# USER GUIDE

## FTVersionTrak

Version 3.1.x

**FasTrak**
SoftWorks, Inc.

www.fast-soft.com

262.238.8088

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# Table of Contents

# Chapter 1 – Introduction

# Welcome to FTVersionTrak

Thank you for choosing FTVersionTrak, FasTrak SoftWorks' powerful file change management system for storing and archiving sensitive files and projects.

# Customer Support

It is our goal that customers become proficient users of our software as quickly and easily as possible. With that in mind, FasTrak makes available a number of support options. Commonly asked questions can usually be answered with this online help, the user manual, or by visiting our website at www.fast-soft.com. Our website features easy-to-access FAQs, technical resources, and system documentation.

For real-time how-to help and advanced troubleshooting, contact FasTrak's customer center and speak directly with a technical support representative. Our trained experts offer convenient, accurate, and prompt assistance.

| | |
|---|---|
| **Customer Support** | 262.238.8088 |
| **Customer Support Fax** | 262.238.8080 |
| **Email** | support@fast-soft.com |
| **Website** | www.fast-soft.com |

You can also send questions, comments, and suggestions to:

FasTrak SoftWorks, Inc.

PO Box 240065

Milwaukee, WI  53224-9003

# What is FTVersionTrak?

FTVersionTrak is a powerful file change management system for storing and archiving sensitive files and projects.

FTVersionTrak is critical to the successful management of change-sensitive information over an extended period of time. This software enables users to track, view, and report changes made to files, folders, and multi-file projects. FTVersionTrak can be easily integrated within FasTrak's 505 WorkShop and PLC WorkShop for Modicon suites to efficiently manage and control precise and complex PLC programs, and is capable of archiving files of any type, such as *.DOC, *.XLS, *.BMP, and *.PDF, as well as FasTrak PLC programming files.

## Powerful Version Control

The core of FTVersionTrak is the Repository File System, a central and secure location for files and folders stored in the FTVersionTrak database. This compressed database looks and behaves like the familiar Windows Explorer tree structure. The master copy of a file stored in FTVersionTrak is not accessed directly by the user. Rather, FTVersionTrak creates a copy of the file when the user retrieves it from the repository. A copy of the file is then placed in the user's working directory, where it becomes editable once the user checks it out from the repository. No two users may check out the same file at the same time.

## Change Management

While the file is checked out, any changes made to the file appear only in the user's working directory. Once the user checks the file back into the repository, FTVersionTrak creates a new version of the file, along with an automatic, detailed history. Versions housed in the repository may be checked in and out, searched for, listed with history, compared, reviewed, renamed, deleted, or rolled back.

# Additional Features

- Familiar and easy-to-use folder tree structure

- Support for electronic signing of documents (portions of CFR 21 Part 11 Standard)

- Printable version history list

- Ability to create version histories for archived files

- User-defined state transitioning

- Multiple version labeling options

- User-configurable log of user actions

- Configurable automatic deletion of obsolete files

- Seamless integration with PLC WorkShop products

- Support for electronic signing of documents (compliant with portions of FDA 21 CFR Part 11)

- Printable version history list

- Ability to create version histories for archived files

- User-defined state transitioning

- Multiple version labeling options

- User-configurable log of user actions

- Configurable automatic deletion of obsolete files

# Specifications

- **Database Technology** – FTVersionTrak is delivered with MS SQL Server 2008 Express. It may also be used with MS SQL Servers.

- **Powerful Security** – Combined with two levels of security – server-based and repository-based – FTVersionTrak offers the highest protection for your valuable data. For maximum flexibility, user- and group-based permissions may be set, with these permissions based on both Windows and SQL Authentication.

- **PLC Program Support** – Designed to integrate with FasTrak's 505 and Modicon PLC programming software.

- **Windows Compatibility** – Designed and tested under Windows XP, Windows Vista, Windows 7, Windows 8, and Windows 10.

- **Product Upgrades** – Regular product upgrades may be obtained by convenient download from www.fast-soft.com. Notifications via email are sent for all major feature releases.

- **Customer Service** – When you contact us for support, you will receive immediate and accurate solutions to your questions, resulting in less downtime. You will have access to the engineers who design our software packages.

- **Site Licenses** – Keyless site licenses are available, which eliminate tracking and lost keys.

- **Annual Maintenance Agreements** – Following expiration of the one-year warranty period, maintenance agreements – which include unlimited technical support and product upgrades – are available for purchase on an annual basis.

# FTVersionTrak PE Overview

FTVersionTrak PE is a slim, lightweight version of the software that is designed specifically for users of PLC WorkShop for Siemens 505 and PLC WorkShop for Modicon. FTVersionTrak PE combines the most valuable features of the advanced edition, including limitless version histories, side-by-side comparisons of logic programs, and seamless integration with PLC WorkShop, into an easy to use, more affordable package.

FTVersionTrak PE requires very little time to install and set up, so that you may begin to take advantage of the benefits of using the software immediately. The interface has also been simplified, so that access to all areas of the software can be made from the imbedded FTVersionTrak PE Toolbar located in PLC WorkShop.

To learn more about how to use FTVersionTrak PE with your PLC WorkShop product, see the *Using FTVersionTrak with PLC WorkShop Quick Start Guide* or view the online help topics included with your copy of PLC WorkShop.

# Version Control

One of FTVersionTrak's main functions is version control, which is the ability to maintain and track many versions of a single file, including a history and comments of the changes to the file through each version.

Version control is a critical component in managing change-sensitive information over an extended period of time. Using FTVersionTrak for version control efficiently addresses many common challenges to managing change-sensitive information, some of which are listed below.

## Group Coordination

When multiple people are changing content within a file or group of files, it is important to make sure that everyone is aware of the changes being made. FTVersionTrak achieves this by allowing only one user to be able to edit a file at one time. The master copy is automatically updated with each change once it is checked in, assuring that everyone has access to the latest changes.

## Version Tracking

Archiving and tracking of older versions of PLC programs and other files permits retrieval for bug tracking and comparison to newer versions. A new version of the file is created each time a user checks in a file, but older versions are still accessible. This allows a rollback to an older version if the new version is unnecessary, incorrect, or not applicable to a different situation.

## Cross-Platform or Reusable Data

Instead of storing and keeping track of multiple files that only differ slightly depending on their application, FTVersionTrak can maintain a single instance of a file with different versions that reflect its varying applications.

# Getting Started

This user guide will guide you through setting up and using FTVersionTrak to protect and manage your change-sensitive files. It is divided into three sections to help users get started using FTVersionTrak as quickly as possible.

> **NOTE:** The following first two sections only apply to the advanced edition of the software, and are not applicable to FTVersionTrak PE. FTVersionTrak PE users should skip directly to **Using FTVersionTrak**. or view **Using WorkShop with FTVersionTrak** in the PLC WorkShop help.

## Working in the Main Window

This section illustrates the feature-rich interface that makes FTVersionTrak such a powerful yet easy to use change management application. This section will guide you through all the different menu options, toolbar buttons, and view options.

## Using the Repository File System

This section introduces you to the concept of the repository - the virtual file management system FTVersionTrak uses to manage and organize files. This section details how to create, connect to, and protect a repository, as well as how to add, edit, and remove files and folders within the repository. System administrators and project managers should start here.
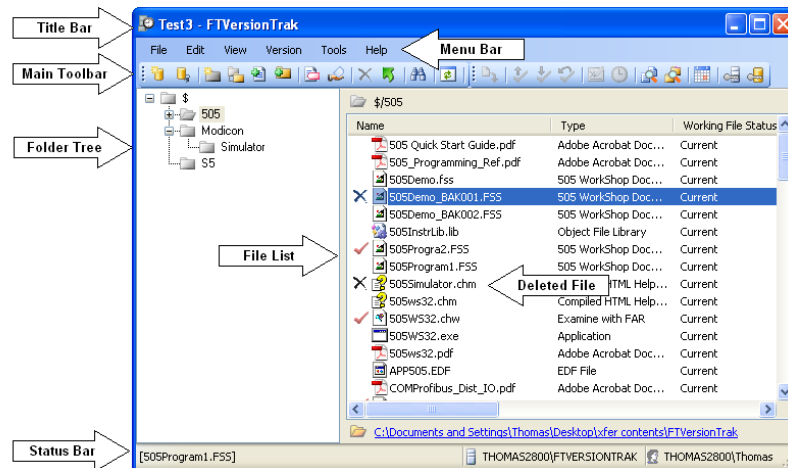
## Using FTVersionTrak

This section describes the version control features that all project members will encounter when using FTVersionTrak. This section details the method of setting up a local machine to check files in and out, tag files with information that will make them easier to track and manage, and view that information to get a clear picture of project status.

# Chapter 2 – Working in the Main Window

# Introduction to the Main Window

The FTVersionTrak main window is the starting point for all work. The key features of the window are labeled next to the following sample.

# Using the Title Bar

The title bar spans the top of the FTVersionTrak window.



Use the title bar for three purposes:

- To identify the application being used. In the example above, it is FTVersionTrak.
- To move the window.
- To change the size or position of the window.

# Using the Menu Bar

The following menus appear in the main window, just below the title bar.



The following list describes the commands available in each menu. Not all menus and commands displayed may be available, depending upon the operation in progress. The commands available in each menu are also subject to availability based on your edition of the software.

## File

- **Create New Repository** – This command creates a new FTVersionTrak repository. You may also create a new repository by clicking the  toolbar button or by pressing **CTRL+N**.

- **Connect to Repository** – This command is used to connect to an existing FTVersionTrak repository. You may also connect to a repository by clicking the  toolbar button or by pressing **CTRL+C**.

- **Disconnect from Repository** – This command closes the active repository but leaves FTVersionTrak open. This command can only be accessed from the menu.

- **Repository Info** – Selecting this command will display the Repository Information dialog box, which contains information about the repository, such as the name of the repository, the name of the server it resides in, the size of the repository, when it was created, and who created it.

- **Create New Folder** – This command creates a new folder within the active repository. You may also create a new folder by clicking the  toolbar button or right-clicking a repository folder and then clicking **New Folder** from the shortcut menu.

- **Set Working Directory** – This command item is used to designate a folder on a local machine to store working copies of files retrieved from FTVersionTrak. You may also set the working directory by clicking the  toolbar button, pressing **CTRL+W**, or right-clicking a repository folder and clicking **Set Working Directory** from the shortcut menu.

- **Add Files** – This command is used to select new files from the local machine to add to the active repository. You may also add files to the repository by clicking the ![icon] toolbar button or by right-clicking a repository folder and then clicking **Add Files** from the shortcut menu.

- **Add Folder** – This command is used to add a folder and its contents to the repository as either a repository folder or a multiple file unit that functions as a single repository file. You may also add folders to the repository by clicking the ![icon] toolbar button or by right-clicking a repository folder and then clicking **Add Folder** from the shortcut menu.

- **Label** – This command applies a label to the contents of a repository folder. This label is associated with the latest version of each file in the repository folder and can be used as a "snapshot" of the state of the contents of the folder at the time the label was applied. You may also apply a label by clicking the ![icon] toolbar button or by right-clicking a repository folder and then clicking **Label** from the shortcut menu.

- **Share** – This command is used to place a repository file into another repository folder. Though a shared file is located in two or more folder, it retains all of its history, including versions, labels, and electronic signatures.

- **Properties** –This command item is used to view or modify the properties of the selected file or folder.

- **Generate File System Report** – This command will generate a report of the active repository file system. You may also generate a file system report by pressing **CTRL+G**.

- **Exit** – This command closes the FTVersionTrak application. You may also exit FTVersionTrak by pressing **ALT+F4** or by clicking the ![icon] title bar button.

# Edit

- **Edit File** – Selecting this command automatically checks out the selected repository file, launches the application associated with the file, and opens the selected file, making it ready for editing. You may also edit a file by double-clicking the file or by right-clicking the repository file and then clicking **Edit File** from the shortcut menu.

- **View File** – Selecting this command after selecting a repository file launches the application associated with the file and opens the selected file in read-only mode, allowing you to see the file but not edit it. You may also view a file by right-clicking the repository file and then clicking **View File** from the shortcut menu.

- **Delete** – Select this command to remove the selected file or folder from the FTVersionTrak main window without removing the file or folder from the repository completely. You may also delete a repository file or folder by selecting the item to delete and then pressing DELETE, clicking the ![X] toolbar button, or by right-clicking the item to delete and clicking **Delete** from the shortcut menu.

- **Rename** – Select this command to rename the selected repository file or folder while retaining all the version history of the file or folder. You may also rename a file or folder by right-clicking the item and then clicking **Rename** from the shortcut menu or by selecting the item to rename and single-clicking the name of the file or folder.

- **Restore** – Select this command to restore a deleted repository file or folder to the FTVersionTrak main window. **Restore** is only available when the **View Deleted Items** option is enabled and a deleted item is selected. You may also restore a file by clicking the ![icon] toolbar button or right-clicking the deleted item and clicking **Restore** from the shortcut menu.

- **Destroy** – Select this command to completely and permanently remove a repository file or folder, as well as any associated version history, from the repository. **Destroy** is only available when the **View Deleted Items** option is enabled and a deleted item is selected. You may also destroy a file or folder by right-clicking the deleted item and then selecting **Destroy** from the context menu.

- **Select** – Select this command to quickly search for and select items displayed in the main window. You may also accomplish this by pressing **CTRL+S**.

- **Select All** – This command selects every repository file displayed in the main window. You may also accomplish this by pressing **CTRL+A**.

- **Invert Selection** – Selecting this command highlights all items in the main window that have not been selected, and deselects currently selected items.

# View

- **Search** – Select this command item to search for items in the repository. You may also search by clicking the ![icon] toolbar button.

- **Unit Contents** – Select this command to view the contents of a multiple file unit. You may also view unit contents by double-clicking on the file unit.

- **Deleted Items** – Select this command item to view all repository files and folder that have been deleted, as well as active repository files and folders. Selecting the command again will hide the deleted items.

- **Status Bar** – Select this command item to display the status bar at the bottom of the main window. Selecting the command again will hide the status bar.

- **Activity Log** – Select this command to view actions taken by users within the FTVersionTrak repository.

- **Refresh** – Select this command to refresh the main window to display the most recent changes. You may also refresh by clicking the  toolbar button or by pressing **F5**.

# Version

- **Get Local Copy** – This command retrieves a copy of the file from FTVersionTrak and places it on your local machine. You may also get a file by clicking the  toolbar button or right-clicking a repository file or folder and then clicking **Get Latest Version** from the shortcut menu.

- **Check Out** – Select this command to check out the latest version of a repository file or folder to edit the item. You may also check out an item by clicking the  toolbar button or by right-clicking an item and then clicking **Check Out** from the shortcut menu.

- **Check In** – Select this command item to write changes made to a local file back to the repository and create a new version of the file. You may also check in an item by clicking the  toolbar button or by right-clicking a checked out item and then clicking **Check In** from the shortcut menu.

- **Undo Check Out** – Select this command to undo a checkout, undo edits to the contents of the file in the repository, and retain the current version. You may also undo a check out by clicking the  toolbar button or by right-clicking a checked out item and then clicking **Undo Check Out** from the shortcut menu.

- **Sign Document** – Select this command to place an electronic signature on a repository file or change the file's version state. You may also electronically sign a file by clicking the ![icon] toolbar button or by right-clicking a repository file and then clicking **Sign Document** from the shortcut menu.

- **History** – Select this command to view a repository file's version history. You may also view version history by clicking the ![icon] toolbar button or by right-clicking a repository file and then clicking **History** from the shortcut menu.

# Tools

- **Compare Files** – Select this command to compare two files for differences. You may also compare files by clicking the ![icon] toolbar button.

- **Compare Folders** – Select this command to compare two repository folders for differences. You may also compare folders by clicking the ![icon] toolbar button.

- **Scheduled Tasks** – Select this command to schedule and organized automated tasks. You may also schedule tasks by clicking the ![icon] toolbar button.

- **Server Security** – Select this command to manage server-level security. You may also manage server security by clicking the ![icon] toolbar button.

- **Repository Security** – Select this command to manage repository-level security. You may also manage repository security by clicking the ![icon] toolbar button.

- **Network Setup** – This command is used to configure your Modicon network communication settings to automatically connect your PLC WorkShop files managed in FTVersionTrak to the hardware on the plant floor.

- **Email Service Setup** – This command item allows you to configure the settings related to email. The settings are divided into the following areas: server configuration, email accounts, mailing lists, and email templates.

- **Notifications Viewer** – Select this command to view notifications.

- **File Version States** – Select this command to manage repository file version

states.

- **Options** – Select this command to set global options within FTVersionTrak.

# Help

- **Contents** – Select **Contents** to access the online help.

- **Update Key** – Select this command to update your software key license.

- **About** – Select **About** to display the current version of FTVersionTrak, license information, and installed components.

# Using the Main Toolbar

The main toolbar, located just below the menu bar in the FTVersionTrak main window, displays a row of icons that represent options you are likely to use frequently.

| Icon | Description | | Icon | Description |
|------|-------------|---|------|-------------|
| | Create New Repository | | | Connect to Repository |
| | New Folder | | | Set Working Directory |
| | Add Files | | | Add Folder |
| | Label | | | Share |
| | Delete | | | Restore |
| | Search | | | Refresh |
| | Get | | | Check Out |
| | Check In | | | Undo Check Out |
| | Sign Version | | | History |
| | Compare Files | | | Compare Folders |
| | Schedule Tasks | | | Server Security |
| | Repository Security | | | |

# Using the Folder Tree

The left pane of the Reversion main window contains the folder tree. Similar in appearance to Windows Explorer, the folder tree is a listing of the folders in the repository.
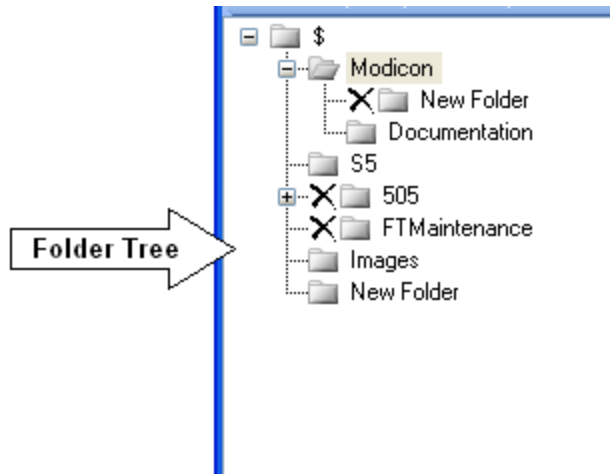


The folder tree enables logical organization of repository files. Folders can be grouped based on subprojects within the repository, users working on the project, or whatever the project requires. The folder tree always contains a root folder, which by default is given the name **$** and cannot be deleted, destroyed or renamed. The folder tree is automatically refreshed periodically to reflect any changes that may have been made to the repository. However, you may choose to manually refresh by clicking **Refresh** on the **View** menu, clicking the [icon] toolbar button, or pressing **F5**.

All folder management is done within the folder tree. Subfolders of the **$** root folder may be created, renamed, deleted, and destroyed. View deleted folders in the folder tree by clicking **Deleted Items** on the **View** menu. Only one folder may be selected or modified at once. Modify a folder using the menu bar, the main toolbar, or right-clicking a folder and using the folder context menu. When a folder is selected, the contents of the folder appear in the right pane of the main window, known as the File List. Folders may be selected either by clicking them or navigating to them using the arrow keys.

# Folder Context Menu

The following list describes the commands available on the folder context menu in FTVersionTrak. To access the folder context menu, right-click a repository folder in the folder tree. The commands available in the folder context menu are subject to availability based on the operation in progress.

- **New Folder**– This command creates a new subfolder within the selected folder. You may also create a new folder by clicking **New Folder** on the **File** menu or by clicking the toolbar button.

- **Add Files**– This command is used to select new files from the local machine to add to the selected folder. You may also add files to the repository by clicking **Add Files** on the **File** menu or by clicking the toolbar button.

- **Add Folder** – This command is used to add the contents of folders from the local machine to the repository or to create a multiple file unit from a selected folder. You may also add folders by clicking **Add Folder** on the **File** menu or by clicking the toolbar button.

- **Set Working Directory**– This command is used to designate a folder on a local machine to store working copies of files retrieved from the selected repository folder. You may also set the working directory by clicking **Set Working Directory** on the **File** menu, clicking the toolbar button, or pressing **CTRL+W**.

- **Search** – Select this command to search the contents of the selected folder. You may also search by clicking **Search** on the **View** menu or by clicking the toolbar button.

- **Compare** – This command compares the contents of the selected repository folder to the contents of the associated working directory. You may also compare folders by clicking **Compare Folders** on the **Tools** menu or by clicking the toolbar button.

- **Get Local Copy**– This command retrieves the latest versions of the contents of a repository folder and places it on your local machine. You may also get files by clicking **Get Latest Version** on the **Version** menu or by clicking the toolbar button.
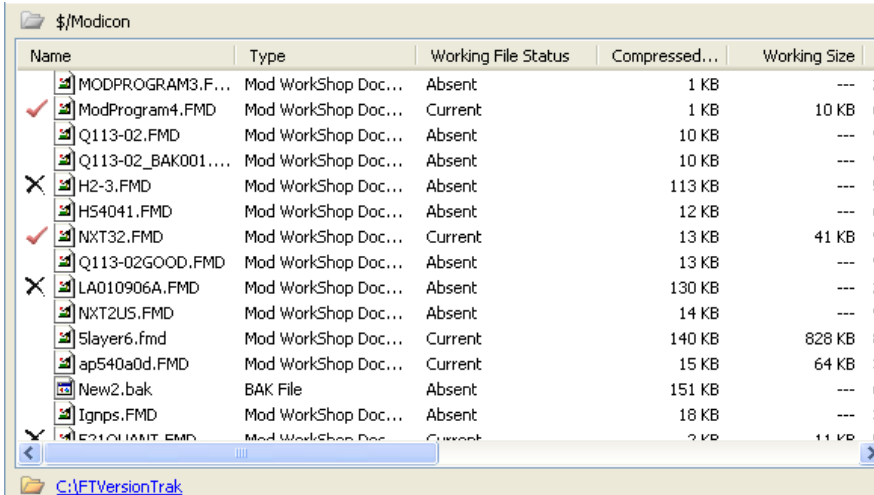
- **Check Out** – Select this command to check out the latest version of the contents of a repository folder to edit the items. You may also check out an item by clicking **Check Out** on the **Version** menu or by clicking the  toolbar button.

- **Check In** – Select this command to write changes made to local files back to the repository folder and create new versions of the files. You may also check in a folder by selecting **Check In** on the **Version** menu or by clicking the  toolbar button.

- **Undo Check Out** – Select this command to undo a checkout and undo edits to the contents of the repository folder and retain the current versions. You may also undo a check out by clicking **Undo Check Out** on the **Version** menu or by clicking the  toolbar button.

- **Label** – This command applies a label to the contents of a repository folder. This label is associated with the latest version of each file in the repository folder and can be used as a "snapshot" of the state of the contents of the folder at the time the label was applied. You may also apply a label by clicking **Label Files** on the **File** menu or by clicking the  toolbar button.

- **History** – Select this command to view a repository file's version history. You may also view version history by clicking the  toolbar button or by right-clicking a repository file and clicking **History** on the shortcut menu.

- **Delete Folder**– Select this command to remove the selected folder from the folder tree without removing the folder from the repository completely. You may also delete a repository folder by clicking **Delete** on the **Edit** menu, selecting a folder and then pressing DELETE, or clicking the  toolbar button.

- **Rename Folder** – Select this command to rename the selected repository folder while retaining all the properties of the folder. You may also rename a folder by clicking the **Rename** command on the **Edit** menu or by selecting the folder and then single-clicking the name of the folder.

- **Attach/Detach Notifications** – Select this command to attach or detach Email notification templates to events related to the selected folder.

- **Properties** – This command is used to view or modify the properties of the selected folder. You may also view folder properties by selecting a folder and then clicking **Properties** on the **File** menu.

- **Restore Deleted Folder**– Select this command to restore a deleted repository folder to the folder tree. The **Restore Deleted Folder** command is only available

when the **View Deleted Items** option is enabled and a deleted folder is selected. You may also restore a folder by clicking **Restore** on the **Edit** menu or by clicking the  toolbar button.

■ **Destroy Deleted Folder**– Select this command item to completely and permanently remove a repository folder, as well as any associated folder properties or history, from the repository. The **Destroy Folder** command is only available when the **View Deleted Items** option is enabled and a deleted item is selected. You may also destroy a folder by clicking **Destroy** on the **Edit** menu.

# Using the File List

The right pane of the FTVersionTrak main window contains the file list. Similar in appearance to Windows Explorer, the list displays the file contents of a selected repository folder.



The file list displays the status of the files in the repository. Status columns display information such as file names and types, which files are checked out, where and to whom they are checked out, which files have been deleted, and the size of compressed and working files. The file list is automatically refreshed periodically to reflect any changes that may have been made to the repository. However, you may choose to manually refresh by clicking **Refresh** on the **View** menu, clicking the  toolbar button, or pressing **F5**.

Most file management operations may be done in the file list. Files may be added, renamed, deleted, and destroyed. View deleted files in the file list by clicking **Deleted Items** on the **View** menu. Multiple files may be selected at once by pressing the **CTRL** key and clicking individual files in the file list or by clicking **Select** or **Select All** on the **Edit** menu. Modify a file using the menu bar, the main toolbar, or right-clicking a folder and using the file context menu.

Sort the file list by clicking on the **column headings**. Reverse the sort by clicking a column again. Determine how the file list columns are displayed by dragging and dropping the columns to reflect the order you want to use.

# File Context Menu

The list below describes the file context menu items available in FTVersionTrak. To access the file context menu, right-click a repository file in the file list. The commands available in the file context menu are subject to availability based on the operation in progress.

- **Edit File** –Selecting this command automatically checks out the selected repository file, launches the application associated with the file, and opens the selected file, making it ready for editing. You may also edit a file by double-clicking the file or by clicking **Edit File** on the **Edit** menu.

- **View File** – Selecting this menu item after selecting a repository file launches the application associated with the file and opens the selected file in read-only mode, allowing you to see the file but not edit it. You may also view a file by clicking **View File** on the **Edit** menu.

- **Schedule to Upload** – Select this command to create an upload task for the selected file. You may also schedule an upload task by clicking **Scheduled Tasks** on the **Tools** menu or by clicking the  toolbar button. This command is only available if the selected repository file is a 505 or Modicon FasTrak file (*.FSS or *.FMD).

- **Get Latest Version** – This command retrieves a copy of the file from FTVersionTrak and places it on your local machine. You may also get a file by clicking **Get Latest Version** on the **Version** menu or by clicking the  toolbar button.

- **Check Out** – Select this command to check out the latest version of a repository file to edit it. You may also check out a file by clicking **Check Out** on the **Version** menu or by clicking the  toolbar button.

- **Check In** – Select this command to write changes made to a local file back to the repository and create a new version of the file. You may also check in an item by clicking **Check In** on the **Version** menu or by clicking the  toolbar button.

- **Undo Check Out** – Select this command to undo a checkout, undo edits to the contents of the file in the repository, and retain the current version. You may also undo a check out by clicking **Undo Check Out** on the **Version** menu or by clicking the  toolbar button.

- **Compare** – If one file is selected, this command compares the selected repository file with the working copy. If two files are selected, this command compares the

two selected repository files. You may also compare files by clicking **Compare Files** on the **Tools** menu or by clicking the toolbar button.

- **Sign Document** – Select this command to place an electronic signature on a repository file or change the file's version state. You may also electronically sign a file by clicking **Sign Version** on the **Version** menu or by clicking the toolbar button.

- **History** – Select this command to view a repository file's version history. You may also view version history by clicking **History** on the **Version** menu or by clicking the toolbar button.

- **Delete** – Select this command to remove the selected file from the file list without removing the file from the repository completely. You may also delete a repository file by clicking **Delete** on the **Edit** menu, by selecting the file and then pressing **DELETE**, or by clicking the toolbar button.

- **Rename** – Select this command to rename the selected repository file while retaining all the version history of the file. You may also rename a file by clicking **Rename** on the **Edit** menu, or by selecting the item to rename and then single-clicking the name of the file or folder.

- **Attach/Detach Notifications** –Select this command to attach or detach Email notification templates to events related to the selected file.

- **Properties** –This command is used to view or modify the properties of the selected file. You may also view file properties by clicking **Properties** on the **File** menu.

- **Restore Deleted Files** – Select this command to restore a deleted repository file to the file list. The Restore command is only available when the **View Deleted Items** option is active and a deleted file is selected. You may also restore a file by clicking **Restore** on the **Edit** menu or by clicking the toolbar button.

- **Destroy Deleted Files** – Select this command to completely and permanently remove a repository file, as well as any associated version history, from the repository. The Destroy command is only available when the **View Deleted Items** option is enabled and a deleted file is selected. You may also destroy a file or folder by clicking **Destroy** from the **Edit** menu.

# File List Column Headings

The following list describes the columns that are displayed in the file list. To access the column context menu, right-click the file list column heading.

- **Name** – This column displays the file name as it appears in the repository.

- **Type** – This column displays the application associated with the file. When you edit or view the file, this application will automatically be launched. If there is no application associated with the file, the information in this column will appear as EXT file, where EXT is the file extension.

- **Date** – This column displays the date the repository file was last modified. If a file is added to the repository but not modified, it will retain the date it was last modified, not the date it was added to the repository.

- **Working File Status** – This column displays one of three states of the user's working copy compared to the latest version in the repository:
    - **Current** –The working copy is identical to the repository file.

    - **Out of Date** – The working copy is older and different than the repository file.

    - **Absent** – No working copy exists in the user's working directory.

- **Compressed Size** – This column displays the size in kilobytes (KB) of the repository file.

- **Working Size** – This column displays the size in kilobytes (KB) of the working copy.

- **Checked Out To** – This column displays the username (if any) that a file is checked out to.

- **Checkout Location** – This column displays the location (if any) that a file is checked out to.

# Using the Status Bar

The status bar spans the bottom of the FTVersionTrak window, presenting various status information. To display the status bar, click **Status Bar** on the **View** menu.

| [ModProgram1.FMD] | THOMAS2800\SQLEXPRESS | THOMAS2800\Thomas |

The left side of the status bar displays information or describes the current operation. To display information about any command or toolbar button, move the mouse pointer over the item.

Login information appears on the right side of the status bar. The far right side of the status bar displays the user information. Next to that is the name of the server the user is currently logged into.

# Viewing Deleted Items

Deleting files and folders in FTVersionTrak is nondestructive, meaning that deleted files and folders still exist within the repository. Deleting an item merely removes the file or folder from view within the main window and prevents its from being modified, pending restoration. Deleted items may be viewed in the main window by clicking **Deleted Items** on the **View** menu.
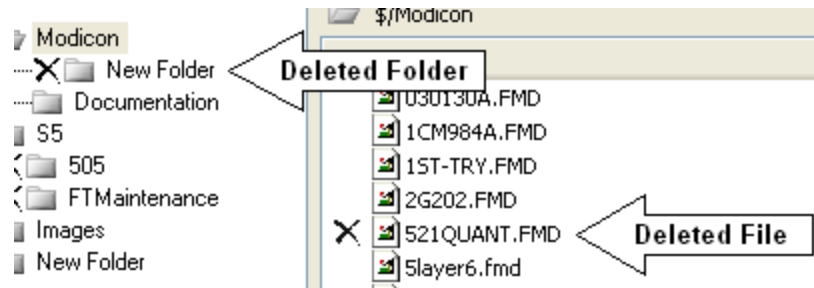


Deleted items may be restored or destroyed. Restoring a deleted item removes the delete status and makes the item available to be checked out. Destroying a deleted item removes the item, as well as any associated history, completely and permanently from the repository.

# Chapter 3 – Using the Repository File System

# Using the Repository File System

FTVersionTrak organizes your projects using the Repository File System. The Repository File System is a simple yet powerful tool for tracking and securing change-sensitive files.
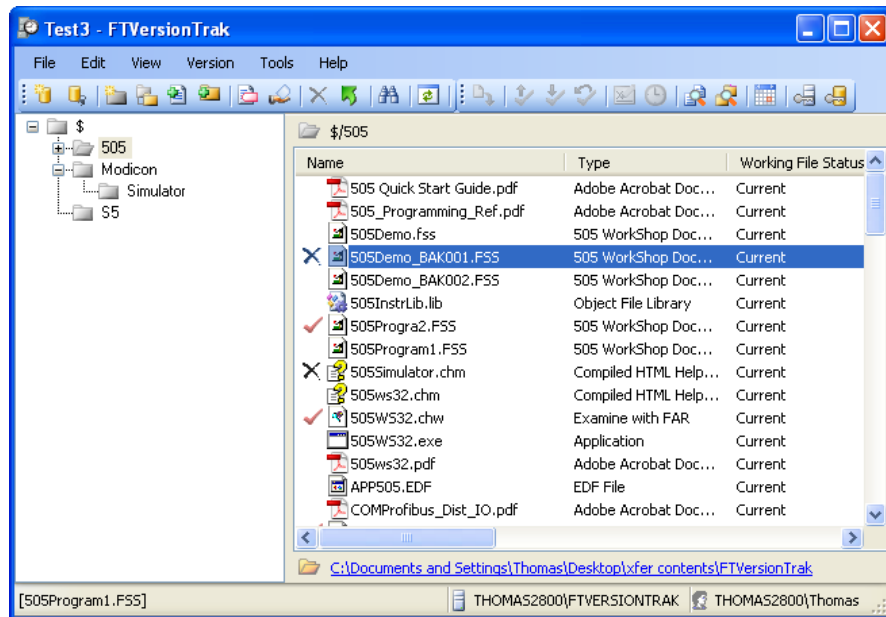


A repository is a collection of files and folders that you store in FTVersionTrak. You can add, delete, edit, and share files within a repository. A repository looks and behaves much like Windows Explorer, but has higher functions of file history, version control, and secure change management. Repositories reside within a **SQL Server database**, which can only be accessed through FTVersionTrak. Files are stored as archives in the repository.

# Creating a Repository

Before you can begin adding files to FTVersionTrak, you must have a repository to manage them in. If no repository has been created for your project, the first step is to create one.

> **NOTE:** FTVersionTrak Pro users may only create one repository per license.

To create a repository:

1. Click **Create New Repository** on the **File** menu or press **CTRL+N**. The Create New Repository dialog box appears. (This dialog box can also be accessed from the Connect to Repository dialog box. See Connecting to a Repository for more information.)
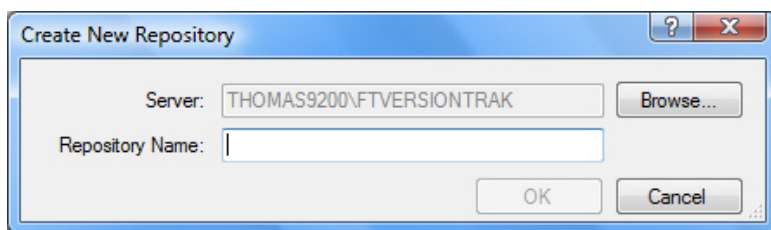


2. The default server is listed in the **Server** box. To select another server, click **Browse**. The Browse for Server dialog box appears.
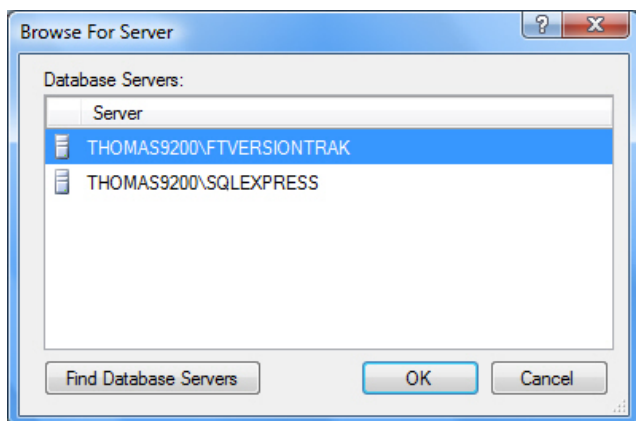
3. If the server you want to use is not displayed in the **Server** list, click **Find Database Servers** to search for all available servers. Click the server you want and then click **OK** to return to the Create New Repository dialog box.

> **NOTE:** If the server you are looking for still does not appear on the list, contact your system administrator or see **SQL Server Setup** for setup information.

4. Type the name of the new repository in the **Repository Name** box.

> **NOTE:** The repository name cannot contain spaces or special characters.

5. Click **OK** when finished. The Master Login dialog box appears.
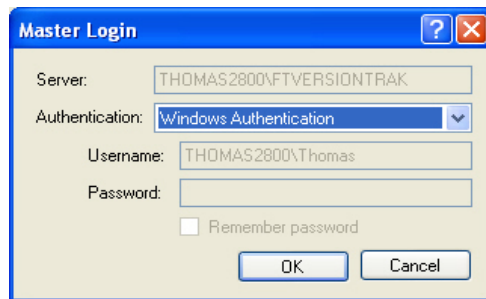


5. Click **OK** to create the repository. By default, Windows Authentication is selected – this is the only authentication method that can be used when creating new repositories:

> **NOTE:** Whichever user creates a repository automatically becomes the administrator of that repository, granting the user all repository privileges. See Repository Security for more information.

# Connecting to a Repository

Multiple repositories can be created and accessed by users depending on project needs and storage space. Each repository may have its own set of users, and each user may have its own set of Repository Permissions within each repository. After the administrator creates a repository, other users might need to connect to it.

To connect to an existing repository:

1. Click **Connect to Repository** on the **File** menu, click the ▦ toolbar button, or press **CTRL+C**. The Connect to Repository dialog box appears.
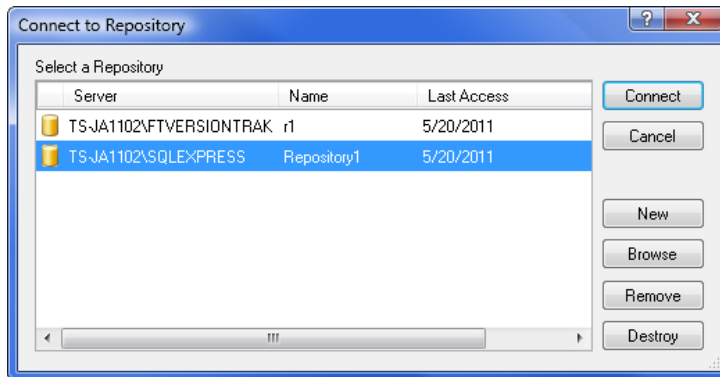


2. If you have connected to any repositories previously, they appear in the **Select a Repository** list. If no repositories have been previously connected to, or if the repository you want to use is not listed, click **Browse**. The Browse for Repository dialog box appears.
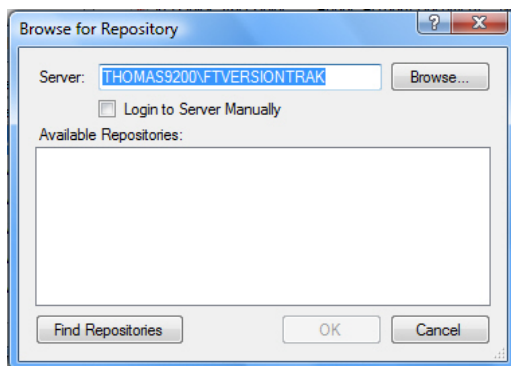
3. The default server is listed in the **Server** box. To select another server, click **Browse**. The Browse for Server dialog box appears.



4. If the server you want to use does not appear in the **Server** list, click **Find Database Servers** to search for all available servers. Select the server you want to use from the list and then click **OK** to return to the Connect to Repository dialog box.

> **NOTE:** If the server you are looking for still does not appear on the list, contact your system administrator or see **SQL Server Setup** for setup information.

5. Select the **Login to Server Manually** check box to force a manual login to the server. Use this option if a different user usually logs in automatically and the login needs to be changed.
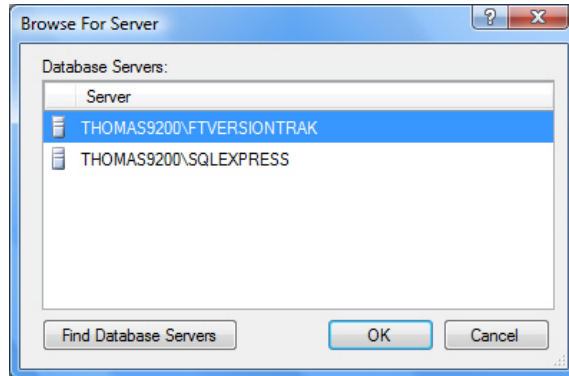
6. Click **Find Repositories** to search for available FTVersionTrak repositories located on the server.
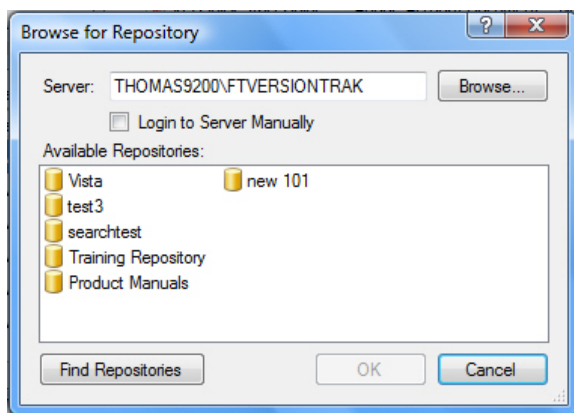
7. Select the repository you want to use from the **Available Repositories** list and then click **OK** when finished to return to the Connect to Repository dialog box.

> **NOTE:** If the repository you are looking for still does not appear on the list, contact your system administrator or see the Administrator Guide for setup information.
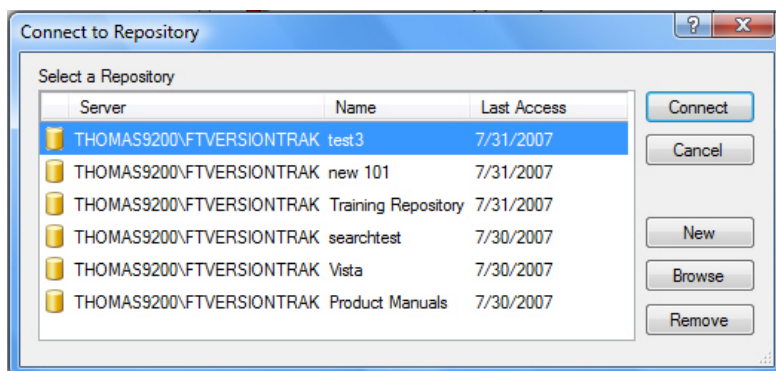


- Click **Remove** to remove a repository from the **Select a Repository** list. Clicking **Remove** does not delete the repository – it only removes the repository from the list.

- Click **New** to Create a New Repository.

8. Select the repository and click **Connect**. The Master Login dialog box appears.
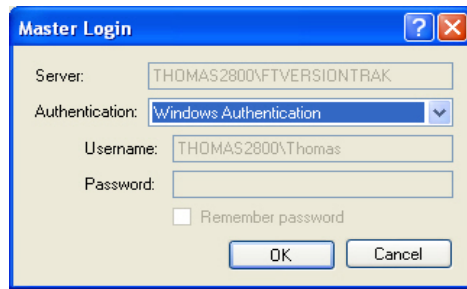
9. Select the mode of authentication from the **Authentication** box:

- **Windows Authentication**: This option utilizes the local Microsoft Windows user accounts to log on to the server. If this option is selected, the user currently logged in to Windows will appear in the **Username** text box. No password is necessary, and the login information cannot be edited.

- **SQL Authentication**: This option uses the login information located on the server itself. Selecting this option will prompt for both a username and password. See your system administrator for more information.

10. Click **OK** to connect to the repository.

# Removing and Destroying Repositories

The Connect to Repository dialog box provides options for removing and destroying repositories.
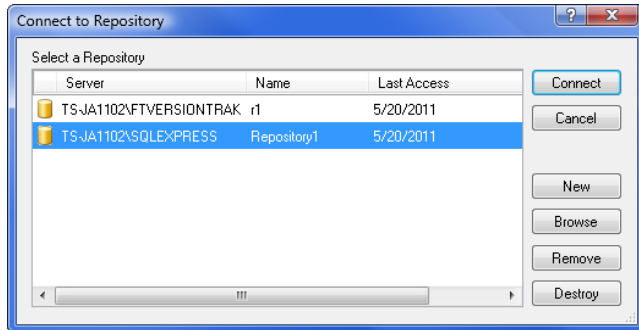


To remove a repository, select the repository and then click **Remove**. When a repository is removed, the repository will no longer automatically appear in the Connect to Repository dialog box. The repository is not deleted from the server, however, and you can still connect to the repository by clicking **Browse** and locating the repository on the server.

To destroy a repository, select the repository and then click **Destroy**. When a repository is destroyed, the repository is permanently deleted from the server. Once destroyed, a repository cannot be restored.

# Adding Files to the Repository

Before FTVersionTrak can begin securing your files, they must be added to the repository. Adding files to the repository creates the first version of the file in the repository.

1.  Click **Add Files** on the **File** menu or click the ![toolbar button] toolbar button. The Select Files to Add dialog box appears.

2.  Browse to the files located on your computer that you wish to add to the FTVersionTrak repository. Press and hold **CTRL** while selecting to select more than one file. Click **OK** when finished. The Add Files to Repository box dialog appears.
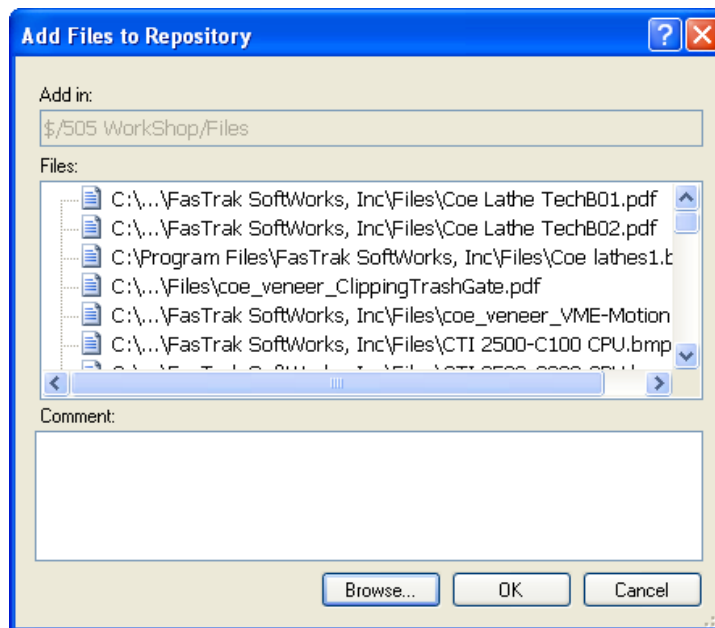


3.  Click **Browse** to add additional files.

4.  *Optional:* Enter a comment in the **Comment** box. This comment is added as a tag to all of the files listed under **Files**. This optional comment can be used to identify the state or significance of the added file(s), or as a search tag.

# Adding Folders to the Repository

Entire folders and their contents, including any subfolders, may be added at one time from a local machine to the repository, allowing for fast transference of files to the repository and an efficient means of retaining a file structure similar to the local source.

To add a folder and its contents to the repository:

1.  Click **Add Folder** on the **File** menu or click the  toolbar button. The Add Folder dialog box appears.
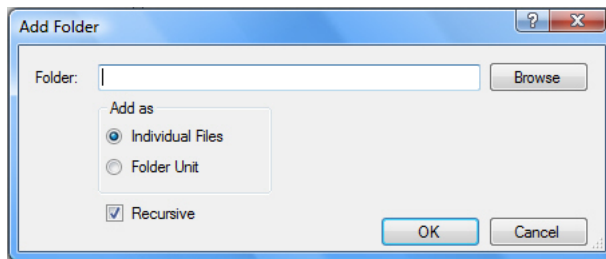


2.  Enter the path of the folder you wish to add in the **Folder** box or click **Browse** to navigate to the folder on the local machine.

3.  Under **Add as,** select the method by which you would like to add the folder.

    ■ **Individual Files** – Adds the folder and its contents as separate files. The folder and its contents are managed as individual files and folders in the repository.

    ■ **Folder Unit** – Adds the folder and its contents as a single multiple file unit. The folder and its contents are managed as a single file in the repository.

4.  Select the **Recursive** box to also add any subfolders of the selected folder to the repository.

# Multiple File Units

Some software applications, like Microsoft Word and Excel, store their documents in a single file.

But other applications, like TISOFT and Siemens Step 7 store single projects in a family of files. For these applications, the entire family of files is required to access their complete projects.

FTVersionTrak can store a family of related files as a group called a **Multiple File Unit**. Although Multiple File Units contain multiple files, FTVersionTrak treats a Multiple File Unit as a single file. For example, if a Multiple File Unit contains a family of 15 files, checking out the Multiple File Unit checks out all 15 files. Similarly, other operations, like checking in and getting previous versions of that Multiple File Unit accesses all 15 files.
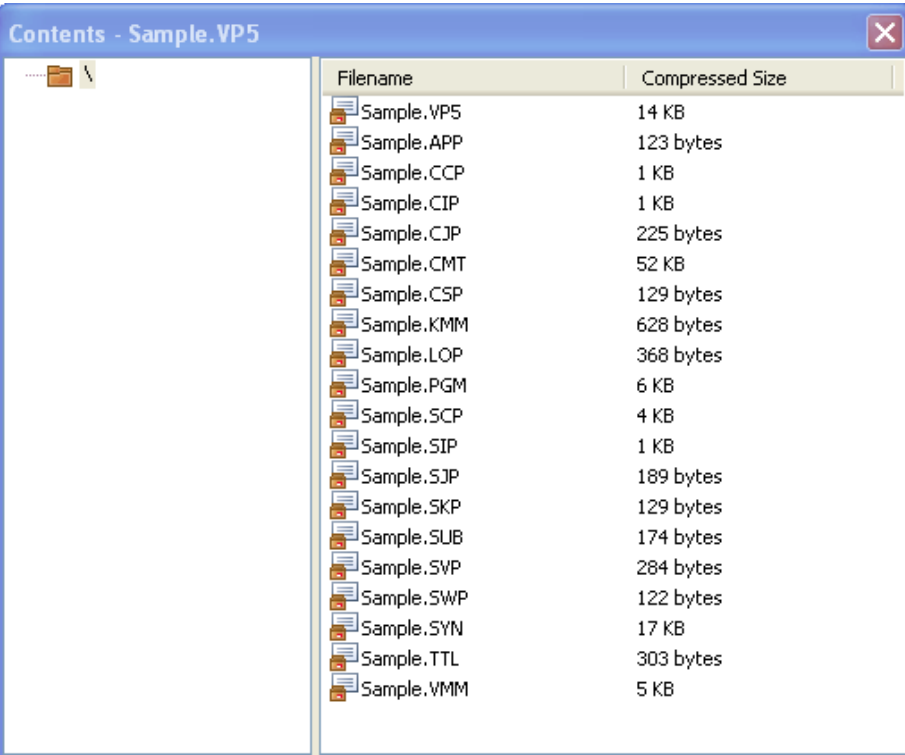
There are two types of multiple file units: **file units** and **folder units**.

