convenient, it often is unreliable in a room filled with people with mobile devices. You should plan to use a wired network (ethernet cables) between your server and all PCs and scoring machines.

To give your network internet access, you should connect your router's WAN (wide-area network) port to the network that provides the internet. This would be the network provided by the venue. If the venue only provides internet via a wireless network, you will need another router set up as a **wireless bridge** to connect to the wireless and then connect to your router's WAN port using an ethernet cable.

Chapter 4: Setting up the Fencing Time Server

Installing Fencing Time on your server is a fairly straightforward process. The steps below are a basic outline of the process, although you may need to tailor the process a bit for your specific situation.

Find your Computer Name

Throughout the installation process, you will need to know your server's **computer name**. This is the unique name of the computer so that it can be identified on the network. You will need to provide this name every time you connect a Fencing Time client to the server.

To find your computer name (if you do not know it), open the Windows Settings and select the "System" item (this will vary depending on which version of Windows you are using.) Clicking the "About" item will take you to the screen showing which version of Windows you are running. The computer name will also be shown as the "Device name".

In the following instructions, we will often use "localhost" as the computer name when working on the server. It is very important to understand that "localhost" is basically means "the computer I am working on now". So, when working on the server, "localhost" refers to the server PC. If you are working on a different PC, "localhost" (when used on that PC) refers to that PC.

Downloading the Fencing Time Server

The first step in installing the server is to download the latest version from the "Downloads" page on www.fencingtime.com. This download will save the FT47ServerPack.exe file to your PC. Once downloaded, double-click the file – this will extract several files onto your computer:

FT47DatabaseSetup.exe	Fencing Time database server setup program
FT47WebServicesSetup.exe	Fencing Time web services setup program
FT47ClientSetup.exe.exe	Fencing Time client setup program
FencingTimeServerSystemGuide.pdf	This document
UpgradingYourFencingTimeServer.pdf	Document detailing how to upgrade your server

Once the files have been extracted, you can delete FT47ServerPack.exe from your computer.

Upgrading an Existing Fencing Time Server

If you have an existing Fencing Time server and you want to upgrade it to the latest version, do not continue with the steps in this document. Instead, please read the UpgradingYourFencingTimeServer document that was extracted to your computer for instructions on how to upgrade your system.

Installing the Fencing Time Database and Server License

Run the FT47DatabaseSetup.exe program on your server PC to begin the process of installing the database. You will need to do this from a user account with administrator privileges.

The installer will prompt you for three passwords. The first password is for the administrator account, which you will use to manage the Fencing Time database. **DO NOT FORGET THIS PASSWORD**. Without this password, you will be unable to maintain your database.

The second password is for the "tournament operator" account which you will use when the running Fencing Time client in "operator" mode. You will be able to change this password later if desired.

Finally, the third password is for the "check-in" account, which is limited to performing competitor check-in functions at an event. You will be able to also change this password later if desired.

The installer will proceed to install SQL Server Express, which is the database that stores Fencing Time's data. (Note: If you get a "program compatibility" warning when SQL Server is installing, you can ignore the warning and continue the installation.) After the database is installed, the installer will configure it for use by Fencing Time.

The final step in the installation process is to install your server license. You can skip this step if you wish, but your server will not be usable until a license is installed. If you have your license available (sent via email when you purchased Fencing Time), paste it into the box and click "OK." You should then see a message telling you that the license was properly installed.