- A **file unit** is a single repository file that represents a group of related files defined by a user-configurable XML configuration file.

- A **folder unit** is a single repository file that represents the contents of a folder.

Like in Microsoft File Explorer and Windows Explorer, double-clicking a file in FTVersionTrak can launch the application associated with that file type.

Double-clicking a Multiple File Unit can also launch its application, if one is associated with the Multiple File Unit.

But if an application is not associated with the Multiple File Unit, a window that lists its files opens, like the one illustrated below. If a file in this list is associated with an application, then double-clicking that file launches its application.

| Contents - Sample.VP5 | |
|---|---|
| Filename | Compressed Size |
| Sample.VP5 | 14 KB |
| Sample.APP | 123 bytes |
| Sample.CCP | 1 KB |
| Sample.CIP | 1 KB |
| Sample.CJP | 225 bytes |
| Sample.CMT | 52 KB |
| Sample.CSP | 129 bytes |
| Sample.KMM | 628 bytes |
| Sample.LOP | 368 bytes |
| Sample.PGM | 6 KB |
| Sample.SCP | 4 KB |
| Sample.SIP | 1 KB |
| Sample.SJP | 189 bytes |
| Sample.SKP | 129 bytes |
| Sample.SUB | 174 bytes |
| Sample.SVP | 284 bytes |
| Sample.SWP | 122 bytes |
| Sample.SYN | 17 KB |
| Sample.TTL | 303 bytes |
| Sample.VMM | 5 KB |

# File Unit Definitions

There may be instances in which a single change to a program or a project affects more than one file at one time. It may be very difficult to determine which files are affected by a single change at any given time, which may inadvertently cause major problems to the project later. For example, a user may check out a single file from the repository and edit that file in the associated program. The edits made may change data in other files that are protected by the repository. When the user checks the file back in, the only changes that are written to the repository are from the single file; any other files that may have changed on the user's local machine retain their original state in the repository. One way to prevent this problem is by creating file units for these types of files.

Defining and creating file units is an efficient way to manage groups of files whose changes are dependent on each other. Edits made to file units are **atomic**, meaning that changes are written all at once to every file residing in a file unit when checked in to the repository, or no changes are written at all.

Files units are defined by user-configurable XML files. These configuration files can be used to define the types of files and folders to include in the file unit. They can also be used to determine the program or project associated with the files and folders, and the manner in which the unit will be named.

## Creating XML Configuration Files

Extensible Markup Language (XML) configuration files can be created using any text editor such as Microsoft Notepad. FTVersionTrak File Unit Definitions created using XML must contain certain elements to function properly. These elements are described later. If you are unfamiliar with XML, many free resources are available on the internet that explain XML syntax in detail.

Two functioning examples of File Unit Definitions (TISOFT Program and Step 7 Project) are included with FTVersionTrak. By default, these files are located in `C:\Program Files\FasTrak SoftWorks, Inc\FTVersionTrak\units`. Any additional File Unit Definitions must be saved in this folder to properly function.

### *XML Standard Elements*

- **<unit>** This element defines the XML file as a File Unit Definition. All files must contain this element as the root.

- **type**= Use this attribute to enter a name for this type of file unit. This name will appear in the Type column of the file list.

- **<directory>** This element defines specific directories and subdirectories to include in the file unit.

  - **name**= Use this attribute to enter the name of a directory to include in this file unit.

  - **includesubdirectories**= This attribute can either be true or false. If true, the unit includes the contents of all subfolders of the folder defined in the directory name= attribute.

- **<masterfile>** Use this element if all the files to be included in the file unit follow a definable naming convention. This element is only valid as the first child of the unit or the directory. Only one masterfile can be present in the file.

  - **name**= This attribute defines the name of the master file. This name will appear in the Name column of the file list.

- **<includefile>** This element defines which types of file or specific files to include in the file unit. This element is only valid as a child of the unit or the directory.

  - **name**= This attribute defines the name(s) or type(s) of the files to be included in the unit.

# Creating Repository Folders

Besides **adding a folder** and its contents to the repository, new repository folders may also be created to customize the file structure of the repository.

To create a repository folder:

1. Click **Create New Folder** on the **File** menu or click the [icon] toolbar button. A new folder is created.
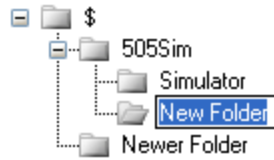


2. The default name of the created folder is *New Folder*. Type the new name of the folder within the highlighted text box and press **ENTER** when finished.

# Renaming Files and Folders

To rename files and folders:

1. Select the item to rename and click **Rename** on the **Edit** menu, right-click the item and then select **Rename** from the shortcut menu, or single-click the item name.

2. An edit box appears around the item name; you can type your changes in the edit box.

> **NOTE:** Renaming a file or folder does not affect that item's versions, comments, or other history attributes.

> **NOTE:** File extensions cannot be renamed in the repository.

# Deleting Files and Folders

Deleting a file or folder in FTVersionTrak removes it from the main window and prevents users from checking the item(s) in or out. Deleted items can be viewed and restored.

To delete a file or folder:

1.  Select the file or folder and then click **Delete** on the **Edit** menu, click the ✕ toolbar button, or right-click the item and then click **Delete** from the shortcut menu. The item is deleted and removed from view.

> **NOTE:** A deleted item can still be viewed and even restored to the repository. To completely and permanently remove a file or folder from the repository, it must be destroyed.

# Restoring Deleted Files and Folders

Deleting files and folders in FTVersionTrak is a non-destructive process, meaning that if an item is deleted by mistake, that item, including all history and version information, can be restored to the repository. To restore a deleted file or folder:

1. Make sure that you can view deleted items in the main window. A deleted item appears with an "X" in front of it as shown in the following picture.
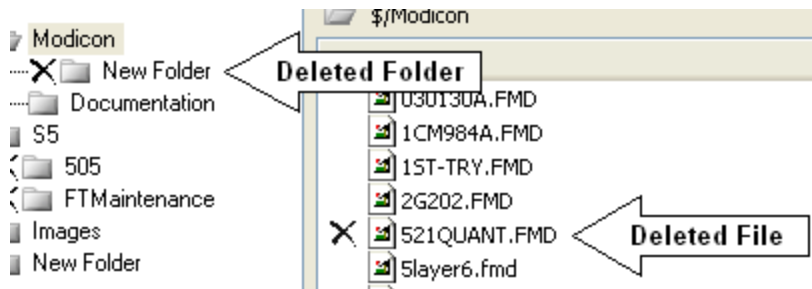


2. Select the deleted item you would like to restore and then click **Restore** on the Edit menu, click the ![toolbar button] toolbar button, or right-click the item and then click **Restore** from the shortcut menu. The deleted item is restored.

# Destroying Files and Folders

Destroying a file or folder in FTVersionTrak permanently removes the file from its repository, along with all version information. Files and folders that have been destroyed cannot be restored.

To destroy a file or folder:

1.  The file or folder must first be deleted.

2.  Make sure you can view deleted items in the main window. A deleted item appears with an "**X**" in front of it as shown in the following illustration.
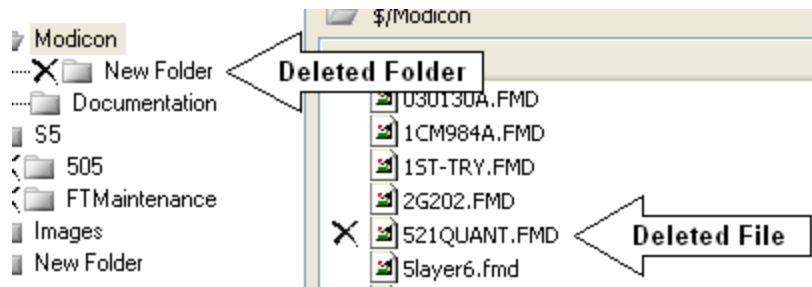


3.  Select the deleted file or folder to be destroyed and then click **Destroy** on the **Edit** menu, or right-click the item and then click **Destroy** from the shortcut menu. A confirmation message appears.
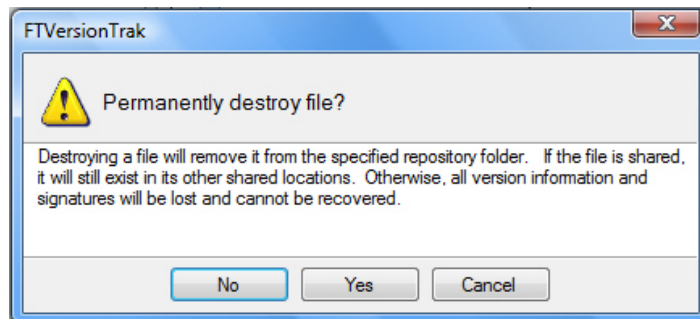


4.  Click **Yes** to continue and destroy the file or folder. Click **No** or **Cancel** to return to the main window.

**NOTE:** Destroying a file or folder completely removes the item from the repository, including all versions and their accompanying histories, and cannot be undone. Destroying a folder will also destroy any subfolders and files contained within it.

# Chapter 4 – Using FTVersionTrak

# Setting the Working Directory

The Working Directory is a directory apart from the repository (usually within the user's local file system). This directory is used to store copies of the files within the repository that may be edited after being Checked Out.

Each folder in the repository (including the root repository folder) can be set with its own working directory. To set a working directory for a folder in the repository:

1. Click **Set Working Directory** on the **File** menu, click the ⬛ toolbar button, press **CTRL+W**, or right-click the repository folder and then click **Set Working Directory** from the shortcut menu. The Set Working Directory dialog box appears.
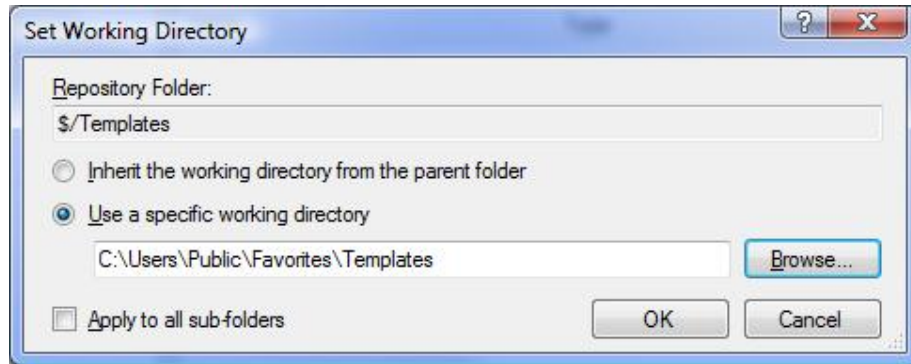


2. Specify the working directory that will be used.

   - Click **Inherit the working directory from the parent folder** to create a working directory relative to the directory set for the parent folder.

   - Click **Use a specific working directory** to specify another working directory, then type the directory you want to use or click **Browse** to browse to the directory you want to use.

3. Select the **Apply to all sub-folders** check box to copy any subfolder within the current repository folder to your working directory.

4. Click **OK** to return to the Repository window. The current working directory now appears directly below the main window.
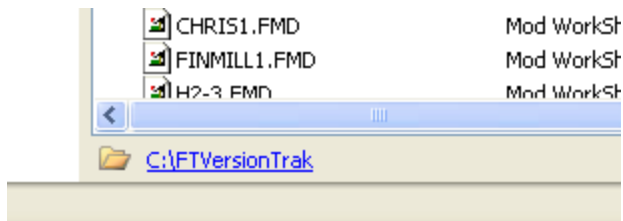
> **NOTE:** If the new working directory does not appear, re-
> fresh FTVersionTrak by clicking **Refresh** on the **View**
> menu, clicking the ⟳ toolbar button, or pressing **F5**.

5. Click the displayed path of the working directory at any time to display its contents in Windows Explorer. For example, in the preceding illustration, clicking **C:\FTVersionTrak** opens this folder in Windows File Explorer.
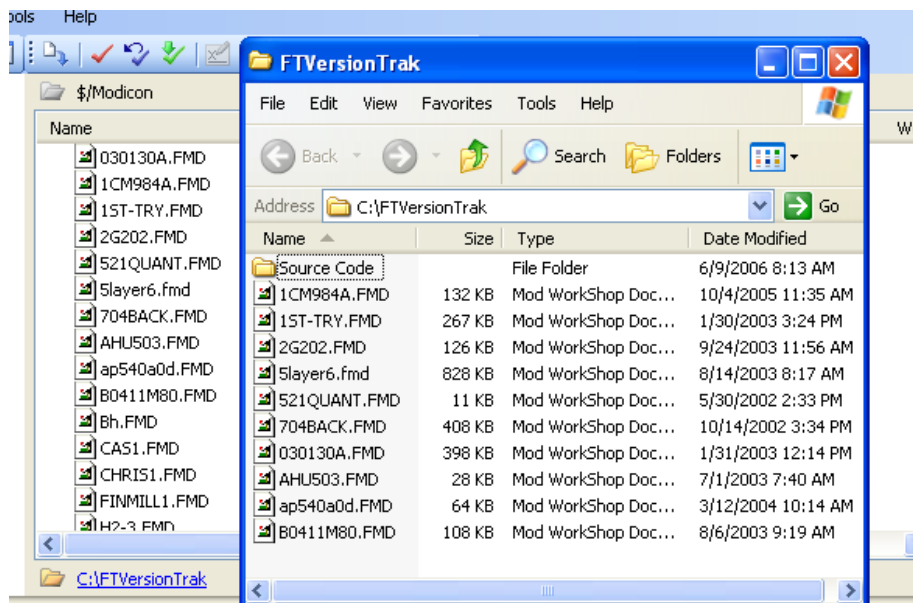
# Getting Files and Folders

The Get action retrieves a version of a file from the repository and places it in the working directory as a read-only copy to review or check out.

To get files or folders:

1.  In the FTVersionTrak main window, select the target file, group of files, or folder.

2.  Click **Get Local Copy** on the **Version** menu, click the toolbar button, or right-click the item and then click **Get Local Copy** on the shortcut menu. The Get dialog box appears.
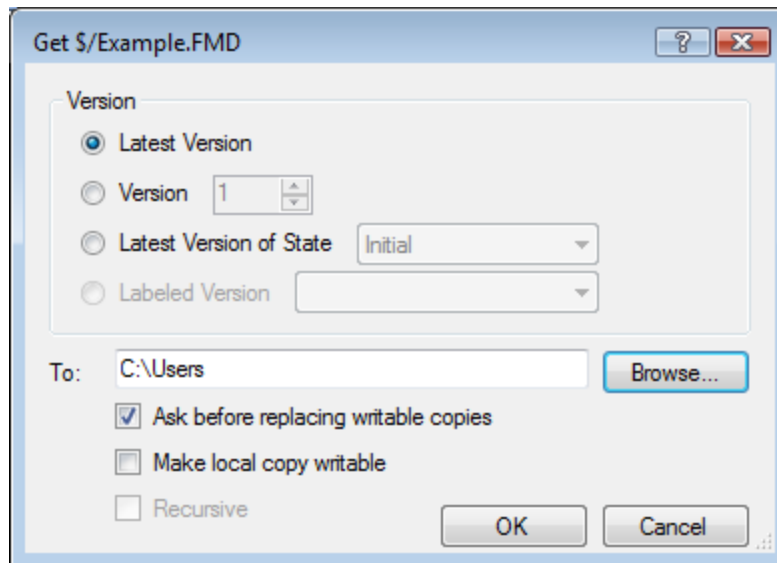
3.  Under **Version**, select the options of the version you would like to get.

    *   Click **Latest Version** to retrieve the latest version of the file, group of files, or folder and place in your working directory.

    *   Click **Version** and then type or select the version of the file or folder you want to retrieve and place in your working directory.

    *   Click **Latest Version of State** and then click the repository file state of the file, group of files, or folder you want to retrieve and place in your working directory.

- Click **Labeled Version** and then click the label of the file or folder you want to retrieve and place in your working directory.

4. In the **To** box, type the directory where the retrieved file, group of files, or folder will be placed. Or, click **Browse** to select the directory.

5. Select the **Ask before replacing writable copies** check box to display a confirmation message before overwriting existing local writable copies.

6. Select the **Make local copywritable** check box to remove the read-only status from the selected working copies.

> **NOTE**:  Making working copies writable is not recommended for files you wish to keep under version control. Do not select this option if you plan on checking out and editing the file.

7. If an entire folder is being retrieved, select the **Recursive** check box to get the target folder's subdirectories and respective contents and place them in your working directory.

# Get File Versions

FTVersionTrak stores previous versions of files in its History.

A working copy of a single version can be retrieved with the **Get** feature. Retrieving working copies of multiple versions of the same file requires using the **Get** feature repeatedly.

However, the **Get File Versions** feature provides a single operation that extracts working copies of multiple versions of the same file.

To access the **Get File Versions** feature, use any of the methods below to launch the **Get File Versions Options** dialog:

a. Select a file in the main window, and select **Get File Versions...** from the **Version** menu

b. Right-click a file in the main window, and select **Get File Versions...** from the floating context menu

c. Select a file in the main window, click the **History** toolbar button, and click **Extract** when the **History** dialog appears

d. Select a file in the main window, select **History...** from the **Version** menu, and click **Extract** from the **History** dialog

e. Right-click a file in the main window, select **History...** from the floating context menu, and click **Extract** when the **History** dialog appears
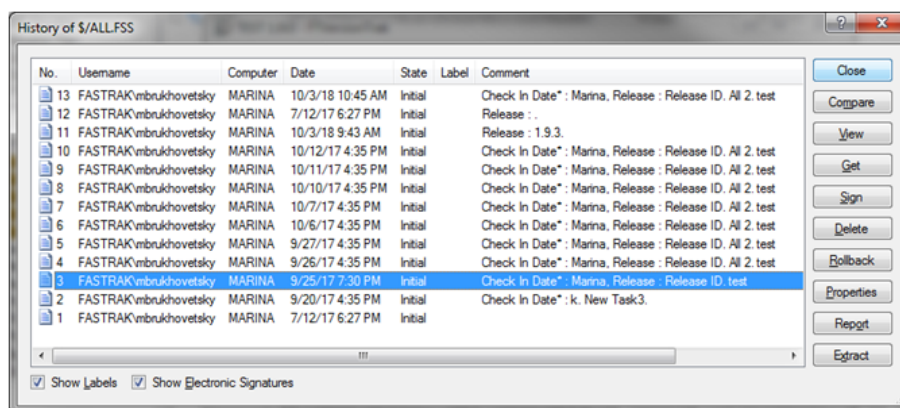


When the **Get File Versions** dialog appears, the name of the selected **Repository File** and the number of versions appear near the upper left corner. In the example below, there are 13 versions of file **ALL.FSS**.

Any continuous number of versions within the **Version Range** can be specified in the **From Version** and **To Version** settings.

In the example below, versions 3 through 12 will be extracted.
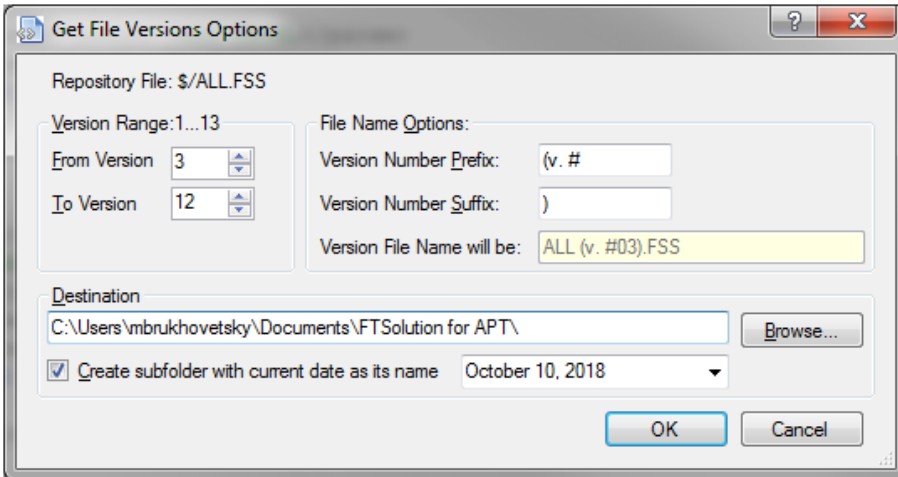


Each extracted version shares the same file name. To avoid duplicating files names, a unique identifier is added to each extracted file's name.

These identifiers are specified in the **File Name Options**. The **Version Number Prefix** contains the text that follows the original file name, but precedes the actual version number. The **Version Number Suffix** contains the text that follows the actual version number. The octothorpe **"#"** indicates where the actual version number appears.

The **Version File Name will be** box illustrates an example of how the identifier will be added to the original file name.

The **Destination** setting specifies the location to which the extracted file will be copied. Enter the desired path, or click **Browse...** to select the location.

If desired, the extracted files can be copied to their own subfolder under the **Destination** path. The current date will be used as this subfolder's name. Check the **Create subfolder with current date as its name** checkbox, and select the preferred date format from the dropdown list.

When all selections are made, click **OK**.

Based on the settings in the example above, the extracted files appear in their new subfolder, as illustrated below.
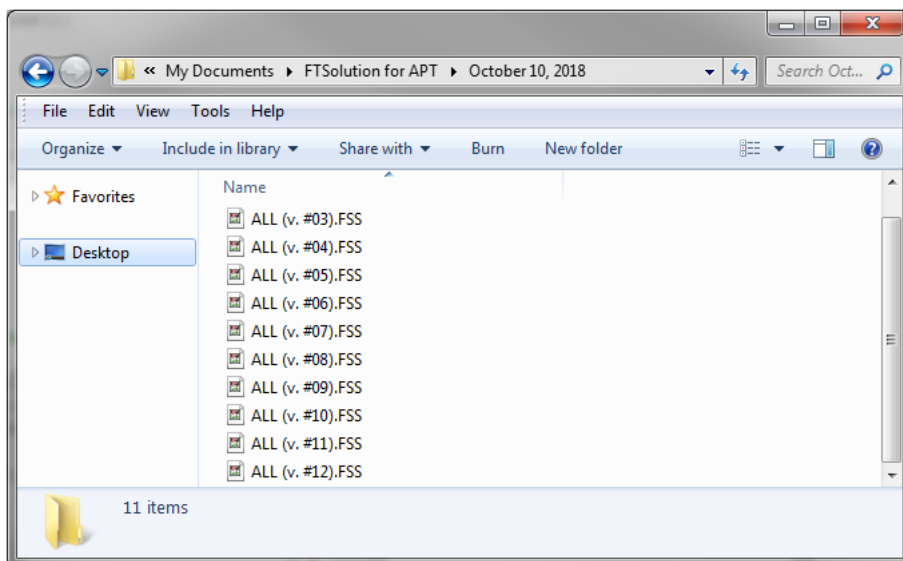
# Checking Out Files and Folders

To make changes to a file in FTVersionTrak, it must first be checked out. Checking out a file places a writeable copy of the file within the user's working directory. If the file is already present in the working directory (following a Get action, for example) then FTVersionTrak removes the read-only status on the file while it is checked out.

To check out files or folders:

1.  In the FTVersionTrak main window, select the target file, group of files, or folder.

2.  Click **Check Out** on the **Version** menu, click the  toolbar button, or right-click the item and then click **Check Out** on the shortcut menu. The Check Out dialog box appears.
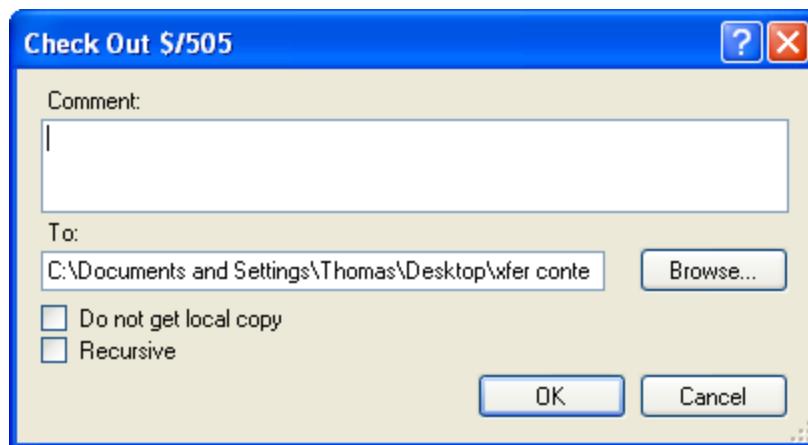


3.  In the **To** box, enter the directory in which to place the working copy or click **Browse** to select the directory.

4.  Select the **Do not get local copy** check box if you do not wish to **Get** the version of the Repository file while checking the file out.

> **NOTE:** Using the Do not get local copy option only checks out the file. This is helpful if your working copy is different than the latest version within FTVersionTrak.

5.  If a folder is being checked out, select the **Recursive** check box to check out any subfolders and their contents.

6.  *Optional:* In the **Comment** box, enter a comment about the check out . This comment may be edited when the file or folder is checked in. Click **OK** when finished.

After checking out a file or folder, the following options are available:

- Check In the file or folder to write any edits to FTVersionTrak and create a new version.

- Undo the Check Out to cancel any changes made to the file or folder.

# Undoing a Check Out

After checking out a file or folder, if you decide not to save any changes to the repository or create new versions, you may undo the checkout. Undoing a checkout leaves the file or folder in the state it was in before you checked it out. No new version is created, and no record of the checkout will be left.

To undo a checkout:

1. Click **Undo Check Out** on the **Version** menu, or click the  toolbar button. The **Undo Check Out** dialog box appears.
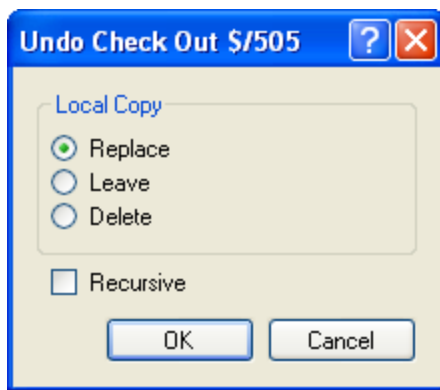


2. Under **Local Copy**, specify what you want to do with the local copy:

   - Select **Replace** to replace the local copy of the checked out file with the latest version within the repository.

   - Select **Leave** to leave the existing copy of the checked out file on your local system.

   - Select **Delete** to delete the local copy from the location of the check out. If the file was checked out to a location other than the working directory, the location indicated at check out will be deleted and any other copies will be retained.

3. If performing an undo check out on a folder, select the **Recursive** check box to apply the undo to all subfolders and their contents.

4. Click **OK** when finished to return to the main window.

# Check In

Check in the file or folder to write changes to the master copy located in the repository. After you check the file in, other users will be able to Get the modified file, view the changes you have made to the file, and check out the file to work on it as well.

To check in a file or folder:

1. In the FTVersionTrak main window, select the checked out file(s) or folder(s) you would like to check in and then click **Check In** on the **Version** menu, click the toolbar button, or right-click the item and then click **Check In** on the shortcut menu. The Check In dialog box appears.
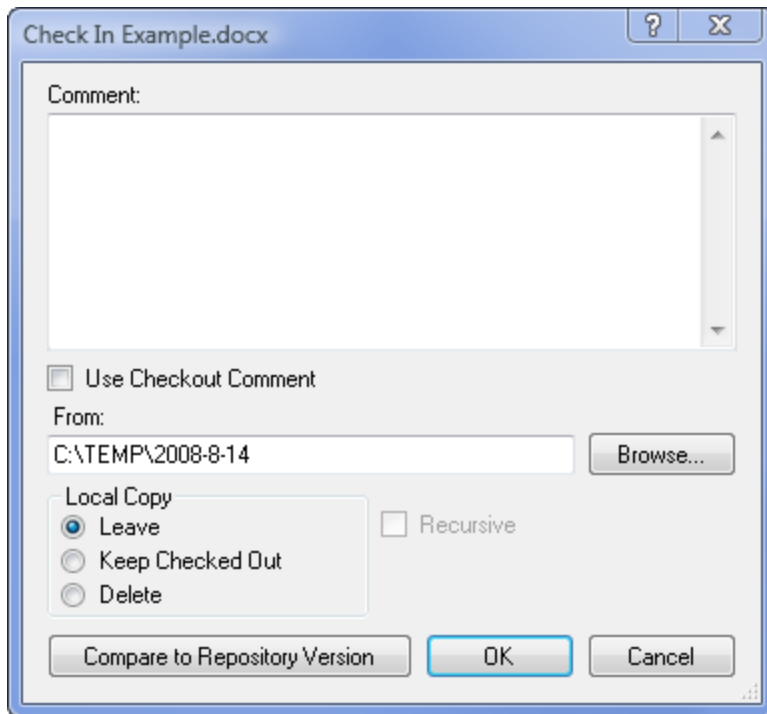


2. *Optional:* In the **Comment** box, type a comment for the check in (optional). If a comment was entered during checkout, it will appear by default.

   Select the **Use Checkout Comment** check box to use this comment.

3. The **From** box displays the local path where the new version will be written from (usually the working directory). Click **Browse** to select a different directory.

4.  Under **Local Copy**, specify what you want to do with the local copy

    - Select **Leave** to leave the working copy of the file on your local system after the check in.

    - Select **Keep checked out** to write any changes to the repository but keep the item(s) checked out to you.

    - Select **Delete** to delete the working copy of the file from your local system after the check in.

5.  If a folder has been selected for check in, the **Recursive** check box can be selected. Select this check box if you would like to check in any files and folders within the selected folder.

6.  Click **Compare to Repository Version** to **compare** the difference between the version being checked in and another version in the repository.

7.  Click **OK** when finished to check in the items.

> **NOTE:** If there are no differences between the file you are checking in and the file in the repository, a new version of the file will **not** be created. In other words, the check out and the subsequent check in of a file that has not changed will not appear in the version history.

# Editing a File

One option you can use when editing files protected by FTVersionTrak is to get a fileinto your local directory, check outthe file, launch the application associated with the file, open the file, and proceed to edit it. You may also choose to do all of the above actions in one step by using the **Edit File** command.

To check out and edit a file in your working directory:

1. In the FTVersionTrak main window, select the file you want to edit and then click **Edit File** on the **Edit** menu, or right-click the file and then click **Edit File** on the shortcut menu. The following message appears:
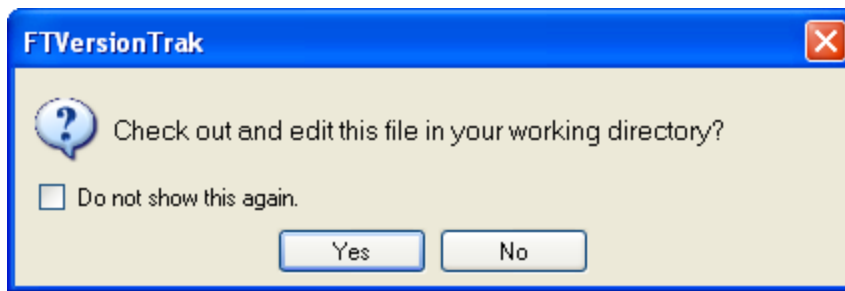


2. Click the **Yes** button to continue. A copy of the file is sent to your working directory, the file is checked out, the application associated with the file is launched, and the file is opened within the application.

   - Select the **Do not show this again** check box to disable this dialog in the future. Once disabled, the dialog may be restored by clicking **Options** on the **Tools** menu and then clicking **Reset Notifications**.

> **NOTE:** FTVersionTrak associates an application with a file based on information from Microsoft Windows. If no application is associated with a file, it must be opened and edited manually. Selecting **Edit File** will result in the following message:
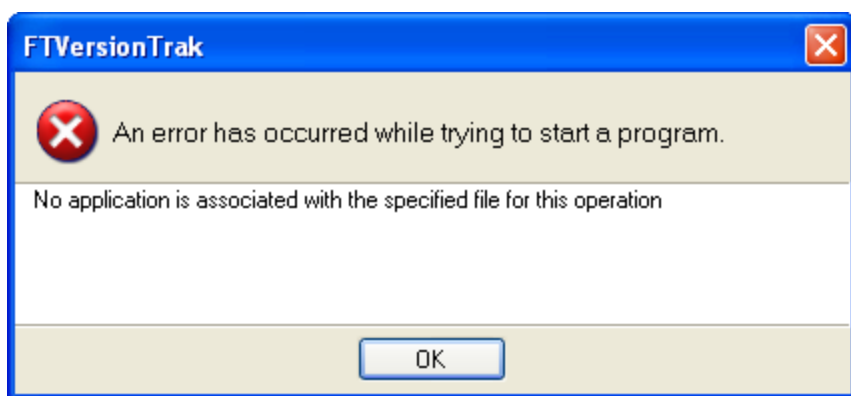
3. When you are finished editing the file, save the file within its application and check in the file to FTVersionTrak.

# Viewing a File

If someone has checked out a file in FTVersionTrak, it does not mean you are completely locked out of the file. You may always view any file as read-only within the file's associated application.

To view a file:

1.  In the FTVersionTrak main window, select the file you wish to view and click **View File** on the **Edit** menu, or right-click the item and then click **View File** from the shortcut menu.

2.  The latest version of the file is sent to your working directory, the application associated with the file is launched, and the file is opened as read-only within the application.

> **NOTE**: FTVersionTrak associates an application with a file based on information from Microsoft Windows. If no application is associated with a file, it must be opened and edited manually. Selecting **Edit File** will result in the following message:
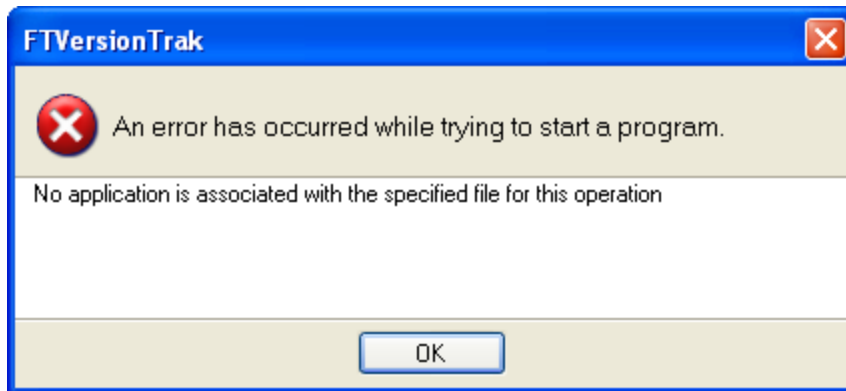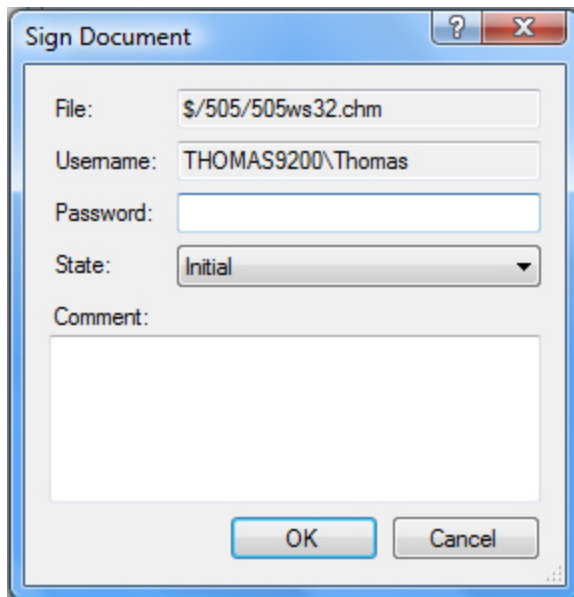
# Signing a Version of a File

Users have the ability to electronically sign a file, which conforms to portions of the FDA's 21 CFR Part 11 regulations on electronic signatures. The electronic signature includes a date and time stamp as well as a user comment. Signatures can be used as an approval method to verify that a certain user has reviewed and approved a selected version of a repository file, and can also be used to advance the version state of the repository file. Signature requirements can be configured in Repository Options on the Signature Requirements tab.

To electronically sign a file:

1. In the main FTVersionTrak window, select the file you want to sign and then click **Sign Version** from the **Version** menu, or click the ![toolbar button] toolbar button. The Sign Document dialog box appears.



2. The **File** and **Username** boxes contain the selected file and current user. Type the current user's password in the **Password** text box.

3. Select the current version state of the file from the **State** box.

4. *Optional:* Type any comments in the **Comment** text box.

5. Click **OK** when finished.

# Labeling Folders

Placing a label on a file or folder associates a text identifier with the latest version of the se-
lected file or group of files in the selected folder. Labeling is a convenient way to tag the
current project state of a large number of files.

## Adding a Label

To label a file or folder:

1. In the FTVersionTrak main window, select the file or folder you want to use and
   then click **Label** on the **File** menu, click the  toolbar button, or right-click the
   item and then click **Label** on the shortcut menu. The **Label** dialog box appears.
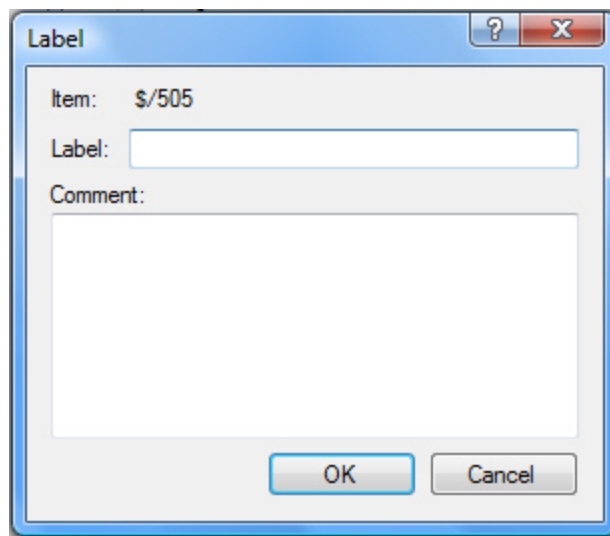


2. In the **Label** box, type the label to associate with the selected file (or each file if se-
   lecting a folder). You may add further comments to the label in the **Comment** text
   box. Click **OK** when finished. The label is applied to the latest version of the file.
   Folder labels are applied to the latest version of each file, as well as the files in each
   subfolder.

# Using Labels

Labels are viewed within the file's history, along with the file's versions and Electronic Signatures. See History for more information about accessing the **History** dialog box.

1. Select the **Show Labels** check box. Any labels associated with the file will be shown.
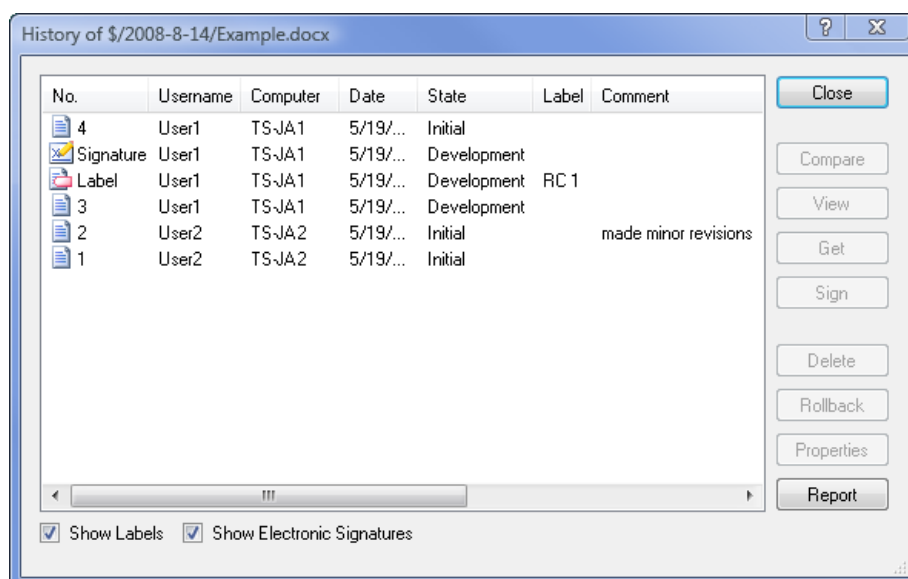


2. The label appears as a version entry in the History dialog box, directly above the version associated with the label. The contents of the label appear in the **Label** column.

# Sharing Files and Folders

Sharing a repository file in FTVersionTrak means that the file will exist in two or more repository folders. Repository actions such as check outs and check ins and version history apply equally to each location of the shared file. For example, a file located in folder *$/Folder A* is shared to *$/Folder B*. If the file located in *$/Folder B* is checked out, it will also be checked out in *$/Folder A*.

To share a file among folders:

1. In the FTVersionTrak main window, select one or more files and then click **Share Files** from the **File** menu or click the ![toolbar button] toolbar button. The Share File(s) Among Folders dialog box appears.
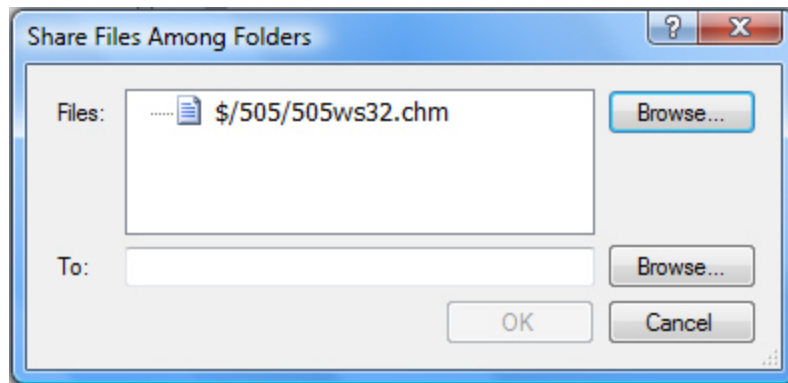


2. More files may be shared by clicking **Browse** and then selecting additional files to share or by typing the path and the name of the files in the **Files** box.

3. Designate the folder that will share the file(s) by typing the path and the folder name in the **To** box or by clicking **Browse** and then selecting the folder. Click **OK** when finished.

# Viewing Version Histories

Each file and folder that is managed by FTVersionTrak is given its own history. As you check out, edit, and check in files and folders, the history is updated to reflect these changes. Viewing history is the best way to get a clear picture of the changes a repository item has gone through.

## History of a File

To view a file's history:

1. In the FTVersionTrak main window, select a file and then click **History** on the **Version** menu, click the ⏰ toolbar button, or right-click the item and then click **History** from the shortcut menu. The History dialog box appears.
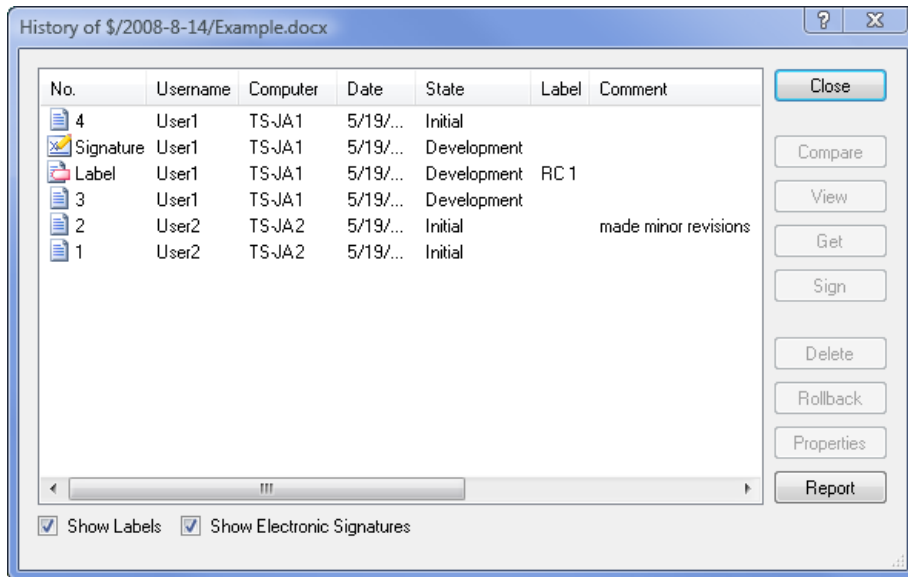


The History dialog box displays all the version information of the selected file. Each version displayed in the History dialog box contains the following information:

- **No.** – The number of the listed version.

- **Username** – The name of the user that created the listed version.

- **Computer** – The name of the computer upon which the version was created.

- **Date** – The date and time the listed version was added to the repository.

- **State** – The version state of the file when it was added to the repository.

- **Label** – The name of a label applied to the file.

- **Comment** – The contents of the optional comment created when the file was checked in.

The following two optional version histories may be viewed by selecting the appropriate check boxes at the bottom of the History dialog box:

- **Show Labels** – Select this check box to display any associated labels with the repository file. Each label will appear as a separate version of the file, with the tag **Label** substituted for the version number.

- **Show Electronic Signatures** – Select this check box to display any electronic signatures associated with the repository file. Each signature will appear as a separate version of the file, with the tag "Signature" substituted for the version number.

The buttons on the right side of the History dialog box are used to manage a file's history:

- **Close** – Closes the History dialog box.

- **Compare** – Selecting a version and clicking **Compare** will compare the selected version with the copy in the user's working directory. Selecting two versions and clicking **Compare** will compare the two versions to each other.

- **View** – Launches the application associated with the selected version, and opens the version of the file within the application as a read-only document.

- **Get**– Retrieves the selected version of the file to the user's local working directory.

- **Sign** – Electronically signs the selected version of the file. Can also be used to change the version state.

- **Delete –**Deletes the selected version of the file.

- **Rollback** – Deletes all versions of the file that are more recent than the selected file. Rollback is only available if the file has more than one version.

- **Properties** – View the properties of the selected version. Can also be used to change the version comment.

- **Report** – Generates a history report of the selected repository file.

# History of a Folder

To view a folder's history:

1.  In the FTVersionTrak main window, select a folder and then click **History** on the
    **Version** menu, click the ⏰ toolbar button, or right-click a folder and then click
    **History** on the shortcut menu. The History dialog box appears.
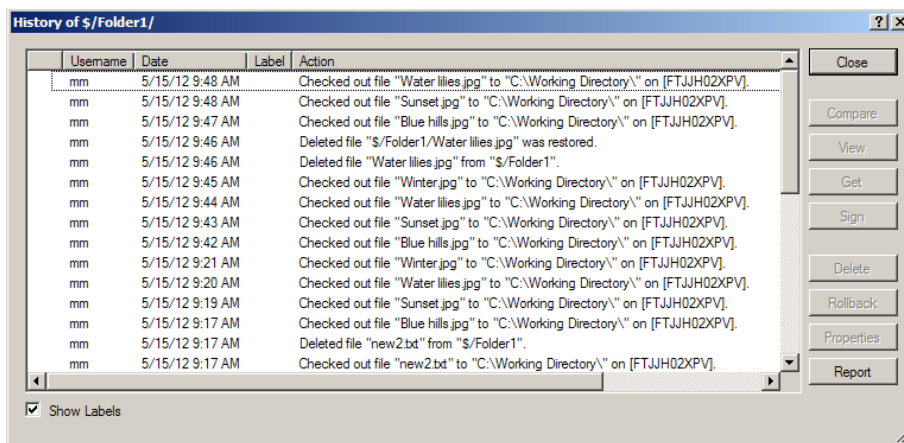


The Folder History dialog box displays a log of activity upon the repository folder with up
to four columns of information:

- **Username** – The name of the user that made the change to the folder.

- **Date** – The date and time the change to the folder occurred.

- **Label** – The name of a label applied to the folder.

- **Action** – A description of the action logged.

The following optional version history may be viewed by selecting the appropriate check
box at the bottom of the History dialog box:

- **Show Labels** – Select this check box to display any associated labels with the re-
  pository folder. Each label will appear as a separate version of the file, with the tag
  **Label** substituted for the version number.

The buttons on the right side of the Folder History dialog box are used to manage a file's
history:

- **Close** – Closes the History dialog box.

- **Report** – Generates a history report of the selected repository folder.

# Searching with FTVersionTrak

## Introduction to Search

FTVersionTrak's **Search** features enable you to find and utilize the files you need quickly and efficiently. You can search for files by name, comment, folder, date, or even by user. The Search Results dialog box opens in a new window, so as not to disrupt your current view, and provides convenient options for immediate action on your search criteria. An information-packed Search Report can be created instantly after the search as well.

To search FTVersionTrak:

1. Click **Search** on the **View** menu, or click the  toolbar button. The Search dialog box appears.
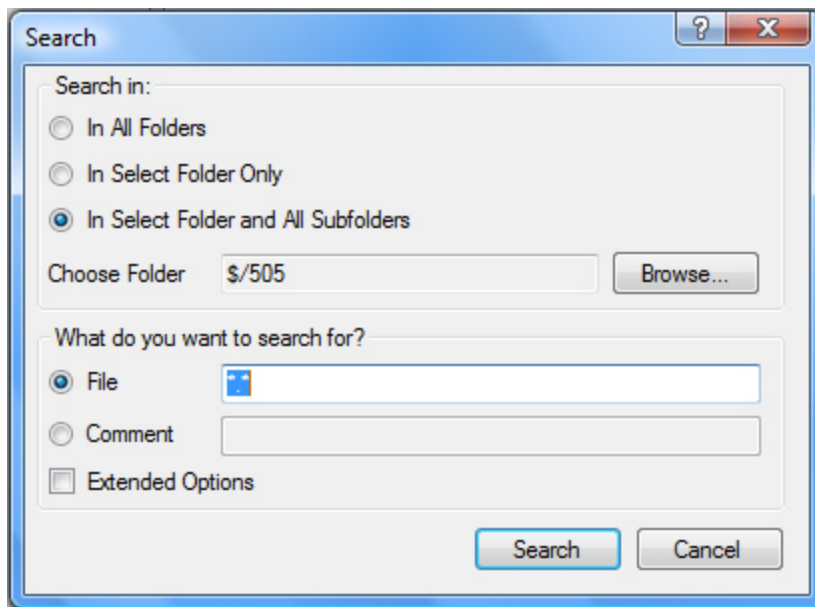


2. Select your search criteria:

   - Under **Search in**, click **In All Folders** to search all folders within the Repository. Clicking **In Select Folder Only** or **In Select Folder and All Subfolders** will activate the Choose Folder box. Click **Browse** to select the folder.

- Under **What do you want to search for?**, click **File** to search file names or click **Comment** to search comments recorded during the check in/check out process. Type the search string you want to search for in the **File** or **Comment** box.

> **NOTE:** Comment search syntax supports logical operator searching. File search syntax supports both wild card and logical operator searching.

3. Select the **Extended Options** check box to display further search options.
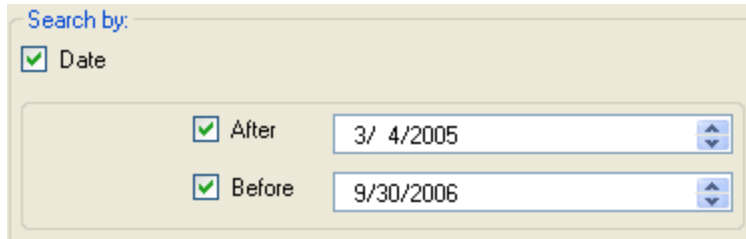
4. Specify your extended search criteria:

- Select the **Date** check box to activate the **After** and **Before** options. Select the **After** check box to limit the search to files last edited after the specified date. Select the **Before** check box to limit the search to files last edited before the specified date. Selecting both allows you to search by the specified date range.



- Select the **User** check box to limit the search to files edited by a specific user or comments entered by a specific user.

- Select the **State** check box to limit the search to files tagged with a specified Version State. The **State** check box is only displayed when searching for Files.

- Select the **File Name** check box to limit the search to files with a specified file name. The **File Name** check box is only displayed when searching for Comments.

- Select the **Checked Out (To)** check box to limit the search to files Checked Out to a specified user or comments associated with a file currently checked out to a specified user.

5. Click **Search** to initiate the search. The Search Results dialog box appears, displaying the output of the search.

# File Search Syntax

These search options are available when searching files.

- The file pattern may consist of an unlimited number of search terms

- A single search term cannot contain spaces

- Operators and search terms must be separated by a space

- The **\*** and **?** symbols are valid in file search as wildcard symbols

- Symbols and search terms must not be separated by a space

- A search term must precede and follow all OR operators

- A search term must follow all NOT operators

- All OR operators must come before all NOT operators

- Search terms and operators are not case sensitive

| Symbol | Application | Example |
|--------|-------------|---------|
| * | Represents any number of characters. Can precede, follow, or be in between any number of characters to search. | **pl\*** searches for any term starting with "pl"<br><br>**\*le** searches for any term ending with \*le<br><br>**fa\*st** searches for any term beginning with "fa" and ending with "st" |
| ? | Represents a single character. Can precede, follow, or be in between any number of characters to search. | **pl?** searches for a three-letter term beginning with "pl"<br><br>**?le** searches for a three-letter term beginning with "le"<br><br>**fa?st** searches for a five-letter term beginning with "fa" and ending with "st" |

| Operator | Application | Example |
|----------|-------------|---------|
| OR | Will display search results for the search term preceding as well as the search term following the operator. | **version OR trak** searches for terms containing "version" as well as terms containing "trak" |
| NOT | Will remove search results for the term following the operator. | **version NOT trak** searches for terms containing "version" but will remove terms containing "trak", including terms that contain both "version" and "trak" |

**NOTE**: The usage of the symbols and operators as illustrated above only apply for a file search. See Comment Search Syntax for more information.

*Examples:*

To search for a filename that ends in "fss" or begins with "workshop":

```
*fss OR workshop*
```

To search for a filename that ends in "fmd" or "fss" but does not contain "example":

```
*fmd OR *fss NOT *example*
```

# Comment Search Syntax

These search options are available when searching comments.

- The comment pattern may consist of an unlimited number of search terms

- A single search term can contain spaces

- Operators and search terms must be separated by a space

- The **\*** and **?** symbols are *not* valid in comment search as wildcard symbols

- If using operators, each search term containing "or" or "not" must be surrounded by a **\***

- A search term must precede and follow all OR operators

- A search term must follow all NOT operators

- All OR operators must come before all NOT operators

- Search terms and operators are not case sensitive

| Operator | Application | Example |
|---|---|---|
| OR | Will display search results for the search term preceding as well as the search term following the operator. | **version OR trak** searches for terms containing "version" as well as terms containing "trak" |
| NOT | Will remove search results for the term following the operator. | **version NOT trak** searches for terms containing "version" but will remove terms containing "trak", including terms that contain both "version" and "trak" |

> **NOTE**: The * and ? symbols are not valid as wildcard symbols within a comment search and will only produce results if the symbols exist as part of the comment itself. However, when searching for the words "or" and "not" within a comment, the words must be enclosed within asterisks to differentiate them from logical operators. See the examples below. See **File Search Syntax** for more information.

*Examples:*

To search for a comment that contains the phrase "the quick brown fox" but does not contain "the lazy dog":

```
the quick brown fox NOT the lazy dog
```

To search for a comment that either contains the phrase "the quick brown fox" or contains the phrase "the lazy dog" but does not contain the word "jumped":

```
the quick brown fox OR the lazy dog NOT jumped
```

To search for a comment that either contains the word "fox" or the word "not" but not the word "dog"

```
fox OR *not* NOT dog
```

# Using Search Results

FTVersionTrak displays the output of a Search in the Search Results dialog box. However, instead of only displaying the results, you can perform common commands on the results of the search, independently of the main window. To perform a command on a search result, right-click the item in the Search Results dialog box and then click the command you want to perform from the shortcut menu.

For example, to check out a file that is listed in the Search Results dialog box, right-click the file and then click **Check Out** on the shortcut menu.
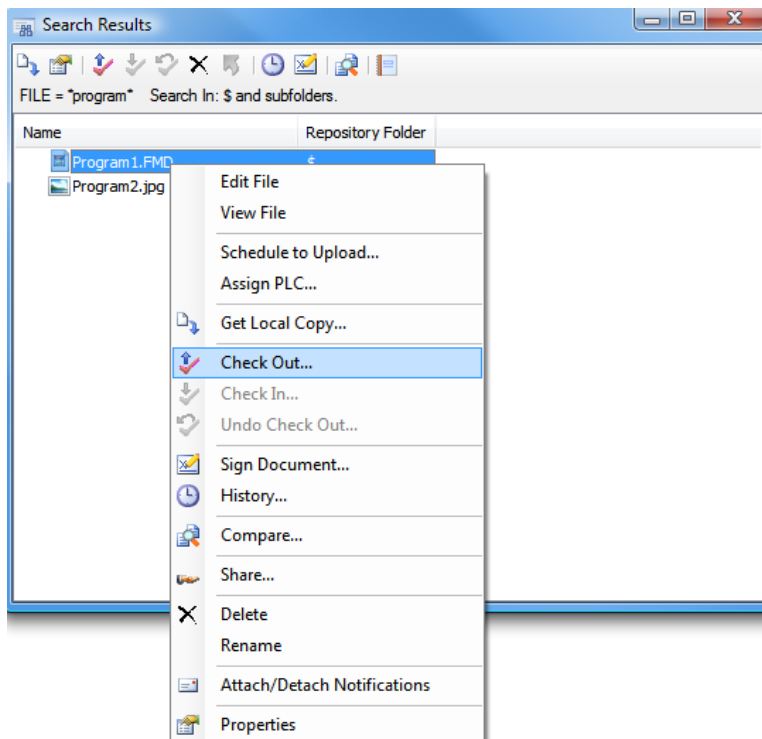
# Generating Reports

## Introduction to Reports

Generate up to ten different types of reports with FTVersionTrak's reporting feature. These reports can be viewed, saved, printed, and copied into other documents for maximum flexibility.

To generate any of the available reports, a dialog box similar to the one below appears with options to customize the report to be generated.
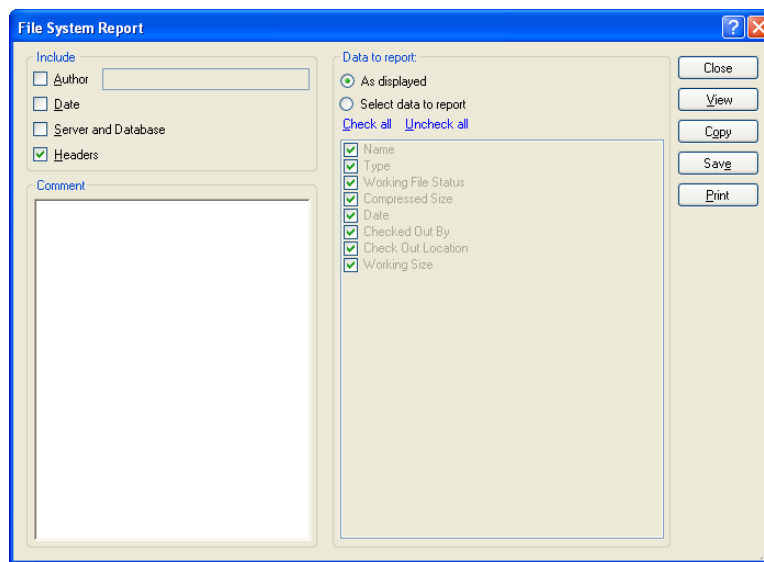


Under **Include**, indicate the information to include in the report.

- **Author** - Include an author name in the report header

- **Date** - Include the date and time the report was generated in the report header

- **Server and Database** - Include the name of the server and the repository that the report was generated from in the report header

- **Headers** - Include header names of the reported data in a column structure

Under **Data to report**, indicate which data to include in the report.

- Select **As displayed** to include all types of data in the report.

- Select **Select data to report** to specify which data is included in the report. Select the check boxes of the data you want to include in the report. Clear the check boxes of the data that will not be in the report. The types of data will vary depending on the type of report being generated.

The buttons on the right side of the dialog box determine the format of the generated report:

- **View** - Opens the report as a \*.TXT file in Microsoft Notepad.

- **Save** - Opens a **Save As** dialog box to save the report as a \*.TXT file.

- **Print** - Opens a **Print** dialog box to send the report to a printer.

- **Copy** - Copies the file to the Windows Clipboard to be inserted into another document.

Any additional comments or information may be entered in the **Comment** text box.

# File System Report

This report lists the contents and related information of a selected repository folder and its subfolders.

To generate the FTVersionTrak File System report:

1. Select the repository folder from the folder tree that will be the starting point of the report and then click **Generate File System Report** on the **File** menu, or press **CTRL+G**. The File System Report dialog box appears.
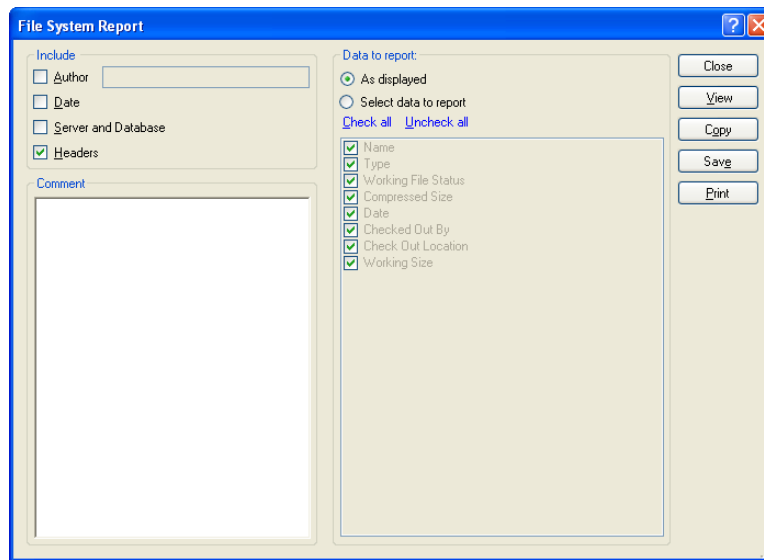
2. Under **Include**, indicate the information to include in the report:

- **Author** - Include an author name in the report header.

- **Date** - Include the date and time the report was generated in the report header.

- **Server and Database** - Include the name of the server and the repository that the report was generated from in the report header.

- **Headers** - Include header names of the reported data in a column structure.

3. *Optional:* Enter an optional comment to attach to the report in the **Comment** box.

4. Under **Data to report**, click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the following list:

- **Name** – Include the name of the file.

- **Type** – Include a description of the associated application of the file.

- **Working File Status** – Include the status of the working copy.

- **Compressed Size** –Include the size of the file as it exists in the repository.

- **Date** –Include the date the file was last modified.

- **Checked Out By** – Include the username of the user who checked out the file, if any.

- **Check Out Location** – Include the path of the working directory of the person who checked out the file, if any.

- **Working Size** – Include the actual size of the file as it exists in a user's working directory.

5. Select the format of the report to generate using the buttons on the right side of the File System Report dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a Print dialog box to send the report to a printer.

- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

# History Report

This report lists version history and related information of a selected repository file.

To generate the FTVersionTrak History report:

1. Select the repository file and then click **History** on the **Version** menu, click the 🕐 toolbar button or right-click a file and then click **History** on the shortcut menu. The History dialog box appears.
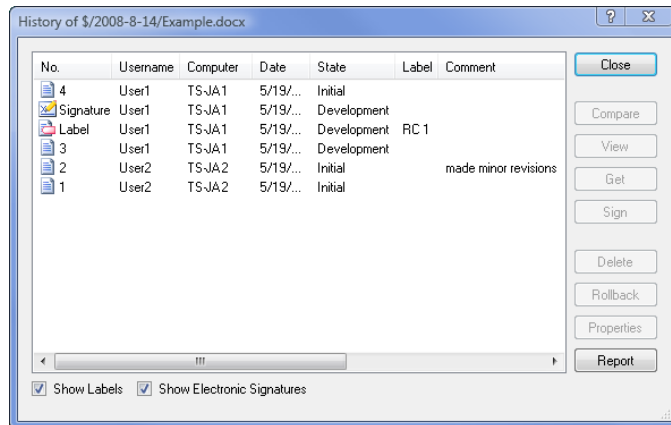
2. Click **Report**. The History Report dialog box appears.
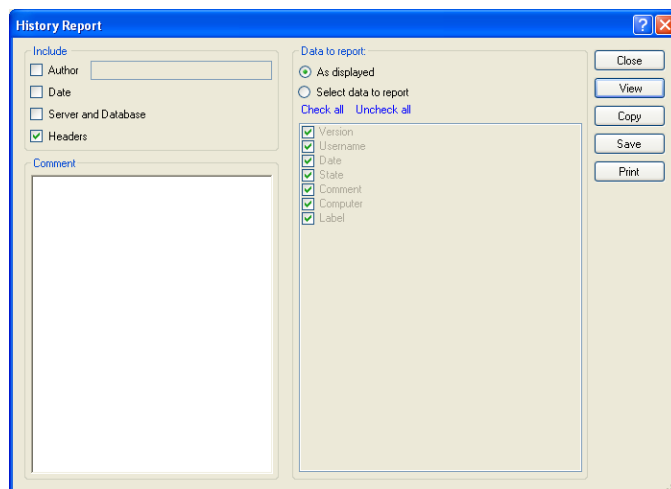


3. Under **Include**, select which items to include in the report header.

- **Author** – Include an author name in the report header.

- **Date** – Include the date and time the report was generated in the report header.

- **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

- **Headers** – Include header names of the reported data in a column structure.
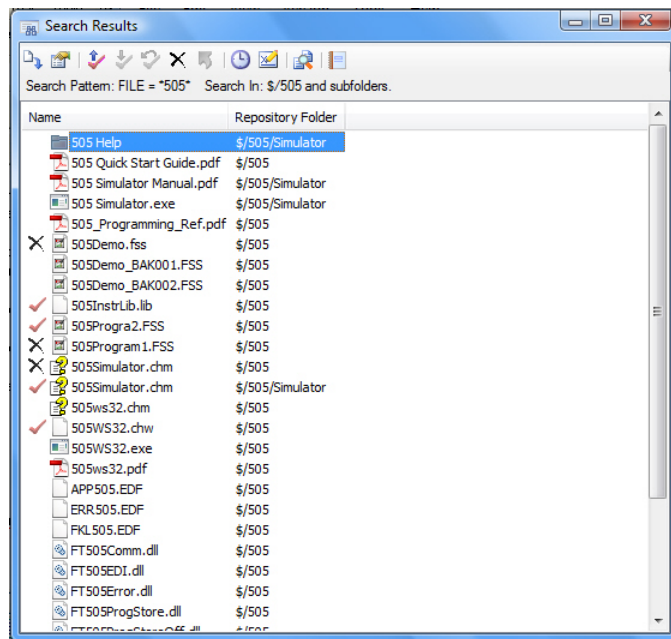
4. Enter an optional comment to attach to the report in the **Comment** text box.

5. Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the following list:

- **Version** – Include the version number.

- **Username** – Include the username of the user who created the version.

- **Date** – Include the date and time the version was created.

- **State** – Include the repository file state of the version.

- **Comment** – Include the check in comment attached to the version, if any.

- **Computer** – Include the name of the computer upon which the version was created.

- **Label** – Include any labels attached to the repository file.

6. Select the format of the report to generate using the buttons on the right side of the **History Report** dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a Print dialog box to send the report to a printer.

- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.
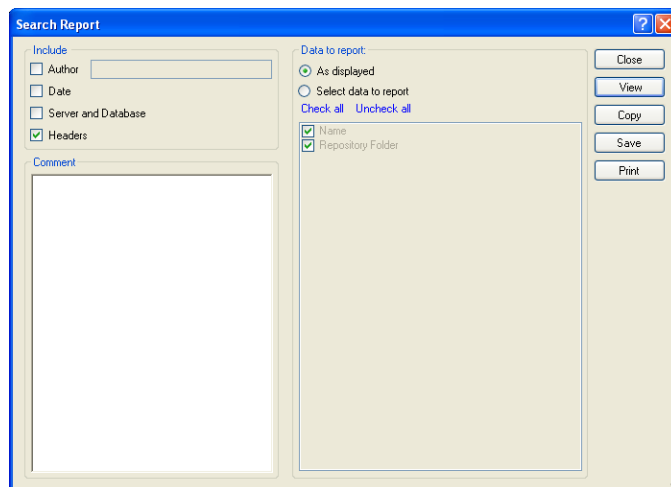
## Search Results Report

This report lists the results of a search and its relevant information.

To generate the FTVersionTrak Search Results report:

1. Perform a search on the repository. The Search Results dialog box appears.

2. Click the **Report** toolbar button . The Search Report dialog box appears.

3. Under **Include**, select which items to include in the report header:

    - **Author** – Include an author name in the report header.

    - **Date** – Include the date and time the report was generated in the report header.

    - **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

    - **Headers** – Include header names of the reported data in a column structure.

4. Enter an optional comment to attach to the report in the **Comment** box.

5. Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the following list:

    - **Name** – Include the file name.

    - **Repository Folder** – Include the repository folder in which the file is located.

6. Select the format of the report to generate using the buttons on the right side of the Search Report dialog box:

    - **View** – Opens the report as a *.TXT file in Microsoft Notepad.

    - **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

    - **Print** – Opens a Print dialog box to send the report to a printer.

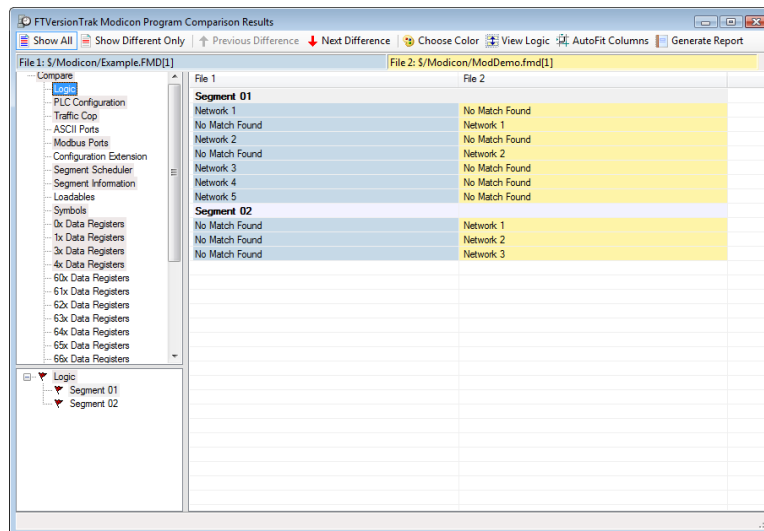    - **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

## Compare Files Reports

These reports list the results of a comparison of two Modicon FasTrak files, two 505 FasTrak files, or two text files.

*Compare Files Reports*

These reports list the results of a comparison of two Modicon FasTrak files, two 505 FasTrak files, or two text files.
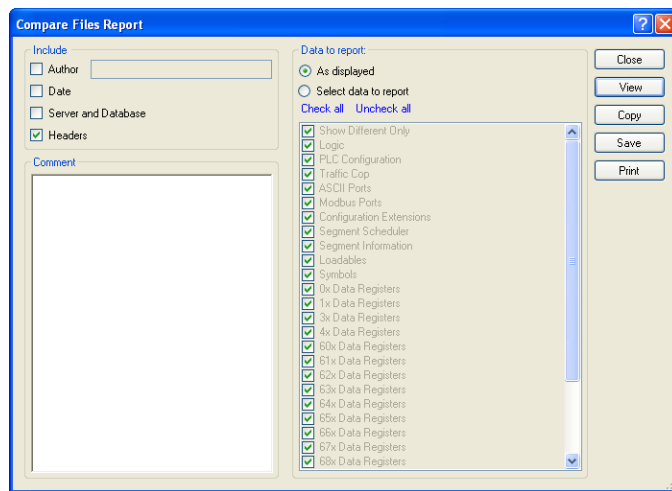
*Compare Modicon FasTrak Files Report*

This report contains the results of a comparison of two Modicon WorkShop files. To generate the Compare Modicon WorkShop Files Report:

1. Compare two Modicon FasTrak files. The Compare FasTrak Files Results dialog box appears.



2. Click **Generate Report**. The Compare Files Report dialog box appears.

3.  Under **Include**, select which items to include in the report header.

    - **Author** – Include an author name in the report header.

    - **Date** – Include the date and time the report was generated in the report header.

    - **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

    - **Headers** – Include header names of the reported data in a column structure.

4.  Enter an optional comment to attach to the report in the **Comment** box.

5.  Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the following list:

    - Logic

    - PLC Configuration

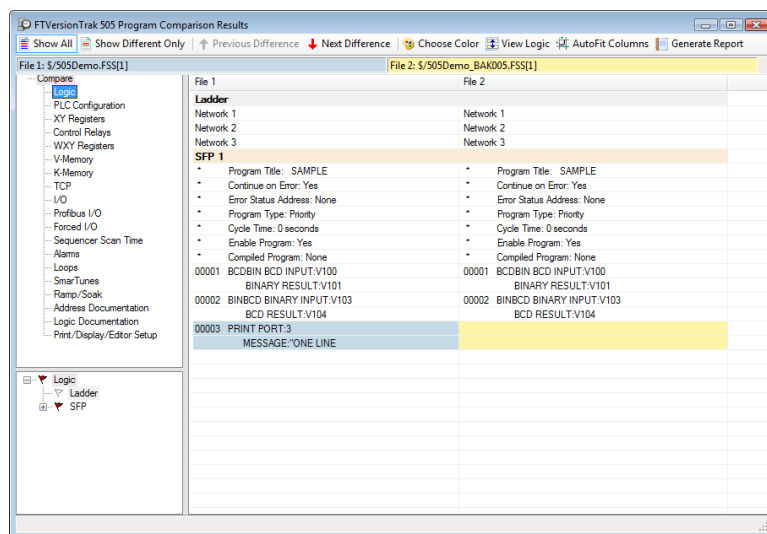    - Traffic Cop

    - ASCII Ports

- Modbus Ports

- Configuration Extensions

- Segment Scheduler

- Segment Information

- Loadables

- Symbols

- 0x Registers

- 1x Registers

- 3x Registers

- 4x Registers

- 6x Registers

- Coils Used

- Disabled States

- ASCII Messages

- Logic Documentation

- Address Documentation

- Print/Display/Editor Setup

- Differences Only

6. Select the format of the report to generate using the buttons on the right side of the **File System Report** dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a Print dialog box to send the report to a printer.

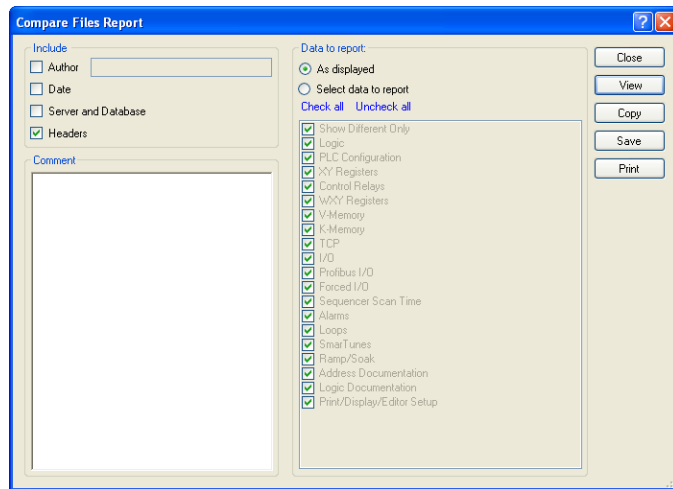- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

## Compare 505 FasTrak Files Report

This report contains the results of a comparison of two 505 WorkShop files. To generate the Compare 505 WorkShop Files Report:

1. Compare two 505 FasTrak files. The Compare FasTrak Files Results dialog box appears.



2. Click **Generate Report**. The Compare Files Report dialog box appears.

3.  Under **Include**, select which items to include in the report header.

    - **Author** – Include an author name in the report header.

    - **Date** – Include the date and time the report was generated in the report header.

    - **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

    - **Headers** – Include header names of the reported data in a column structure.

4.  Enter an optional comment to attach to the report in the **Comment** box.

5.  Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the following list:

    - Show Different Only

    - Logic

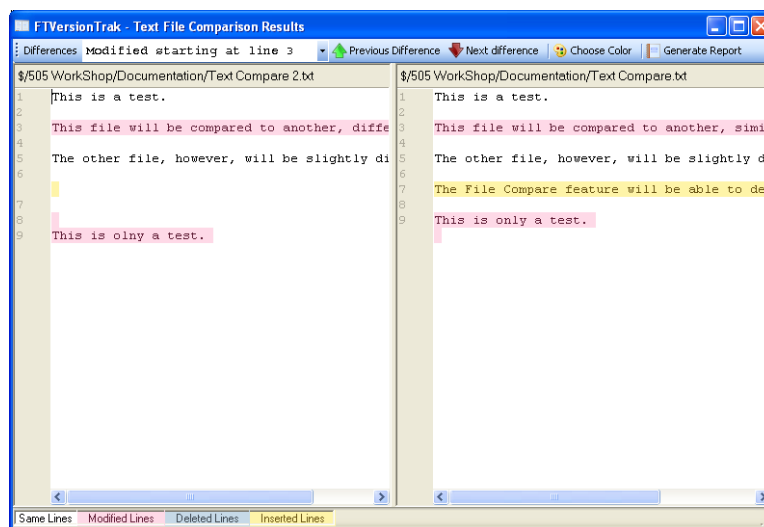    - PLC Configuration

    - XY Registers

- Control Relays

- WXY Registers

- V-Memory

- K-Memory

- TCP

- I/O

- Profibus I/O

- Forced I/O

- Sequencer Scan Time

- Alarms

- Loops

- SmarTunes

- Ramp/Soak

- Address Documentation

- Logic Documentation

- Print/Display/Editor Setup

6. Select the format of the report to generate using the buttons on the right side of the **File System Report** dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a Print dialog box to send the report to a printer.

- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.
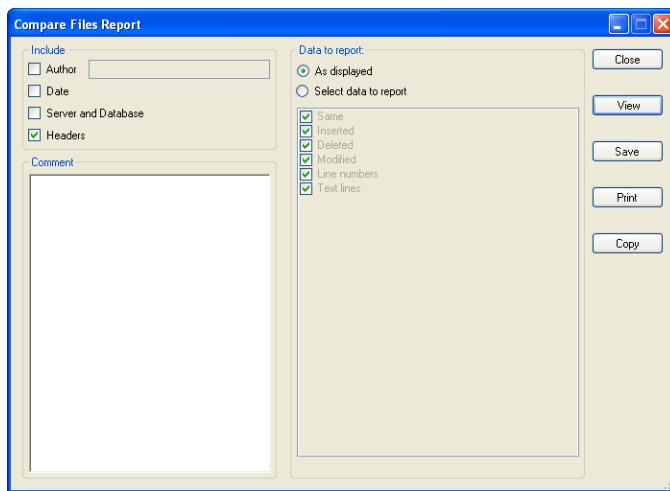
### *Compare Text Files Report*

This report contains the results of a comparison of two text files. To generate the Compare Text Files Report:

1. Compare two text files. The Text Difference dialog box appears.



2. Click **Generate Report**. The Compare Files Report dialog box appears.

3. Under **Include**, select which items to include in the report header.

- **Author** – Include an author name in the report header.

- **Date** – Include the date and time the report was generated in the report header.

- **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

- **Headers** – Include header names of the reported data in a column structure.

4. Enter an optional comment to attach to the report in the **Comment** box.

5. Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the following list:

- Same

- Inserted

- Deleted

- Modified

- Line Numbers

- Text Lines

6.  Select the format of the report to generate using the buttons on the right side of the File System Report dialog box:

    - **View** – Opens the report as a *.TXT file in Microsoft Notepad.

    - **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

    - **Print** – Opens a Print dialog box to send the report to a printer.

    - **Copy** – Copies the file to Windows Clipboard to be inserted into another document.
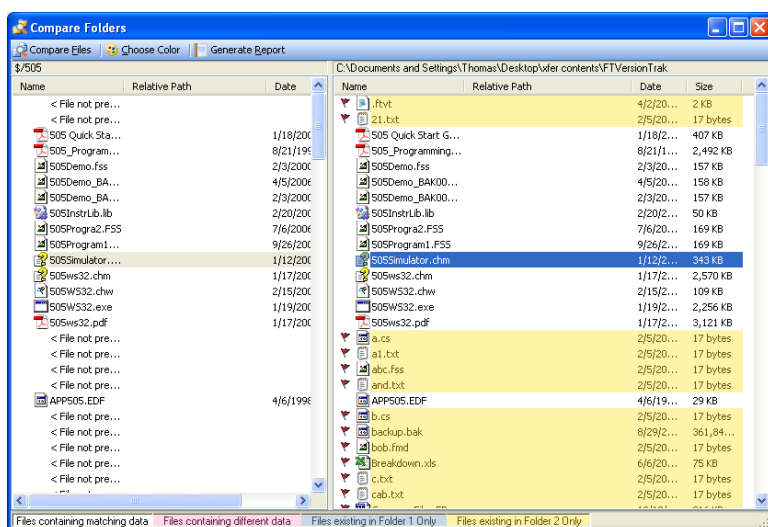
*Live Compare Report*

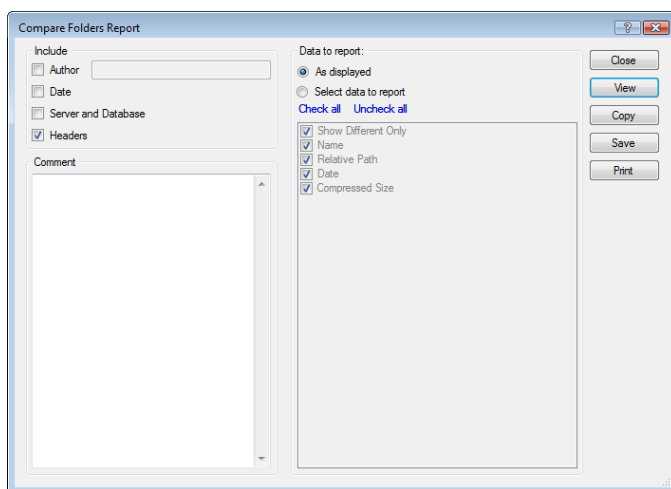Content coming soon.

# Compare Folders Report

This report lists the results of a folder compare and its relevant information.

To generate the FTVersionTrak Compare Folders report:

1.  Perform a folder compare on two folders. The Compare Folders dialog box appears.

2.  Click **Generate Report**. The Compare Folders Report dialog box appears.



3.  Under **Include**, select which items to include in the report header:

    ■ **Author** – Include an author name in the report header.

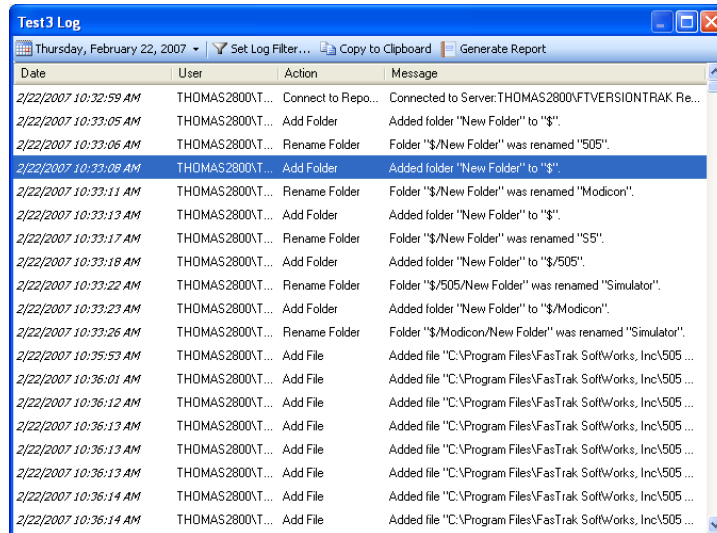    ■ **Date** – Include the date and time the report was generated in the report header.

■ **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

■ **Headers** – Include header names of the reported data in a column structure.

4. Enter an optional comment to attach to the report in the **Comment** box.

5. Under **Data to report,** select which data to include in the report by clicking **As displayed** to include all data in the report or clicking **Select data to report** to select which data to include from the following list:

- **Show Different Only**

- **Name**

- **Relative Path**

- **Date**

- **Compressed Size**

6. Select the format of the report to generate using the buttons on the right side of the **Compare Folders Report** dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a Print dialog box to send the report to a printer.

- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.
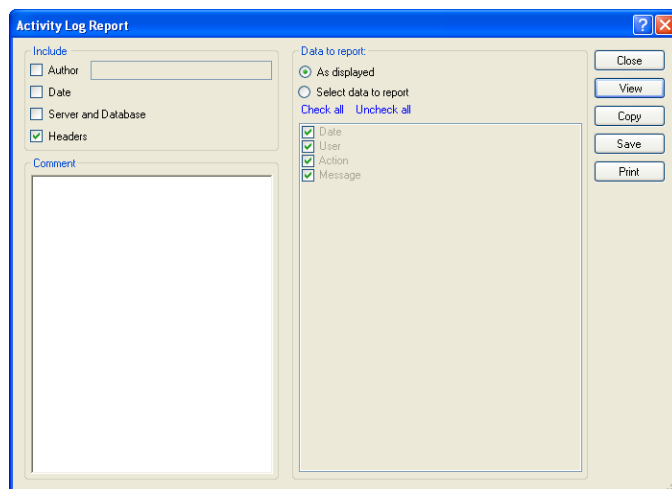
# Activity Log Report

This report lists the results contained in the Activity Log.

To generate the FTVersionTrak Activity Log report:

1. Start the Activity Log by clicking **Activity Log** on the **View** menu. The Activity Log dialog box appears.



2. Click **Generate Report**. The Report dialog box appears.

3.  Under **Include**, select which items to include in the report header:

    ■ **Author** – Include an author name in the report header.

    ■ **Date** – Include the date and time the report was generated in the report header.

    ■ **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

    ■ **Headers** – Include header names of the reported data in a column structure.

4.  Enter an optional comment to attach to the report in the **Comment** box.

5.  Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the following list:

    • **Date** – Include the date and time of the recorded.

    • **User** – Include the username and workstation name of the user who initiated the activity.

    • **Action** – Include the tag describing the action of the logged event.

    • **Message** – Include a more detailed comment on the nature and location of the logged event.

6.  Select the format of the report to generate using the buttons on the right side of the **Compare Folders Report** dialog box:

    • **View** – Opens the report as a *.TXT file in Microsoft Notepad.

    • **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

    • **Print** – Opens a Print dialog box to send the report to a printer.

    • **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

# Chapter 5 – Administrator Guide

# Administrator Guide

The FTVersionTrak administrator is responsible for managing and maintaining the security of change-sensitive files. As the administrator, you will install and configure FTVersionTrak based on the version control needs of your project or company. Many of FTVersionTrak's most powerful features are intended to only be used by the administrator.

The following topics illustrate these features in detail, while assuming little about you, the prospective FTVersionTrak administrator. Anyone with a basic understanding of Microsoft Windows can be an effective FTVersionTrak administrator using this guide. In the event that a question arises that is not adequately addressed by this guide, please contact FasTrak SoftWorks Customer Support.

# System Requirements

## FTVersionTrak Client Requirements

The following is required to install FTVersionTrak:

- Operating systems supported:
    - Windows XP Professional Sp1A or later
    - Windows Vista (Business or Enterprise)
    - Windows 7 Professional, Enterprise, or Ultimate
    - Windows 8 and Window 8.1
    - Windows 10

- 100 MB free disk space

- FTVersionTrak requires Microsoft Data Access Components (MDAC) v2.7. MDAC 2.7 will be installed or updated automatically to meet this requirement.

- FTVersionTrak requires the .NET framework 2.0 or higher; this component will be installed or updated automatically to meet this requirement.

> **NOTE:** You must be logged in as the administrator to install FTVersionTrak. In addition, User Access Control must be disabled to install and use FTVersionTrak.

## MS SQL Server Express Database Requirements

The following is required to install the SQL Server database:

- Operating systems supported:
  - Windows 10

  - Windows 8

  - Windows 7

  - Windows Server 2008

  - Windows Server 2008 R2

  - Windows Server 2003 Service Pack 2

  - Windows Vista Service Pack 1

  - Windows XP Service Pack 3

- PCs:
  - 32-bit systems

    - Intel or compatible 1 GHz or faster processor (2 GHz or faster recommended)

    - Minimum of 256 MB of RAM (1 GB or more is recommended)

    - 1 GB of free hard disk space

  - 64-bit systems
    - 1.4 GHz or higher processor (2 GHz or faster recommended).

    - Minimum of 256MB of RAM (1 GB or more is recommended)

    - 1 GB of free hard disk space

> **NOTE:** You must be logged in as the administrator to in-
> stall the SQL Server database. In addition, User Access
> Control must be disabled to install the SQL Server database.

# Disabling User Access Control (UAC)

Windows User Access Control (UAC) must be disabled in order to install and use FTVer-
sionTrak. Log in as a Windows Administrator and follow the instructions below to disable
UAC for Windows Vista, 7, 8, 10, and 11.

### Windows 10 and 11

1. From **Control Panel**, select **User Accounts > User Accounts > Change User
   Account Control Settings**.

2. Move the slider to **Never notify**.

3. Restart the computer, so changes take effect.

### Windows 7 and 8

1. Open User Account Control Settings by clicking the **Start** button and then clicking
   **Control Panel**. In the search box, type **uac**, and then click **Change User Account
   Control settings**.

2. To turn off UAC, move the slider to the **Never notify** position, and then click **OK**.
   If you are prompted for an administrator password or confirmation, type the pass-
   word or provide confirmation. You will need to restart your computer for UAC to
   be turned off.

### Windows Vista

1. Open User Accounts by clicking the **Start** button, clicking **Control Panel**, clicking
   **User Accounts and Family Safety** (or clicking **User Accounts**, if you are con-
   nected to a network domain), and then clicking **User Accounts**.

2. Click **Turn User Account Control on or off**. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.

3. Clear the **Use User Account Control (UAC) to help protect your computer** check box to turn off UAC and then click **OK**. You may need to restart your computer for UAC to be turned off.
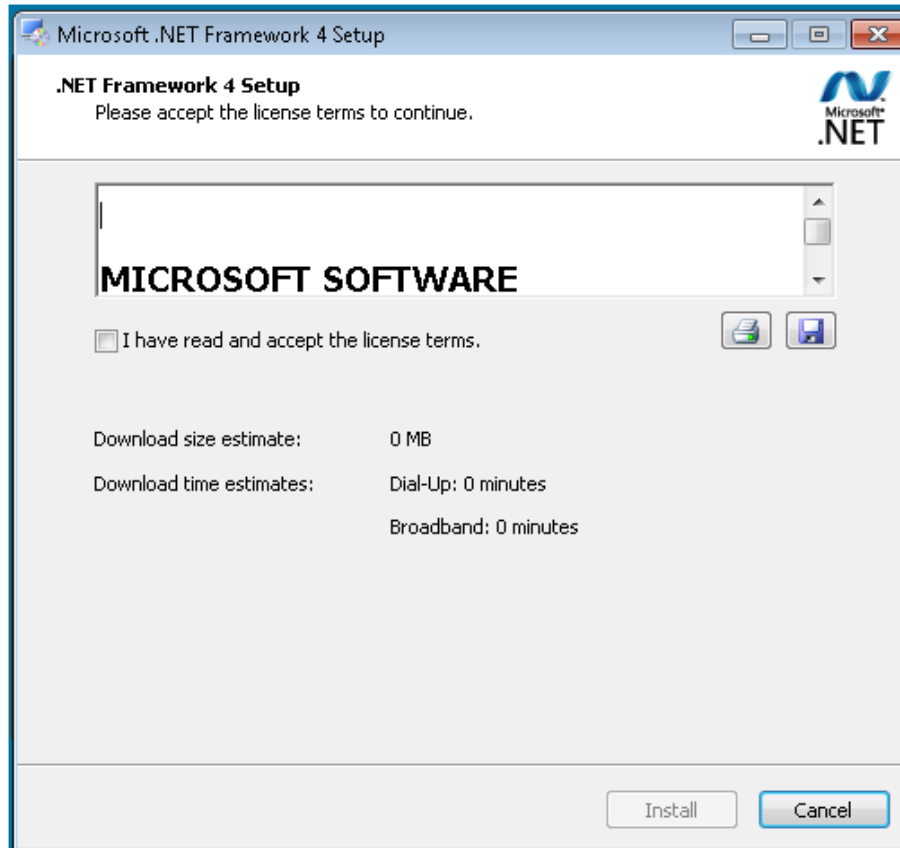
# Installation

## Installation Instructions

1. Insert the FTVersionTrak CD into your computer's CD-ROM drive.

2. The Install Wizard should start automatically. If not, open the file explorer, select the CD-ROM drive in the left pane, and run the setup.exe file.

3. The FTVersionTrak Install Shield Wizard appears. This utility determines if any necessary software components must be installed to support FTVerionTrak. Below is an example of items that the Wizard may install. Click **Install**.
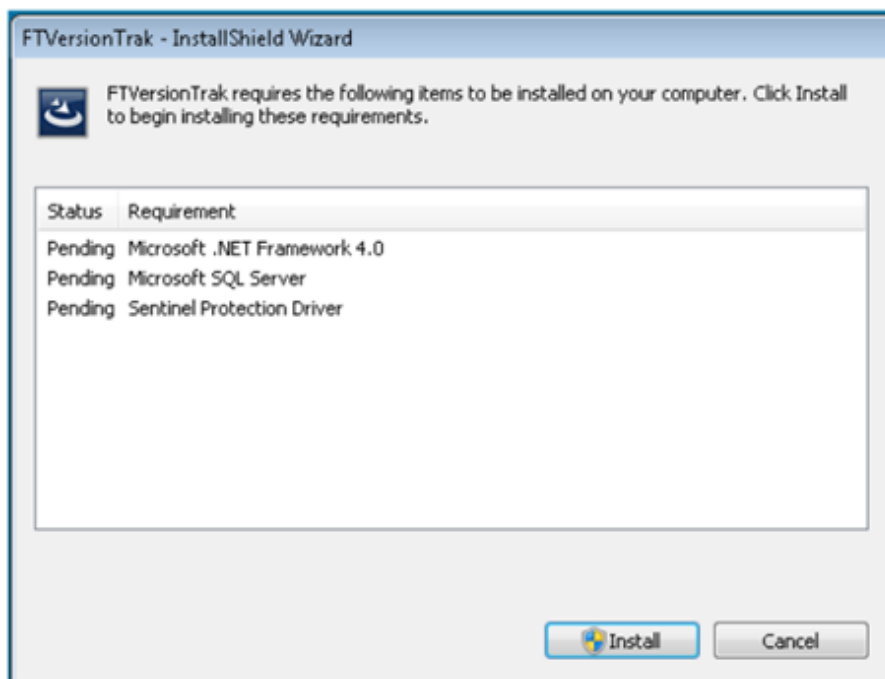


4. Click **Install** to begin Installation.

> NOTE: You must be an Administrator to install FTVersionTrak.