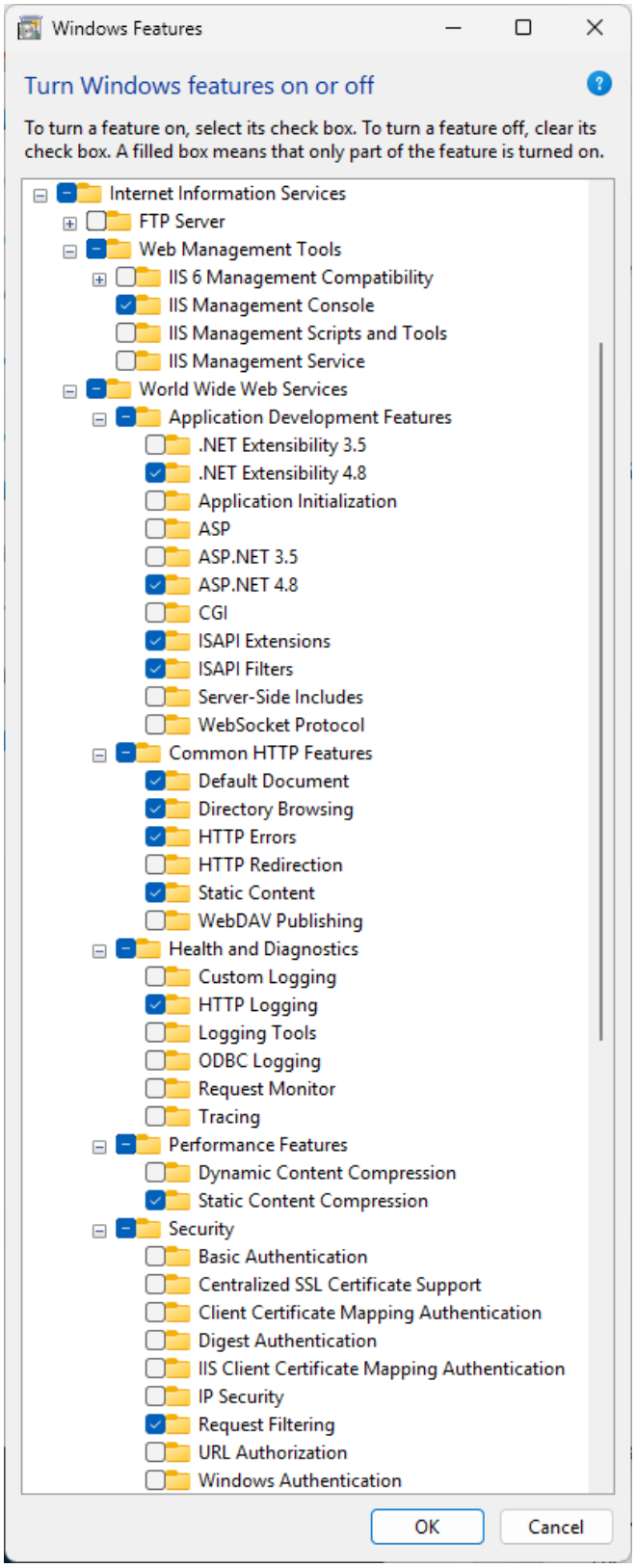
If you skip the license installation step, you will need to use the Fencing Time Database Manager (described in Chapter 6) to install it at a later time.

Installing IIS and the Fencing Time Web Services

You will need to install the Fencing Time web services if you want to use the Fencing Time remote monitor program (to display tournament information on screens or projectors in the venue), the Fencing Time Check-In Kiosk app, and/or the Fencing Time Scoring Device manager (to send/receive data from scoring machines.) If you do not plan to use any of these apps, you can skip this step. The web services can always be added to your server at a future date.

Before installing the web services, you must make sure that Microsoft Internet Information Services (IIS) is enabled and configured properly on your server. IIS is a full-featured web server that is built into Windows but usually is not enabled by default. Even if IIS is already running on your server, it is essential that you verify that the settings are correct.

To install IIS on Windows 10 or 11, open the Windows Settings and click the "System" option. Select the "Optional features" item, then click "More Windows Features" which will show the "Turn Windows features on or off" popup. Locate "Internet Information Services" in the list and check the checkbox to enable it. Click the small "+" to the left of the checkbox to expand the options, then closely review all of the options to make sure they match the screenshots below. **Failure to do this will result in your web services not working.**

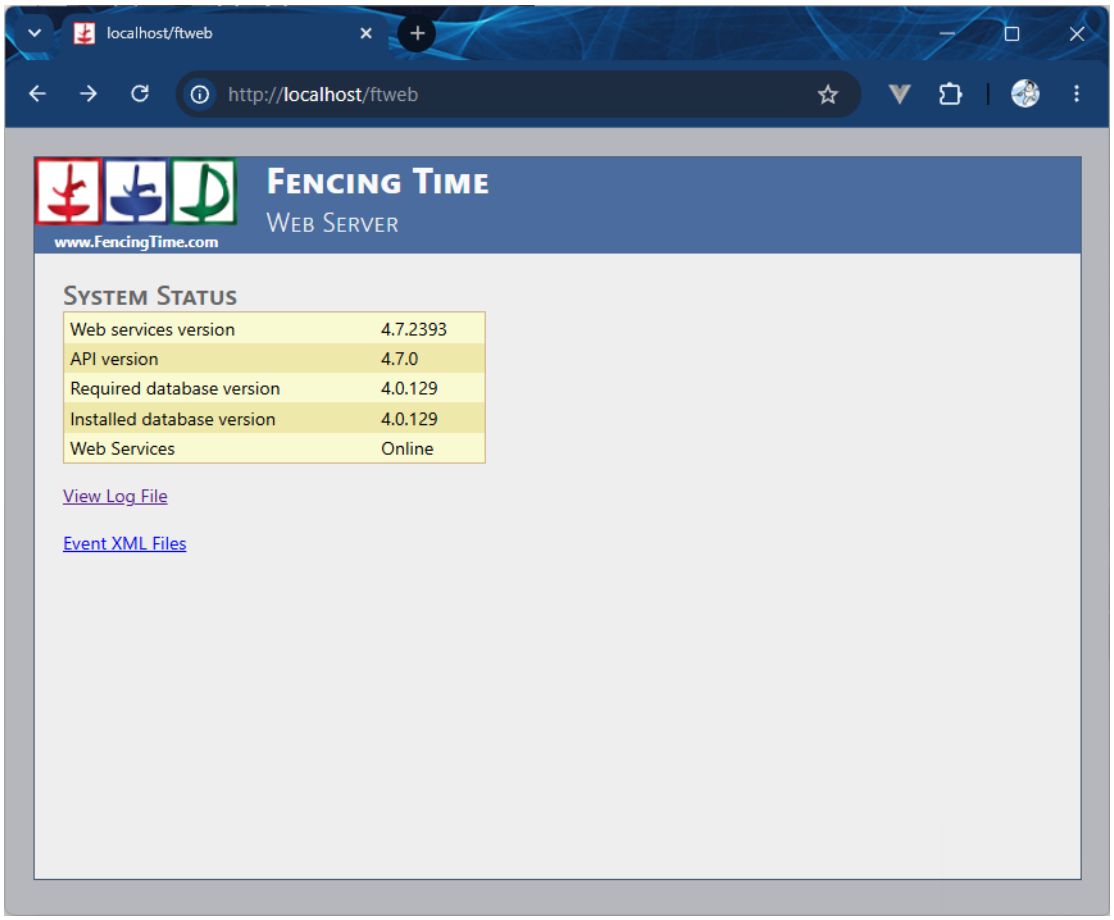

Windows Features
Turn Windows features on or off
To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.
Internet Information Services
FTP Server
Web Management Tools
IIS 6 Management Compatibility
IIS Management Console
IIS Management Scripts and Tools
IIS Management Service
World Wide Web Services
Application Development Features
.NET Extensibility 3.5
.NET Extensibility 4.8
Application Initialization
ASP
ASP.NET 3.5
ASP.NET 4.8
CGI
ISAPI Extensions
ISAPI Filters
Server-Side Includes
WebSocket Protocol
Common HTTP Features
Default Document
Directory Browsing
HTTP Errors
HTTP Redirection
Static Content
WebDAV Publishing
Health and Diagnostics
Custom Logging
HTTP Logging
Logging Tools
ODBC Logging
Request Monitor
Tracing
Performance Features
Dynamic Content Compression
Static Content Compression
Security
Basic Authentication
Centralized SSL Certificate Support
Client Certificate Mapping Authentication
Digest Authentication
IIS Client Certificate Mapping Authentication
IP Security
Request Filtering
URL Authorization
Windows Authentication
OK
Cancel

Once IIS has been installed, the next step is to install the Fencing Time web services. To do this, run the FT47WebServicesSetup.exe installation program on the server PC.