5. The Microsoft .NET Framework installation beings.



6. Accept the Microsoft .NET Framework terms and conditions, then click **Install** to begin the installation.

7. When installation is complete, click **Finish** to continue.
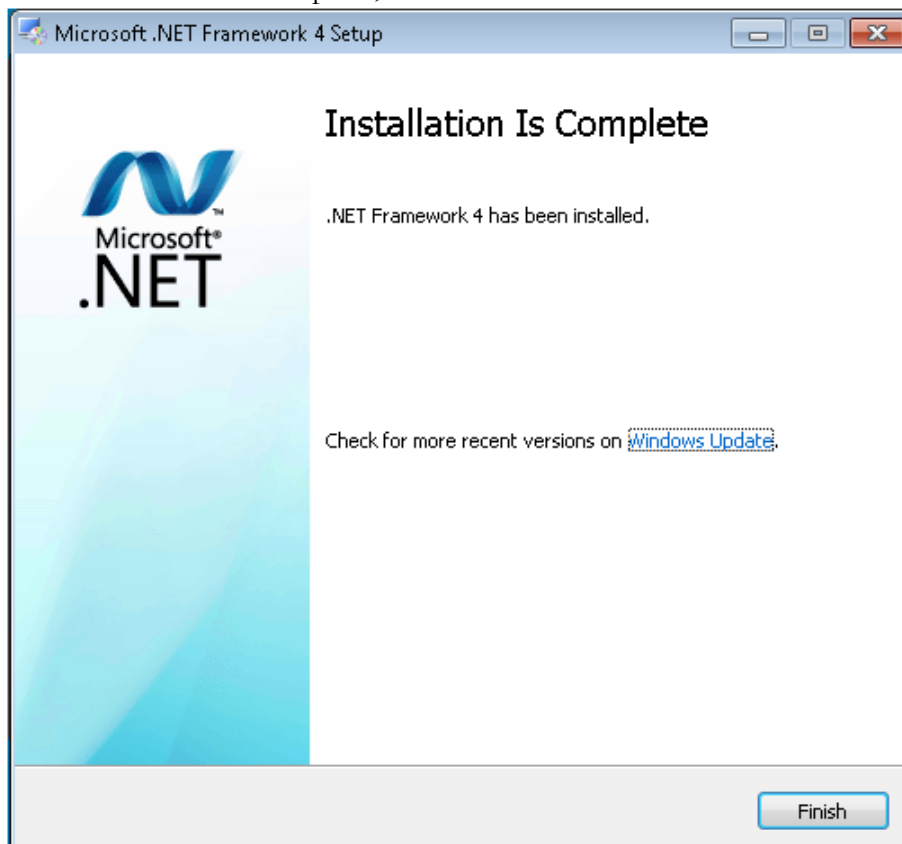
8. The following screen gives you the option to install Microsoft SQL Server. Click **Yes** to install SQL, or click **No** to skip this step.
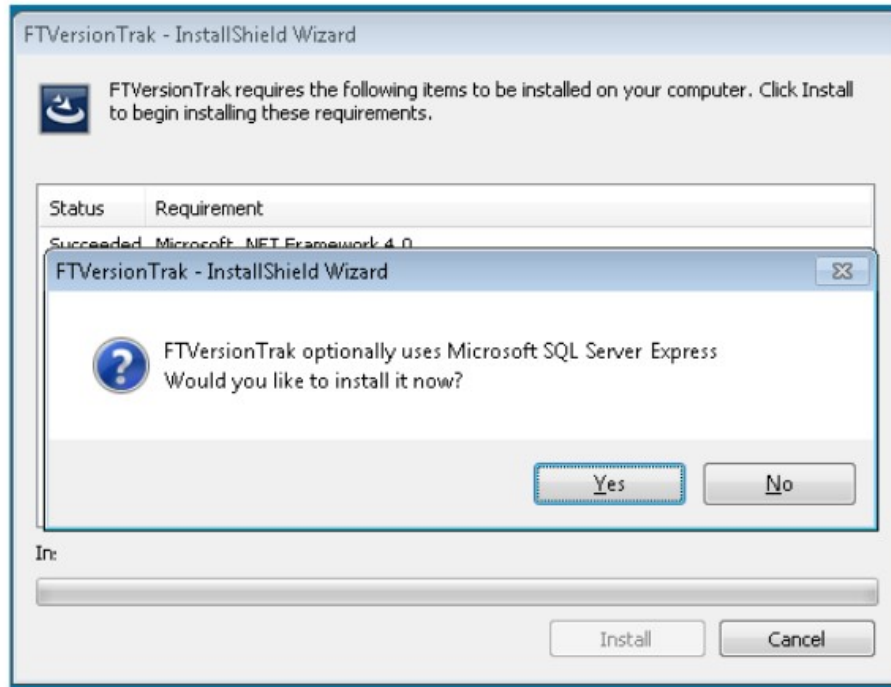


9. After installation of SQL is complete, the following screen gives you the option to install Sentinel Protection Driver (FT-KEY Driver). Click Yes to install the Sentinel Protection Driver, or click No to skip this step. **This step is required for use of**

**FTVersionTrak with keyed licenses.**
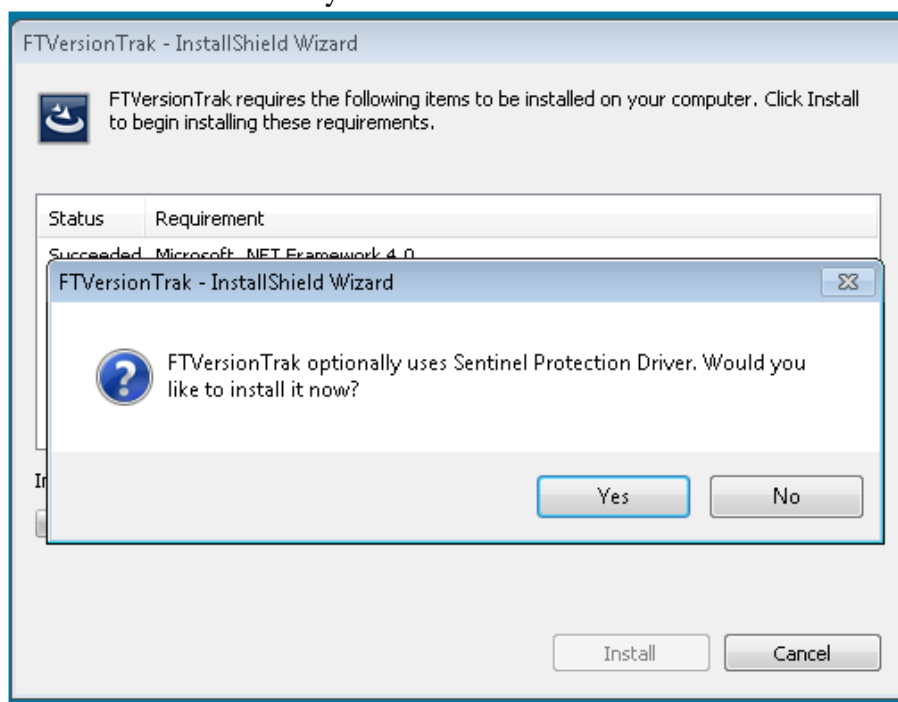


10. After installation of Sentinel Protection Driver is complete, the FTVersionTrak client Install Shield Wizard appears. Click **Next**.
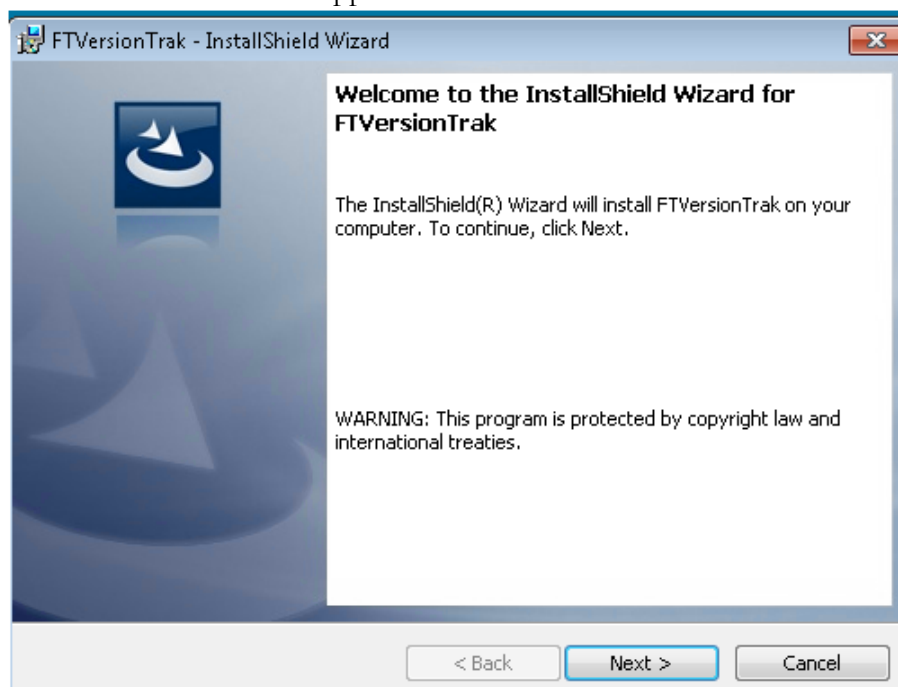
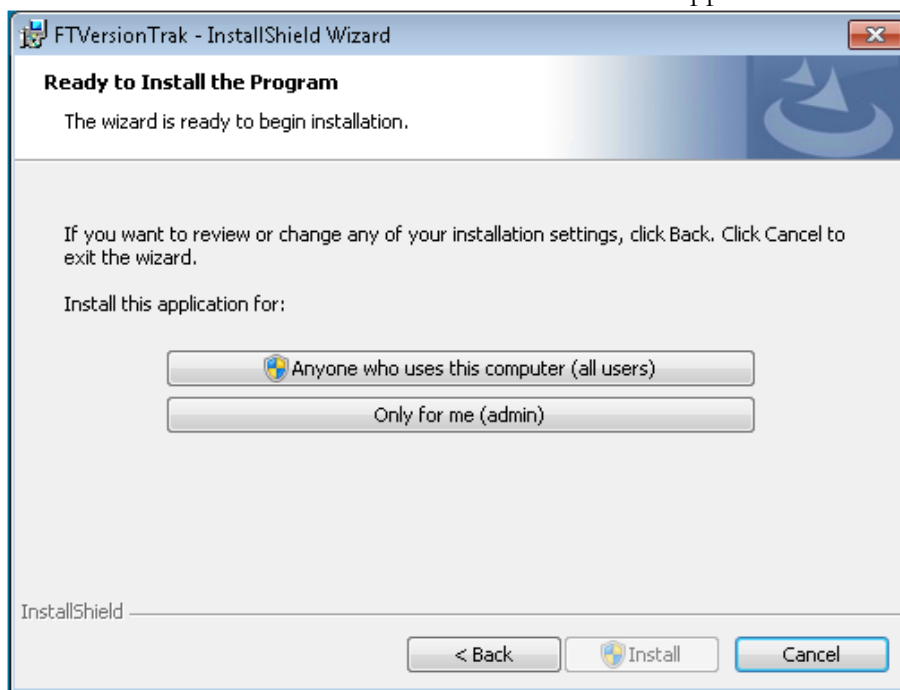11. Accept the FasTrak license terms and conditions, then click **Next** to continue.
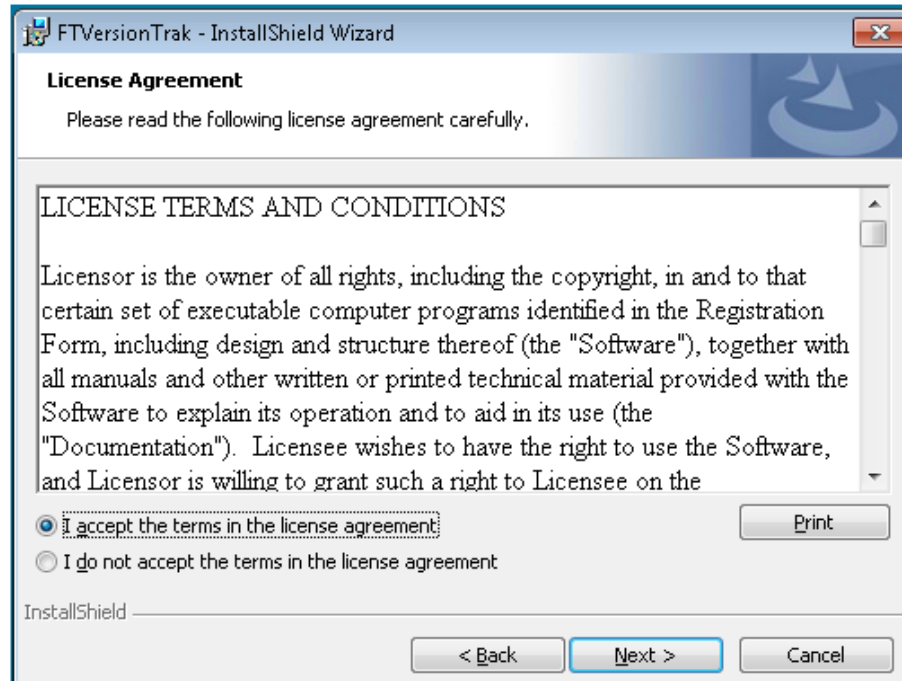
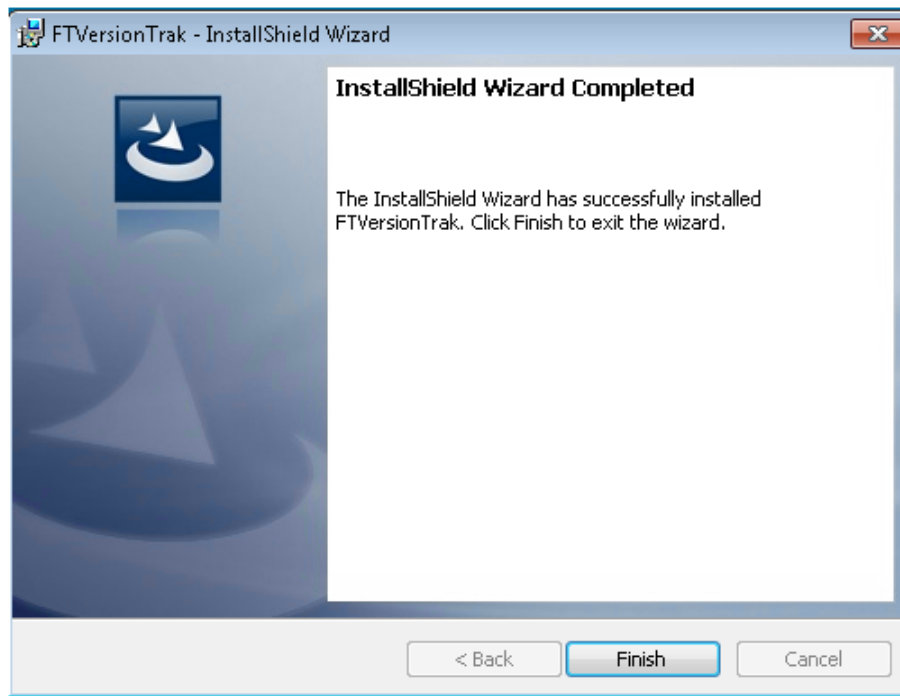12. Enter a user name (required) and organization name (optional). Click **Next** to continue.
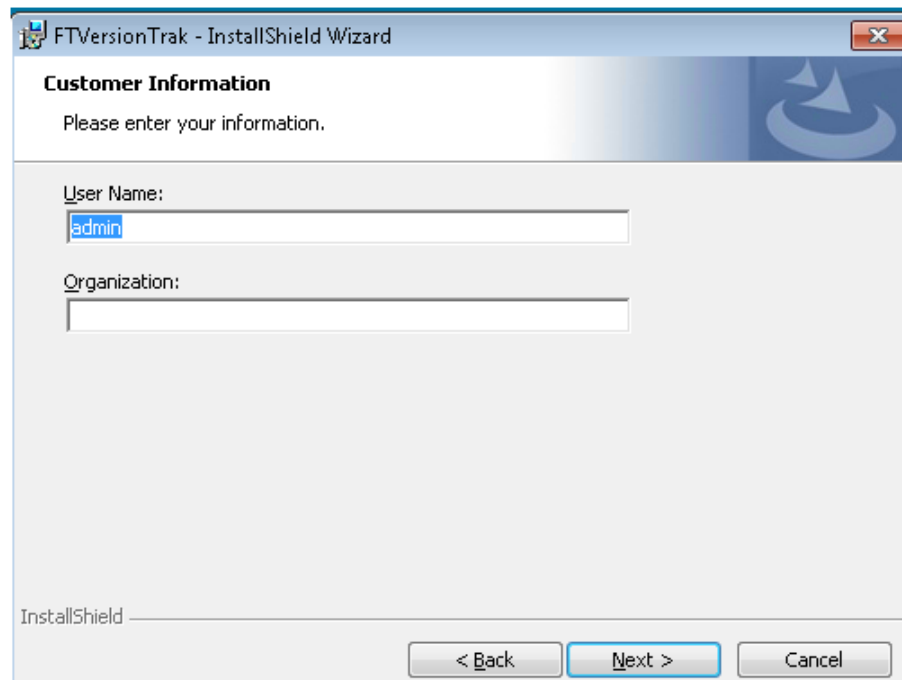
13. On the **Setup Type** window, select **Complete**. Click **Next**.
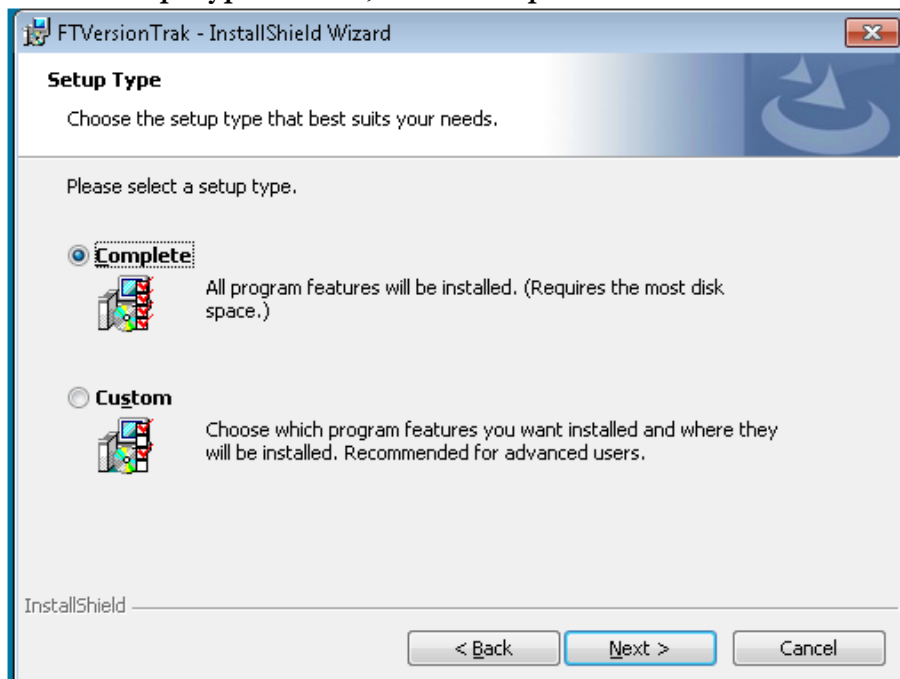


14. Select who should have access to the FTVersionTrak application. Click **Install**.

15. After installation of the FTVersionTrak client is complete, click **Finish** to complete installation.



# Demo Mode Restrictions

If using this software without a license, you may run FTVersionTrak in demo mode, which restricts the application to limited functionality. Running FTVersionTrak in demo mode gives you the opportunity to try out all of FTVersionTrak's powerful features before buying a license for it.

When you start FTVersionTrak without a license the following message appears:

Click **Demo** to run FTVersionTrak in demo mode.

The following restrictions apply when using FTVersionTrak in demo mode:

Users will be able to:

- Create one repository.

- Add any of the 10 included example files in the repository.

- Create up to four versions of any one file.

- Compare versions of any of the included example files.

Once you have reached your file and version limit, if you would like to continue evaluating the demo, you can reset the repository and start again by clicking **Restore Respoitory to Factory State** on the **File** menu. This function will clear all data from the repository and reset any configured settings to their defaults.

Please note that you cannot add any files to the repository other than the sample files provided with the demo, and that these files cannot be altered in any way prior to adding to the repository. Attempts to add modified sample files or any other files to the repository while in demo mode are restricted and will result in an error.

If you do not have a license and would like to receive the full functionality of FTVersionTrak, contact the FasTrak sales department at **sales@fast-soft.com** or call 262.238.8088.

# Setup and Troubleshooting

## Introduction to Setup and Troubleshooting

Use the information in this setup and troubleshooting guide to determine the setup that best meets your user requirements and to troubleshoot problems associated with connecting to SQL Server.

## SQL Server Setup

## The Client/Server Model

FTVersionTrak functions as a client of Microsoft SQL Server. This means that FTVersionTrak can do little on its own. The computer on which SQL Server is installed and running contains all the data that FTVersionTrak reads from, writes to, manages, and protects. This computer, in conjunction with the SQL Server software, is the server in our client/server model. Any user who wants to use FTVersionTrak to access the data on the server must be able to connect to it somehow. If the FTVersionTrak client is located on a different machine than SQL Server, the client and server use the TCP/IP communications protocol to communicate with each other. In this way, many FTVersionTrak clients can connect to the same instance of Microsoft SQL Server to access common data concurrently.
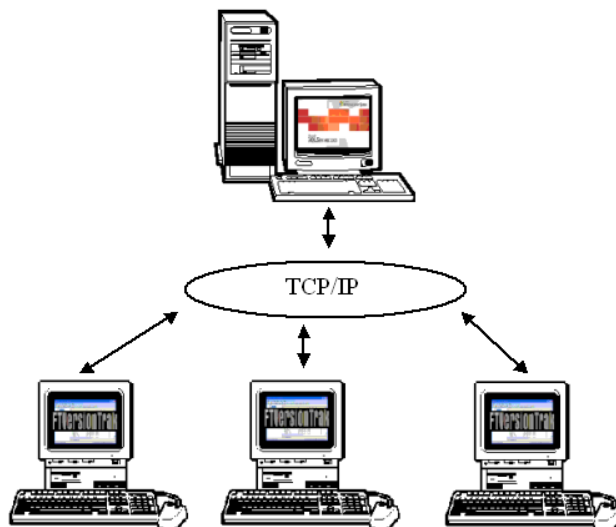
# Why SQL Server?

**Ease of Accessibility** – Because all client/server communications are handled by SQL, FTVersionTrak can communicate any way that SQL Server can communicate. Furthermore, file accessibility can be granted to any client.

**Quick and Efficient Data Retrieval** – When searches are performed, data such as files, comments, keywords, users, and versions, is retrieved much more quickly. Moving and renaming files also occurs faster.

**Powerful and Flexible User Authentication** – Both SQL and Windows authentication protocols are supported simultaneously allowing you to take advantage of the benefits of each type.

- **Windows-based** authentication is more secure and easier to use. Passwords don't need to be remembered and credentials are not passed over a network.

- **SQL-based** authentication is faster to set up, and access may be provided to a repository without giving access to the rest of the Windows network. A typical username / password combination is employed, which will exist only for the database server. This means you don't have to create a new domain member for temporary access by consultants, and security is managed independently from network security.

**Data Protection** – The SQL database exists separately from the files that users will be editing. The process of editing, deleting, and renaming files happens only on the user's local machine, not the FTVersionTrak database. Each time a change is made, FTVersionTrak makes a note of the change while keeping the original data intact and retrievable.

**Data Integrity** – The SQL database also exists separately from FTVersionTrak itself. If a program error occurs in FTVersionTrak or even if FTVersionTrak is completely uninstalled and reinstalled, the data remains intact. The entire database can also be backed up as a single file for portability and added security.

# Connection Problems

### Troubleshooting Connection Problems

As networking and security components become more complex, the number of factors preventing a user from connecting increases. Connecting to the FTVersionTrak repository will

likely be one of the more common problems an FTVersionTrak user will face. Though by no means comprehensive, this troubleshooting guide outlines the most common causes of connection problems, and possible solutions to these problems.

> **NOTE:** This information is written under the assumption that you have administrative access to computer being configured. Your organization's network security policy may prevent a normal user from accessing and/or editing the applications and utilities described in this guide. You may require assistance or support from your system administrator or whoever in your organization is in charge of network security to proceed with this troubleshooter.

Step One: **Check** SQL Server Setup

Follow the steps outlined in **SQL Server Setup** to verify that SQL Server is configured to accept remote connections.

Step Two: Set Local Security Policy for Windows Authentication

Step Three: Check Firewall Settings

Step Four: Check Anti-Virus Settings

*Setting Local Security Policy*

By default, many Windows installations force network logins that use local accounts to be authenticated as Guests. FTVersionTrak requires that network logins that use local accounts must authenticate themselves. To accomplish this, the server machine's Local Security Policy must be changed to permit local users to authenticate as themselves. Ask your IT or network administrator for assistance, or consult your Windows documentation for the specific procedures to follow for your version of Windows. The following instructions describe how to change the local security using Windows XP Professional (other versions of Windows may require different instructions):

1. Choose **Control Panel** on the Start menu.

2. In Control Panel, double-click **Administrator tools**.

3. In the **Administrative tools** window, double-click **Local Security Policy**.

4. Under **Security Settings**, open the **Local Policies** folder.

5. In the **Local Policies** folder, select **Security Options**.

6. In the **Policy** column, find **Network access: sharing and security model for local accounts** and double-click it.

7. In the **Network access: sharing and security model for local accounts** dialog box, change the setting from **Guest only - local users authenticate as Guest** to **Classic - local users authenticate as themselves** and click **OK**.

8. Close the window and restart the computer.


### *Checking Firewall Settings*

Depending on the type of firewall used at your organization, you may need to add FTVersionTrak and SQL Server as exceptions in order to grant remote users access to FTVersionTrak. Consult the documentation that came with your firewall, or talk to your IT or network administrator, for assistance in configuring your firewall for use with FTVersionTrak.


### *Checking Anti-Virus Settings*

Anti-virus programs such as Symantec's Norton AntiVirus and McAfee VirusScan can also block programs from permitting incoming communication requests. SQL Server must be permitted to accept incoming requests to allow remote FTVersionTrak users to access a repository. See your IT or network administrator, or consult the documentation that came with your anti-virus software, for additional information about program access permissions.

# Modicon Network Set Up

## Introduction to Modicon Network Setup

Modicon Network setup enables you to assign default communication paths within your Modicon network to individual PLC WorkShop files. When you launch these files in FTVersionTrak, they automatically connect to the assigned PLC, allowing you to edit logic resident on the PLC while ensuring that the latest version of the program is being used.

> **NOTE:** This feature is not available in FTVersionTrak PE.

Network Setup is available for Modbus, Modbus Plus, and TCP/IP networks, as well as hybrid networks containing any combination of the three. By mapping out your Modicon network, Network Setup can route any *PLC WorkShop for Modicon* program file stored in your FTVersionTrak repository to any Modicon PLC on your network.

Just as with all files secured with FTVersionTrak, a Network Setup configuration file is stored in the FTVersionTrak repository and retains its own version history as the configuration changes. One network configuration can be created for each repository.

> **NOTE:** Modicon Network Setup is intended only for advanced users with administrative access to network infrastructure. The hardware-specific information detailed in this guide is provided as a courtesy only; please consult the relevant hardware documentation for complete details about specific hardware configuration.

Before you begin, please review the Network Setup Prerequisites and verify that you have access to all of necessary network hardware, configuration applications and documents, and hardware manuals. Specific hardware manuals are noted throughout this guide where relevant.

- **Network Setup** - familiarizes you with the Network Setup dialog box and its functions and describes configuration options in detail.

- **Working with Network Setup** - provides a more user-oriented viewpoint to network configuration and details tools for administrating the configuration.

- **Assigning and Connecting to PLCs** - describes the practical application of the completed network configuration and how it is utilized by end users.

# Network Setup Prerequisites

The following is required in order to assure that Modicon Network Setup works correctly in every instance of use.

- Each FTVersionTrak client computer must have connectivity to the FTVersionTrak repository in which the Modicon Network Setup is configured.

- Each FTVersionTrak client computer must act as a node on the network configured in Modicon Network Setup.

- Each computer on which the FTVersionTrak client is installed must also have installed a licensed copy of PLC WorkShop for Modicon, version 5.70 or above.

# Network Setup

### Network Setup Dialog Box

The Network Setup dialog box is where you will construct and configure your Modicon network by adding and connecting Computers, PLCs, and Network Link Devices. From this dialog box you can also perform version control features on the network configuration, such as archiving, importing and exporting, and viewing history.

To access Network Setup:

1. Click **Network Setup** on the **Tools** menu. The **Network Setup** dialog box appears.
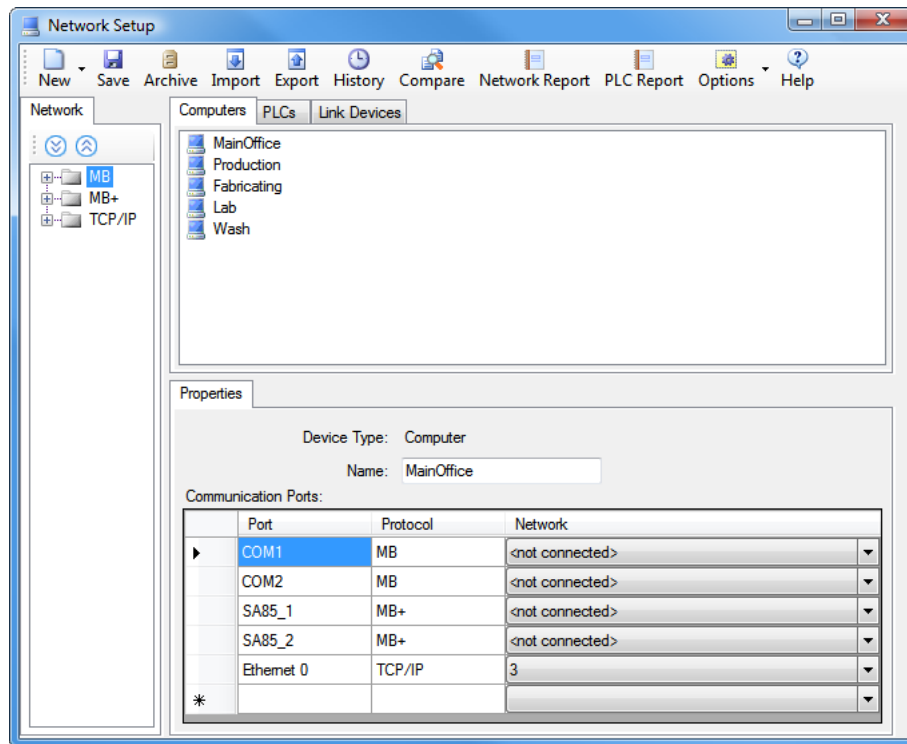
The Network Setup dialog is divided into four areas:

- **Network Setup Toolbar** - use to quickly select the most commonly-used commands within Network Setup

- **Network Tree** - displays a list of Modbus, Modbus Plus, and TCP/IP networks and their associated devices

- **Device List** - displays a list of network node devices, divided by tabs into three device types: Computers, PLCs, and Link Devices.

- **Configuration Properties** - displays a list of configurable parameters available for the selected network node device.

*Network Setup Toolbar*

The Network Setup Toolbar appears along the top of the Network Setup dialog box and gives the user quick access to the dialog box's most commonly-used functions. See Working with Network Setup for more detailed information about these functions.

- **New** – adds a new Network, Computer, PLCs, or Link Device to the working network configuration

- **Save** – saves changes made to the working network configuration, making the configuration current

- **Archive** – backs up the current network configuration to History

- **Import** – loads an exported configuration file to the working configuration

- **Export** – saves the working configuration to a file on the local machine

- **History** – displays a list of archived configurations

- **Compare** – compares the contents of two configurations to each other

- **Network Report** – generates the contents of the working configuration in a standardized format

- **PLC Report** – generates a list of PLC destination assignments for WorkShop files in the repository

- **Options** – displays additional Communication Setup options

- **Help** – launches the online help

### Network Tree

The Network Tree is a catalog of interconnected network node devices arranged within one of three supported network protocols: Modbus, Modbus Plus, and TCP/IP. After network node devices are configured, they can be added as members of user-defined networks sorted by network protocol.

Before working in the Network Tree, gather all relevant network planning documents that accurately describe the relationship between your network devices. See the *Modicon Modbus Plus Network Planning and Installation Guide* for printable network planning documents or see the *Network Setup Walkthrough* for an example network.

To add networks and devices to the Network Tree:

1. On the Network Setup Toolbar, click **New**, point to **Network**, and then click **MB Network**, **MB+ Network**, or **TCP/IP Network**. Or, right-click the desired net-

work type, point to **New**, and then click **Network** on the shortcut menu. The new network appears in the Network Tree below the selected network type.
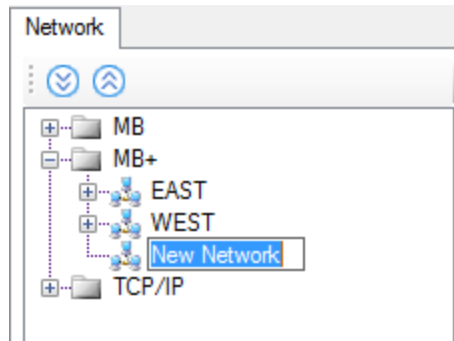


2.  By default, the network is named "New Network". Enter a unique name for the network so that it can be easily identified. Examples include naming by network location, function, or administrative responsibility. See Adding Networks and Devices for more information.

3.  Add all devices that are members of the network by dragging devices from the **Device List** and dropping them onto the desired network in the Network Tree. Or, right-click the network, point to **Add**, and then click the type of device to add on the shortcut menu.

> **NOTE**: You cannot add devices to the Network Tree until they have been created in the Device List. However, device configuration properties can be edited at any time.

4.  Delete a network by selecting the network to delete and pressing the **Delete** key or by right-clicking the network and then clicking **Delete** on the shortcut menu. Deleting a network will also delete all device connections associated with the network. The network devices themselves are not deleted.

### *Device List*

#### INTRODUCTION TO DEVICE LIST

The Device List is a set of tabbed windows in the **Network Setup** dialog box that contains all configurable network devices. Use the Device List to create, view, and edit network devices before assigning them to networks. The three types of network devices that are configurable in Modicon Network Setup are:

- **Computers** - Computers must have both PLC WorkShop for Modicon and the FTVersionTrak client installed, at least one valid communication port with which it connects to the Modicon network, and connectivity to the FTVersionTrak repository containing the Network Setup configuration. See Network Setup Prerequisites for more information.

- **PLCs** - Valid PLCs are any PLCs supported by PLC WorkShop for Modicon Version 5.70 and above. See the PLC WorkShop for Modicon user manual for supported PLCs.

- **Link Devices** - Link devices connect multiple networks together, including networks of different protocols. Modicon Network Setup supports six different network link devices listed below. See Link Device Configuration Properties for more information on each supported link device.

Supported Link Devices are:

- **BP85 Modbus Plus Bridge** - Allows you to connect two Modbus Plus networks. See the *Modbus Plus Network Planning and Installation Guide (890 USE 100 00) Rev. 6.0* for more information.

- **BM85 Modbus Plus Bridge Multiplexer** - Provides four serial ports to connect Modbus devices or networks to a Modbus Plus network. See the *Modicon Modbus Plus Network BM85 Bridge Multiplexer User's Guide (890 USE 103 00) Rev. 1.0* for more information.

- **174 CEV 300 10 Modbus to Ethernet Bridge** - Allows you to connect TCP/IP network devices to Modbus network devices. See the *174 CEV 300 10 Modicon TSX Momentum Modbus to Ethernet Bridge User Guide (890 USE 155 00)* for more information.

- **174 CEV 200 30 Modbus Plus to Ethernet Bridge** - Allows you to connect TCP/IP network devices to Modbus Plus network devices. See the *174 CEV 200 30 Modicon TSX Momentum Modbus Plus to Ethernet Bridge User Guide (890 USE 151 00)* for more information.

- **174 CEV 200 40 Modbus Plus to Ethernet Bridge** - Allows you to connect TCP/IP network devices to Modbus Plus network devices, with more advanced capabilities than the 174 CEV 200 30 device, such as dynamic routing and address filtering. See the *Modbus Plus to Ethernet Bridge 174 CEV 200 40 User Guide (890 USE 191 00)* for more information.

- **Cyberlogic® MBX® Bridge** - A software-based link device that allows you to connect any combination of Modbus, Modbus Plus, and TCP/IP networks. See the *MBX® Bridge Help* manual for more information.

**COMPUTERS**

Computers on your Modicon network are added to the Device List using the **Computer** tab. Computers can be connected to the network via Ethernet port (TCP/IP), COM port (Modbus), or SA85 port (Modbus Plus), or any combination of the three. Modicon Network Setup supports up to three Ethernet ports, up to two SA85 ports, and up to 16 COM ports on a single computer.

### TO ADD A COMPUTER TO THE DEVICE LIST:

1. On the Network Setup Toolbar, click **New**, then click **Computer**. Or ,click the **Computers** tab, right-click anywhere in the Device List, point to **New**, and then click **Computer** on the shortcut menu. The new computer appears on the **Computers** tab.
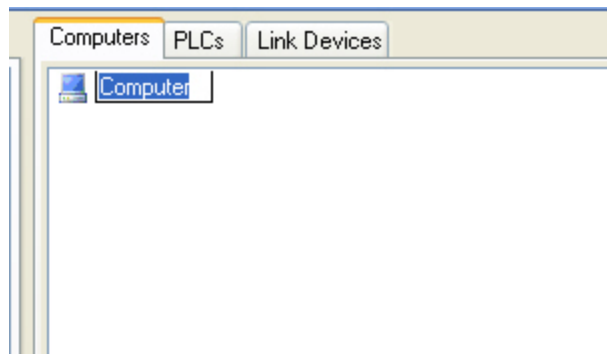
2. By default, the name of the new device is "Computer". Enter a unique name for the new device.

> **NOTE**: It is recommended to name the computer the same as it appears on the network for consistency. This name can be changed at any time by right-clicking the computer and then selecting **Rename** from the shortcut menu. A new name can also be entered in the **Name** box on the **Properties** tab.

3. Select the computer to view and edit its configuration properties, which appear below the Device List.

See Computer Configuration Properties for more information on configuring communication settings.

### TO DELETE A COMPUTER FROM THE DEVICE LIST

1.  Delete computers from the Device List by right-clicking a computer on the **Computer** tab and then clicking **Delete** from the shortcut menu. Or, select a computer and then press **DELETE**. A warning message appears, asking to confirm the deletion. Click**Yes** to delete the computer, or **No** to return to Communication Setup.

### PLCs

PLCs on your Modicon network are added to the **Device List** on the **PLC** tab. PLCs can be attached to Modbus, Modbus Plus, and TCP/IP, networks and can also act as a bridge between networks. Modicon Network Setup supports up to three Modbus ports, three Modbus Plus ports, and six TCP/IP ports per PLC.

### TO ADD A PLC TO THE DEVICE LIST:

1.  On the Network Setup Toolbar, click **New**, then click **PLC**. Or, click the **PLCs** tab, right-click anywhere in the **Device List**, point to **New**, and then click **PLC** on the shortcut menu. The new PLC appears in the **PLC Tab**.
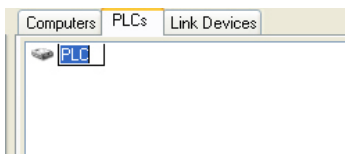
2. By default, the name of the new device is "PLC". Enter a unique name for the new device. The name can be changed at any time by right-clicking a PLC on the **PLCs** tab and then clicking **Rename** from the shortcut menu. A new name can also be entered in the **Name** box on the **Properties** tab.

3. Select the PLC to view and edit its configuration properties, which appear below the **Device List**.



See PLC Configuration Properties for more information on configuring communication settings.

### TO DELETE A PLC FROM THE DEVICE LIST

1. Delete PLCs from the Device List by right-clicking within the **PLC s**tab and then clicking **Delete** from the shortcut menu. Or, select a device and then press **DELETE**. A warning message appears, asking to confirm the deletion. Click **Yes** to delete the PLC, or **No** to return to Communication Setup.

### LINK DEVICES

Link devices on your Modicon network are added to the **Device List** on the **Link Devices** tab.

### TO ADD A LINK DEVICE TO THE DEVICE LIST:

1. On the Network Setup Toolbar, click **New**, then point to **New Device**, then click the device you want to add. Or,or right-click the **Device List**, point to **New**, and

then click **Link Device** on the shortcut menu. The new Link Device appears in the **Link Devices** tab.



2. By default, the name of the new device is "Link Device". Enter a unique name for the new device. This name can be changed at any time by right-clicking a device on the **Link Devices** tab and then clicking **Rename**. A new name can also be entered in the **Name** box on the **Properties** tab.

3. Select the link device to view and edit its configuration properties, which appear below the **Device List**.
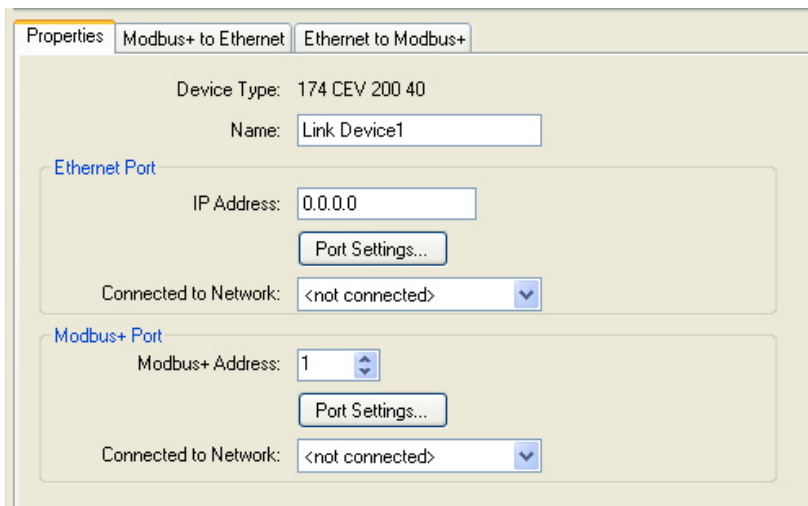


See Link Device Configuration Properties for more information on configuring communication settings.

### TO DELETE A LINK DEVICE FROM THE DEVICE LIST

1. Delete link devices from the Device List by right-clicking a device on the **Link Devices** tab and then clicking **Delete** from the shortcut menu. Or, select a device and then press **DELETE**. A warning message appears, asking to confirm the deletion. Click **Yes** to delete the device, or **No** to return to Communication Setup.

*Configuration Properties*

**INTRODUCTION TO CONFIGURATION PROPERTIES**

Use the configuration properties to set communication parameters for the computers, PLCs, and link devices on your network. To view a device's configuration properties, select the device in either the Device List or in the Network Tree within the Network Setup dialog box. The configuration properties for the selected device appear below the Device List.

> **NOTE**: Each type of device has its own set of configuration properties, some of which require a more advanced level of knowledge than others. Please consult with your Modicon network administrator or your hardware's documentation before and during device configuration to ensure communication settings are configured properly.

**COMPUTER CONFIGURATION PROPERTIES**

The Computer Configuration Properties appear when you select a Computer device from the Device List.



After adding a new computer to the Device List, a default list of five ports appear for configuration, including:

- Two Modbus ports (COM1 and COM2)

- Two Modbus Plus ports (SA85_1 and SA85_2)

- One TCP/IP port (Ethernet 0)

More ports may be added and configured if necessary (see the following section). Please note that it is possible to configure ports in Computer Configuration Properties that do not exist on the actual hardware.

### TO CONFIGURE COMMUNICATION PORTS FOR A SELECTED COMPUTER:

1. Determine the type(s) of connection the computer makes to the network and select the appropriate port for the connection. Verify that the selected port number matches the port connected to the network.

2. Select the menu under the **Network** column for the selected port and choose the network that the computer belongs to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

3. Repeat steps 1 and 2 for additional connections to other networks.

4. If additional ports need to be configured, click the ✳ button below the last listed port. A new line appears.
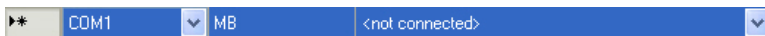


5. Select the **Port** menu and select the type of port you would like to configure. If you select a port that is already listed, an error appears, and you will not be able to continue.



To remove the error, either select a port that is not listed or delete the port by highlighting the row and pressing **DELETE**.

6. Continue adding and configuring ports until all physical ports on the computer are accurately represented in the configuration properties. Modicon Network Setup supports up to three Ethernet ports, up to two SA85 ports, and up to 16 COM ports on a single computer.

**PLC CONFIGURATION PROPERTIES**

The PLC Configuration Properties appear when you select a PLCdevice from the Device List.

After adding a new PLC to the Device List, a default list of 12 ports appear for configuration, including:

- Three **Modbus** ports

- Three **Modbus Plus** ports

- Six **TCP/IP** ports

### TO CONFIGURE COMMUNICATION PORTS FOR A SELECTED PLC:

1. Determine the type(s) of connection the PLC makes to the network and select the appropriate port for the connection.

2. Select the menu under the **Network** column for the selected port and choose the network that the computer belongs to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

3. Configure the port by assigning a port address and setting additional port parameters. See **Configuring Network Ports** for more information.

4. Repeat steps 1– 3 for additional connections to other networks.

5. Continue adding and configuring ports until all physical ports on the PLC are accurately represented in the configuration properties.

6. If the selected PLC connects two or more networks, select the check boxed titled **This PLC acts as a bridge between networks**.

7. If you have not already done so, rename the PLC to a unique name by editing the **Name** text box.

LINK DEVICES

### LINK DEVICE CONFIGURATION PROPERTIES
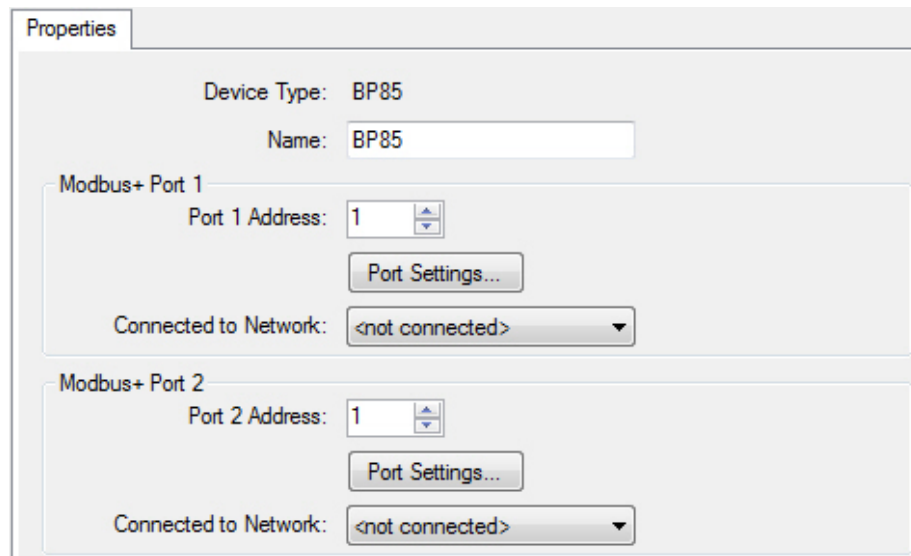
Modicon Network Setup support six different types of network link devices, which can be added and configured from the **Link Devices** tab of the **Device List**. Each type of link device has its own set of configuration properties, and some may require an advanced knowledge of Modicon network device address mapping to be configured correctly. Please refer to the device's user documentation for proper configuration instructions.

> **NOTE**:  If your network link device is operating correctly, all relevant configuration information will be available from the device itself or its configuration utility. The configuration parameters listed in Link Device Configuration Properties must exactly match the parameters configured within the device itself. Otherwise, attempts to connect to PLCs using the Network Connection utility may fail.

### BP85 CONFIGURATION PROPERTIES

The BP85 Modbus Plus Bridge can be used to connect two Modbus Plus networks. The BP85 Configuration Properties appear when you select a BP85 link device from the Device List. See the *Modbus Plus Network Planning and Installation Guide (890 USE 100 00) Rev. 6.0* for more information about configuring this device.
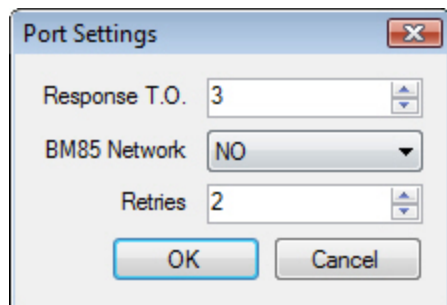
After adding a new BP85 device, the following configuration properties appear below the Device List:
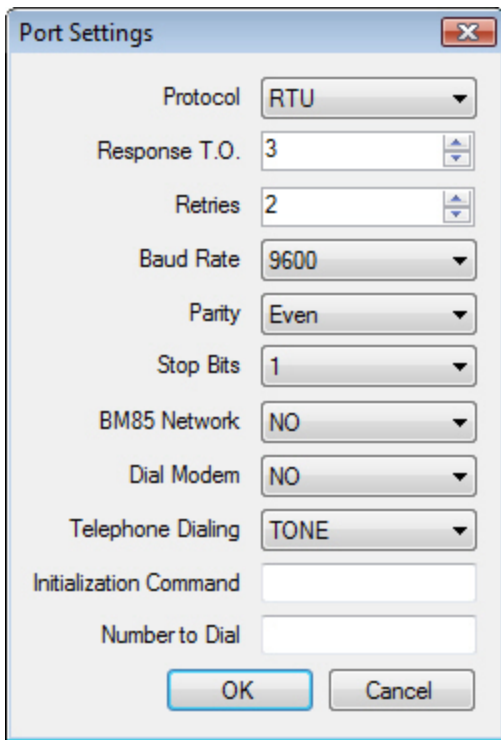
To configure communication ports for the BP85 device:

1. Set the Modbus Plus addresses for Port 1 and Port 2 of the device in the **Port 1 Address** and **Port 2 Address** boxes. These addresses should already be set on the device itself.

2. Change the default port settings for each port by clicking **Port Settings**. The **Port Settings** dialog box appears.



- **Response T.O.** – specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number between 1 – 25 can be used.

- **BM85 Network** – select **NO** if you are not communicating via a BM85 Bridge/MUX or modem. Select **YES** to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Retries** –specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0 – 10 can be used. Use 0 for no retries.

3. In the **Connected to Network** list for the selected port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

4. If you have not already done so, rename the device to a unique name by editing the **Name** box.

### BM85 CONFIGURATION PROPERTIES

The BM85 Modbus Plus Bridge Multiplexer provides four serial ports to connect Modbus devices or networks to a Modbus Plus network. The BM85 Configuration Properties appear when you select a BM85 link device from the Device List. See the *Modicon Modbus Plus Network BM85 Bridge Multiplexer User's Guide (890 USE 103 00) Rev. 1.0* for more information about configuring this device.

After adding a new BM85 device, the following configuration properties appear below the Device List:



To configure communication ports for the BM85 device:

1. Set the Modbus Plus addresses in the **Modbus+ Address** box. This address should already be set on the device itself.

2. Change the default port settings for the Modbus Plus port by clicking **Port Settings**. The Port Settings dialog box appears.
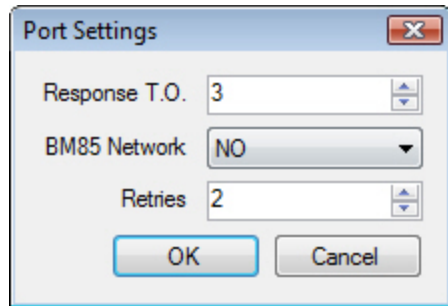


- **Response T.O.** – specifies the amount of time (in seconds) that the software waits for a response from the PLC before returning a time-out error. Any whole number between 1 – 25 can be used.

- **BM85 Network** – select **NO** if you are not communicating via a BM85 Bridge/MUX or modem. Select **YES** to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Retries** – specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0 – 10 can be used. Use 0 for no retries.

3. In the **Connected to Network** list for the Modbus Plus port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

4. Under **Modbus Ports**, for each Modbus port (Port 1 – Port 4) that has a connection to a Modbus network device, select the port.

5. After selecting a Modbus port, select the type of port you wish to configure:

- **Network** – if this port is only acting as a link to another network, no further settings need to be made to the port.

- **Master** –if this port is connected to a Modbus master device, the **Port Settings** button is enabled. Click the button to change the default settings. The Port Settings dialog box appears.

- **Protocol** – specifies the transmission mode. The communications mode toggles between RTU (default) and ASCII.

- **Response T.O.** – specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number between 1 – 25 can be used.

- **Retries** – specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0 – 10 can be used. Use 0 for no retries.

- **Baud Rate** –the rate of communications between the computer and modem. (default: 9600)

- **Parity** – specifies a parity bit for error detection. Can be set to EVEN, ODD, or NONE. (default: Even)

- **Stop Bits** – specifies the number of stop bits per transmission as either 1 or 2. (default: 1)

- **BM85 Network** – select NO if you are not communicating via a BM85 Bridge/MUX or modem. Select YES to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Dial Modem** –select when the selected form of serial communications is through a modem. The modem parameters must be set to exactly the same communication parameters that you will use.

- **Telephone Dialing** –specifies which type of dialing to use. Specify pulse dialing only if this is the only type your phone line supports. The communications mode toggles between Tone (default) and Pulse.

- **Initialization Command** – the initialization commands sent to the modem. Consult your modem manual for a list of appropriate commands.

- **Number to Dial** – specifies the phone number to be dialed.

- **Slave** –if this port is connected to a Modbus slave device, the Address text box is enabled. Enter the Modbus slave address for the device in the text box. This address should already be configured on the device itself.

6. In the **Connected to Network** list for the selected Modbus port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

7. If you have not already done so, rename the device to a unique name by editing the **Name** box.

8. Configure network mappings for the device by selecting the **Mappings** tab. The BM85 Mapping Table appears.

| Index | Modbus+ Route |
|---|---|
| 25 | 0.2.5.0.0 |
| 25 | 24.1.0.0.0 |
| 248 | 25.9.0.0.0 |
| 26 | 0.2.6.0.0 |
| 5 | 25.3.0.0.0 |
| 6 | 0.2.6.0.0 |
| 8 | 23.1.18.0.0 |
| ▶* | |

- For each Modbus Plus route, enter the Destination Index under the **Index** column, and the 5-byte Modbus Plus route under the **Modbus+ Route** column.