During the installation process, you will be prompted for the name of the computer where the database is installed. If the database is installed on the same computer (as recommended), you can set the server name as "localhost". If you installed the database on a different computer, enter that computer's name.

Next, you will be asked for the operator account password. Enter the password that you set when installing the database.

After the installation has finished, open your web browser and navigate to http://localhost/ftweb. If everything is set up properly, you should see a page showing the Fencing Time system status and installed database versions:



If the "Web Services" are shown as offline and an error is printed, try refreshing the page. If the error persists, you can view the error details in the log file, which can be viewed by clicking the "View Log File" link under the system status information.

If visiting http://localhost/ftweb shows a page with the message "HTTP Error 500.19 – Internal Server Error", this means that you did not set the IIS settings correctly as described earlier. Verify that the settings match the provided screenshots and try again.

Once you have verified that the web services are online, you should verify that other computers can see them. To do this, navigate to http://<servername>/ftweb from another computer on the network, using the server computer's name in the URL. If you are unable to access the page from a remote computer, that almost always indicates a firewall problem. Make sure that all firewalls on the server are turned off, including any firewall handled by your antivirus software.

Chapter 5: Setting up the Fencing Time Clients

The next step is to install the Fencing Time client application. Normally, this will be done on the computers used at the bout committee/DT, check in, etc. However, it is a good idea to also have a copy of the client application on the server to help troubleshoot any problems.

Installing the Fencing Time Client

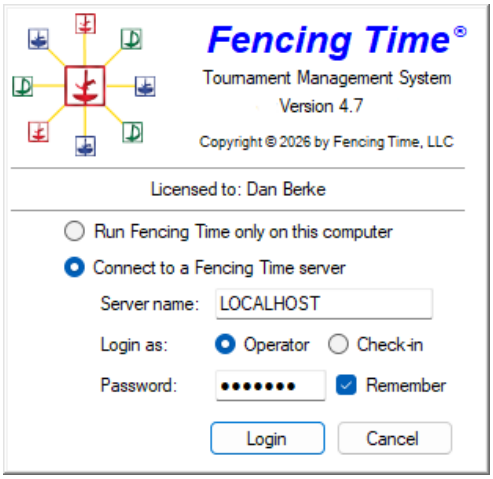
To install the client, run the FT47ClientSetup.exe program. On the component selection screen, select the "Fencing Time application" option. You may de-select the other options as they are not required to run the client.

Once installed, launch Fencing Time using the icon on the desktop or the link on the Start menu. If you see the Trial Version screen, this means that a Fencing Time Standard license is not installed for this client.

If you want to run this client in "operator" mode, you must install a Standard license. If you are setting up a client to function as a check-in station, then you do not need to install a license. Without a license, the client will only be allowed to run in "check-in" mode.

If you intend to run this client in operator mode, proceed with the license installation by following the on-screen instructions.

When you reach the title screen, select "Connect to a Fencing Time server" and enter the name of the computer where your database is installed. Select either operator or check-in mode, and enter the corresponding password, then click "Login".



If your server does not yet have a license installed, you will receive an error notifying you of this, and Fencing Time will close.

If your server is properly configured, Fencing Time should start normally. You will now be logged into the server, and any tournaments and events you create will be stored on the database server. These tournaments will be accessible by any Fencing Time client connected to your network.

Troubleshooting Connection Problems

If you have trouble connecting the Fencing Time client to the server, there are a few steps you can take to identify the problem.