- These values must be valid or an error will occur and the configuration will not accept the entered value. To find more information about the error, move the mouse pointer over the 🛑 icon. A tooltip appears, indicating the source of the problem and the accepted values.
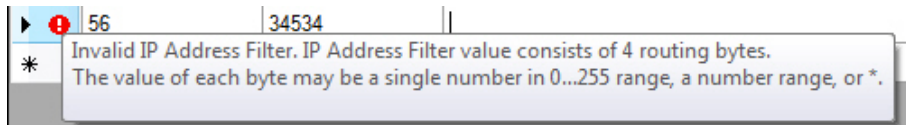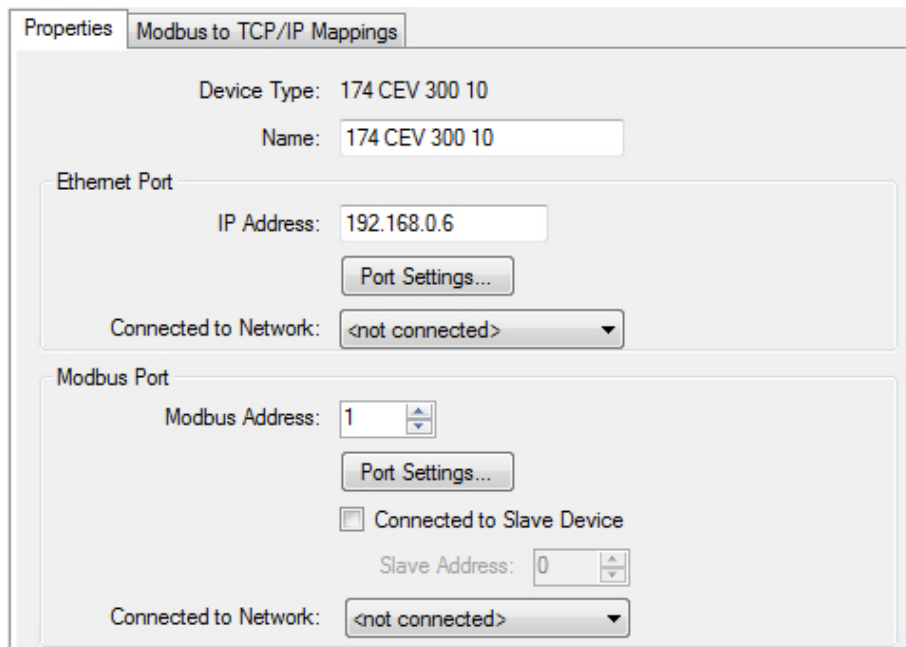


- For more information on route mapping, please consult the *Modicon Modbus Plus Network BM85 Bridge Multiplexer User's Guide (890 USE 103 00) Rev. 1.0* or the device's configuration application.
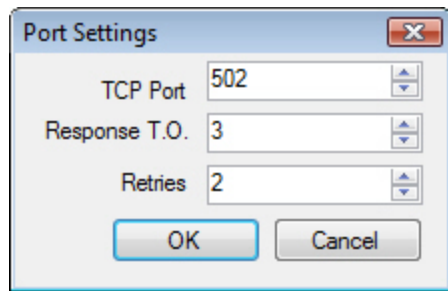
### 174 CEV 300 10 CONFIGURATION PROPERTIES

The 174 CEV 300 10 Modbus to Ethernet Bridge can be used to connect TCP/IP network devices to Modbus network devices. The 174 CEV 300 10 Configuration Properties appear when you select a 174 CEV 300 10 link device from the **Device List**. See the *174 CEV 300 10 Modicon TSX Momentum Modbus to Ethernet Bridge User Guide (890 USE 155 00)* for more information about configuring this device.

After adding a new 174 CEV 300 10 device, the following configuration properties appear below the Device List:
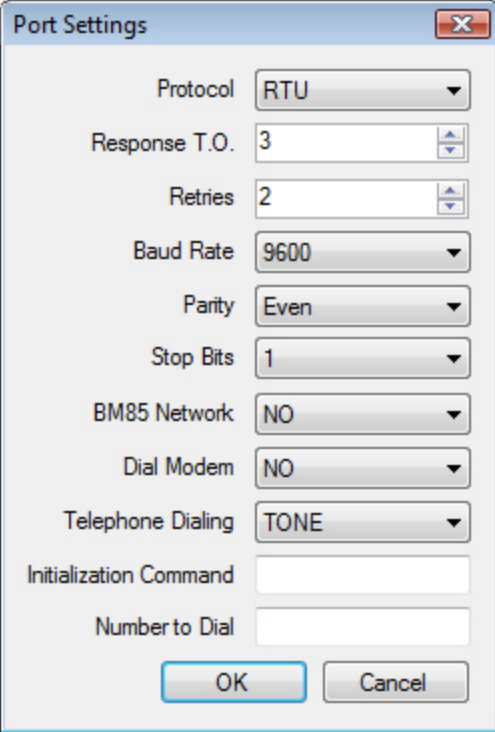
To configure communication ports for the 174 CEV 300 10 device:

1. In the **IP Address** text box, set the TCP/IP port address. This address should already be set on the device itself.

2. Change the default port settings for the TCP/IP port by clicking **Port Settings**. The Port Settings dialog box appears.



- **TCP Port** – IP Port protocol number. Any unique whole number can be used. The default value is 502.

- **Response T.O.** –specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number from 1 – 25 can be used. The default value is 3.

- **Retries** – specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number from 0 – 10 can be used. Use 0 for no retries.

3. In the **Connected to Network** list, select the network the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

4. In the **Modbus Address** box, set the Modbus addresses. This address should already be set on the device itself.

5. Change the default port settings for the Modbus port by clicking **Port Settings**. The Port Settings dialog box appears.

- **Protocol** –Specifies the transmission mode. The communications mode toggles between RTU (default) and ASCII.

- **Response T.O.** – Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number between 1 – 25 can be used.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0 – 10 can be used. Use 0 for no retries.

- **Baud Rate** –The rate of communications between the computer and modem. (default: 9600).

- **Parity** – Specifies a parity bit for error detection. Can be set to EVEN, ODD, or NONE. (default: Even).

- **Stop Bits** – Specifies the number of stop bits per transmission as either 1 or 2. (default: 1).

- **BM85 Network** – Select **NO** if you are not communicating via a BM85 Bridge/MUX or modem. Select **YES** to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Dial Modem** – Select when the selected form of serial communications is through a modem. The modem parameters must be set to exactly the same communication parameters that you will use.

- **Telephone Dialing** – Specifies which type of dialing to use. Specify pulse dialing only if this is the only type your phone line supports. The communications mode toggles between Tone (default) and Pulse.

- **Initialization Command** – The initialization commands sent to the modem. Consult your modem manual for a list of appropriate commands.

- **Number to Dial** – Specifies the phone number to be dialed.

6. If this port is connected to a Modbus slave device, select the **Connected to Slave Device** check box. Enter the Modbus slave address for the device in the **Slave Address** box. This address should already be configured on the device itself.

7. In the **Connected to Network** list for the Modbus port, select the network the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

8. If you have not already done so, rename the device by typing a unique name in the **Name** box.

9. Configure network mappings for the device by selecting the **Modbus to TCP/IP Mappings** tab. The Modbus to TCP/IP Mapping Table appears.

| | Start Range | End Range | Slave IP Address |
|---|---|---|---|
| | 1 | 1 | 192.168.0.25 |
| | 14 | 24 | 205.167.7.39 |
| ◢ | 2 | 8 | 192.168.0.25 |
| ✳ | | | |

- For each configurable route, enter the Modbus Start and End Ranges in their respective columns, and the corresponding slave IP address under the **Slave IP Address** column.

- These values must be valid or an error will occur and the configuration will not accept the entered value. To find more information about the error, move the mouse

pointer over the ⊖ icon. A tooltip appears, indicating the source of the problem and the accepted values.
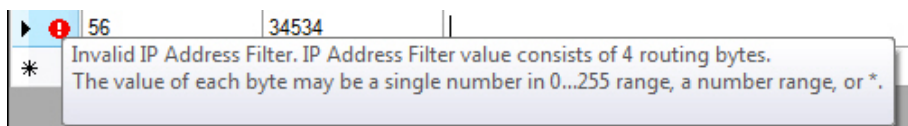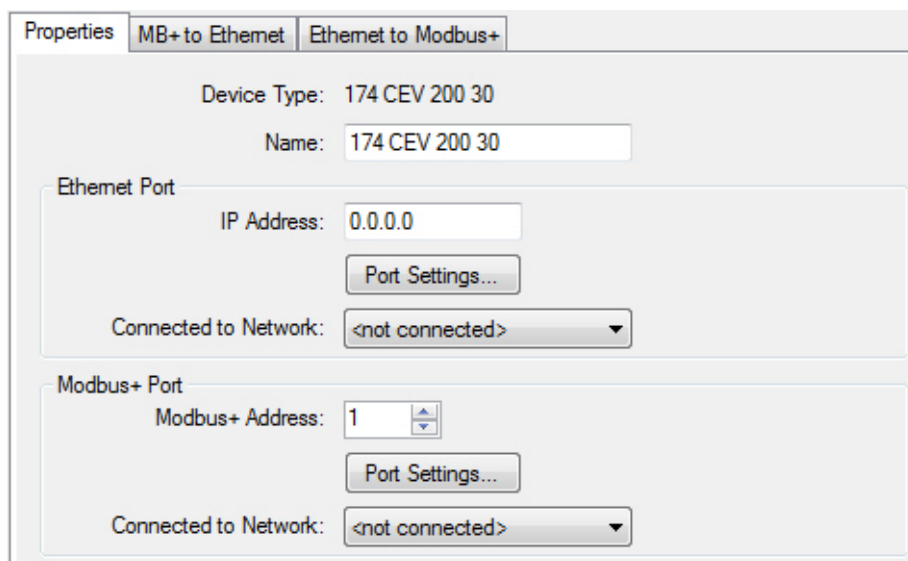


For more information on route mapping please consult the *174 CEV 300 10 Modicon TSX Momentum Modbus to Ethernet Bridge User Guide (890 USE 155 00)* or the device's configuration application.

### 174 CEV 200 30 CONFIGURATION PROPERTIES

The 174 CEV 200 30 Modbus Plus to Ethernet Bridge can be used to connect TCP/IP network devices to Modbus Plus network devices. The 174 CEV 200 30 Configuration Properties appear when you select a 174 CEV 200 30 link device from the Device List. See the *174 CEV 200 30 Modicon TSX Momentum Modbus Plus to Ethernet Bridge User Guide (890 USE 151 00)* for more information about configuring this device.

After adding a new 174 CEV 200 30 device, the following configuration properties appear below the Device List:



To configure communication ports for the 174 CEV 200 30 device:

1. Set the TCP/IP port address in the **IP Address** box. This address should already be set on the device itself.

2. Change the default port settings for the TCP/IP port by clicking **Port Settings**. The Port Settings dialog box appears.
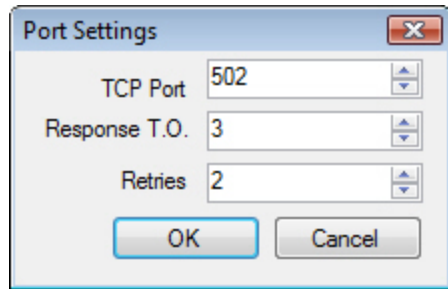
- **TCP Port** – IP Port protocol number. Any unique whole number can be used. The default value is 502.

- **Response T.O.** –Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number from 1 – 25 can be used (default: 3).

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number from 0 – 10 can be used. Use 0 for no retries.

3. In the **Connected to Network** list for the Ethernet (TCP/IP) port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

4. Set the Modbus Plus addresses in the **Modbus+ Address** box. This address should already be set on the device itself.

5. Change the default port settings for the Modbus+ port by clicking **Port Settings**. The Port Settings dialog box appears.

- **Response T.O.** – Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number from 1 – 25 can be used.

- **BM85 Network** – Select NO if you are not communicating via a BM85 Bridge/MUX or modem. Select YES to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number from 0 – 10 can be used. Use 0 for no retries.

6. In the **Connected to Network** list for the Modbus+ port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

7. If you have not already done so, rename the device by typing a unique name in the **Name** box.

8. Configure network mappings for the device by first selecting the **MB+ to Ethernet** tab. The Modbus Plus to TCP/IP Mapping Table appears.

| Properties | MB+ to Ethernet | Ethernet to Modbus+ |
| --- | --- | --- |
| | Destination Index | IP Address |
| | 17 | 192.168.0.25 |
| ∥ | 18 | 192.168.0.22 |
| ✳ | | |

- For each configurable route, enter the Destination Index under the **Destination Index** column, and the corresponding IP address under the **IP Address** column.

- These values must be valid or an error will occur and the configuration will not accept the entered value. To find more information about the error, move the mouse pointer over the 🛑 icon. A tooltip appears, indicating the source of the problem and the accepted values.

| ▶ 🛑 | 56 | 34534 | |
| --- | --- | --- | --- |

Invalid IP Address Filter. IP Address Filter value consists of 4 routing bytes.
The value of each byte may be a single number in 0...255 range, a number range, or *.
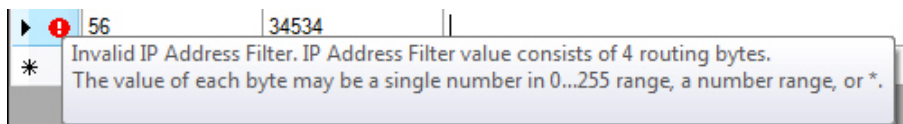
9.  Configure the TCP/IP to Modbus Plus mappings by selecting the **Ethernet to Modbus+** tab. The TCP/IP to Modbus Plus Mapping Table appears.

| | Destination Index | Modbus+ Route |
|---|---|---|
| ✐ | 16 | 24.0.0.0.0 |
| ✱ | | |

● For each configurable route, enter the Destination Index under the **Destination Index** column, and the corresponding 5-byte Modbus Plus route under the **Modbus+ Route** column. These values must be valid or an error will occur and the configuration will not accept the entered value. For more information on route mapping please consult the *174 CEV 200 30 Modicon TSX Momentum Modbus Plus to Ethernet Bridge User Guide (890 USE 151 00)* or the device's configuration application.

### 174 CEV 200 40 CONFIGURATION PROPERTIES

The 174 CEV 200 40 Modbus Plus to Ethernet Bridge can be used to connect TCP/IP network devices to Modbus Plus network devices, with more advanced capabilities than the 174 CEV 200 30 device, such as dynamic routing and address filtering. The 174 CEV 200 40 Configuration Properties appear when you select a 174 CEV 200 40 link device from the Device List. See the *Modbus Plus to Ethernet Bridge 174 CEV 200 40 User Guide (890 USE 191 00)* for more information about configuring this device.

After adding a new 174 CEV 200 40 device, the following configuration properties appear below the Device List:

| Properties | Modbus+ to Ethernet | Ethernet to Modbus+ |
|---|---|---|

Device Type: 174 CEV 200 40
Name: 174 CEV 200 40

**Ethernet Port**
IP Address: 192.168.0.6
Port Settings...
Connected to Network: Company Intranet

**Modbus+ Port**
Modbus+ Address: 4
Port Settings...
Connected to Network: Main Bus

To configure communication ports for the 174 CEV 200 40 device:

1. Set the TCP/IP port address in the **IP Address** box. This address should already be set on the device itself.

2. Change the default port settings for the TCP/IP port by clicking **Port Settings**. The Port Settings dialog box appears.
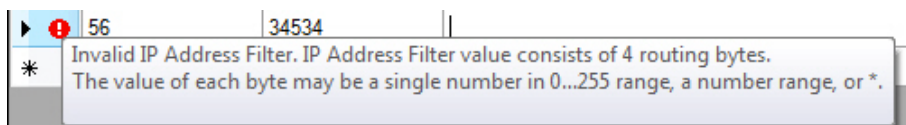


- **TCP Port** – IP Port protocol number. Any unique whole number can be used. The default value is 502.

- **Response T.O.** –Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number from 1 – 25 can be used. The default value is 3.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number from 0 – 10 can be used. Use 0 for no retries.

3. In the **Connected to Network** list for the Ethernet (TCP/IP) Port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

4. Set the Modbus+ address in the **Modbus+ Address** box. This address should already be set on the device itself.

5. Change the default port settings for the Modbus+ port by clicking **Port Settings**. The Port Settings dialog box appears.

- **Response T.O.** – Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number between 1 – 25 can be used.

- **BM85 Network** – Select **NO** if you are not communicating via a BM85 Bridge/MUX or modem. Select **YES** to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number from 0 – 10 can be used. Use 0 for no retries.

6. In the **Connected to Network** list for the Modbus+ Port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

7. If you have not already done so, rename the device by typing a unique name in the **Name** box.

8. Configure network mappings for the device by clicking the **MB+ to Ethernet** tab. The Modbus Plus to TCP/IP Mapping Table appears.

| | Slave Path | Address Filter | IP Address | Destination Index |
|---|---|---|---|---|
| | * | *.*.*.* | *.*.* | * |
| | 1-2 | *.1-2.*.* | 192.168.0.MB2+20 | 20+MB2 |
| | 1-8 | 40.1-8.1.*.* | 192.168.0.25 | MB4 |
| | 2 | *.1-2.*.* | 2.MB4.MB5.0 | 3 |
| | 2 | *.1-4.*.* | MB3.MB4.MB5.0 | 3 |
| | 2 | *.2-2.*.* | 2.MB4-64.MB5.0 | 3 |
| | 2 | *.2.*.* | 2.0.0.0 | 3 |
| | 2-3 | *.*.*.* | MB3.MB4.MB5.0 | MB2 |
| ▶* | | | | |

- For each configurable route, enter the following under their respective columns:

    - Slave Path

    - Address Filter

    - IP Address

    - Destination Index

These values must be valid or an error will occur and the configuration will not accept the entered value. To find more information about the error, move the mouse pointer over the ● icon. A tooltip appears, indicating the source of the problem and the accepted values.

| ▶ ● | 56 | 34534 | |
|---|---|---|---|
| ✳ | Invalid IP Address Filter. IP Address Filter value consists of 4 routing bytes. The value of each byte may be a single number in 0...255 range, a number range, or *. | | |

9. Configure the TCP/IP to Modbus Plus mappings by clicking the **Ethernet to Modbus+** tab. The TCP/IP to Modbus Plus Mapping Table appears.

| | Destination Index | IP Address | Modbus+ Address |
|---|---|---|---|
| | * | *.*.*.* | 2.IP2.IP3.IP4.0 |
| | 1 | *.*.1-100.5 | 3.2.IP3-64.IP4.0 |
| | 1 | *.*.4.5 | 3.2.IP3.IP4.0 |
| | 1 | *.3.*.5 | 3.2.0.0.0 |
| | 1 | 1-64.1-64.1-64.1-... | *.*.*.*.* |
| | 1 | 2.3.4.* | IP1.IP2.IP3.IP4.0 |
| | 15 | *.*.*.* | DI.0.0.0.0 |
| | 15 | *.*.*.0 | DI.20+DI.0.0.0 |
| | 35 | *.*.*.* | IP3+8.DI+IP3.IP2-IP1.0.0 |
| | 4 | *.*.*.0 | 20+DI.0.0.0.0 |
| ▶* | | | |

- For each configurable route, enter the following under their respective columns:

  - Destination Index

  - IP Address

  - Modbus+ Address

For more information on route mapping please consult the *Modbus Plus to Ethernet Bridge 174 CEV 200 40 User Guide (890 USE 191 00)* or the device's configuration application.

### MBX BRIDGE CONFIGURATION PROPERTIES

The Cyberlogic® MBX® Bridge is a software-based link device that can be used to connect any combination of Modbus, Modbus Plus, and TCP/IP networks. The MBX Bridge Configuration Properties appear when you select a MBX Bridge link device from the Device List. See the *MBX® Bridge Help* manual for more information about configuring this device.

After adding a new MBX Bridge device, the following configuration properties appear below the Device List:

To configure communication ports for the MBX Bridge device:

1. For each configured port, enter a Device ID in the **Device ID** column to identify the port.

2. In the **Network Type** column, select the type of network (MB, MB+, or TCP/IP) for the type connection being made.

3. Enter the Node Address of the connecting device in the **Node Address** column.

4. In the **Connected to Network** list for the selected port, select the network that the port connects to. If you do not see the correct network listed, verify that the network has been created and exists under the proper protocol. See Network Tree for more information.

5. Click **Settings** in the **Port Settings** column to change the default port settings for the selected port.

Depending on the type of network selected, the available port settings may differ.

For TCP/IP port settings:
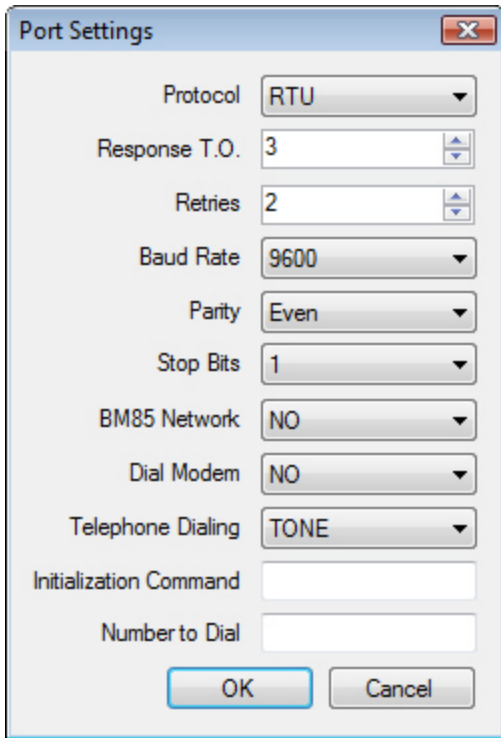
- **TCP Port** – IP Port protocol number. Any unique whole number can be used (default: 502).

- **Response T.O.** – Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number from 1 – 25 can be used. The default value is 3.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number from 0 – 10 can be used. Use 0 for no retries.

For Modbus Plus port settings:
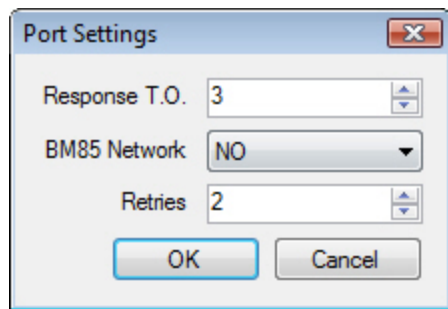


- **Response T.O.** – Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number between 1 – 25 can be used.

- **BM85 Network** – Select **NO** if you are not communicating via a BM85 Bridge/MUX or modem. Select **YES** to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number from 0 – 10 can be used. Use 0 for no retries.

For Modbus port settings:



- **Protocol** –Specifies the transmission mode. The communications mode toggles between RTU (default) and ASCII.

- **Response T.O.** – Specifies the amount of time, in seconds that the software waits for a response from the PLC before returning a time-out error. Any whole number from 1 – 25 can be used.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0 – 10 can be used. Use 0 for no retries.

- **Baud Rate** – The rate of communications between the computer and modem. Default value is 9600.

- **Parity** – Specifies a parity bit for error detection. Can be set to **EVEN**, **ODD**, or **NONE**. Default value is **EVEN**.

- **Stop Bits** – Specifies the number of stop bits per transmission as either **1** or **2**. Default value is **1**.

- **BM85 Network** – Select **NO** if you are not communicating via a BM85 Bridge/MUX or modem. Select **YES** to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Dial Modem** – Select when serial communications is through a modem. The modem parameters must be set to exactly the same communication parameters that you will use.

- **Telephone Dialing** – Specifies which type of dialing to use. Specify pulse dialing only if this is the only type your phone line supports. The communications mode toggles between **Tone** (default) and **Pulse**.

- **Initialization Command** – The initialization commands sent to the modem. Consult your modem manual for a list of appropriate commands.

- **Number to Dial** – Specifies the phone number to be dialed.

6. If you have not already done so, rename the device by typing a unique name in the **Name** box.

7. Configure network mappings for the device by clicking the **Mappings** tab. The MBX Bridge Mapping Table appears.

| | Source Device ID | Slave Path | Source Filter | Destination Device ID | Network Type | Destination Routing |
|---|---|---|---|---|---|---|
| | 0 | 1 | *.1.*.*.* | 1 | MB+ | MB3.MB4.M... |
| | 0 | 1 | *.1.*.*.* | 1 | MB+ | MB3.MB5.9.... |
| | 1 | 1 | *.1.*.*.* | 0 | MB+ | MB3.MB4.M... |
| | 0 | 1 | *.*.22.*.0 | 3 | MB | MB3-10 |
| | 0 | 1 | *.1.0.1-64.* | 3 | MB | MB4 |
| | 0 | 1 | *.1.1.1-64.* | 3 | MB | MB4+64 |
| | 0 | 1 | *.1.2.1-64.* | 3 | MB | MB4+128 |
| | 0 | 1 | *.1.3.1-64.* | 3 | MB | MB4+192 |
| | 0 | 1 | *.1.0.*.* | 2 | TCP/IP | 84.0.21.MB4... |
| | 0 | 1 | *.1.1.*.* | 2 | TCP/IP | 10.9.MB3+5.... |

For each configurable route, enter the following:

- Source Device ID

- Slave Path

- Source Filter

- Destination Device ID

- Network Type

- Destination Routing

These values must be valid or an error will occur and the configuration will not accept the entered value. To find more information about the error, move the mouse pointer over the ❶ icon. A tooltip appears, indicating the source of the problem and the accepted values.
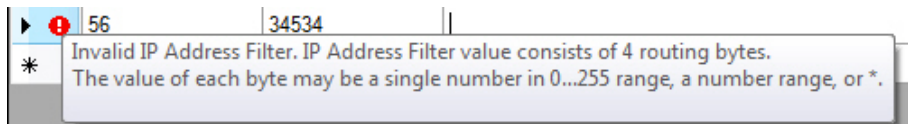


For more information on route mapping please consult the *MBX® Bridge Help manual* or the device's configuration application.


# Working with Network Setup


### Adding Networks and Devices

Modicon Network Setup stores configuration information for network devices such as computers, PLCs, and network link devices. Computers and PLCs are connected together via a shared network protocol, such as Modbus, Modbus Plus, and TCP/IP. In Modicon Network Setup, the connected devices that share a common network protocol are members of a single network. These networks can be connected together via a network link device, which acts a member of both adjoined networks.

Before adding networks and devices to Modicon Network Setup, it is a good idea to map out your Modicon network, so that the relationships between your network devices, and the protocols with which they are communicating, are clearly seen. This step may have been done during the initial planning of your Modicon network. If so, your planning document(s) will be of great use when configuring Modicon Network Setup. If not, the *Modicon Modbus Plus Network Planning and Installation Guide (890 USE 100 00)* contains comprehensive information regarding network planning, as well as worksheets that allow you to create a visual map of your network.

Once you have created a map of your network, you may begin adding network components to Modicon Network Setup. Start by adding networks to your setup configuration.

**TO ADD NETWORKS TO THE CONFIGURATION:**

1. On the Network Setup Toolbar, click **New**, point to **Network**, and then select the appropriate network protocol:

   - **Modbus**

   - **Modbus Plus**

   - **TCP/IP**

Alternatively, you can right-click a network protocol in the Network Tree, point to **New** on the shortcut menu, and then click **Network** on the shortcut menu.

The new network appears in the Network Tree below the selected network type.
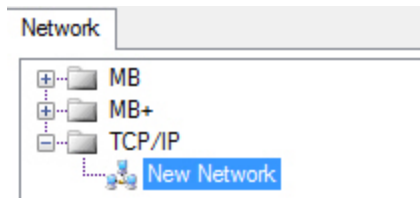


2. By default, the network is named *New Network*. Enter a unique name for the network so that it can be easily identified. For example, if you are adding a TCP/IP network that represents the shared connection between all of your computers, you might call the network *Company Intranet*. This makes adding network member devices to the network much easier.
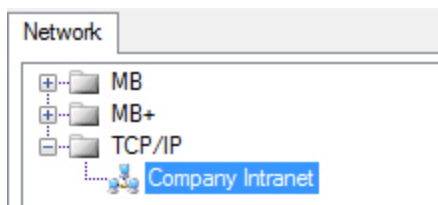


3. Continue adding networks to the Network Tree until all networks have been added. In the following example, four networks have been added:

   - **Company Intranet** – a TCP/IP network that connects each computer to each other.

   - **Main Bus** – a Modbus Plus network that most of the company's PLCs are connected to.

- **MB East and MB West** – two Modbus networks that connect older PLCs to the Main Bus and directly to specific computers.
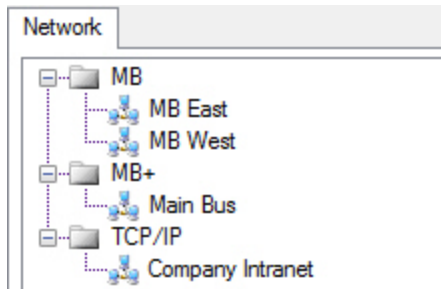


After adding the networks, each network device must be added to the configuration. To add devices to the configuration:

Click **New** from the **Network Setup Toolbar**, then click the type of device you want to add:

- Computer

- PLC

- Link Device

If adding a link device, click the type of link device to add:

- BP85 Modbus Plus Bridge

- BM85 Modbus Plus Bridge Multiplexer

- 174 CEV 300 10 Modbus to Ethernet Bridge

- 174 CEV 200 30 Modbus Plus to Ethernet Bridge

- 174 CEV 200 40 Modbus Plus to Ethernet Bridge

- Cyberlogic® MBX® Bridge

*Saving Your Network Configuration*

While you are creating and editing your network configuration in Modicon Network Setup, the changes that are made will not be used until the configuration is saved. After saving the

configuration, it becomes the **current configuration**, meaning that the saved network settings will be used when connecting to a PLC using FTVersionTrak. Otherwise, when configuration changes have not been saved, the configuration remains in an editable state known as the **working configuration**.

By clicking **Save** on the Network Setup Toolbar, your working configuration becomes the current configuration, and will be used to connect to your networked PLCs.

Because FTVersionTrak is by nature a multi-user product, it is possible that more than one user may be editing the network configuration at the same time. To prevent you from accidentally overwriting changes made by another user working concurrently on the network configuration, FTVersionTrak will not allow you to save a network configuration if changes were made and saved by another user while you have the Network Setup dialog box open on your computer. If an attempt to save is made, the following message appears:
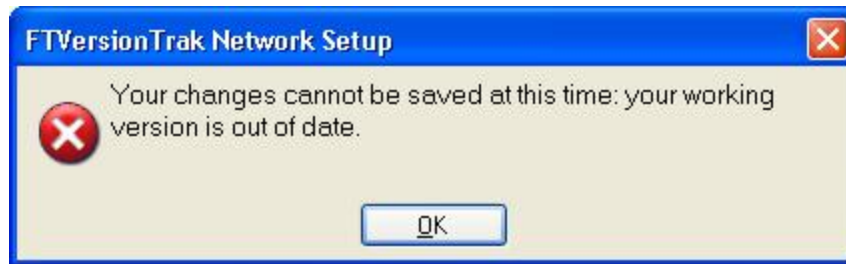


Close the Network Setup dialog box and reopen to load the latest current configuration before being able to save changes.

You may also archive the network configuration at the same time it is saved to the current configuration by clicking **Options** on the **Network Setup Toolbar**, and then selecting the **Archive on Save** option. With this option selected, every time you save your network configuration, the saved configuration is archived and can be viewed in History of Network Setup.

### Archiving Network Configurations

Unlike saving, which replaces the current configuration with the latest edits, archiving creates a copy of the current configuration and places it in a network setup version history, much like the version history in the main FTVersionTrak application. Archiving can be used to record sequential changes made to the network configuration, and provides a way to recover older versions of the configuration without having to manage data files that can be lost or overwritten.

Archive the current configuration by clicking **Archive** on the Network Setup Toolbar. You can also archive the configuration whenever it is saved by clicking **Options** on the **Network Setup Toolbar** and then selecting the **Archive on Save** option.

*Import / Export*

Importing and exporting allows you to save and load a data file containing your network configuration to your local computer.

**TO EXPORT A NETWORK CONFIGURATION FILE:**

1. Click **Export** on the Network Setup Toolbar. The FTVersionTrak Network Setup Export Version dialog box appears.
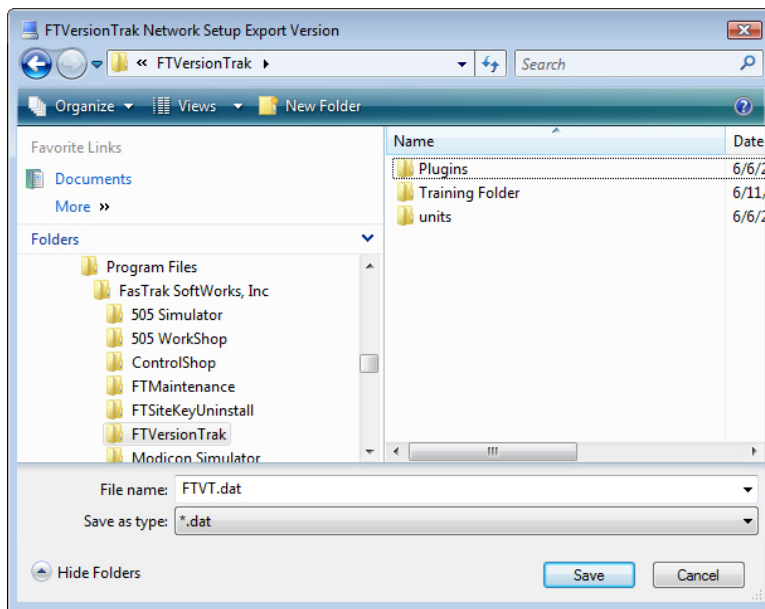


2. Browse to the location in which you would like to save the configuration file.

3. The default filename for the configuration file is **FTVT.dat**. Click **Save** to save the configuration file with this name. To rename the file, type a new name in the **File name** box and click **Save** when finished. The configuration file is successfully exported.

**TO IMPORT AN EXPORTED CONFIGURATION FILE INTO NETWORK SETUP:**

1. Click **Import** on the Network Setup Toolbar. The FTVersionTrak Network Setup Import Version dialog box appears.
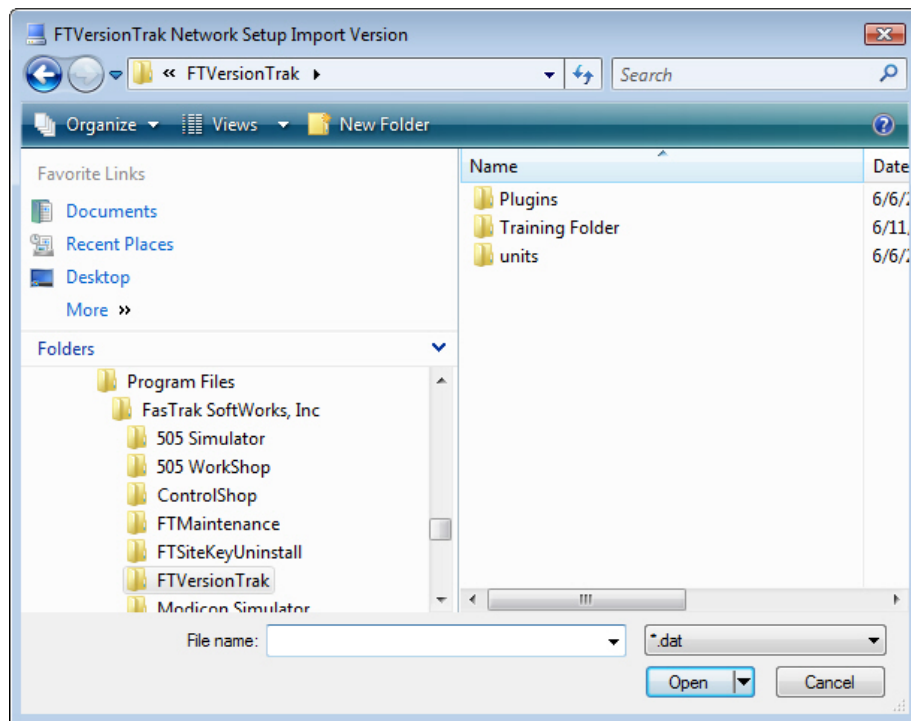
2. Browse to the location in which you saved an exported configuration file.

3. Select the file and then click **Open**. The following message appears:
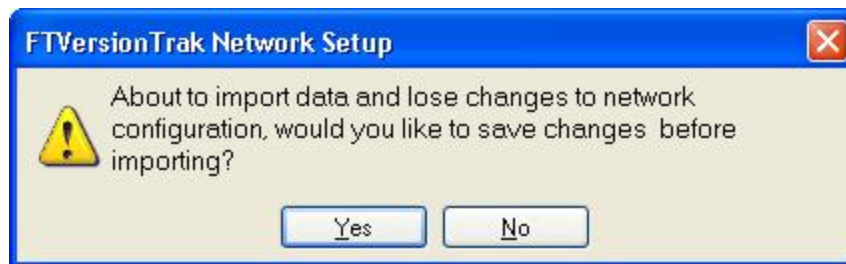


4. Click **Yes** to save the your changes to the current configuration before importing. Click **No** to overwrite changes made to the configuration and complete the import.

5. After the import has been completed, click Save on the **Network Setup Toolbar** to save the imported configuration.

*History of Network Setup*

The Network Setup History is a list of all archived copies of the network configuration, along with their associated version number, the name and location of the user who archived the copy, and the date and time the configuration was archived. Much like the version history in the main FTVersionTrak application, the **History of Network Setup** dialog box can be used to compare archived copies, save specific archived versions to a local computer, rollback to earlier archived configurations, or view a report of the archive history.

**TO VIEW THE HISTORY OF YOUR NETWORK SETUP CONFIGURATION:**

1. Click **History** on the Network Setup Toolbar. The History of Network Setup dialog box appears.
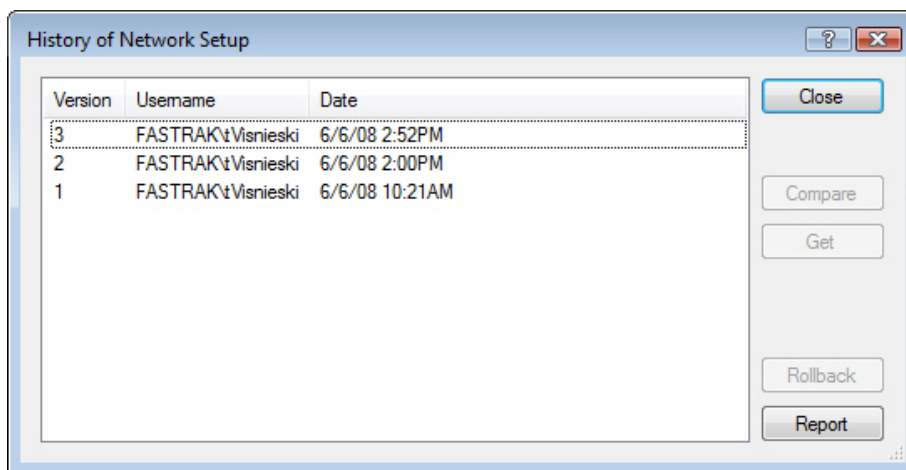


2. From within the History of Network Setup dialog box, a variety of actions may be performed:

- **Compare** –Compares two archived network configurations.

- **Get** – Similar to Export; saves a copy of a selected network configuration to the local machine.

- **Rollback** – Replaces the current configuration with the selected archived copy, destroying all archived versions newer than the one selected.

- **Report** – Generates the History of Network Setup Report.
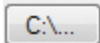
*Comparing Configurations*

Similar to the Compare functionality of the main FTVersionTrak application, Modicon Network Setup can provide a detailed comparison between archived configurations, current configurations, or exported local copies of network configurations. These comparisons highlight the similarities and differences between different versions of your network configuration.

**TO COMPARE VERSIONS OF THE NETWORK SETUP CONFIGURATION:**

1. Click **Compare** on the Network Setup Toolbar. The Compare Network Setup Versions dialog box appears.
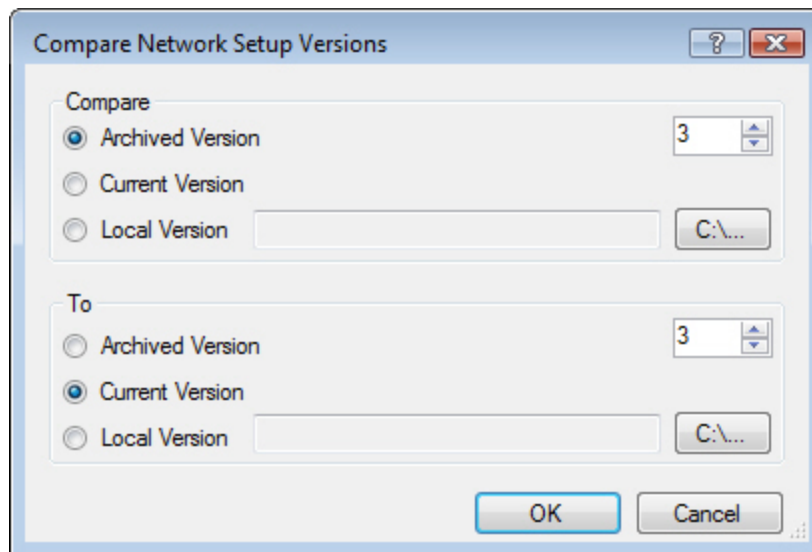


2. Select which versions of the configuration to compare.

   - **Archived Version** – All configurations that have been archived in History of Network Setup. By default, the latest archived version is selected. Select other archived versions by entering the version number in the box.

   - **Current Version** – The current configuration actively being used to connect to networked PLCs.

   - **Local Version** – A copy of the configuration that has been exported to a file. You must specify the path to the file by entering the path in the box or by clicking  and browsing for the file.

By default, the latest archived version is compared to the current version. Once you have selected the versions to compare, click **OK**. The **Compare Network Setup Versions Viewer** appears.
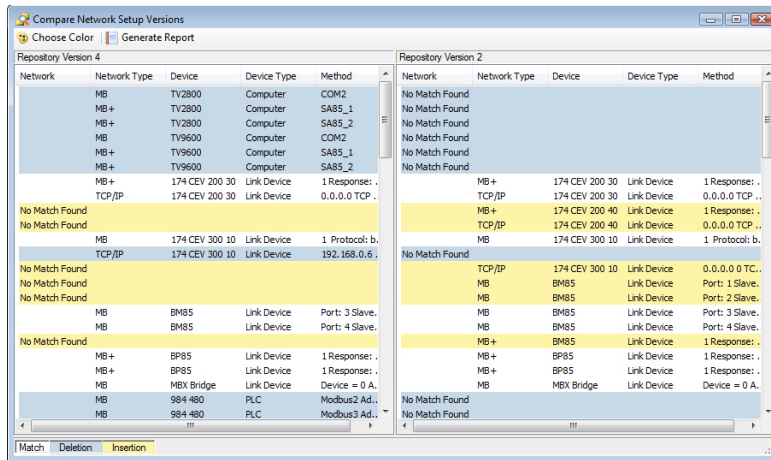


3.  The Compare Network Setup Versions Viewer displays two, side-by-side windows containing the network configuration parameters of each selected version. The selected version is identified above its respective window. The viewer window displays three types of comparison criteria:

    - **Match** – Displayed with a white background by default, this indicates that the configuration parameters are the same for both versions.

    - **Deletion** – Displayed with a blue background by default, this indicates that the second version is missing configuration parameters that the first version contains, suggesting that the information has been deleted.

    - **Insertion** – Displayed with a yellow background by default, this indicates that the first version is missing configuration parameters that the second version contains, suggesting that the information has been added.

4.  Change the viewer's default colors by clicking **Choose Color**. The **Choose Colors** dialog box appears.
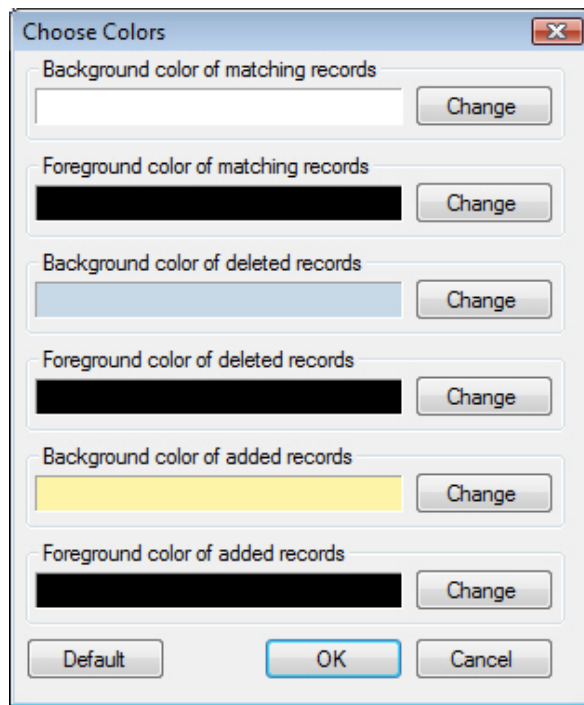
- Change the color of each comparison criteria's background and foreground by click-ing **Change**.

- Click **Default** to revert back to default colors.

- Click **OK** to accept the selected colors.

5. Generate a Compare Network Setup Report by clicking **Generate Report**.

### *Network Setup Reports*

**INTROCUTION TO NETWORK SETUP REPORTS**

Modicon Network Setup comes with a variety of powerful and informative reports that help make network setup and connectivity troubleshooting easier. Four different types of reports give you a clear picture of you network setup configuration. These reports include:

- Network Setup History Report

- Network Setup Report

- Compare Network Setup Report

- Network Setup PLC Assignment Report

See Generating Reports for more information about FTVersionTrak reporting options and capabilities.

**NETWORK SETUP HISTORY REPORT**

This report displays a list of archived versions of the network configuration.

To generate this report:

1. From the Network Setup dialog box, click **History** on the Network Setup Toolbar. The History of Network Setup dialog box appears.
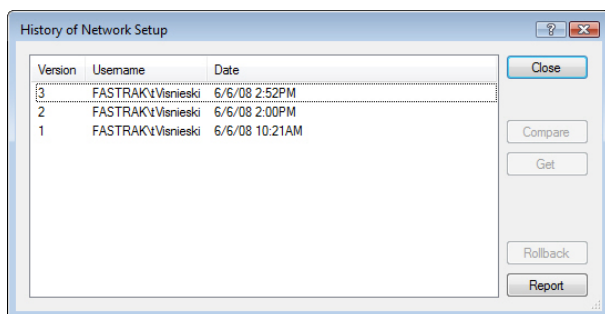


2. Click **Report**. The FTVersionTrak Network Setup History Report dialog box appears.

3. Under **Include**, select which items to include in the report header.

- **Author** – Include an author name in the report header.

- **Date** – Include the date and time the report was generated in the report header.

- **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

- **Headers** – Include header names of the reported data in a column structure.

4. Enter an optional comment to attach to the report in the **Comment** box.

5. Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report. Click **Select data to report** to select which data to include from the list below:

- **Version** –The version number of each archived configuration, with newer versions listed first.

- **Username** – The username and location responsible for creating the archived configuration.

- **Date** – The date each archived configuration was created.

6. Select the format of the report to generate from the buttons on the right side of the FTVersionTrak Network History Setup Report dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a **Print** dialog to send the report to a printer.

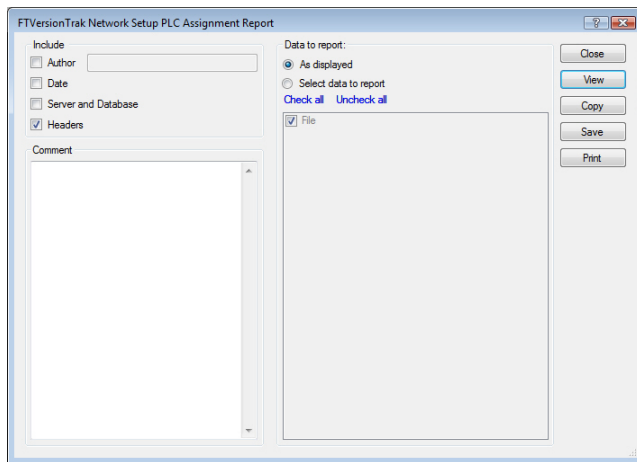- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

### NETWORK SETUP REPORT

This report is a text report of the configured connection methods saved within Modicon Network Setup.

To generate this report:

1. From the Network Setup dialog box, click **Network Report** on the Network Setup Toolbar. The FTVersionTrak Network Setup Report dialog box appears.



2. Under **Include**, select which items to include in the report header.

- **Author** – Include an author name in the report header.

- **Date** – Include the date and time the report was generated in the report header.

- **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

- **Headers** – Include header names of the reported data in a column structure.

3. Enter an optional comment to attach to the report in the **Comment** box.

4. Under Data to report, select which data to include in the report. Click **As displayed** to include all data in the report . Click **Select data to report** to select which data to include from the list below:

- **Device Name** –The name of the network device as it appears in the Device List.

- **Network** –The name of the network to which the listed device belongs, as listed in the Network Tree.

- **Protocol** –The network protocol (Modbus, Modbus Plus, TCP/IP).

- **Value** – The configuration parameters associated with the device.

5. Select the format of the report to generate from the buttons on the right side of the FTVersionTrak Network Setup Report dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a Print dialog box to send the report to a printer.

- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

**COMPARE NETWORK SETUP REPORT**

This report is a text report of the result of comparing network configurations.