First, install the client application on the server PC if you haven't already done so. Launch the client on the server and log in using either the operator or check-in account. If you are able to connect when running on the server, but not from other computers, the issue is likely a firewall problem.

To solve the problem, you should turn off all firewalls on the server – both the Windows Defender Firewall and any firewall provided by your antivirus software.

It has been reported that some VPN (virtual private network) software can interfere with connections to the database, even if the VPN is disabled. You may need to completely uninstall the VPN software from your computer to solve the problem.

If you still can't connect, try using the server's IP address as the server name, rather than the actual server name. To get the server's IP address, do the following steps on the server:

- Press Windows-R then type "cmd" to open a command prompt window.
- Type the command "ipconfig" and press Enter.
- Find the section called "Ethernet adapter Local Area Connection" and look for the "IPv4 Address". This should be the IP address of your server. (IP addresses on a private network often start with "192.168.")
- Go to a client computer and enter the IP address (all four numbers including the dots separating them, with no spaces) for the server name.

If you are still unable to connect, try rebooting the server and repeat the process. If you're still unable to connect, verify the following:

- You are providing the proper server name. Do not use "localhost" as the server name, since that is not correct when trying to connect from a remote computer.
- You are using the correct password. Passwords are case-sensitive.
- Confirm that SQL Server is running. Press Windows-R then type "services.msc". Find the "SQL Server" item and verify that its status is "Started". If it is not started, double-click on the item, set the startup type to "Automatic", and then click "Start".

If you have verified the above and still are unable to connect from the Fencing Time client running on the server, contact Fencing Time customer support for help.

Chapter 6: Setting up and Configuring Remote Monitors

The Fencing Time Remote Monitor program can be run on PCs that are controlling a screen or projector that displays the current tournament information at the venue. Usually, you will have one PC per screen/projector. However, if your PC has multiple video outputs, it is possible to control multiple screens from a single PC.

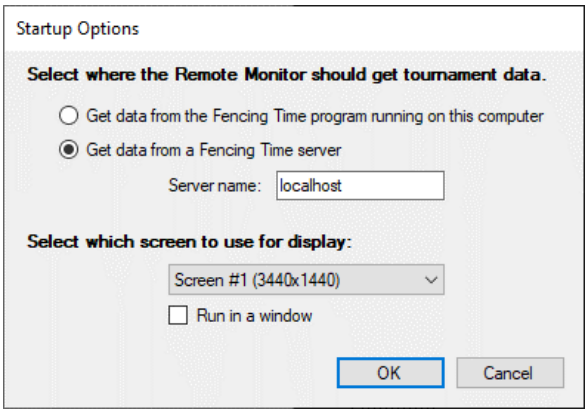
Installing the Remote Monitor

To install the Remote Monitor, run the FT47ClientSetup.exe program and select the "Fencing Time Remote Monitor" component. Unselect the other components, as they are not needed on computers that run the Remote Monitor.

To use the Fencing Time Remote Monitor, you must have the Fencing Time web services installed on your server. If you have not already done so, refer to Chapter 3 on how to install the web services.

Configuring the Remote Monitor

To run the Fencing Time Remote Monitor, start the program using the shortcut on the Windows Start menu. You will be presented with the Startup Options screen.



When running the remote monitor in the server system, you will want to select the second option, "Get data from a Fencing Time server". Enter the name of computer running the Fencing Time web services. This is usually the same server as the database server.

If you have multiple screens connected to your computer, you can select which one to use for displaying the tournament data. Make your selection and click "OK".

Once the Remote Monitor display has appeared, you can configure the display by clicking the blue bar at the top of the screen. From here, you can select the feed to display and set other options. Refer to the *Fencing Time User's Guide* for more information on setting up feeds and configuring the display.

Chapter 7: Managing Your Database Server

Fencing Time provides a tool for managing your database server call the Fencing Time Database Manager ("FTDBM"). This program is used to perform a variety of tasks on the Fencing Time database server, including:

- Installation of the server license
- Database upgrades
- Database resets
- Password changes
- Database backup and restore

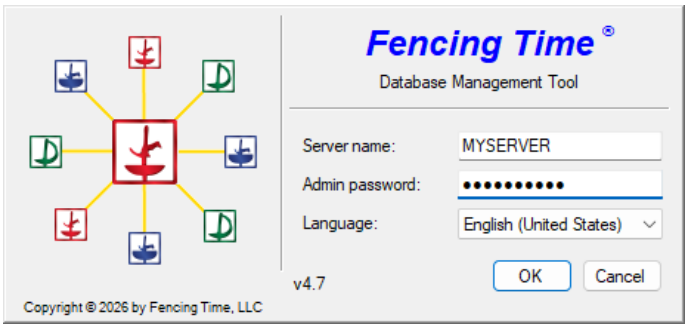
Installing the Fencing Time Database Manager

The Database Manager tool can be installed on any PC on your network. Generally, it is installed on the server itself, or on the PC that is most often used to run tournaments.

To install the Database Manager tool, run the FT47ClientSetup.exe program and select the "Fencing Time Database Manager" component. Unselect the other components, as they are not needed for the Database Manager.

Running the Fencing Time Database Manager

When you run the FTDBM, you will see the login screen:



Enter the name of the database server and the administrator password that was chosen when you installed the database. Select your language and click "OK" to login.

Database Upgrades

Periodically, updates will be released for Fencing Time. Some of these updates make changes to the database, which is done by performing a database upgrade.

If a database upgrade is necessary, you will receive an error notifying you of this when you attempt to connect to the database using the Fencing Time client. You will not be able to use the client until the database has been upgraded.

Upgrades are designed to be done without erasing data, so you can run the upgrade safely on an existing database. It is recommended, however, that you backup the database prior to performing any upgrade.

To perform an upgrade, select the "Database" tab. You will see a list showing the history of database versions that have been applied. The current version is shown in the lower-right corner of the window. Click the "Upgrade" button to start the upgrade, which should complete fairly quickly. When the upgrade is completed, the upgrade list will be refreshed to reflect the latest version. You can now exit FTDBM and launch the Fencing Time clients.

Database Resets

If, for some reason, you want to wipe out your database and start fresh, you can do so using the "Reset" button on the "Database" tab. This will delete all data in the database – all fencers, clubs, referees, tournaments, scores, results, etc. If you do not backup the database prior to doing a reset, the data will be lost forever.

Password Changes

On the "Users" tab there are three buttons describing each account type in Fencing Time along with a button which will allow you to change the password for each. You do not need the old password before resetting a password, so this is ideal if you forget your password. Of course, if you forget your admin password, you're in big trouble – you won't be able to run the FTDBM tool in the first place!

Note that if you change the operator password, you will need to re-install the Fencing Time Web Services so that you can update the password used by that component.

Database Backup and Restore

The "Backup" tab allows you to perform backups of your database, as well as restore the database from a backup. Performing a backup is fairly quick and lightweight and should be done periodically. Restoring a backup will completely replace the current database with the contents of the backup, so if the database has added or changed data since the backup file was created, those changes will be lost when restoring from a backup file (unless you create a different backup with those changes.) Note that after restoring a backup, you may need to upgrade the restored database to bring it up to the latest database version.

The FTDBM program has an option to create backups on a continuous schedule. When you are running a major tournament, it is a good idea to enable this option so that backups will be created every 15 to 60 minutes. It is also a good idea to have these backups saved to an external drive such as a USB flash drive – this way, if you server PC fails and is completely inaccessible, you will have the database backups on an external drive that can be restored to a server running on a new PC.

Installing a Server License

The “License” tab is used install (or change) the installed server license. Without a license, your server will be unusable – clients will not be allowed to log in until a valid license is installed.

To install a license, click the “Change” button and follow the instructions on the screen to obtain and install the server license.