To generate this report:

1. From the Network Setup dialog box, click **Compare** on the Network Setup Toolbar. The Compare Network Setup Versions dialog box appears.
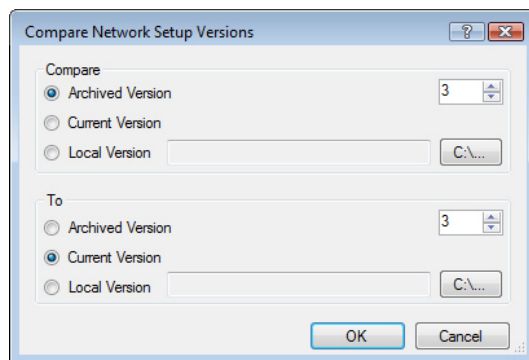


2. Compare two network configurations. See Comparing Configurations for more information. The Compare Network Setup Versions Viewer appears.
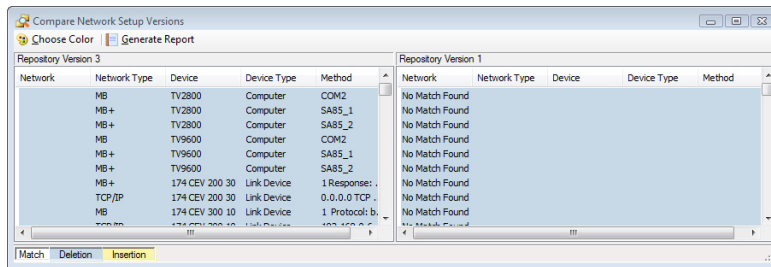
3. Click **Generate Report** on the Viewer toolbar. The Compare Network Setup Versions Report dialog box appears.
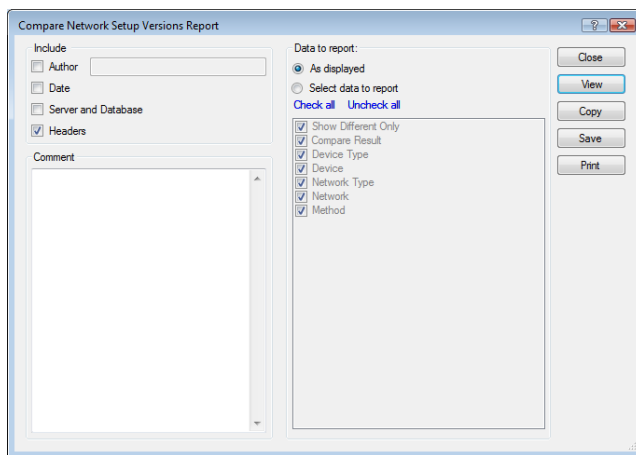


4. Under **Include**, select which items to include in the report header.

- **Author** – Include an author name in the report header.

- **Date** – Include the date and time the report was generated in the report header.

- **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

- **Headers** – Include header names of the reported data in a column structure.

5.  Enter an optional comment to attach to the report in the **Comment** box.

6.  Under **Data to report**, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the list below:

    - **Show Different Only** – only display differences in the report.

    - **Compare Result** –the result of the network configuration comparison.

    - **Device Type** – the type of device listed (computer, PLC, link device).

    - **Device** – the name of the network device as it appears in the Device List.

    - **Network Type** – the network protocol (Modbus, Modbus Plus, TCP/IP).

    - **Network** – the name of the network as listed in the Network Tree.

    - **Method** – the configuration parameters associated with the device.

7.  Select the format of the report to generate from the buttons on the right side of the Compare Network Setup Versions Report dialog box:

    - **View** – Opens the report as a *.TXT file in Microsoft Notepad.

    - **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

    - **Print** – Opens a Print dialog box to send the report to a printer.

    - **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

### NETWORK SETUP PLC ASSIGNMENT REPORT

This report lists the PLCs that have been configured in Network Setup, and the WorkShop program files assigned to them.

To generate this report:

1.  From the Network Setup dialog box, click **PLC Report** on the Network Setup Toolbar. The FTVersionTrak Network Setup PLC Assignment Report dialog box

appears.



2. Under **Include**, select which items to include in the report header.

- **Author** – Include an author name in the report header.

- **Date** – Include the date and time the report was generated in the report header.

- **Server and Database** – Include the name of the server and the repository that the report was generated from in the report header.

- **Headers** – Include header names of the reported data in a column structure.

3. Enter an optional comment to attach to the report in the **Comment** box.

4. Under Data to report, select which data to include in the report. Click **As displayed** to include all data in the report or click **Select data to report** to select which data to include from the list below:

- **File** – the WorkShop program file name.

5. Select the format of the report to generate from the buttons on the right side of the FTVersionTrak Network Setup PLC Assignment Report dialog box:

- **View** – Opens the report as a *.TXT file in Microsoft Notepad.

- **Save** – Opens a Save As dialog box to save the report as a *.TXT file.

- **Print** – Opens a Print dialog box to send the report to a printer.

- **Copy** – Copies the file to Windows Clipboard to be inserted into another document.

# Assigning and Connecting to PLCs

### *Assigning and Connecting to PLCs Overview*

Once network setup is complete, you can assign your Modicon WorkShop program files to specific PLCs on your network. When these program files are viewed or edited in FTVersionTrak, the network configuration finds each possible way to connect to the destination PLC from the originating computer. In this way, any computer on the network can automatically connect to any PLCs on the network, without having to set different communication parameters on every machine or change them to connect to another PLC.

### *Assigning PLCs*

To assign WorkShop program files to connect to specific PLCs:

1. In the FTVersionTrak File List, right-click the file(s) you want to assign to PLCs and then click **Assign PLC** from the shortcut menu. The Assign PLC dialog box appears.
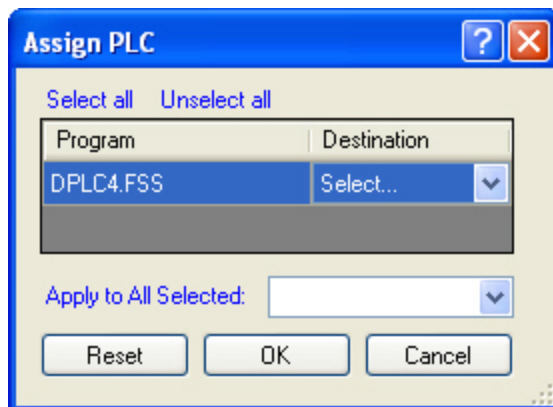
2.  The selected files are listed in the **Program** column. In the **Destination** list, select the PLC you wish to assign to the file.

3.  Repeat steps 1 and 2 for each program file in the **Program** column.

4.  If you want to assign multiple program files to the same PLC, select more than one file in the **Program** column. Or, click **Select all** to select all program files. Then, in the **Apply to All Selected** list, click the PLC you want to assign to the selected program files.

5.  Click **Reset** to remove all assignments, or click **OK** to accept and continue. When the assigned program files are edited or viewed in FTVersionTrak, they will attempt to connect to the selected PLC.

### Choosing a Connection

After assigning PLCs to WorkShop program files, users can connect to the assigned PLCs whenever they edit or view the file from within FTVersionTrak.

To connect to an assigned PLC:

1.  Select the program file in the FTVersionTrak File List and click **View File** on the **Edit** menu, or right-click the program file and then click **View File** or **Edit File** from the shortcut menu. The Choose Connection dialog box appears.

2.  Modicon Network Setup will find every possible communications path between the originating computer and the destination PLC. Each available path will be displayed in the menu of the Choose Connection dialog box. Select the path you want to use and then click **OK** to connect using the selected method.

> **NOTE:** If the selected communication path successfully connects to the PLC, the next time you attempt to connect using this method will result in the successful path being displayed by default in the Choose Connection dialog box. If the selected path is unsuccessful, it will be removed from the list.

# Email Notifications

## Introduction to Email Notifications

FTVersionTrak can be configured to automatically send Email messages to users at the conclusion of certain events. For instance, when a repository folder is renamed or a repository file is checked out, Email messages can be sent to repository users. These messages, also known as the notifications, will provide users with detailed information about the events. For instance, the messages can contain the name of the user who checked out the file or the time when the folder was renamed.

Email notifications can also be associated with scheduled tasks. When events related to scheduled tasks are completed, Email messages are sent to the specified users.

### Configuring Email Service

- Some configuration is required before Email notifications can be used. For additional information, see Introducing Email Service Setup.

### Notifications for Files and Folders

- See Notification Events for Files and Folders for a list of file- and folder-related events for which a user can receive notification.

- See Attach Notifications to Files for detailed instructions on how to attach, or enable, notifications for files.

- See Attach Notifications to Folders  for detailed instructions on how to attach, or enable, notifications for a folder.

### Notifications for Scheduled Tasks

- Email Notifications related to scheduled tasks can be assigned when the scheduled task is created. The creator of the scheduled task determines which repository users will receive notifications. See Attach Notifications to Scheduled Tasks for additional information.

# Email Service Setup

### Introducing Email Service Setup

In order to use notifications, the following items must be set up and configured within FTVersionTrak:

- Configuration information about the Email server used to send the messages. See Email Server Configuration for more information about entering the Email server information.

- Information about the email accounts of repository users. See Email Accounts Configuration for more information about configuring the Email accounts of repository users.

- *(optional):* Mailing lists. See Mailing Lists Configuration for information about setting up mailing lists within FTVersionTrak.

- Email templates. Email templates define the type of event that requires notification, the specific event which will trigger the notification, who will receive the notification, and the content of the message. Many default templates are included with FTVersionTrak. These templates can be modified, or you can create your own templates. See Email Templates Configuration for more information about setting up Email templates.

### Email Server Configuration

In order to use Email notifications, information about how the Email server is configured must be entered within FTVersionTrak. If you do not know the correct settings, contact your network administrator or IT staff for help.

Do the following to enter information about the Email server:

1. Click **Email Service Setup** on the **Tools** menu.

2. On the **Server Configuration** tab, enter the following information:

   - In the **SMTP Server** box, enter the name of the mail server you want to use.

   - In the **Port** box, enter the port used by the mail server.

   - To use SSL, select the **Use SSL** check box.

3. If the mail server requires authentication, do the following:

   - Select the **Server Requires Authentication** check box.

   - In the **Name** box, enter the Name required for server authentication.

   - In the **Password** box, enter the password associated with that account.

4. Under **User Email Sender**, in the **User** box click the user account that will be used to send the notification messages. (The notification messages will be sent from this user's account).

> **NOTE**: The **Email Address** box is automatically configured to use the email address associated with the **User**.

5. To send a test email message, click **Send Test Email**, then enter the email address of the recipient for the test message.

6. Click **Save**.

### Email Accounts Configuration

For each registry user, you can specify the following settings related to Email notifications:

- **Name:** How the user's name will be displayed in the **To:** field of the Email message.

- **Address**: The email address associated with that user.

- **Enabled**: Whether the user is enabled to receive email notifications.

Do the following to enter information about the Email accounts:

1. Click **Email Service Setup** on the **Tools** menu.

2. Click the **Email Accounts** tab.
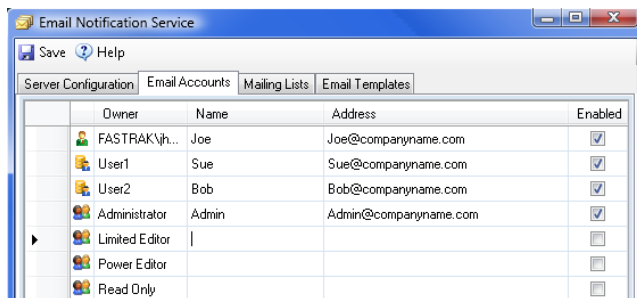


3. If you want a user to have the ability to receive email notifications, select the **Enabled** check box.

4. In the **Name** column, enter how you want the user's name to be appear in the **To:** field of the email message.

5. In the **Address** box, enter the email address that will be used to send notifications to that user.

6. Click **Save**.

*Mailing Lists Configuration*

A mailing list is a list of users. When you need to specify which users will receive Email notification, you can select the users individually, or you can select a pre-configured mailing list. When you configure a mailing list, you give the mailing list a name and specify which users are included in the list.

Do the following to configure a mailing list:

1. Click **Email Service Setup** on the **Tools** menu.

2. Click the **Mailing Lists** tab.
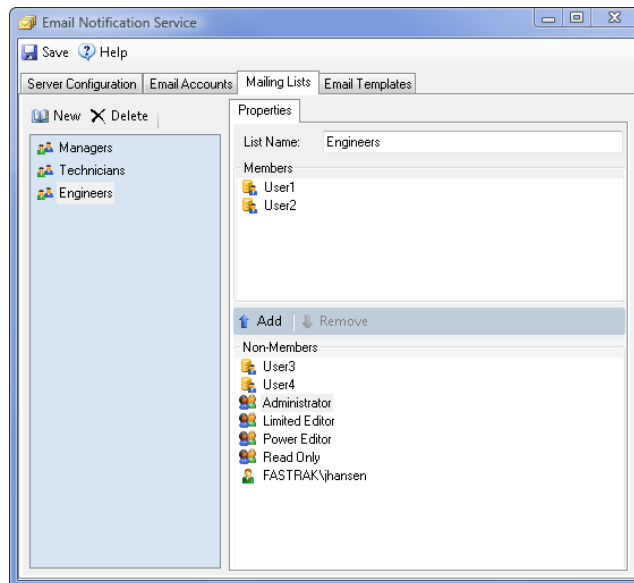


3. Click **New**.

4. In the **List Name** box, enter the name you want to use for this mailing list.

5. In the Non-Members area, select the users you want to be members of the mailing list, and then click **Add**.

6. Click **Save**.

*Email Templates Configuration*

An Email template is group of settings that determine how email notifications will operate. The Email template specifies the type of notification, the notification event which will trigger the notification, the priority of the notification, and the message text contained in the notification. There is one default template provided for each notification event (see Restoring Default Email Templates for additional information).

When users want to receive notifications for events related to a file or a folder, they must select which template they want to use. Users who create scheduled tasks are also able to choose which template to use when setting up notifications for scheduled tasks.

If you want to change a template, you can modify the default templates, or you can create new templates.  Do the following to create a new Email template:

1. Click **Email Service Setup** on the **Tools** menu.

2. Click the **Email Templates** tab.
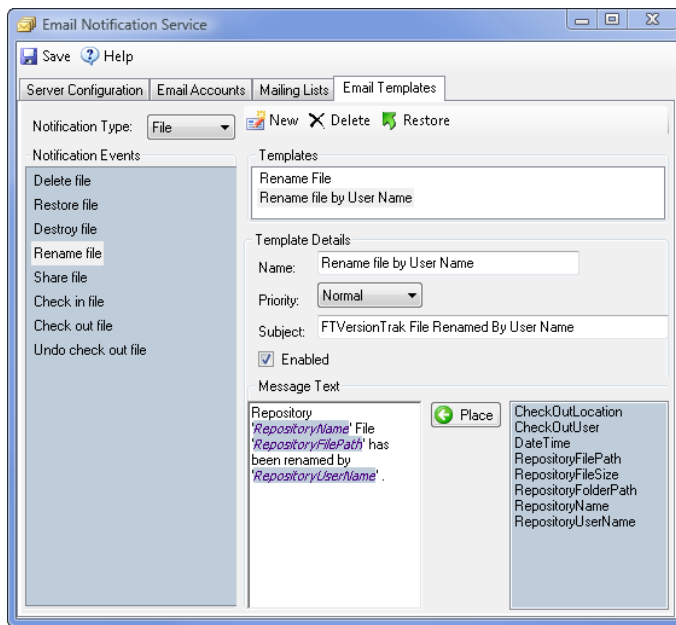


3. In the **Notification Type** box, select the type of notification you want to create. You can select from the following notification types:

   - **Tasks** – notification will be sent at the conclusion of actions related to a scheduled task

- **Folder** – notification will be sent at the conclusion of actions performed at the folder level

- **File** – notification will be sent at the conclusion of actions performed at the file level

- **Version** – notification will be sent at the conclusion of events related to the version of a file

4. Under **Notification Events**, select the event that will trigger the notification. In the example, the notification event is **Rename file**. This means that email messages will be sent after a file has been renamed.

5. Click **New**.

    A default name for the template, such as **Rename file 0**, is supplied in the **Name** box.

6. If you want to change the name, select the default name that appears in the **Name** box and enter a new name.

7. In the **Priority** box, select the priority you want to use. Messages sent using this template will reflect this priority level.

8. In the **Subject** box, enter the text you want to appear as the subject of the messages sent using this template.

9. To enable this notification, select the **Enabled** check box.

10. Under **Message Text**, compose the content of the message.

- You can type text in the box.

- You can also include variables from the blue-shaded area by selecting the variable you want to use, then clicking **Place**. The variable is added to the message at the position of the cursor. For example, to include the date and time an event occurred in a message, click **Date Time** in the blue-shaded area, and then click **Place**.

11. Click **Save**.

*Restoring Default Email Templates*

FTVersionTrak comes with default Email templates. One template is provided for each no-tification event. If you modify a default template, and then later want to restore that template to its original, default values, you can restore the template.

To restore a template:

1. Click **Email Setup** on the **Tools** menu.

2. Click the **Email Templates** tab.

3. Under **Notification Events**, click the event associated with the template you want to return to its default state.
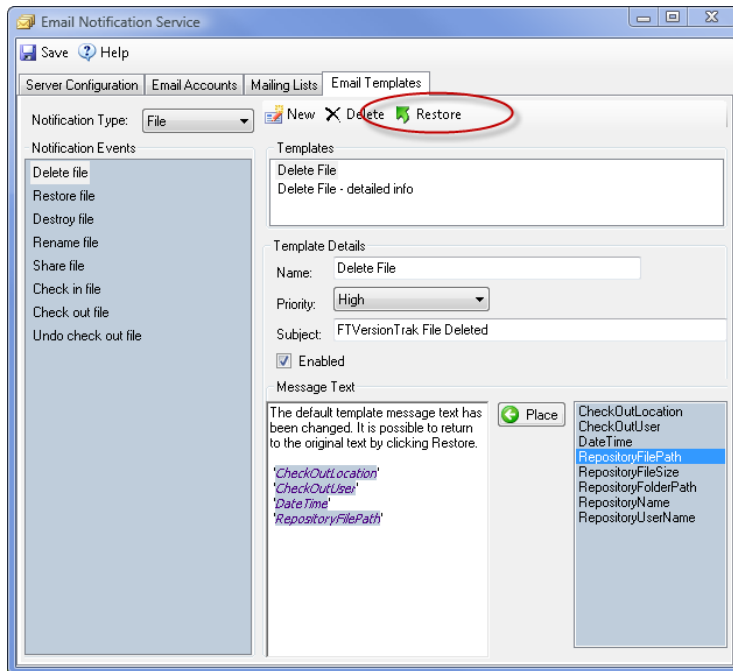


4. Click **Restore**.

The default templates, and their settings, are listed in the following table.

| Notification Type | Notification Event | Template Name |
|---|---|---|
| Task | None | Task Run Without Update |
| | Check in | Task checked In File |
| | Failure | Task Failed To Run |
| Folder | Create subfolder | Create Subfolder |
| | Destroy folder | Destroy Folder |
| | Delete folder | Delete Folder |
| | Restore folder | Restore Folder |
| | Rename folder | Rename Folder |
| | Label folder | Label Folder |
| | Add file | Add File To Folder |
| File | Delete file | Delete File |
| | Restore file | Restore File |
| | Destroy file | Destroy File |
| | Rename file | Rename File |
| | Share file | Share File |
| | Check in file | Check In File |
| | Check out file | Check Out File |
| | Undo check out file | Undo Check Out File |
| Version | Destroy Version | Destroy File Version |
| | Sign Version | Sign File Version |
| | Label Version | Label File Version |

# Email Notifications for Files and Folders

### *Notification Events for Files and Folders*

Once the required Email configuration steps have been completed (see Introducing Email Service Setup for additional information), any repository user is able to set up Email notification for an event related to a file or a folder in a repository.

A user can be notified of the following events related to a repository file:

- when the file is deleted

- when the file is restored

- when the file is destroyed

- when the file is renamed

- when the file is shared

- when the file is checked in

- when the file is checked out

- when a check out of the file is undone

- when a version of the file is destroyed

- when the file is signed

- when the file is labeled

A user can be notified of the following events related to a repository folder:

- when a subfolder is created

- when the folder is destroyed

- when the folder is deleted

- when the folder is restored

- when the folder is renamed

- when the folder is relabeled

- when a file is added to the folder

### *Attach Notifications to Files*

The process of attaching notifications to a file consists of selecting a file (or files) and then indicating which Email templates to use with the events related to those files.

Do the following to attach notifications to files:

1. Connect and login to the repository containing the appropriate file or files.

2. In the main FTVersionTrak window, select the file or files you want to use.

3. Do one of the following:

   - Click **Attach / Detach Notifications** on the **File** menu.

   - Right-click the file or files, then click **Attach / Detach Notifications** from the shortcut menu.
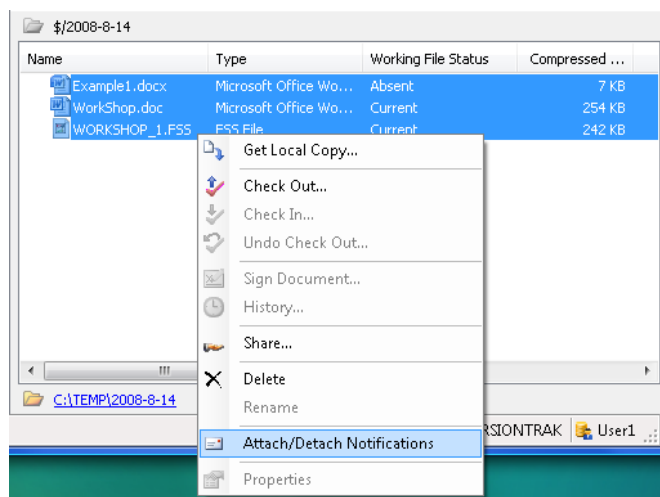


4. In the **Email Notifications** window, select the template you want to use for each event. If you do not want to be notified after an event occurs, select **No notification**.

> **NOTE:** Only templates that have been created for a particular event will appear as selectable options for that event. For example, the templates listed for the **Restore file** event are templates created specifically for restoring folders. See Email Templates Configuration for more information about creating and modifying Email templates.
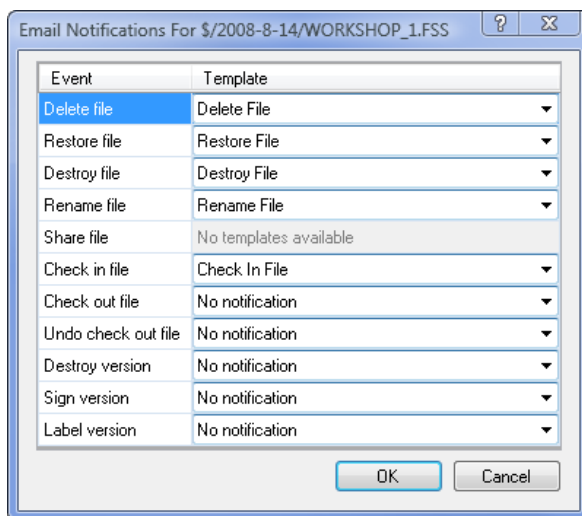


If you selected more than one file in step 2, the templates you select are applied to all of the selected files.

5. Click **OK**.

> **NOTE:** Notifications for file- and folder-related events must be set up on an individual basis. For example, each repository user who wants to be notified when a file named **WorkShop.FSS** is checked in must login to FTVersionTrak and select a template for the **Check in file** event associated with **WorkShop.FSS**.

**Tip:** You can also attach and detach notifications from the **Search Results** window.
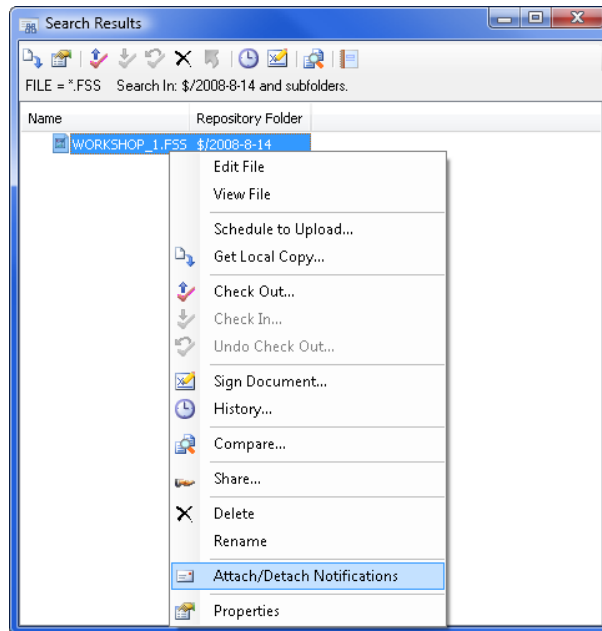


*Detach Notifications from Files*

If a user no longer wants to receive notifications about file-related events, the user can detach the notification. Detaching the notification consists of selecting the **No Notification** option from the **Template** column of the **Email Notifications** window.

1.  Connect and login to the repository containing the appropriate file or files.

2.  In the main FTVersionTrak window, select the file or files you want to use.

3.  Do one of the following:

    *  Click **Attach / Detach Notifications** on the **File** menu.

    *  Right-click the file or files, then click **Attach / Detach Notifications** from the shortcut menu.
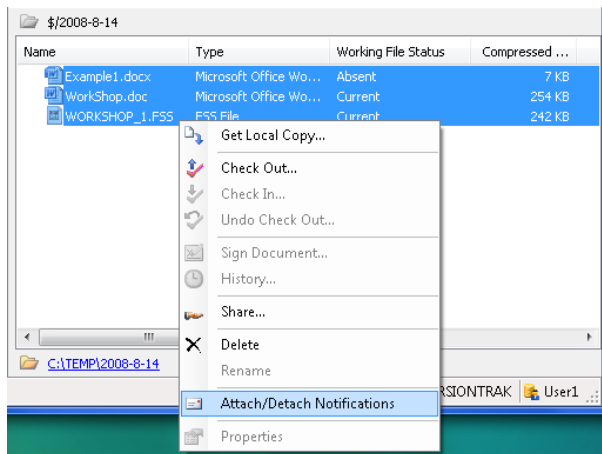
4. In the **Email Notifications** window, select **No notification** for the events for which you do not want to receive notifications.



5. Click **OK**.

> **NOTE:** Administrators are able to detach, or delete, notifications using the Notifications Viewer. See Deleting Notifications for additional information.

## Attach Notifications to Folders

The process of attaching notifications to a folder consists of selecting a single folder and then indicating which Email templates to use with the events related to that folder.

Do the following to attach notifications to a folder:

1.  Connect and login to the repository containing the appropriate folder.

2.  In the main FTVersionTrak window, select the folder you want to use.

3.  Do one of the following:

    -   Click **Attach / Detach Notifications** on the **File** menu.

    -   Right-click the folder, then click **Attach / Detach Notifications** from the short-cut menu.
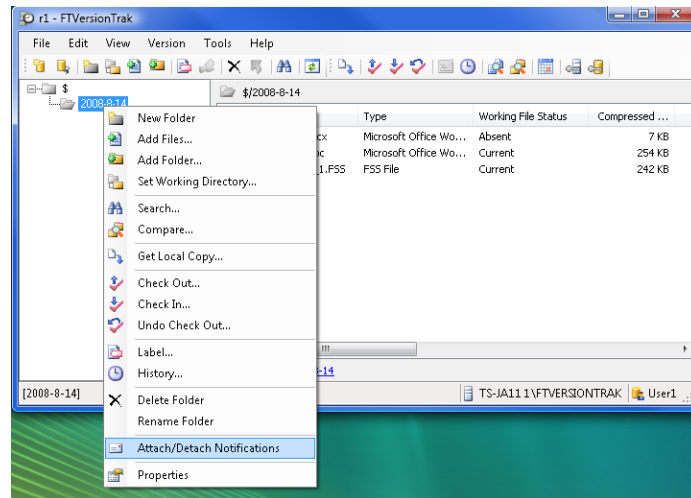


4.  In the **Email Notifications** window, select the template you want to use for each event. If you do not want to be notified after an event occurs, select **No notification**.

> **NOTE**:  Only templates that have been created for a particular event will appear as selectable options for that event. For example, the templates listed for the **Destroy Folder** event are templates created specifically for destroying folders. See Email Templates Configuration for more information about creating and modifying Email templates.
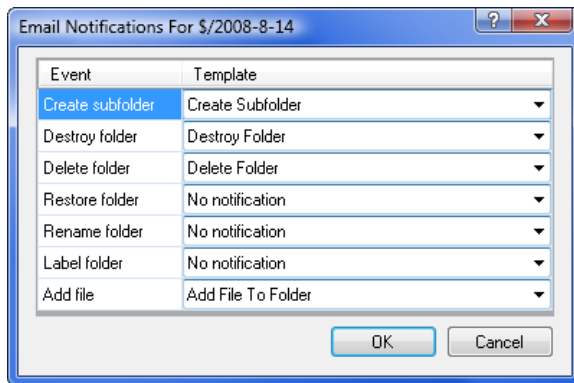
5. Click **OK**.

> **NOTE**: Notifications for file- and folder-related events
> must be set up on an individual basis. For example, each
> user who wants to be notified when a folder named **Folder1**
> is deleted must login to FTVersionTrak and select a tem-
> plate for the **Delete folder** event associated with **Folder1**.

### Detach Notifications from Folders

If a user no longer wants to receive notifications about folder-related events, the user can detach the notification. Detaching the notification consists of selecting the **No Notification** option from the **Template** column of the **Email Notifications** window.

Do the following to attach notifications to a folder:

1. Connect and login to the repository containing the appropriate folder.

2. In the main FTVersionTrak window, select the folder you want to use.

3. Do one of the following:

   - Click **Attach / Detach Notifications** on the **File** menu.

   - Right-click the folder, then click **Attach / Detach Notifications** from the short-cut menu.
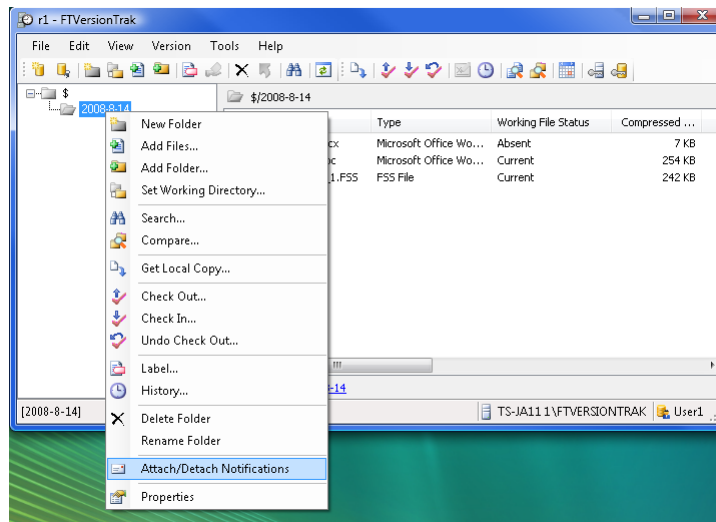
4. In the **Email Notifications** window, select **No notification** for the events for which you do not want to receive notifications.



5. Click **OK**.

NOTE: Administrators are able to detach, or delete, notifications using the Notifications Viewer. See Deleting Notifications for additional information.

# Email Notifications for Scheduled Tasks

### Attach Notifications to Scheduled Tasks

When a scheduled task is initially created, or at any time after a task has been created, the creator of a scheduled task has the option of attaching Email notifications to that task. Email notifications options are specified on the bottom of the **Create New Task** window.

Do the following to set up Email notifications with a task:

1. Go to the **Create New Task** window by creating a new task or by modifying the properties of an existing task. See Creating a New Task for more information about tasks.

2. If Email notification options are not visible, click (Expand).
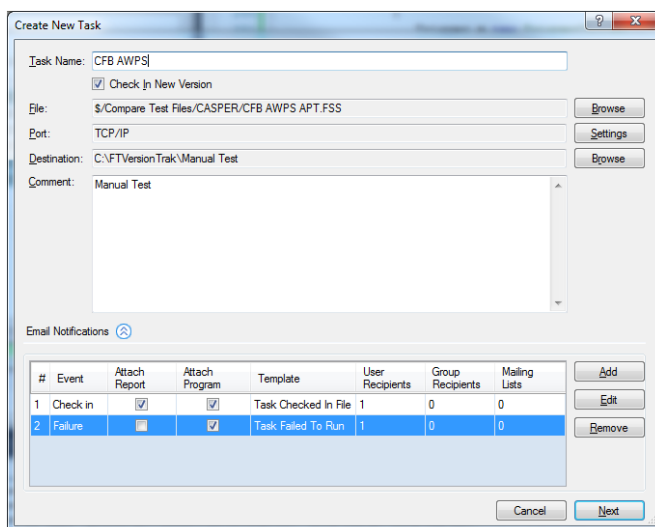
3. In the Email Notifications area, click **Add**.
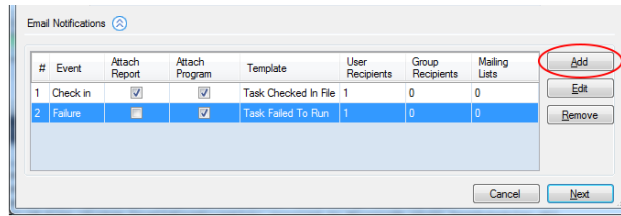
4. In the **Email Notification** window, in the **Select Notification Event** box, click the notification event you want to use. You can choose to send notifications based on one or more of the following notification events:

- **None:** After the task has run, no differences were found between the specified file on the PLC and the file in the repository.

- **Check in:** After the task has run, differences were found between the specified file on the PLC and the file in the repository. The file on the PLC was successfully checked in to the repository.

- **Failure:** There was an error running the scheduled task.
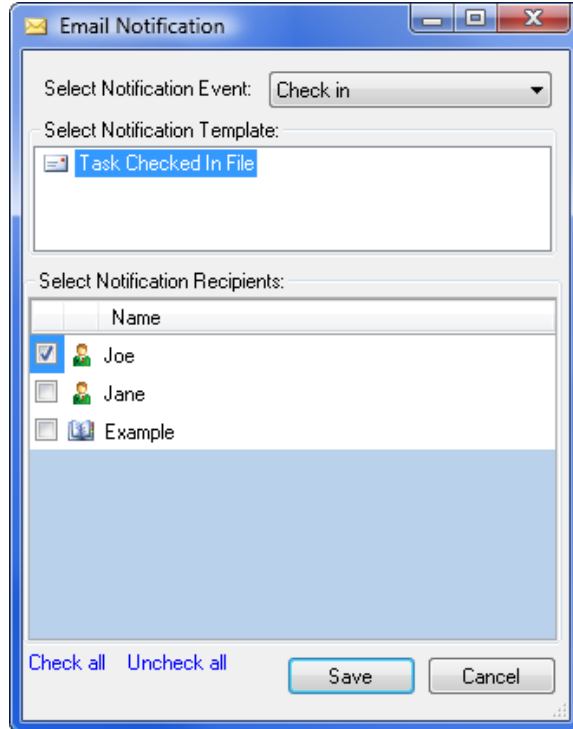
5. If the **Attach Report** check box is checked, a copy of the comparison report generated by the scheduled task will be attached to the email notification.

6. If the **Attach Program** check box is checked, a copy of the program from the PLC will be attached to the email notification.

7. Under **Select Notification Template**, select the notification template you want to use.

8. Under **Select Notification Recipients**, select the recipients and/or lists you want to be notified at the conclusion of the notification event.
   You can also click **Check all** or **Uncheck all**.

9. Click **Save**.

> **NOTE:** Various settings related to the Email server and Email accounts must be properly configured in order to use Email notifications. See Introducing Email Service Setup for more information.

# Notifications Viewer

### *Using the Notifications Viewer*

The Notifications Viewer is only accessible by Administrators or Owners. The Viewer can be used to view the notifications that are currently set up within FTVersionTrak. In addition, the Viewer can be used to delete notifications that are no longer needed.

**OPEN THE NOTIFICATIONS VIEWER**

1. Click **Notifications Viewer** on the **Tools** menu to open the Notifications Viewer.

**FILTER NOTIFICATIONS**

There are several ways to filter how notifications are displayed in the Viewer. You can select from the following filtering methods:

- **Display only the notifications associated with a specific file or folder** (see Filter Notifications by File and Filter Notifications by Folder for additional information)

- **Display only the notifications created by a specific repository user** (see Filter Notifications by User for additional information)

- **Display only the notifications associated with a specific event** (see Filter Notifications by Event for additional information)

- **Display only the notifications associated with files or folders whose names contain certain characters/patterns** (see Filter Notifications by Pattern for additional information)

Notifications attached to scheduled tasks are not displayed in the Viewer.

GROUP NOTIFICATIONS

You can also specify how you want the notifications displayed in the Viewer. You can group the notifications using the following methods:

- **Group the notifications according to the name of the file / name of the folder they are attached to**

- **Group the notifications according to the repository user who created the notification**

- **Group the notifications according to the event they are associated with**

- **Group the notifications based on whether the notification is attached to a file or a folder**

See Group Notifications for more information on grouping notifications.

See Introduction to Notifications for more information about notifications.

*Deleting Notifications*

The Notifications Viewer can be used to delete notifications that are no longer wanted. The Notifications Viewer is only accessible by Administrators or Owners. Deleting a notification using the Viewer is functionally equivalent to selecting **No Notification** for the template associated with a file- or folder-related event. When a notification is deleted using the Viewer, the user will no longer receive notifications for that event.

Only notifications associated with file- or folder-related events are displayed in the Viewer. Notifications associated with scheduled tasks are not displayed in the Viewer and cannot be deleted using the Viewer.

To delete one or more notifications using the Viewer:

1. Click **Notifications Viewer** on the **Tools** menu.

2. *Optional:* Filter or group the notifications so you can easily find the notification you want to delete.

3. Select the notifications you want to delete.
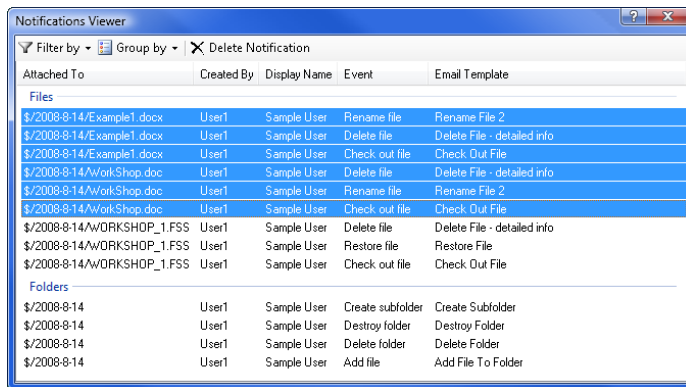


4. Click **Delete Notification**.

## *Filtering and Grouping Notifications*

### FILTER NOTIFICATIONS BY FILE

To view only the notifications that are associated with a specific file:

1. On the **Tools** menu, click **Notifications Viewer**.

2. Click **Filter by**, then point to **Attached To**, and then click **Specific File**.

3. In the **Select Repository File** window, select a file. (The Notifications Viewer will only show notifications associated with this file.)

4. Click **OK**.

**FILTER NOTIFICATIONS BY FOLDER**

To view only the notifications that are associated with a specific folder:

1. On the **Tools** menu, click **Notifications Viewer**.

2. Click **Filter by**, then point to **Attached To**, and then select **Specific Folder**.

3. In the **Select Repository Folder** window, select a folder. (The Notifications Viewer will only show notifications associated with this folder.)

4. Click **OK**.

**FILTER NOTIFICATIONS BY USER**

To view only the notifications created by a specific user:

1. On the **Tools** menu, click **Notifications Viewer**.

2. Click **Filter by**, and then click **Created By**.

3. In the **Filter By User** window, select a user, and then click **OK**. (The Notifications Viewer will only show notifications created by this user.)

4. Click **OK**.

**FILTER NOTIFICATIONS BY EVENT**

To view only the notifications associated with a specific event, such as the check-in of a file or the rename of a folder:

1. On the **Tools** menu, click **Notifications Viewer**.

2. Click **Filter by**, and then select **Event**.

3. In the **Filter By Event** window, select an event, and then click **OK**. (The Notifications Viewer will only show notifications associated with this event.)

4. Click **OK**.

FILTER NOTIFICATIONS BY PATTERN

To view only the notifications of files and/or folders whose names match a specific pattern:

1. On the **Tools** menu, click **Notifications Viewer**.

2. Click **Filter by**, and then click **File/Folder Name Pattern**.

3. In the **Filter By File/Folder** window, enter the pattern you want to use. For example, to see only the notifications for WorkShop files, enter *FSS* in the **Pattern** box.

4. Click **OK**.

REMOVE A FILTER

To remove a filter you no longer want:

1. On the **Tools** menu, click **Notifications Viewer**.

2. Click the **Filter by** menu, and then click **Remove Filter**.

GROUP NOTIFICATIONS

By default, notifications in the Notifications Viewer are displayed in alphabetical order according to the name of the file or the name of the folder the notification is attached to. This default display method can be customized, however. Notifications in the Notifications Viewer can be arranged, or grouped, based on characteristics of the notification.

To specify how notifications are grouped within the Notifications Viewer:

1. Click **Notifications Viewer** on the **Tools** menu.

2. Click **Group by**, then do one of the following:

   - Click **Attached To** to group notifications based on the name of the file or the name of the folder.

   - Click **Created By** to group notifications based on the user who created the notifications.

   - Click **Event** to group notifications based on the event that triggered the notification.

- Click **Files** / **Folders** to group notifications based on whether the notification is associated with a file or folder.

In the **Group by** menu, a check mark is displayed before the selected Group by method. To return to the default method, clear the check mark from **Attached To**, **Created By**, **Event**, or **Files / Folders**.

# Security

## Security Overview

FTVersionTrak controls user access and permissions with two levels of security, allowing an administrator to configure a wide array of options from general access permissions to specific user-based interaction.

Server Security governs access to the SQL Server instance that manages and stores FTVersionTrak repositories. It provides three tiers of access based on both Windows Authentication and SQL Authentication. Server administrators can add, edit, and remove all Windows and SQL logins that access the FTVersionTrak server.

Repository Security manages the permissions granted a repository user or group of users, specific to each repository. It provides four tiers of access plus group-based custom permissions. Repository administrators can add, edit, and disable all available Windows and SQL logins that access the repository.

> **NOTE:** Security features are not available in FTVersionTrak Pro. Only one administrator-level user is allowed access to the repository. If your process requires that more than one named user has access to a repository, you may need to upgrade to the advanced edition of FTVersionTrak.

## Server Security

### Access Server Security

Server Security regulates and maintains user access to FTVersionTrak databases. Administrators define the SQL Server instance to be used as an FTVersionTrak database, select the users that will have access to the database, and determine the method of access allowed to each user of the database.

To access Server Security:

1.  On the **Tools** menu, click **Server Security** or click the  toolbar button. The Master Login dialog box appears.
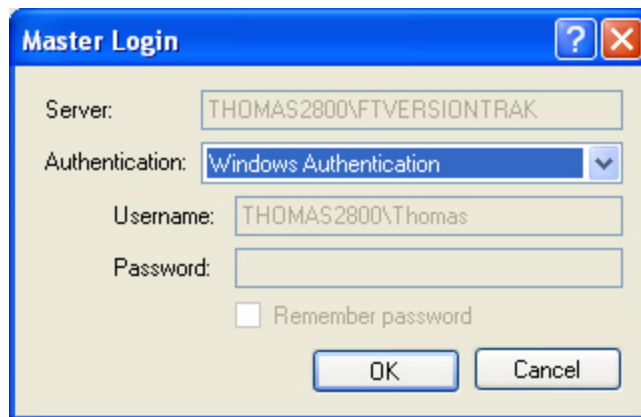
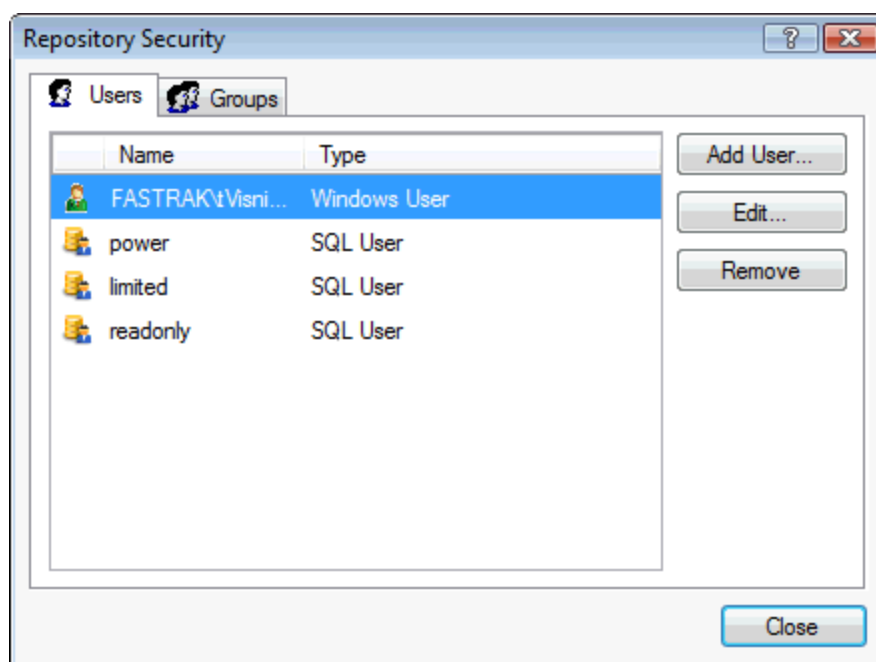2. Click **OK**. By default, Windows Authentication is selected – this is the only authentication method that can be used to access Server Security.

NOTE:  Only administrators may access Server Security.

After successfully logging in, the Server Security dialog box appears.
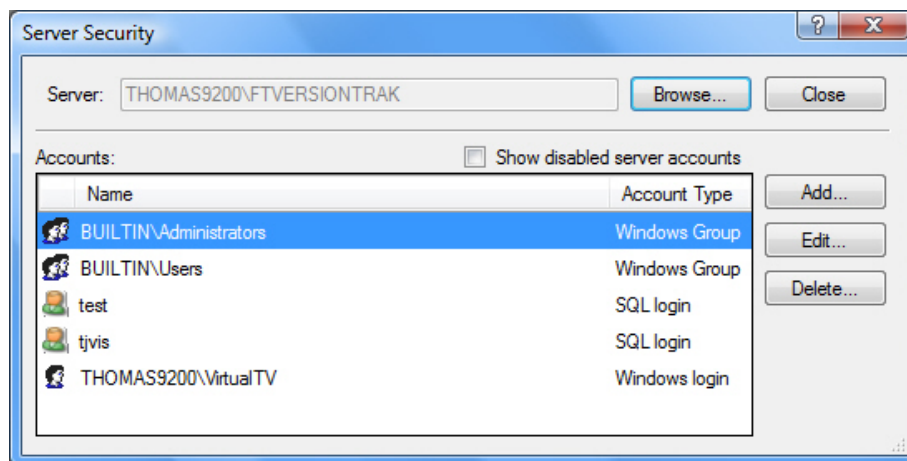


3. The Server Security dialog box displays the following information:

- Server: Displays the server being configured.

- Accounts: Displays all configured server accounts.

### Selecting a Server

1. In the Server Security dialog box, the SQL Server instance that you will be configuring is displayed in the **Server** box. In cases in which multiple servers reside on the same machine, clicking **Browse** will display a list of available servers. Select the server you would like to configure or click **Find Database Servers** to search for all accessible servers.
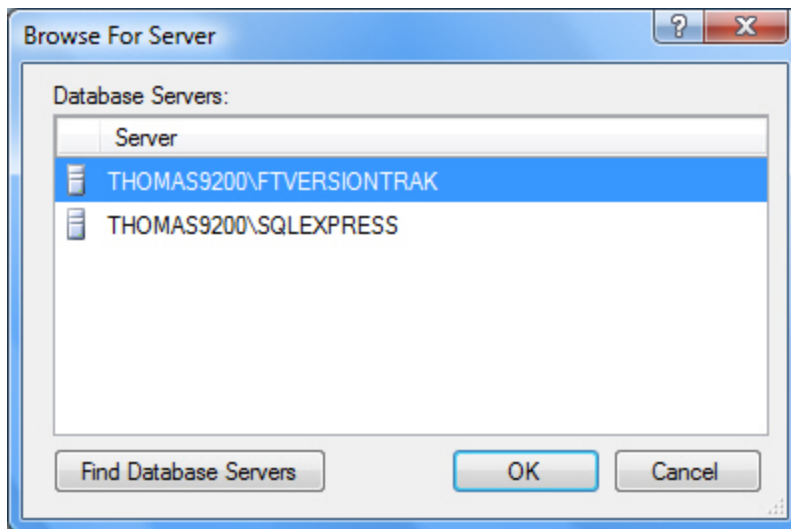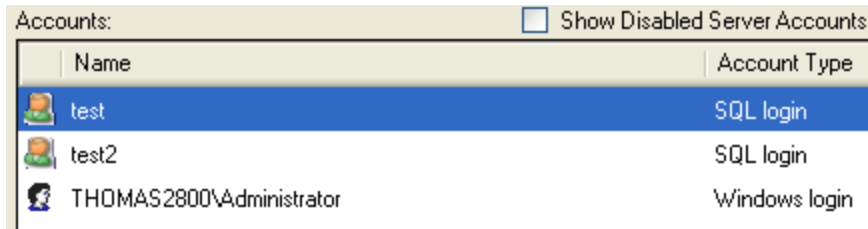


2. Click **OK** when finished to return to the Server Security dialog box.

> **NOTE:** Clicking **Find Database Servers** searches for all available servers, including servers located on remote machines. You must be logged in to Windows as an administrator on the machine on which SQL Server is running to access Server Security.

### Viewing Server Accounts

A list of all available SQL Server accounts is displayed in the Server Security dialog box.

Server Security supports two different types of accounts, displayed in the **Account Type** column:

- **Windows Login** – represents a single user with a Windows login on the same machine as SQL Server connecting via Windows Authentication.

- **SQL Login** – represents a single user logged in from a local or remote location to SQL Server via SQL Authentication.

> **NOTE:** To allow workgroup users to log in to FTVersionTrak using Windows Authentication, the server machine's Local Security Policy must be set to allow local users to authenticate as themselves. See Setting the Local Security Policy for more information.

- Show disabled users by selecting the **Show Disabled Server Accounts** check box. You may disable an account in the Edit Server User dialog box by clicking the **Edit** button.

*Managing Server Accounts*

### ADDING USERS

To add SQL Server accounts that may access the FTVersionTrak database:

1. In the Server Security dialog box, click **Add**. The Add SQL Server Account dialog box appears.
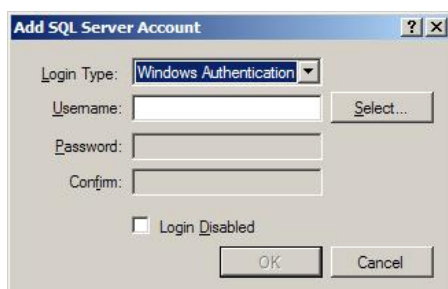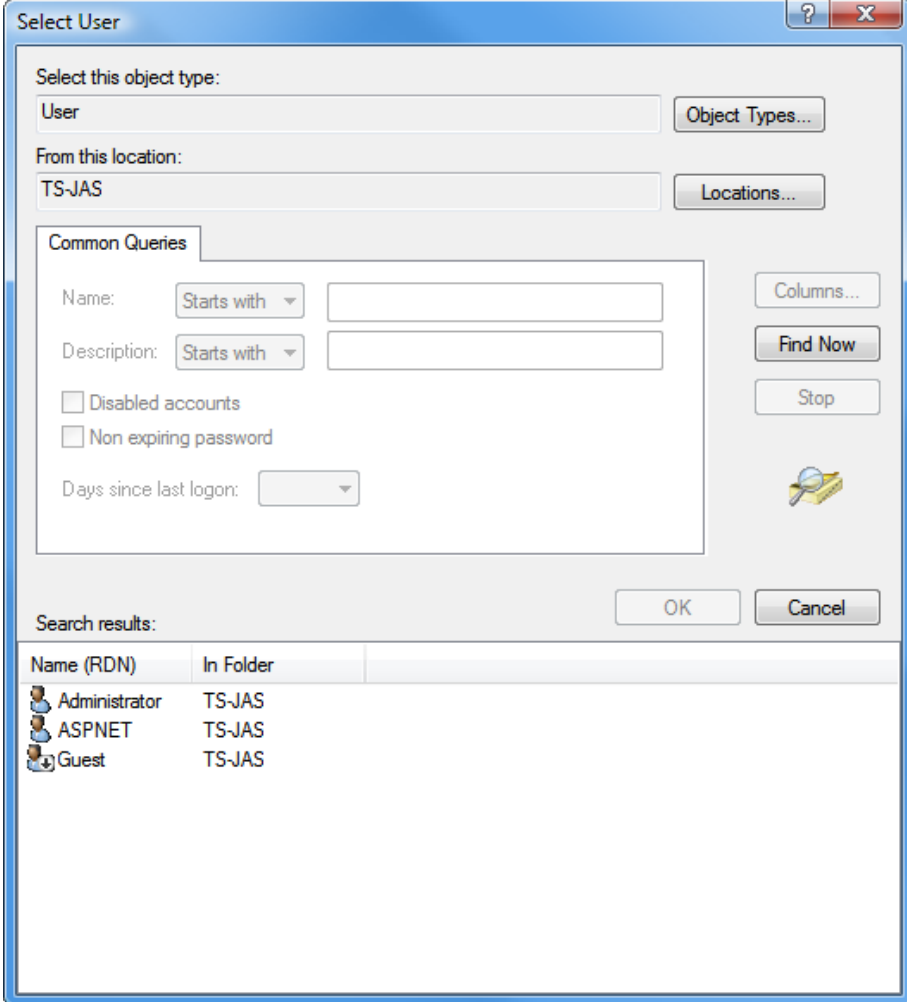
2.  In the **Login Type** box, select the type of login you would like to add (Windows or SQL Authentication).

3.  Configure the login you would like to add:

WINDOWS AUTHENTICATION

Type the name of the user in the **Username** text box or click **Select** to search for available users. If you choose to search, the Select User dialog box appears.
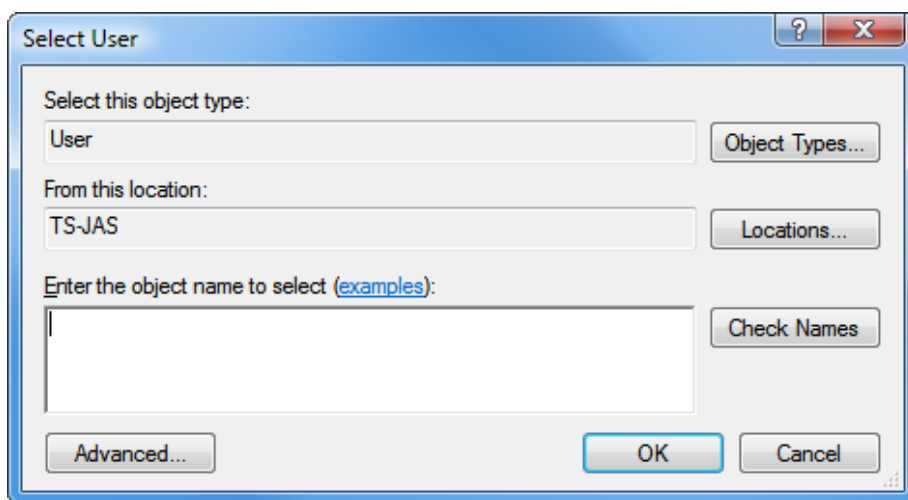


- Type search criteria in the **Enter the object name to select** box, or click **Advanced** for more options.
    - Click **Find Now** to search for all available logins from a single location.

    - Select a login from the list and click **OK**.

- Click **OK** when finished to return to the Add SQL Server Account dialog box.

The **Password** and **Confirm** text boxes are inactive; this information is governed by Windows Authentication.

> **NOTE:** To allow workgroup users to log in to FTVersionTrak using Windows Authentication, the server machine's Local Security Policy must be set to allow local users to authenticate as themselves. See **SQL Server Setup** for more information.

SQL Authentication

- Enter the username and password of the SQL Server account you would like to configure in their respective fields. Retype the password in the **Confirm** box.

> **NOTE:** The SQL Server instance must be configured to accept SQL Server Authentication. See **SQL Server Setup** for more information.

4. Select the **Login Disabled** check box to block this account's access to the FTVersionTrak database.

5. Click **OK** when finished to return to the Server Security dialog box.

### EDITING USERS

To edit SQL Server accounts that may access the FTVersionTrak database:

1. Click **Edit** in the Server Security dialog box. The Edit SQL Server Account dialog box appears.

2. Select the **Login Disabled** check box to block this account's access to the FTVersionTrak database.

3. Click **OK** when finished to return to the Server Security dialog box.

# Repository Security

*Repository Security Overview*

Repository security defines access permissions for each repository being protected by FTVersionTrak. The repository administrator (usually the creator of the repository) determines the users that can access a repository, as well as the level of access each user or group of users receives. Each repository may have a different administrator, who can either set predefined access 'levels' for each repository user, or define custom levels of security for one or many users based on specific repository permissions.

To access Repository Security:

1. On the **Tools** menu, click **Repository Security** or click the ⬛ toolbar button. The **Repository Security** dialog box appears.
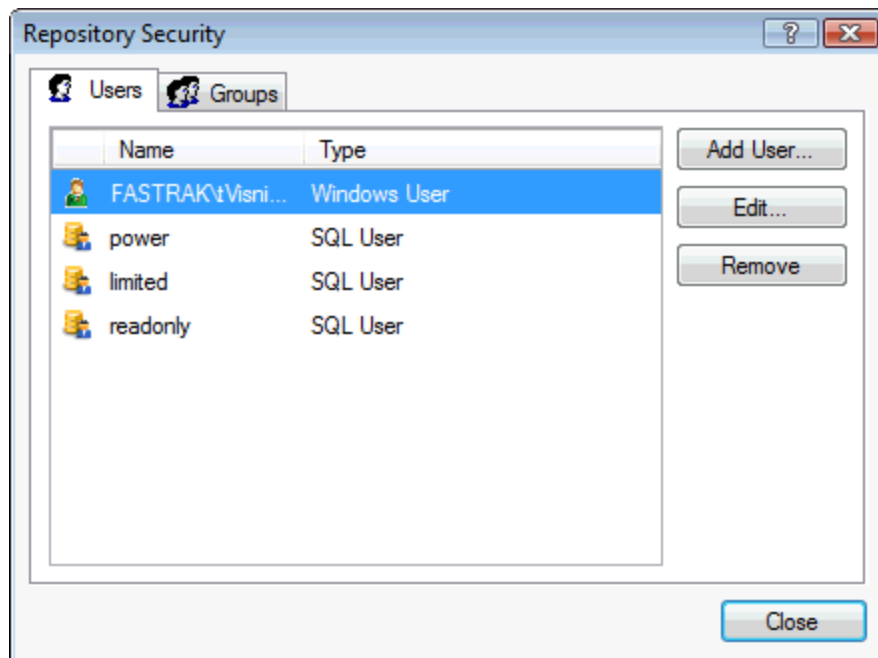
*Managing Repository Users*

**ADDING USERS**

To add a new repository user:

1.  On the **Tools** menu, click   **Repository Security** or click the ![toolbar icon] toolbar button. The Repository Security dialog box appears.

![Repository Security dialog box showing Users tab with Name and Type columns. FASTRAK\tVisni... Windows User, power SQL User, limited SQL User, readonly SQL User. Buttons: Add User..., Edit..., Remove, Close]

2.  Click **Add User**. The Add Repository Account dialog box appears.

![Add Repository Account dialog box showing Server Accounts with Name and Type columns. BUILTIN\Administrators Windows Group, power SQL Login, limited SQL Login, readonly SQL Login. Buttons: OK, Cancel]
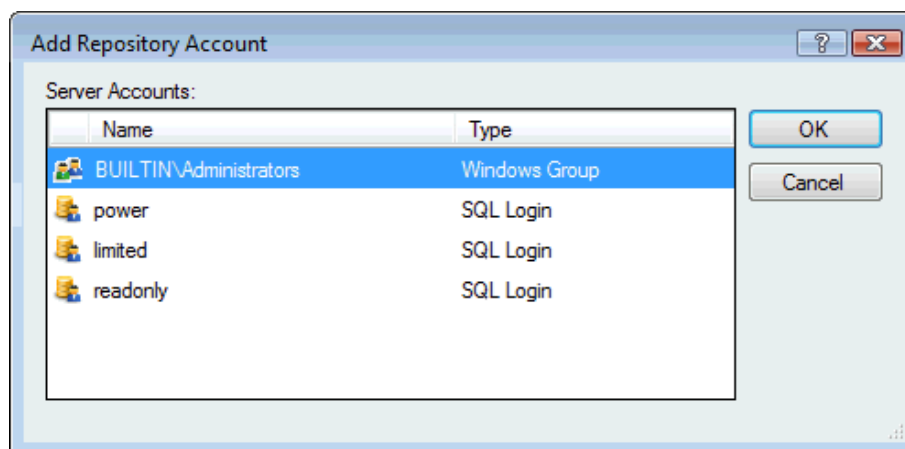
3. Select the account you would like to add and click **OK**. The Repository User dialog box appears, which can be used to define the access permissions of the account.

> **NOTE:** All accounts must first be added as SQL Server accounts under Server Securitybefore they can be selected as repository accounts.

**MANAGING USER-LEVEL ACCOUNT PERMISSIONS**

To define the access permissions of an individual account:

1. From the Repository Security dialog box, select the account to edit and click **Edit**. The Repository User dialog box appears.
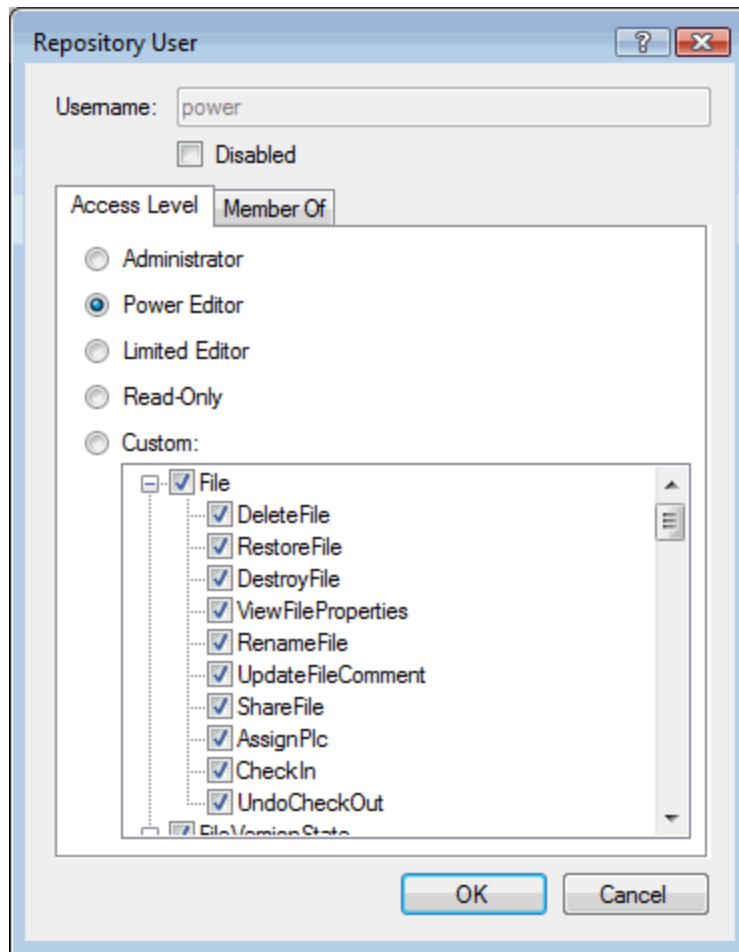
The **Access Level** tab contains pre-defined access levels that can be applied to a user quickly and conveniently. The permissions associated with these pre-defined levels are:

- **Administrator**

- **Power Editor**

- **Limited Editor**

- **Read-Only**.

See **Repository Account Permissions** for more information about the permissions assigned to each access level.

A Custom access level also exists so that repository administrators may define specific repository permissions for a user or group of users. Each of these repository permissions and their dependencies are detailed in Repository Account Permissions.

Account permissions can also be applied to a user by adding them to a repository group that already contains a defined permission set. Adding a user to a repository group is a great way to quickly define security levels to a large group of users with similar needs. FTVersionTrak provides you with a set of default groups based on the pre-defined access levels described earlier (Administrator, Power Editor, Limited Editor, and Read-Only).

> **NOTE**:  Repository accounts cannot be removed from within Repository Security. Account removal may only be accomplished within Server Security by an authorized server administrator. To deny an account access to a specific repository, disable the account.

Individual users may also be granted specific permissions via repository group membership; users may also be members of more than one repository group at a time. The actual set of permissions granted to any user in a repository is therefore the sum of all permissions granted either on an individual user basis, or via membership in any repository group. The full details of a user's group membership and permission set can be viewed in the **Member Of** tab of the **Repository User** dialog box.

### Managing Repository Groups

FTVersionTrak allows administrators to grant over 80 selectable permissions in 13 different areas of the software to each user in a repository. This powerful set of options gives administrators the ability to fine-tune the security policy they apply to the repositories they manage in order to maintain the strictest control over the sensitive files they manage,

without hindering the productivity of the users who need access to those files. However, because of the sheer number of security options available, configuring each repository user with a unique permission set can be cumbersome, especially if the administrator is dealing with many, or perhaps hundreds, of users.

FTVersionTrak repository groups provide repository administrators with a simple, yet powerful, way to manage the security policy for a large set of users with varying access levels. With just a small amount of planning, administrators can create permissions-based groups that can meet the needs of every type of user in the organization.

**TO CREATE A REPOSITORY GROUP:**

1. On the Tools menu, click **Repository Security** or click the ⊞ toolbar button. The Repository Security dialog box appears.
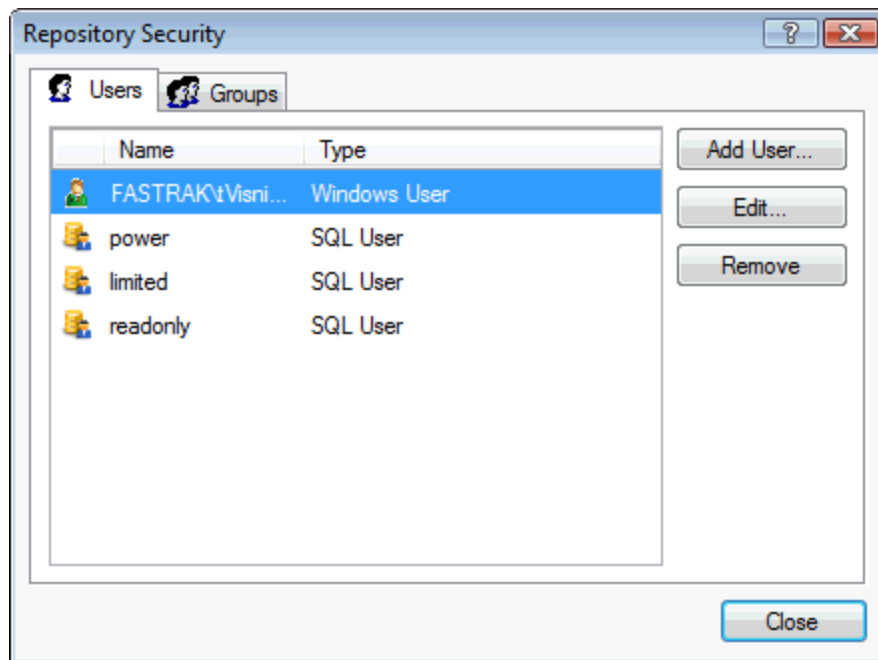


2. Click the **Groups** tab in the Repository Security dialog box. A list of existing repository groups appears. Four pre-defined groups are provided by default: **Administrator**, **Power Editor**, **Limited Editor**, and **Read Only**.
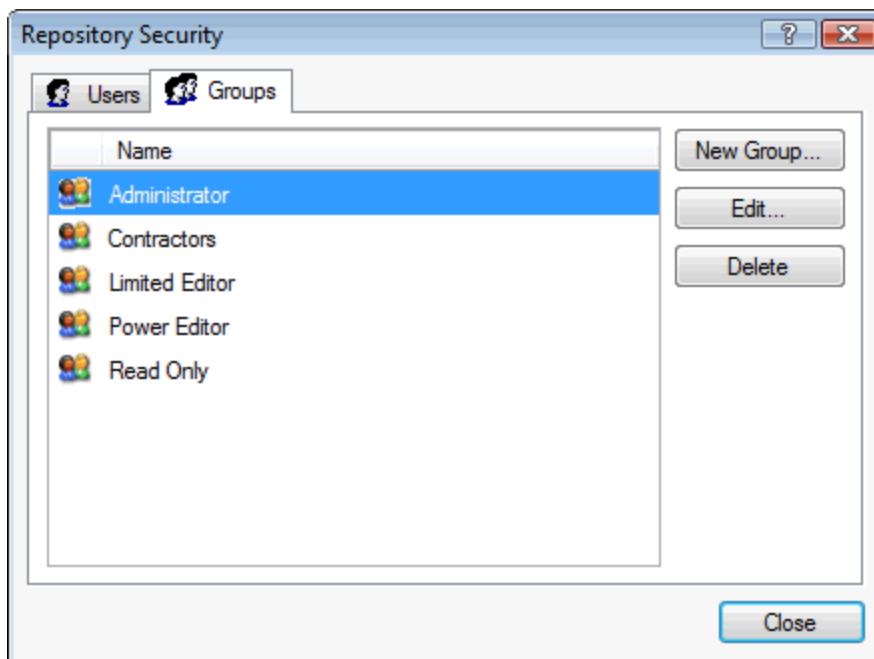
3.  Click **New Group**. The Repository Group dialog box appears.
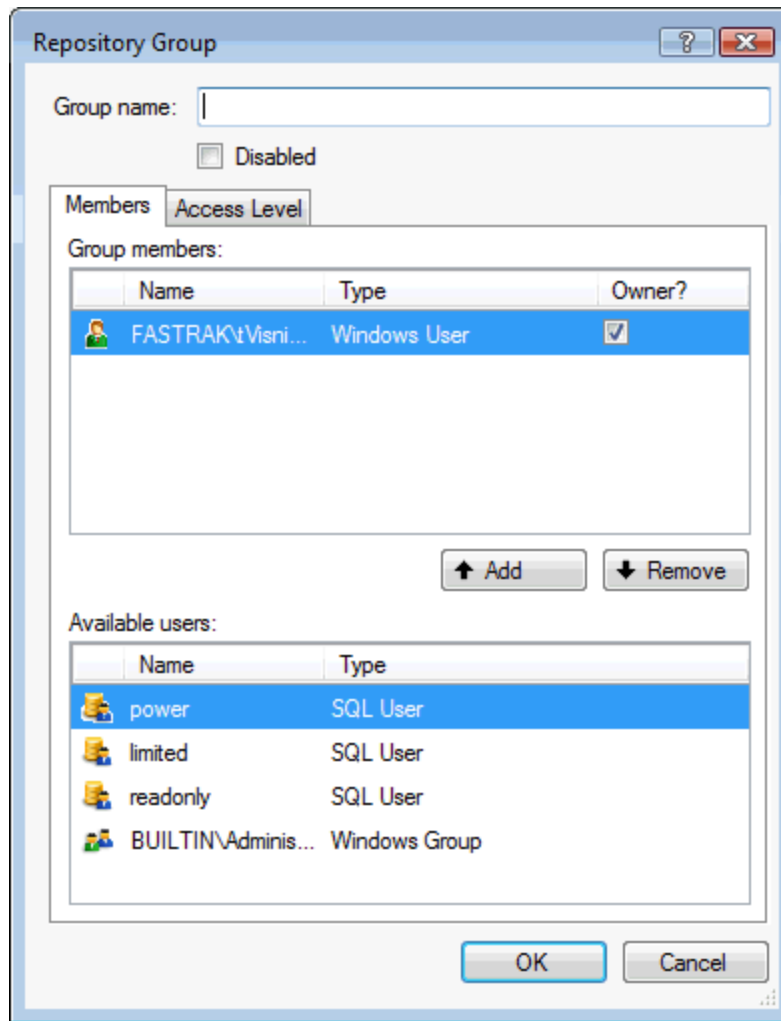
4. Enter a name for the group in the **Group name** box. Depending on your security needs, you may want to create groups based on business unit (Maintenance, Engineering, Marketing, and so on) or employee type (Contractors, Management, and so on).

5. If you have repository users that you know will be added to the group at this time, you may select the users from the **Available Users** list at the bottom of the Repository Group dialog box. (You can add additional users to the group at any time.)

> **NOTE**: Notice that there is already a user assigned to the group – this is the account of the repository creator, who is also the default administrator of the repository. The repository creator always has full permissions granted within the repository, and is always a member of every repository group. The repository owner is also by default the owner of the repository group.

6. Click the **Access Level** tab at the top of the Repository Group dialog box to define repository permissions for group members.
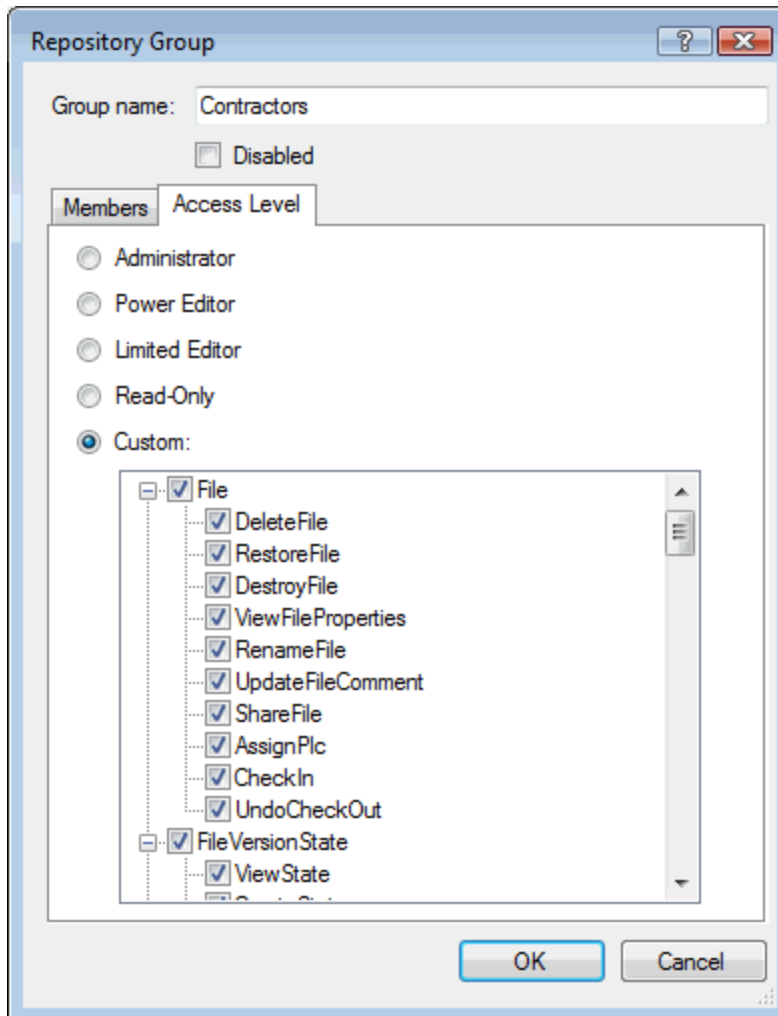


The **Access Level** tab contains pre-defined access levels that can be applied to a repository group quickly and conveniently. The permissions associated with these pre-

defined levels are **Administrator**, **Power Editor**, **Limited Editor**, and **Read-Only**. See **Repository Account Permissions** for more information about the permissions assigned to each access level.

A Custom access level also exists so that repository administrators may define specific repository permissions for the repository group. Each of these repository permissions and their dependencies are detailed in Repository Account Permissions.

> **NOTE**:  Individual users may also be granted specific permissions outside of group membership; users may also be members of more than one group at a time. The actual set of permissions granted to any user in a repository is therefore the sum of all permissions granted either on an individual user basis, or via membership in any repository group. The full details of a user's group membership and permission set can be viewed in the **Member Of** tab of the Repository User dialog box.

### *Repository Account Permissions*

A repository account permission is a right to carry out an operation on or applied to a resource within FTVersionTrak. These rights can be granted or revoked by a repository administrator. The following table lists all permissions that are able to be granted within Repository Security by an administrator-level user. These permissions are grouped by the type of resource associated with the permission. For example, all file-related permissions, such as deleting, destroying, and renaming a file, are grouped under the **File** resource type. Please note that many permissions require other permissions to be granted in order for the permission to be valid. For example, nearly all permissions require the user to have the ability to connect to a repository to be valid. The user is notified when such dependencies are required for a permission to be granted.

FTVersionTrak provides four default access levels with varying degrees of granted permissions: **Administrator**, **Power Editor**, **Limited Editor**, and **Read-Only**. These four access levels serve two purposes. First, they provide a quick and simple way to assign a predefined permission set to a user or group of users without having to grant each permission manually. Second, these default access levels provide administrators of earlier versions of FTVersionTrak a transition path to the new group-based security structure without requiring a complete redesign of the existing FTVersionTrak security policy. These four default access levels are carry-overs from previous versions of FTVersionTrak and will retain existing permissions from earlier versions of the software.

> **NOTE:** Certain repository accounts, such as the account associated with the creator of the repository, will automatically be set to the Administrator access level and be granted all permissions. This account cannot be edited or deleted, to prevent against accidental removal of all accounts with administrative access.

| Resource Type: File | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Delete File | Delete a file from the repository. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Restore File | Restore a deleted file. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Destroy File | Completely remove a file from repository. Unable to be restored. | Administrator<br><br>Power Editor |
| View File Properties | View information about the file, including the file comments and repository location, properties of the latest version of a file including file comments, and check out status. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-only |
| Rename File | Rename file in repository location. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Update File Comment | Add or change file comment. | Administrator<br><br>Power Editor |

| Resource Type: File | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Share File | Place file in multiple repository locations. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Assign PLC | Assign a neworked PLC to a PLC WorkShop program file to connect to. | Administrator<br><br>Power Editor |
| Check Out/Check In | Check the file in and out. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Undo My Own Check Out | Remove check out status from file you checked out without creating a new version. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Undo Check Out By Others | Remove check out status from file another user checked out without creating a new version. | Administrator<br><br>Power Editor<br><br>Limited Editor |

| Resource Type: File Version State | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| View State | Access the File Version States dialog. | Administrator<br><br>Power Editor<br><br>Limited Editor |

| Resource Type: File Version State | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Create State | Create a new file version state. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Update State Description | Add or change the description associated with an existing file version state. | Administrator<br><br>Power Editor |
| Update Previous State | Edit a previously defined file version state. | Administrator<br><br>Power Editor |
| View Signature Requirements | Review the details of the signature requirement. | Administrator<br><br>Power Editor |
| Update Required Signatures | Add or remove electronic signatures required to advance a file to a different file version state. | Administrator<br><br>Power Editor |

| Resource Type: Folder | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Create Folder | Create a new repository folder or subfolder | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Destroy Folder | Completely remove a folder from the repository. Cannot be restored. | Administrator<br><br>Power Editor |

| Resource Type: Folder | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Delete Folder | Delete a folder from teh repository. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Restore Folder | Restore a deleted folder. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| View Folder Properties | View information about the repository folder, including folder comments and the number of repository files located in the folder. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| Rename Folder | Rename repository folder. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Update Folder Comment | Add or change folder comment. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| View Folder History | View a history of activity within the repository folder | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |

| Resource Type: Folder | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Compare Folder | Compare the contents of one folder to another, either in the repository or on the local machine. | Administrator<br>Power Editor<br>Limited Editor<br>Read-Only |
| Get Folder | Retrieve the contents of a repository folder to a location on the local machine. | Administrator<br>Power Editor<br>Limited Editor<br>Read-Only |
| Label Folder | Add a label to all the contents of a repository folder. | Administrator<br>Power Editor<br>Limited Editor |
| Add File to Folder | Add a file from the local machine to the repository for the first time. | Administrator<br>Power Editor<br>Limited Editor |

| Resource Type: Label | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Update Label | Modify an existing label. | Administrator<br>Power Editor |

| Resource Type: Log | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| View Log | View the contents of the activity log. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| Report Log | Create a report of the contents of the activity log. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |

| Resource Type: Network | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| View Con-figuration | Access the Network Setup dialog. | Administrator<br>Power Editor |
| Export Con-figuration | Export an existing network con-figuration to a file. | Administrator<br>Power Editor |
| Import Con-figuration | Import a saved configuration into FTVersionTrak. | Administrator<br>Power Editor |
| Save Con-figuration | Save the active network con-figuration parameters. | Administrator<br>Power Editor |
| Compare Con-figuration | Compare the current configuration to a local or archived version. | Administrator<br>Power Editor |

| Resource Type: Network | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Report Configuration | Create a report of the current network configuration parameters. | Administrator<br><br>Power Editor |
| Report PLCs | Create a report of the PLCs associated with PLC WorkShop files in the repository. | Administrator<br><br>Power Editor |

| Resource Type: Network Version | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| View Network History | View the history of the Network Setup configuration. | Administrator<br><br>Power Editor |
| Get Network Version | Save a version of the network configuration to the local machine. | Administrator<br><br>Power Editor |
| Compare Network Version | Compare one version of the network configuration to another. | Administrator<br><br>Power Editor |
| Report Network Version | Create a report that details the history of the network configuration. | Administrator<br><br>Power Editor |
| Create Network Version | Create a new version of the network configuration. | Administrator<br><br>Power Editor |
| Report Network Version | Create a report that details the history of the network configuration. | Administrator<br><br>Power Editor |

| Resource Type: Network Version | | |
| --- | --- | --- |
| **Permission** | **Description** | **Default Access Levels** |
| Create Network Version | Create a new version of the network configuration. | Administrator<br><br>Power Editor |
| Purge Network Version | Rolls back latest version of network setup to selected earlier version. | Administrator<br><br>Power Editor |

| Resource Type: Report | | |
| --- | --- | --- |
| **Permission** | **Description** | **Default Access Levels** |
| View Report | View a generated report on the screen. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| Save Report | Save a copy of a generated report to a text file. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| Copy Report | Copy a generated report to the Windows clipboard. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |

| Resource Type: Report | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Print Report | Send a generated report to the printer. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |

| Resource Type: Repository Group | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Create Group | Create a security group. | Administrator |
| Delete Group | Remove a security group from the database (cannot be recovered). | Administrator |
| Set Group Permissions | Add or remove permissions to a security group. | Administrator |
| Add Group Member | Add a repository user to a security group. | Administrator |
| Delete Group Member | Remove a repository user from a security group. | Administrator |
| Enable/Disable Group | Disable an active security group or enable a disabled group. | Administrator |
| Update Owner Status | Change the owner of a security group to another administrator user. | Administrator |

| Resource Type: Repository | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Create Repository | Create a new repository. | Administrator<br><br>Power Editor |
| Destroy Repository | Completely remove a repository from the server (cannot be recovered). | Administrator<br><br>Power Editor |
| Connect to Repository | Establish a connection to a repository. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| View Repository Information | Review information about a selected repository. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| View Repository Options | Add or remove permission to view repository options. | Administrator<br><br>Power Editor |

| Resource Type: Repository User | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| View User | Review information about a repository user. | Administrator |
| Add User | Add a user to a repository. | Administrator |
| Delete User | Remove a user's ability to connect to a repository. | Administrator |

| Resource Type: Repository User | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Update User Name | Change a user's login name and/or password. | Administrator |
| Set User Permissions | Add or remove permissions to a repository user. | Administrator |
| Enable/Disable User | Disable an active repository user or enable a disabled user. | Administrator |

| Resource Type: Task | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| View Task | View the details of a scheduled task. | Administrator<br>Power Editor |
| Create Task | Create a new scheduled task. | Administrator<br>Power Editor |
| Delete Task | Delete an existing scheduled task. | Administrator<br>Power Editor |
| Restore Task | Restore a deleted scheduled task. | Administrator<br>Power Editor |
| Update Task | Modify an existing scheduled task. | Administrator<br>Power Editor |
| Run Task | Execute a scheduled task immediately. | Administrator<br>Power Editor |

| Resource Type: Version | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Destroy Version | Completely remove a version of a file in the repository (cannot be recovered). | Administrator<br><br>Power Editor |
| View History | Review the history of a repository file. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| Update Version Comment | Add, modify, or delete a version comment. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Report Version | Create a report on a version of a repository file. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| View Contents | View the contents of a multiple file unit. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |
| Compare Version | Compare one version of a repository file to another. | Administrator<br><br>Power Editor<br><br>Limited Editor<br><br>Read-Only |

| Resource Type: Version | | |
|---|---|---|
| **Permission** | **Description** | **Default Access Levels** |
| Get Version | Retrieve a specific version of a file to the local machine. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Sign | Electronically sign a version of a repository file. | Administrator<br><br>Power Editor<br><br>Limited Editor |
| Label | Apply a label to a version of a repository file. | Administrator<br><br>Power Editor<br><br>Limited Editor |

# Administrative Tools

## Administrative Tools Overview
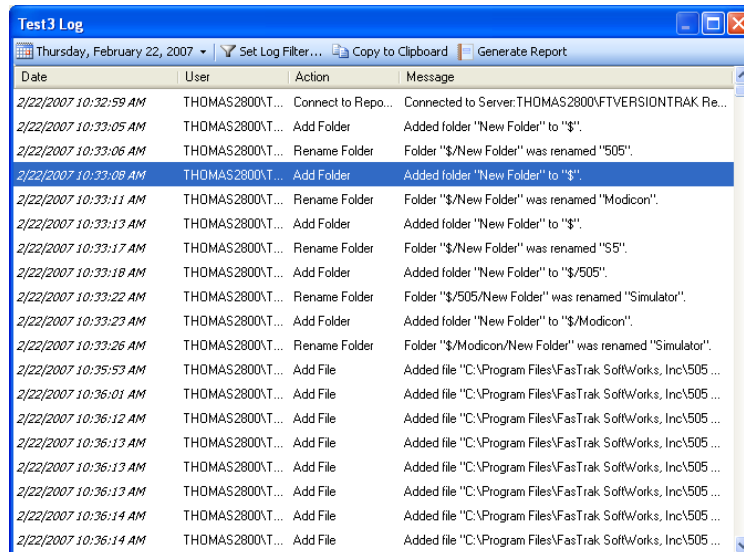
Packaged with FTVersionTrak are a capable array of administrative tools to help manage your data, including an activity log to track user actions, a task scheduler to automate uploading and download programs to your hardware, file and folder compare to view differences in the repository, and comprehensive repository- and server-level security.

## Activity Log

The activity log is a detailed register of actions taken by users within the FTVersionTrak repository. It presents an overview account of changes made to a repository as an efficient audit trail, including signature and file version comment information. You may filter the activity log to view only relevant results as well as generate a report of its findings.

To view the activity log:

1. On the **View** menu, click **Activity Log**. The activity log for the active repository appears.



2. The activity log displays user activity in a read-only spreadsheet format. Each activity log contains the following information:

- **Date** – The date and time of the recorded activity

- **User** – The username and workstation name of the user who initiated the activity

- **Action** – A tag describing the action of the logged event

- **Message** – A more detailed comment on the nature and location of the logged event

3. Click a date at the top of the activity log to go directly to the activity of a selected date.

4. Click Set Log Filter to filter the results displayed in the log.

5. Click **Copy to Clipboard** to copy the selected information to be pasted within another application.

6. Click Generate Report to generate a printable and saveable version of the log.


# Log Filter Options

The events recorded in the activity log may be filtered to show only the results you are interested in. Click **Set Log Filter** at the top of the activity log to set these options. The Log Filter Options dialog box appears.
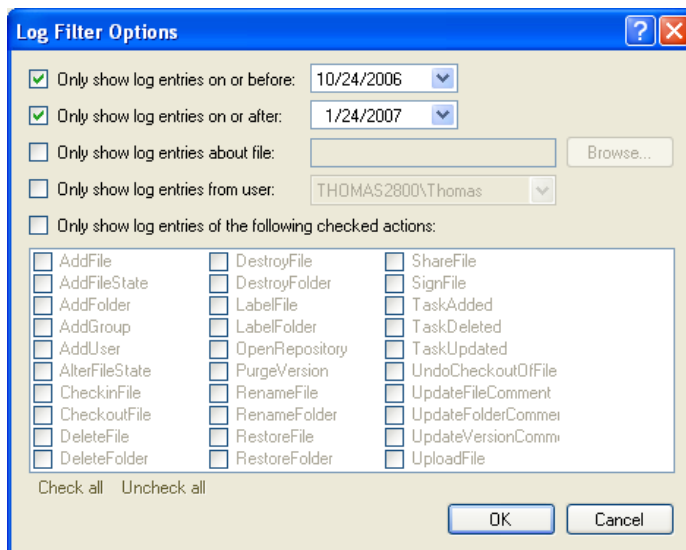
- Select the **Only show log entries on or before** and **Only show log entries on or after** check boxes to designate a date range to filter the log results.

- Select the **Only show log entries about file** check box to only show the activities associated with a specific repository file.

- Select the **Only show log entries from user** check box to only show the activities associated with a specific repository user.

- Select the **Only show log entries of the following checked actions** check box to only show activities associated with specific actions:

# Managing File Version States

FTVersionTrak gives you the power to track the progress of a project by applying a file version state to your file versions. Version states create an even more concise picture of the evolution of a file from initial entry to finished product by tagging each version or sequence of versions with user-definable stages of development. Changing a file version state or altering file state options are Repository Account Privileges that can be set by the Repository Administrator.

To view and edit File Version States:

1. On the **Tools** menu, click **Repository File States**. The File Version States dialog box appears.
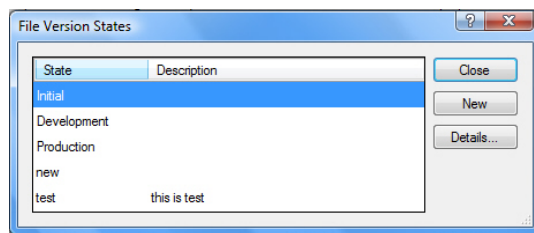


2. Click **New** to create a new File Version State. The New File Version State dialog box appears.
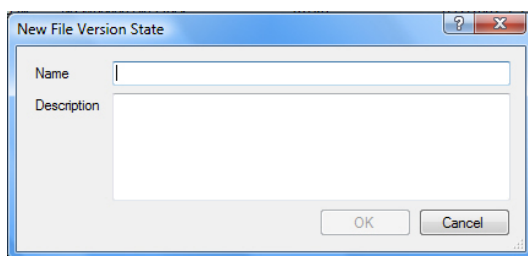
3.  Type the name of the state in the **Name** box. For example, to signify that a file has been reviewed and accepted by the Project Manager, you could create a File Version State named *Approved*. Enter further explanation or instruction about the state in the **Description** box. Click **OK** when finished to return to the File Version States dialog box.
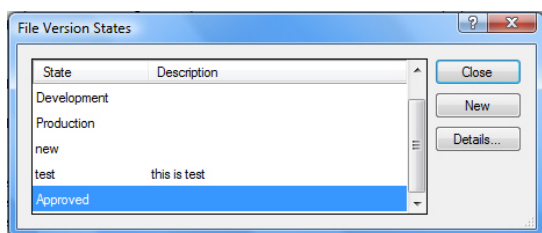


4.  To edit the details of the state, select the state and then click **Details**. The File Version State Details dialog box appears.
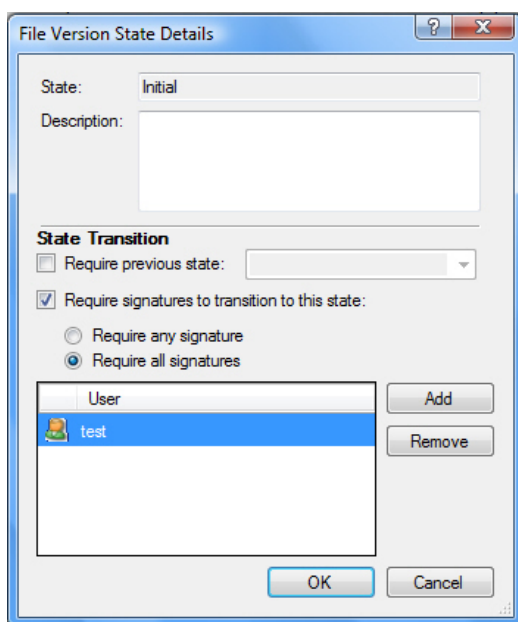


5.  Set the details of the selected version state. Options include:

- **Description** box – Create or edit the description of the state.

- **Require previous state** – To require a prerequisite state before transitioning to another state, select this check box and select a state. In the following example, a state named *For Approval* has been created to indicate that a file is ready to be reviewed. To ensure that files are not approved before they are ready, transitioning a file to an approved state requires that the file is currently listed as *For Approval*.



6. **Require signatures to transition to this state** – To require an electronic signature before transitioning, select this check box. See Electronic Signatures for more information. The users listed in the **User** box are the users who are able to sign and authorize the transition to the new state.

- If **Require any signature** is selected, then any user in the **User** box can sign and authorize the transition to the new state.

- If **Require all signatures** is selected, then all the users in the **User** box *must* sign to authorize a transition to the new state.

7. To add a user to the **User** box, click **Add**, and then click the user you want to add from the Add Required Signature window.
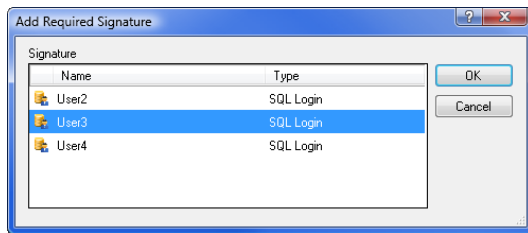
8. To remove a user from the **User** box, click the user you want to remove in the **User** box, and then click **Remove**.

# FTVersionTrak Options

To access FTVersionTrak options, click **Options** on the **Tools** menu. The **Options** dialog box appears.
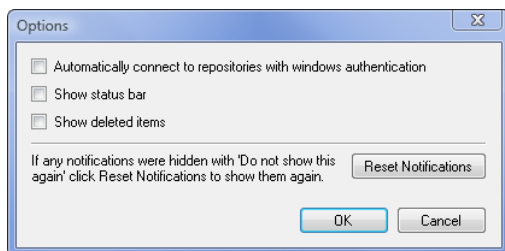


- Select the **Automatically connect to repositories with windows authentication** check box to permit users who use windows authentication to automatically connect to repositories. These users will not have to log in. If you want users to log in, clear the check box.

- Select the **Show status bar** check box to show the Status Bar at the bottom of the FTVersionTrak window. Clear the check box to hide the Status Bar.

- Select the **Show deleted items** check box to show deleted repository files and folders. Clear the check box to hide deleted repository files and folders. These options are also available in the **View** menu.

- Click **Reset Notifications** to re-enable any notification dialog boxes that have been disabled by the user. These notification dialog boxes are not associated with the Email Notification feature. The following is an example of a notification dialog box:
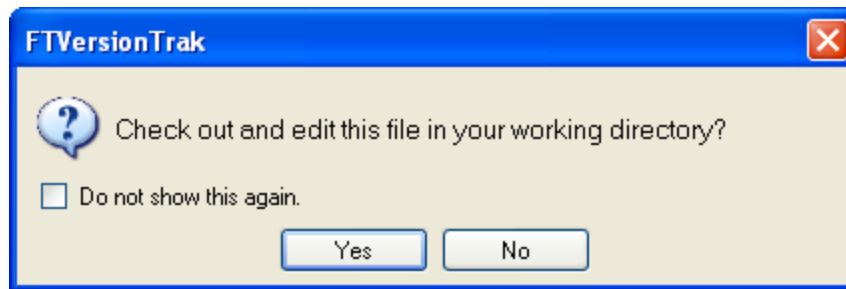
# Repository Options

To access repository options, click **Repository Options** on the **Tools** menu. The Repository Options dialog box appears.

*Options Tab*
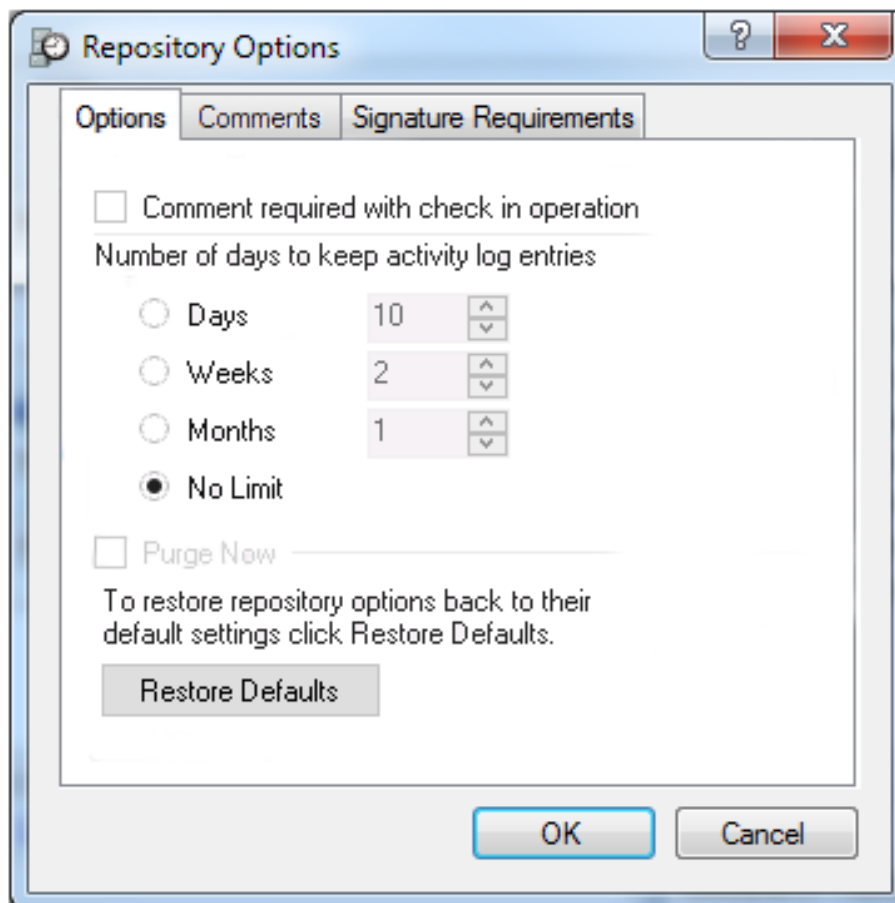
- Select the **Comment required with check in operation** check box to require users to enter a comment when checking in a file. If you do not want to require users to enter a comment, clear the check box. See Checking In Files and Folders for more information.

- Specify how long activity log entries should be kept before being automatically deleted. You can specify this duration in days, weeks, or months.

  - To specify the duration in days, click **Days** and then enter the number of days. The valid range for the number of days is 10– 100.

  - To specify the duration in weeks, click **Weeks** and then enter the number of weeks. The valid range for the number of weeks is 2– 100.

  - To specify the duration in months, click **Months** and then enter the number of months. The valid range for the number months is 1– 100.

  - If you do not want activity log entries automatically deleted, click **No Limit**.

- To manually delete activity log entries, select the **Purge Now** check box.

- To restore the repository options to the their default values, click **Restore Defaults**.

When the repository options reflect your preferences, click **OK**. See Activity Log for more information about activity log entries.

*Comments Tab*
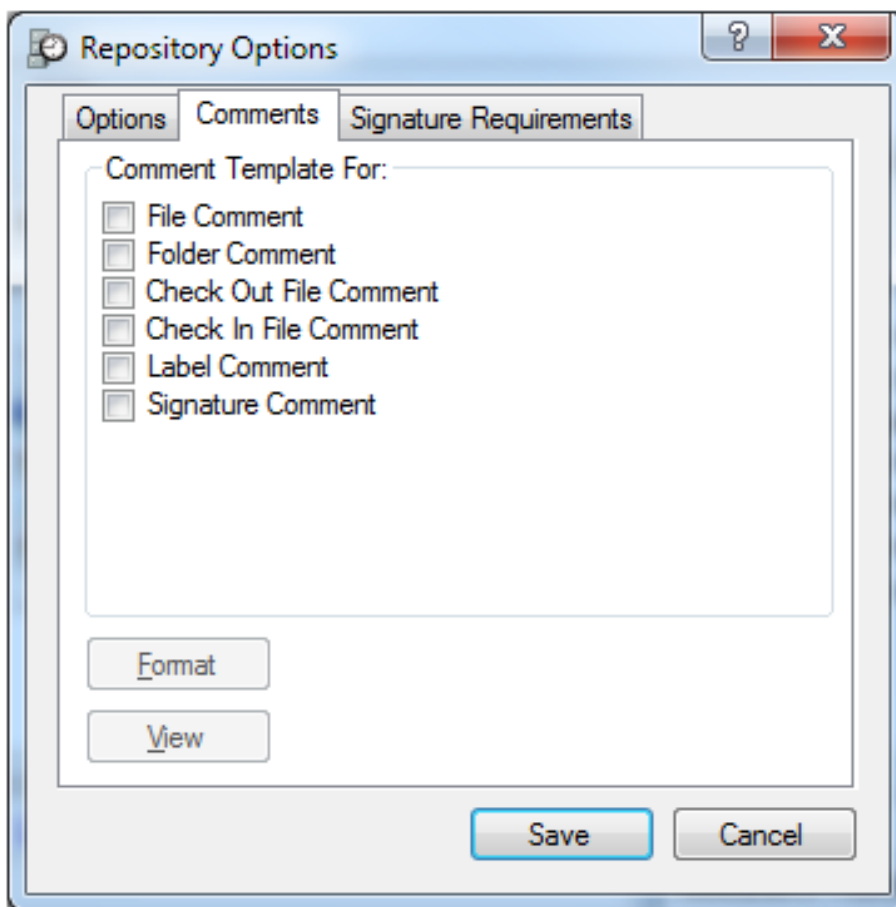


From the **Comments** tab of Repository Options, you can format different comment templates for common file operations. Every time you perform a comment operation, FTVersionTrak will use the associated comment template.

- Select your desired file operation and select format.

- Configure the field names and required fields for your selected comment template.

- Preview will allow you to view your work in progress comment template.

- Click save to commit your changes to the template.

*Signature Requirements Tab*

**Repository Options**

Options | Comments | **Signature Requirements**

☐ Folder
- ☐ Add File To Folder
- ☐ Create Folder
- ☐ Delete Folder
- ☐ Destroy Folder
- ☐ Label Folder
- ☐ Rename Folder
- ☐ Restore Folder
- ☐ Update Folder Comment

☐ Repository File
- ☐ Delete File
- ☐ Destroy File
- ☐ Rename File
- ☐ Restore File
- ☑ Share File
- ☐ Update File Comment

☐ Repository File Version
- ☐ Check In
- ☐ Destroy Version
- ☐ Label Latest File Version
- ☐ Update Version Comment

☐ Repository Group
- ☐ Add Group Member
- ☐ Create Group
- ☐ Delete Group
- ☐ Delete Group Member
- ☐ Enable/Disable Group
- ☐ Rename Group
- ☐ Set Group Permissions
- ☐ Update Owner Status

☐ Repository User
- ☐ Add User
- ☐ Delete User
- ☐ Enable/Disable User
- ☐ Set User Permissions
- ☐ Update User Name

Check all    Uncheck all

OK    Cancel

From the **Signature Requirements** tab, you can select the file and security operations that will require signatures to complete.

# Comparing Files

### *Comparing Files Overview*

Any two files on the local machine or in the repository may be compared to each other using FTVersionTrak's Compare Files utility. You may also compare two versions of the same file with this feature.

**TO COMPARE TWO FILES:**

1. Click **Compare Files** on the **Tools** menu or click the [toolbar icon] toolbar button. A Compare Files dialog box appears. The options on the dialog box depend on the type of files being compared.
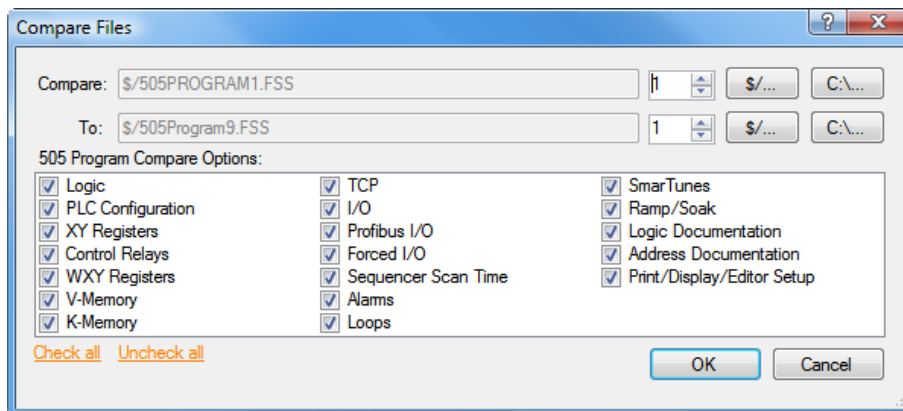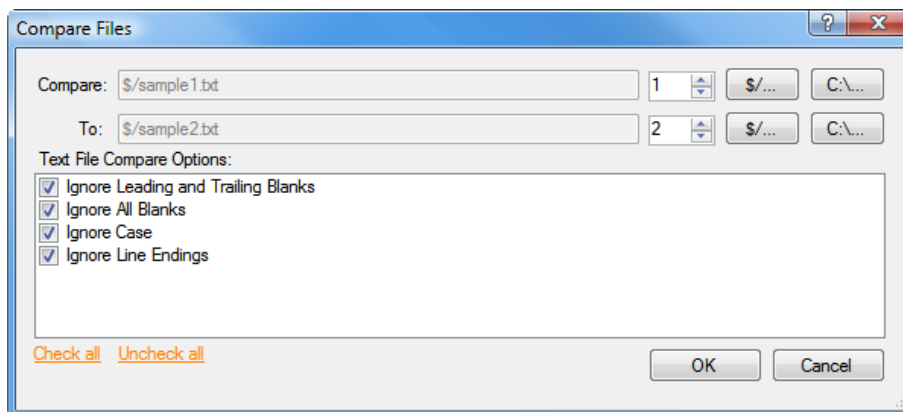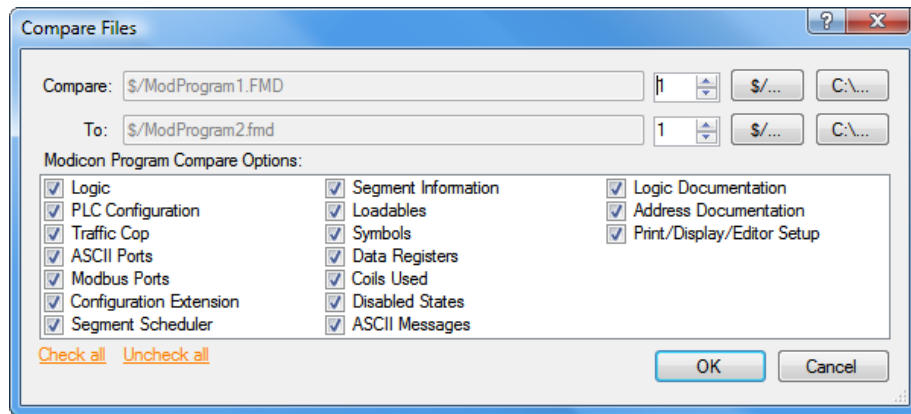
2.  Enter the path of the first file to compare in the **Compare** box.

    - To browse for a file in the repository, click $/... .

    - To browse for a file on the local machine, click C:\... .

    - To compare a specific version of a repository file, select or enter the version number from the box.

3.  Enter the path of the second file to compare in the **To** box.

    - To browse for a file in the repository, click $/... .

    - To browse for a file on the local machine, click C:\... .

    - To compare a specific version of a repository file, select or enter the version number from the box.

4.  If you are comparing two text files, or two versions of a text file, under **Text File Compare Options**, select the options you want to use.

    - Select the **Ignore Leading and Trailing Blanks** check box to ignore white space content at the beginning and end of the files.

    - Select the **Ignore Leading and Trailing Blanks** check box to ignore white space content at the beginning and end of the files.

- Select the **Ignore All Blanks** check box to ignore all differences in white space, such as spaces and tabs.

- Select the **Ignore Case** check box to ignore differences in case.

- Select the **Ignore Line Endings** check box to ignore end of line content.

5. If you are comparing two 505 WorkShop files, or two versions of a 505 WorkShop file, under **505 Program Compare Options**, select the options you want to use.

- For example, if you want to compare only logic, select the **Logic** check box and clear the other check boxes.

- For example, if you want to compare only V-Memory and K-Memory, select the **V-Memory** and **K-Memory** check boxes and clear the other check boxes.

6. If you are comparing two PLC WorkShop for Modicon files, or two versions of a PLC WorkShop for Modicon file, under **Modicon Program Compare Options**, select the options you want to use.

- For example, if you want to compare only logic, select the **Logic** check box and clear the other check boxes.

- For example, if you want to compare only traffic cop settings, select the **Traffic Cop** check box and clear the other check boxes.

7. Click **OK** to view the file compare results.

### *Comparing Versions of a File*

To compare the differences between two versions of a file:

1. Select the file you want to compare and click **History** on the **Version** menu, click the toolbar button, or right-click and click **History** from the shortcut menu. The History dialog box appears.
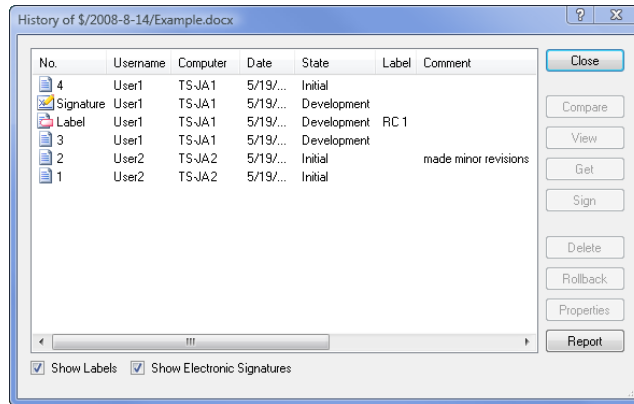
2. Select the first version of the file you would like to compare. Then, press **CTRL** and select the version of the file you want to compare it with. Finally, click **Compare**. The Compare Files dialog box appears.
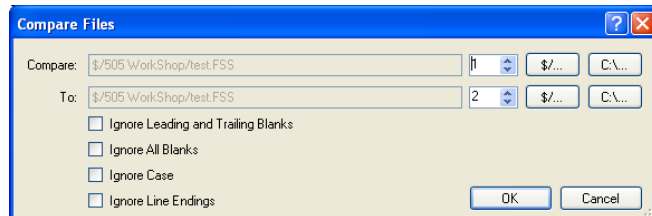


3. Select the **Ignore Leading and Trailing Blanks** check box to ignore white space content at the beginning and end of the files (text files only).

4. Select the **Ignore All Blanks** check box to ignore all differences in white space, such as spaces and tabs (text files only).

5. Select the **Ignore Case** check box to ignore differences in case (text files only).

6. Select the **Ignore Line Endings** check box to ignore end of line content (text files only).

7. Click **OK** to view the file compare results.

> **NOTE**: Clicking **Compare** without selecting more than one version will compare the selected version to the local copy. Clicking **Compare** without selecting any version will compare the latest version to the local copy.

## *File Compare Results*

### VIEWING FILE COMPARE RESULTS

FTVersionTrak compares three different types of files: binary files, text files, and FasTrak files. The results of a comparison may differ, depending on the type of files being compared.

FasTrak files are PLC logic files created with either **PLC WorkShop for Siemens 505** (*.FSS) or **PLC WorkShop for Modicon** (*.FMD). When two FasTrak files are compared to each other, the results are displayed in the FTVersionTrak Viewer. The FTVersionTrak Viewer displays a side-by-side comparison of all areas of logic, configuration, and other areas of the program.

- See Viewing File Compare Results for Siemens 505 FasTrak Files and Viewing File Compare Results for Modicon FasTrak Files for additional information.

Text files, or "plain text" files, only contain textual characters with little or no formatting. Examples of text files are .TXT files, .HTML source files, and other types of source code files. When two text files are compared to each other, the results are displayed in the FTVersionTrak Text Comparison Viewer. The FTVersionTrak Text Comparison Viewer displays a side-by-side comparison of the two files, with differences highlighted.

- See Viewing File Compare Results for Text Files for additional information.

Binary files include all other file types other than those listed above. When two identical binary files are compared to each other, the following message appears:
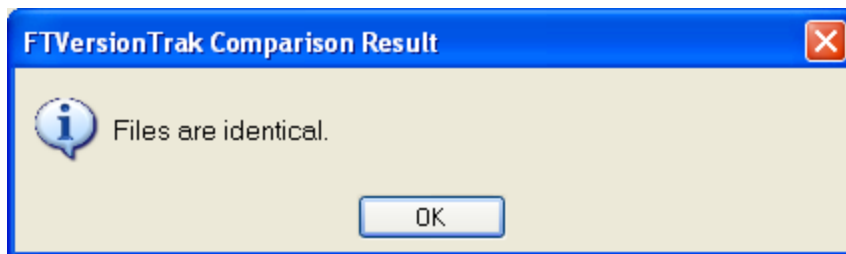


When two different binary files are compared to each other, the following message appears:
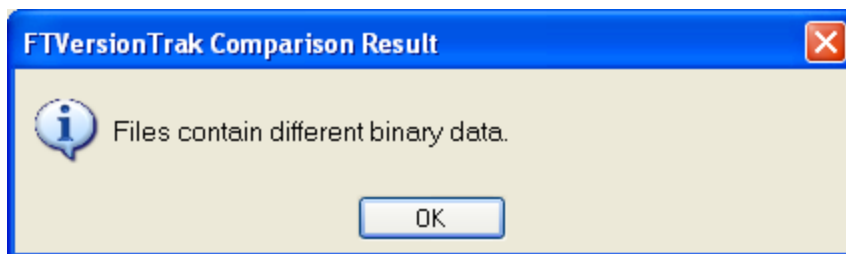
**505 FASTRAK FILES**

When two PLC WorkShop for Siemens 505 files (*.FSS) are compared, the results are displayed in the FTVersionTrak Viewer. The FTVersionTrak Viewer can display a side-by-side comparison of all areas of logic, configuration, and other areas of the program.
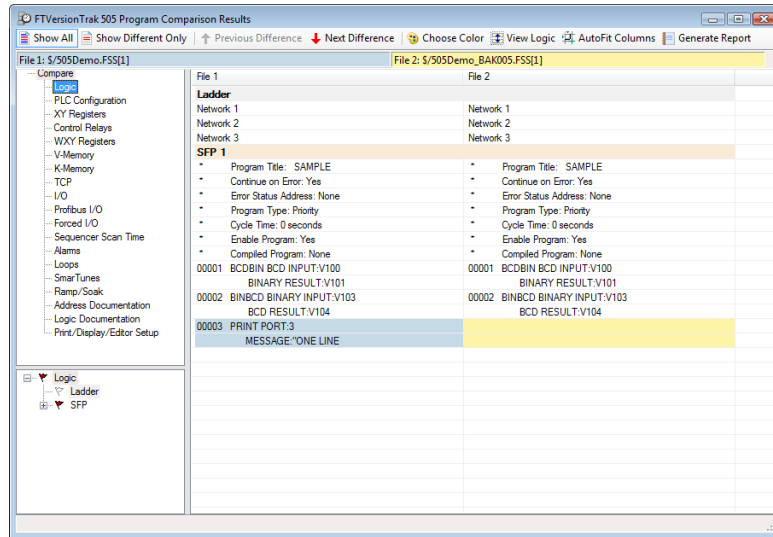


**Figure 1 – FTVersionTrak Viewer displaying 505 WorkShop Comparison Results.**

The FTVersionTrak Viewer is divided into four areas:

- Navigation Pane

- Summary Pane

- Details List

- Viewer Toolbar

### THE NAVIGATION PANE

The Navigation Pane displays the compare options that were used to create the comparison. (The user selects which compare options to use before a comparison is performed). Only the options that were selected by the user are displayed in the Navigation Pane.
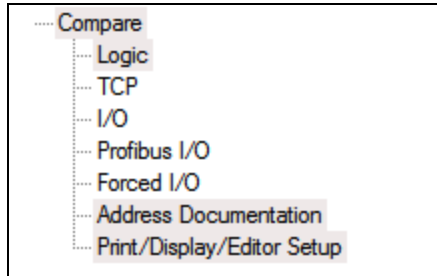


**Figure 2 – Navigation Pane. In this comparison, only seven compare options are displayed.**

In a 505 WorkShop program, the following compare options can be displayed:

- Logic

- PLC Configuration

- XY Registers

- Control Relays

- WXY Registers

- V-Memory

- K-Memory

- TCP

- I/O

- Profibus I/O

- Forced I/O

- Sequencer Scan Time

- Alarms

- Loops

- SmarTunes

- Ramp/Soak

- Logic Documentation

- Address Documentation

- Print/Display/Editor Setup

Please see the *PLC WorkShop for Siemens 505* manual for more information.

### THE SUMMARY PANE

The information that appears in the Summary Pane reflects the currently-selected compare option in the Navigation Pane. The selected compare option appears as the root of the summary tree. Each data group (or category) within the compare option appears as a child below the main root as a branch in the tree.

In the Summary Pane, differences are identified using a colored icon to the left of each category or compare option.

- The red ❦ icon indicates a difference between the two files.

- The white ❦ icon indicates the two files are identical.
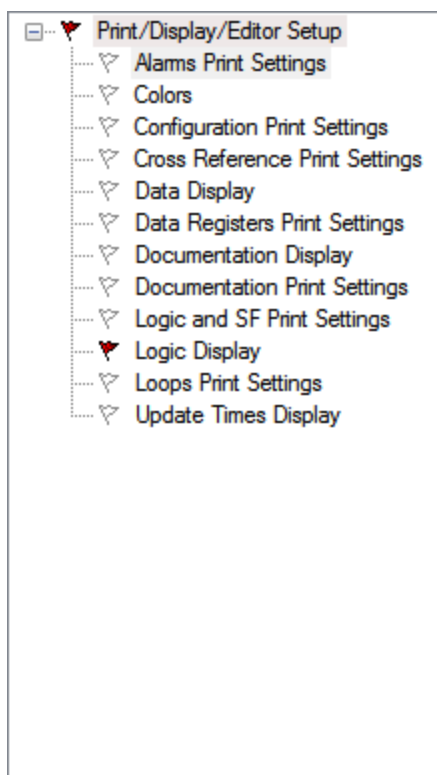
**Figure 3 – Summary Pane. Here, the Print/Display/Editor Setup compare option is selected. A Red Flag is located next to the Logic Display category; this means there are differences in way the programs have been set up to display logic.**

### THE DETAILS LIST

The Details List displays a side-by-side comparison of the differences between the two files. The information that appears in the Details List reflects the currently-selected compare option in the Navigation Pane. Differences in the two files are identified with a customizable color.

| Logic Display | | |
|---|---|---|
| Show Grid | Yes | Yes |
| Sticky Cursor | No | No |
| Logic Show All Headers | Yes | Yes |
| Update Cross Ref Table | No | No |
| Prompt For Tag | No | No |
| Use As Default | Yes | Yes |
| Use TISoft Keys | Yes | Yes |
| Show Addresses | Yes | Yes |
| Show Tags | No | Yes |
| Show Descriptions | Yes | Yes |
| Assign Tags | No | Yes |
| Assign Address | No | Yes |
| Status Optimize | Yes | Yes |
| Status Line Thickness | 2 | 2 |
| Show Ladder Tags | No | No |
| Cursor Through Branch | No | No |
| Logic Display Font | Courier New 8 | Courier New 8 |
| SF Instruction Width | 15 | 15 |
| SF Column One Width | 40 | 40 |
| SF Column Two Width | 40 | 40 |

**Figure 4 – Details List. Here, differences between the display setup of two files are displayed.**

## THE VIEWER TOOLBAR

The Viewer Toolbar, located at the top of the FTVersionTrak Viewer, displays a row of buttons representing the options available within the FTVersionTrak Viewer.



**Figure 5 – Viewer Toolbar.**

- **Show All** – Display all compare options whether there is a difference or not.

- **Show Different Only** – Display only those compare options where a difference exists.

- **Previous Difference** – Display the previous difference.

- **Next Difference** – Display the next difference.

- **Choose Color** – Set the color options for the Viewer.

- **View Logic** – Display logic differences in a graphic format.

- **AutoFit Columns** – Automatically resize the columns in the Details List to display all information.

- **Generate Report** – Generate a Compare 505 WorkShop Files report

**MODICON FASTRAK FILES**

When two PLC WorkShop for Modicon files (*.FMD) are compared, the results are displayed in the FTVersionTrak Viewer. The FTVersionTrak Viewer displays a side-by-side comparison of all areas of logic, configuration, and other areas of the program.
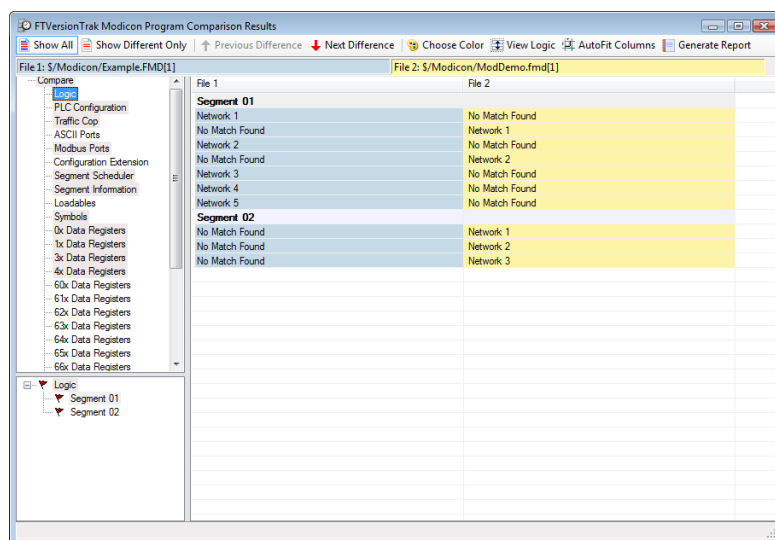


**Figure 6 – FTVersionTrak Viewer displaying Modicon Program Comparison Results.**

The FTVersionTrak Viewer is divided into four areas:

- Navigation Pane

- Summary Pane

- Details List

- Viewer Toolbar

## THE NAVIGATION PANE

The Navigation Pane displays the compare options that were used to create the comparison. (The user selects which compare options to use before a comparison is performed). Only the options that were selected by the user are displayed in the Navigation Pane.
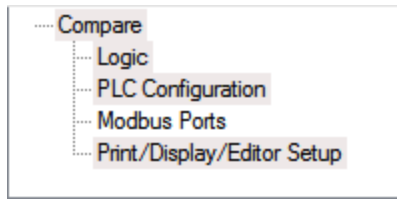
**Figure 7 – Navigation Pane. In this comparison, only four compare options are displayed.**

In a PLC WorkShop for Modicon program, the following compare options can be displayed:

- Logic

- PLC Configuration

- Traffic Cop

- ASCII Ports

- Modbus Ports

- Configuration Extensions

- Segment Scheduler

- Segment Information

- Loadables

- Symbols

- 0x Registers

- 1x Registers

- 3x Registers

- 4x Registers

- 6x Registers

- Coils Used

- Disabled States

- ASCII Messages

- Logic Documentation

- Address Documentation

- Print/Display/Editor Setup

Please see the *PLC WorkShop for Modicon* manual for more information.

### THE SUMMARY PANE

The information that appears in the Summary Pane reflects the currently-selected compare option in the Navigation Pane. The selected compare option appears as the root of the summary tree. Each data group (or category) within the compare option appears as a child below the main root as a branch in the tree.

In the Summary Pane, differences are identified using a colored icon to the left of each category or compare option.

- The red ⚑ icon indicates a difference between the two files.

- The white ⚐ icon indicates the two files are identical.
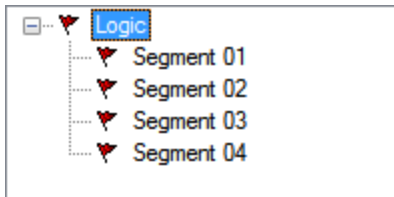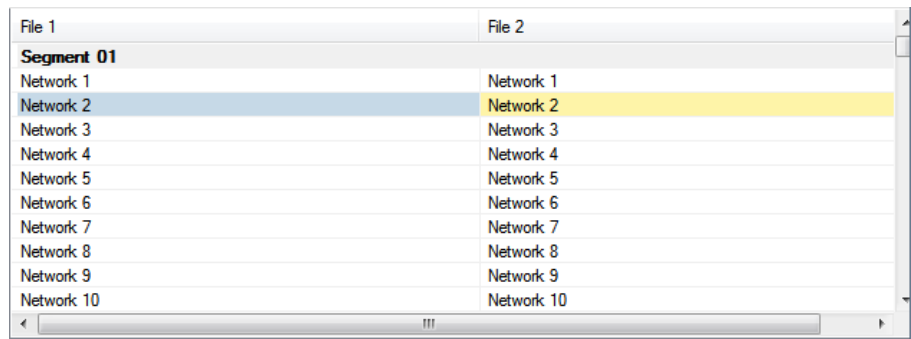


**Figure 8 – Summary Pane. Here, the Logic compare option is selected. Red Flags are located next to each segment; this means there are differences in each segment.**

### THE DETAILS LIST

The Details List displays a side-by-side comparison of the differences between the two files. The information that appears in the Details List reflects the currently-selected compare option in the Navigation Pane. Differences in the two files are identified with a customizable color.

**Figure 9 – Details List. Here, a difference is found in Network 2.**

### THE VIEWER TOOLBAR

The Viewer Toolbar, located at the top of the FTVersionTrak Viewer, displays a row of buttons representing the options available within the FTVersionTrak Viewer.



**Figure 10 – Viewer Toolbar.**

- **Show All** – Display all compare options whether there is a difference or not.

- **Show Different Only** – Display only those compare options where a difference exists.

- **Previous Difference** – Display the previous difference.

- **Next Difference** – Display the next difference.

- **Choose Color** – Set the color options for the Viewer.

- **View Logic** – Display logic differences in a graphic format.

- **AutoFit Columns** – Automatically resize the columns in the Details List to display all information.

- Generate Report – Generate a Compare Modicon WorkShop Files report.

### TEXT FILES

When two text files are compared, the FTVersionTrak Text Comparison Viewer displays a side-by-side comparison of the contents of the two files, with differences highlighted.
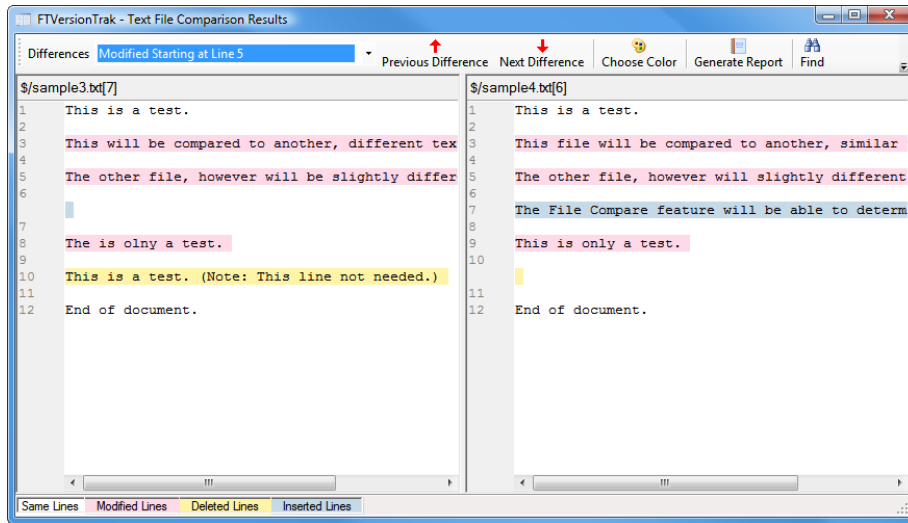
**Figure 11 – FTVersionTrak Text File Comparison Viewer.**

The FTVersionTrak Text Comparison Viewer is divided into two areas:

- a side-by-side comparison of the two files, with a color-coded legend that explains the colors used to indicate the differences in the files

- the Viewer Toolbar

### THE VIEWER TOOLBAR

The Viewer Toolbar, located at the top of the FTVersionTrak Text Comparison Viewer, displays a row of buttons representing the options available within the FTVersionTrak Text Comparison Viewer.
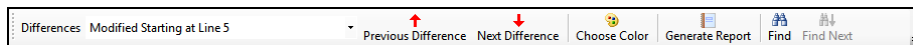


**Figure 12 – FTVersionTrak Text File Comparison Viewer Toolbar.**

- To view the differences found in sequential order, click **Next Difference** to go to the next difference found between the two files; click **Previous Difference** to go to the previous difference.

- To go directly to a specific difference, click the difference you want to view in the **Differences** box.

- To search either file for specific text, click **Find**.

- To change the colors used in the Comparison Viewer, click **Choose Color**.

- To generate a report, click **Generate Report**.

LIVE COMPARE RESULTS

Content coming soon.

### *Live Compare Options*

Content coming soon.

# Comparing Folders

You can compare the contents of any two folders, whether they be on the repository or your local system.

### *To compare folders:*

1. On the **Tools** menu click **Compare Folders** or click the ![icon] toolbar button. The **Compare Folders** dialog box appears.
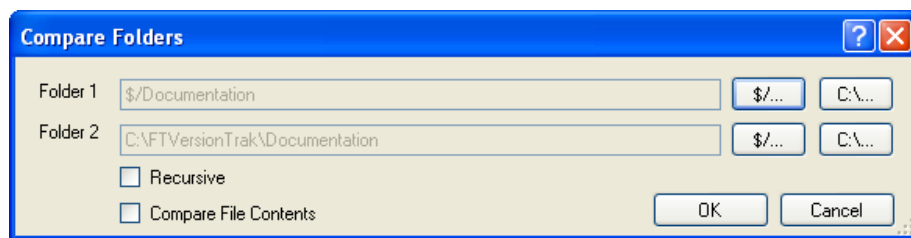


2. Enter the path of the first folder you would like to compare in the **Folder 1** box.

   - Browse for a repository folder by clicking [ $/... ].

   - Browse for a local system folder by clicking [ C:\... ].

3. Enter the path of the second folder you would like to compare in the **Folder 2** box.

- Browse for a repository folder by clicking [$/...] .

- Browse for a local system folder by clicking [C:\...] .

4. Select the **Recursive** check box to compare the contents of either of the selected folders' subdirectories.

5. Select the **Compare File Contents** check box to compare the similarity of data between two like-named files.

The contents of the two folders appear as in the following example:
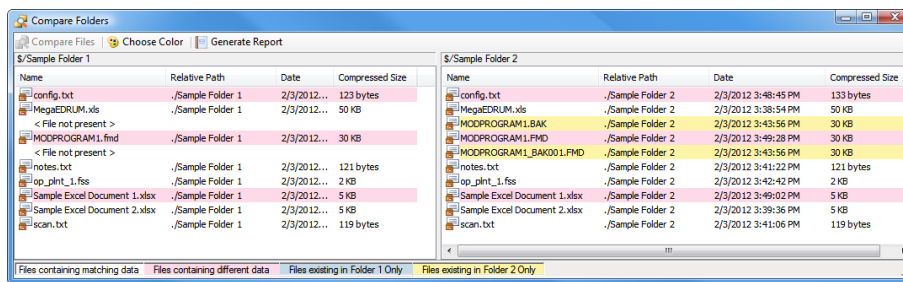


6. Colored highlighting indicates a difference. The differences are defined according to the compare criteria in the status bar at the bottom of the Compare Folders dialog box.



- **Files contain matching data** – A file with the same name and data contents appears in both of the folders being compared.

- **Files contain different data** – A file with the same name appears in both of the folders being compared, but with different data contents.

- **File Exists in Folder 1 Only** – The file only exists in the folder in the left column.

- **File Exists in Folder 2 Only** – The file only exists in the folder in the right column.

6. Change the status colors by clicking **Choose Color**.

7. Compare like-named files by selecting a file in either window. If a like-named file exists in the other folder, it will be selected automatically. Click **Compare Files** to compare the files.

8. Click **Generate Report** to generate a Compare Folders Report.

# Scheduled Tasks

## *Scheduled Tasks Overview*

Use Scheduled Tasks to automatically upload PLC contents to FasTrak files at specified times. This ensures copies of the programs running in your Simatic 505 or Modicon PLCs are saved to offline files. These files are stored in FTVersionTrak repositories.

> **NOTE:** Scheduled tasks can be created in FTVersionTrak PE, but cannot be used in FTVersionTrak PE because these tasks will not create new versions in repositories, and no actions are not recorded in the Activity Log.

To begin managing scheduled tasks, click **Scheduled Tasks** on the **Tools** menu or click

the toolbar button ( ). The **Scheduled Tasks** dialog box appears.
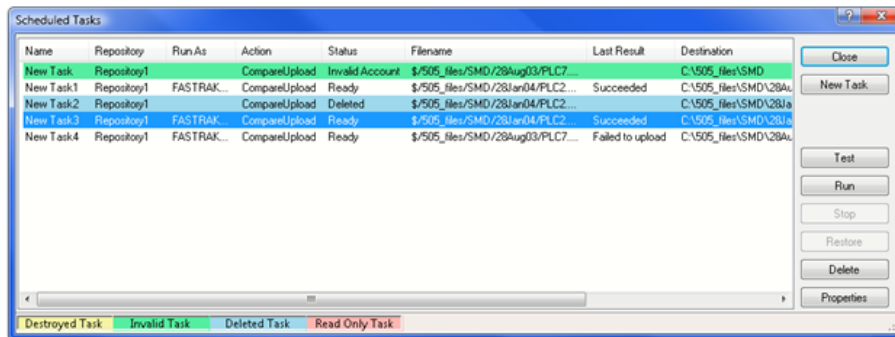


Scheduled Tasks can be managed with the buttons along the right side of this dialog box.

- Click **New Task** to create a task.

- Click **Test** to verify the configured communication path to the specified PLC of the selected Scheduled Task.

- Click **Run** executes the selected Scheduled Task right now instead of its sched-uled time.

- Click **Stop** to terminate the selected Scheduled Task if it is currently running

- Click **Restore** to restore a deleted task.

- Click **Delete** to delete the selected task.

- Click **Properties** to edit the properties of the selected task.

Existing tasks are listed with the following information displayed:

- **Name** - The name of the task.

- **Repository** - The name of the repository under which the scheduled tasks will run.

- **Run As** - The name of the account under which the task runs.

- **Action** - Describes the action that the task was created to perform:
    - **Compare Upload** - Retrieves a file from the PLC and places it into a user's working directory only if the repository file and PLC file are different.

    - **Invalid Task** - If an error occurs after creating a task, such as a deletion of the file to be uploaded, the task becomes invalid.

- **Status** - The current status of the task:
    - **Ready**–The task is ready to run at the next scheduled time.

    - **Disabled**– The task is currently disabled.

    - **Deleted** - The task was deleted and will not run.

    - **Not Scheduled**–Not all required settings for this task are configured.

    - **Has Not Run** - The task has not yet run.

    - **Terminated** - The last run of the task was terminated by the user.

    - **Running**–The task is currently running.

- **No More Runs** - There are no more runs scheduled for this task.

- **Invalid File** - The task is associated with an invalid (non-existing) program file.

- **Invalid Account** - The owner account associated with this task is invalid.

- **File Name** - The name and path of the version of the file archived in FTVersionTrak.

- **Last Result** - The result of the task's action the last time it was run:
    - Failed to check in file

    - Failed to check out file

    - Failed to compare programs

    - Failed to connect to repository

    - Failed to get file

    - Failed to find task record

    - Failed to upload

    - Succeeded

    - Failed

- **Destination** - The path on the local machine to which the uploaded PLC program file is saved.

- **Last Run** - The date and time the task was last performed.

- **Next Run** - The next date and time the task is scheduled to run.

### Creating a New Task

Create Scheduled Tasks to upload the contents from Simatic 505 or Modicon PLCs to off-line FTVersionTrak repository files to help ensure a copy of the current PLC logic is saved.

> Note: Scheduled Tasks can be created only if you log into
> FTVersionTrak with Windows authentication and you are
> the Windows Administrator.

To create a new task:

1. Click Scheduled Tasks on the Tools menu or click the toolbar button (  ). The Scheduled Tasks dialog box appears.
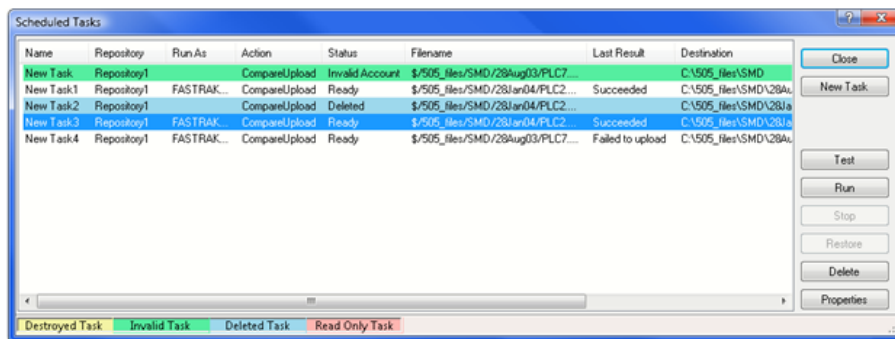


2. Click **New Task**. The **Choose Scheduled Task Type** dialog box appears.
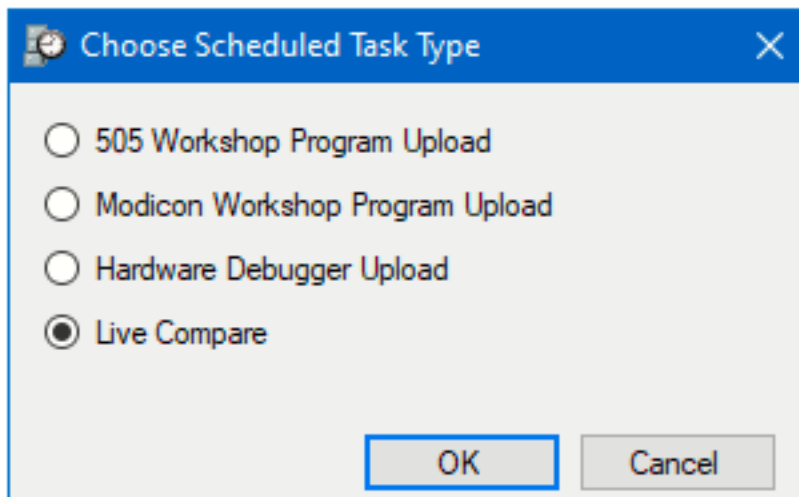


This dialog offers four Scheduled Task options. The first three types support the FasTrak applications that store PLC projects in single files. The fourth selection supports PLC projects that are stored in families of files by FTSolution for APT.

Select **505 WorkShop Program Upload** for PLCs whose logic is edited with PLC

WorkShop for Siemens 505. The PLC contents are uploaded into.fss files.

Select **Modicon WorkShop Program Upload** for PLCs whose logic is edited with PLC WorkShop-32 for Modicon. The PLC contents are uploaded into.fmd files.

Select **Hardware Debugger Upload** for PLCs whose logic is edited with FTSolution for APT, but will be uploaded into individual Hardware Debugger .ahd files.

Select **Live Compare** for PLCs whose logic is edited with FTSolution for APT, but will be compared to the actual original project source code files.

Click **OK**.

### 505 WorkShop, Modicon WorkShop and Hardware Debugger Types
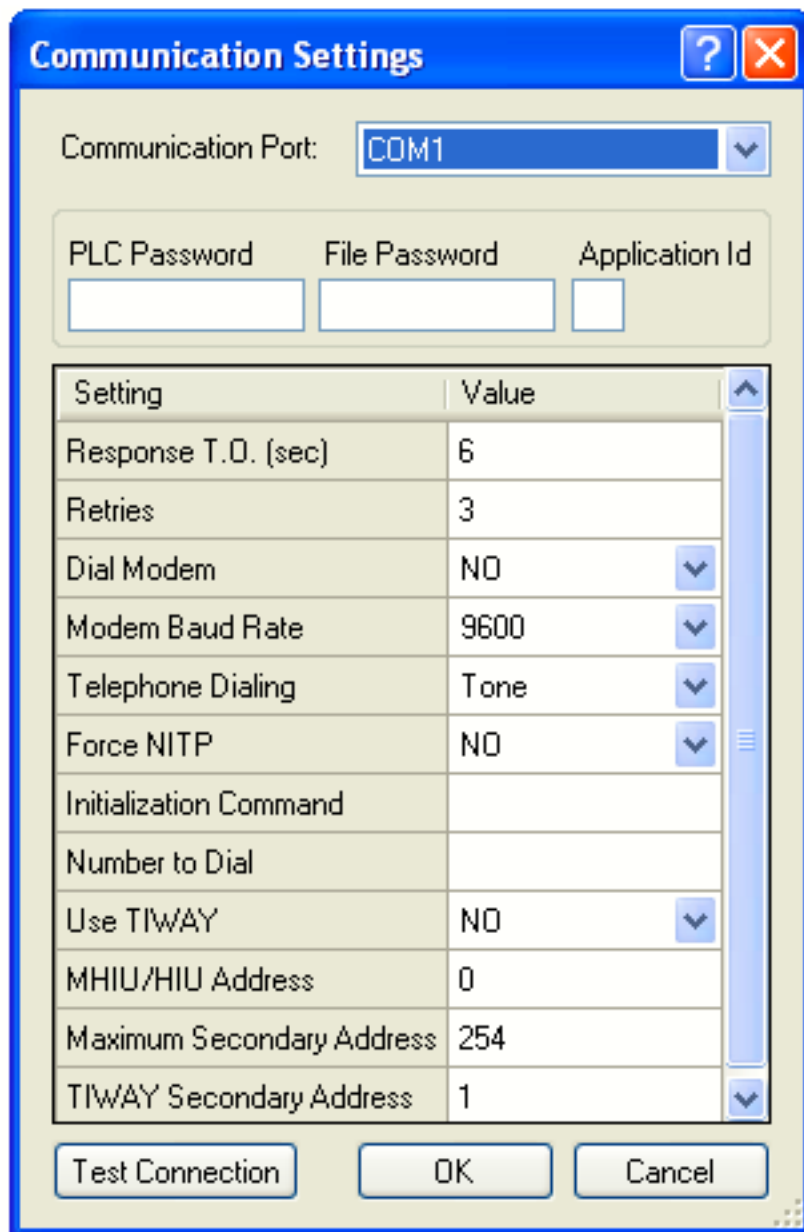
If one of the first three types was selected, the **Upload Task** dialog box illustrated below appears

If the **Live Compare** type was selected, see the **Live Compare Type** section below.
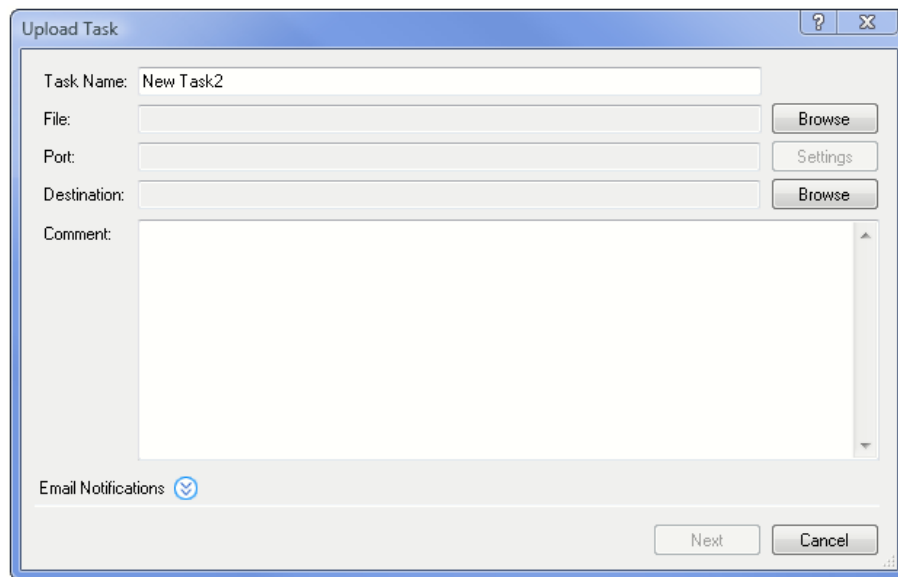


3.  Enter a name for the new task in the **Task Name** box.

4.  Click **Browse** to search for the PLC WorkShop file to upload. (Either a Simatic 505 (*.FSS) or Modicon (*.FMD) file.)

5. Click **Settings**. The Communication Settings dialog box appears.



6. Configure the communications settings for connection to the PLC.

   For Modicon Hardware:

- Serial or Modem Communication Setup

- SA85 Interface Board Communication Setup

- TCP/IP Communication Setup

- APPLICOM Communication Setup

For 505 Hardware:

- Serial or Modem Communication Setup

- TCP/IP Communication Setup

- H1 Board Communication Setup

- Profibus FMS Communication Setup

Click **OK** in the Communication Settings dialog box to return to the Upload Task dialog box.

7. Select the path on the local machine to store the archived version in the **Destination** box. If the selected repository file has been assigned a working directory, the working directory path appears in the **Destination** box. Click **Browse** to browse to a different directory.

8. Enter an optional comment about the task in the **Comment** text box.

9. To associate Email Notifications with this task, click **Show Email Notifications**. See Attach Notifications to Scheduled Tasks for more information about notifications.

10. Click Next when finished. The Create New Task dialog box appears.
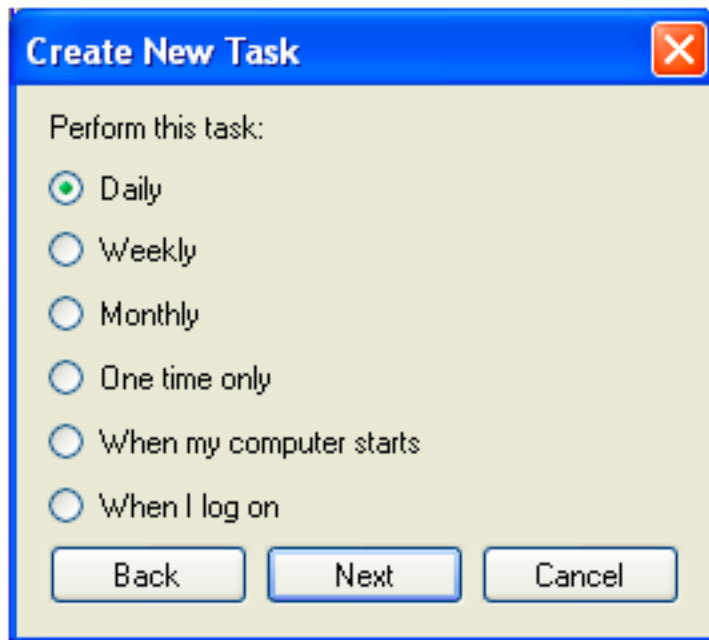
11. Follow the instructions to schedule when the new task occurs.

    **Live Compare Type**

    If the **Live Compare** type was selected, the **Create New Task** dialog box illustrate below appears.

    The Live Compare feature compares the logic in the PLC to the local copy of the FTSolution source code files from which it was compiled, and identifies any differences.
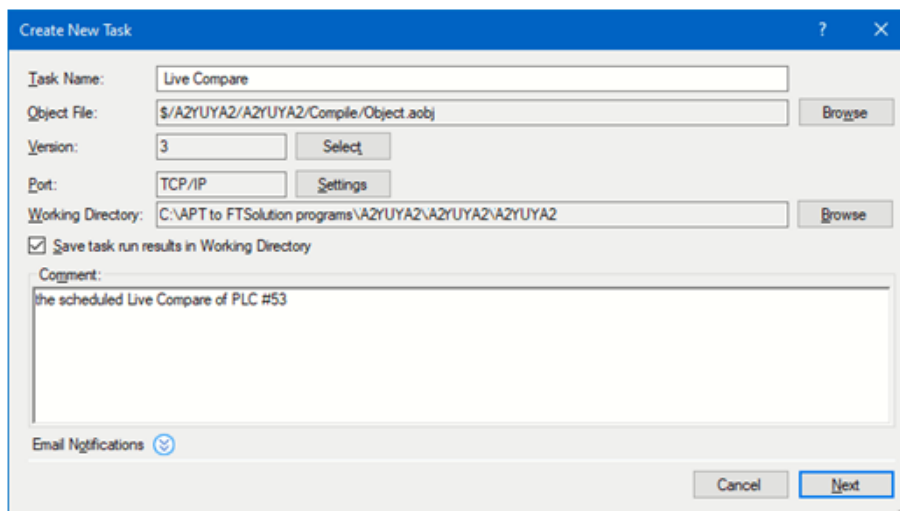
12. Enter a **Task Name** to identify it in the Scheduled Tasks list.

13. Enter or **Browse** the path to the **Object File**. This is the location in the repository where the FTSolution project object file resides. Project object file names have an **.aobj** extension and are located in the Compile folder.

14. Enter or **Select** the **Version** of the FTSolution project stored in the repository to which the PLC contents are compared. This version number defaults to the most recent version in the repository, but another version number can be selected.

15. Select the **Port** through which FTVersionTrak connects online to the PLC.

16. Enter or **Browse** the **Working Directory** path where the local copy of the project resides. This entry defaults to the working directories specified for the **Object File**.

17. Check **Save task run results in Working Directory** to record the results of the task locally.

18. Enter a **Comment** that describes the Scheduled Task.

19. Emails explaining the results of Scheduled Task can be configured. Expand the **Email Notifications** to display the email settings.
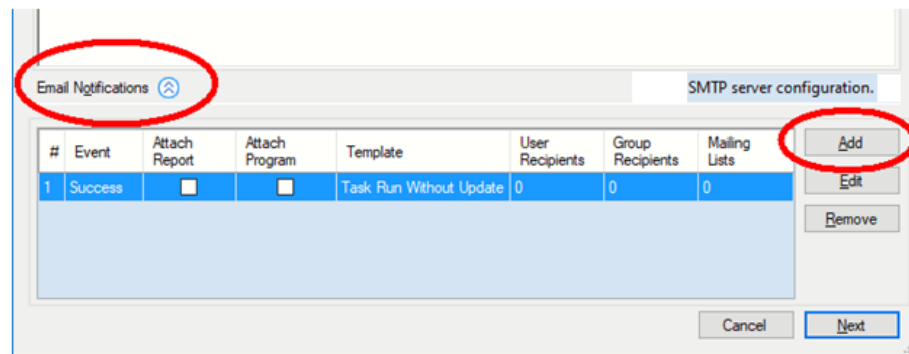


20. In the Email Notification settings, click Add to display the Email Notifications dialog.
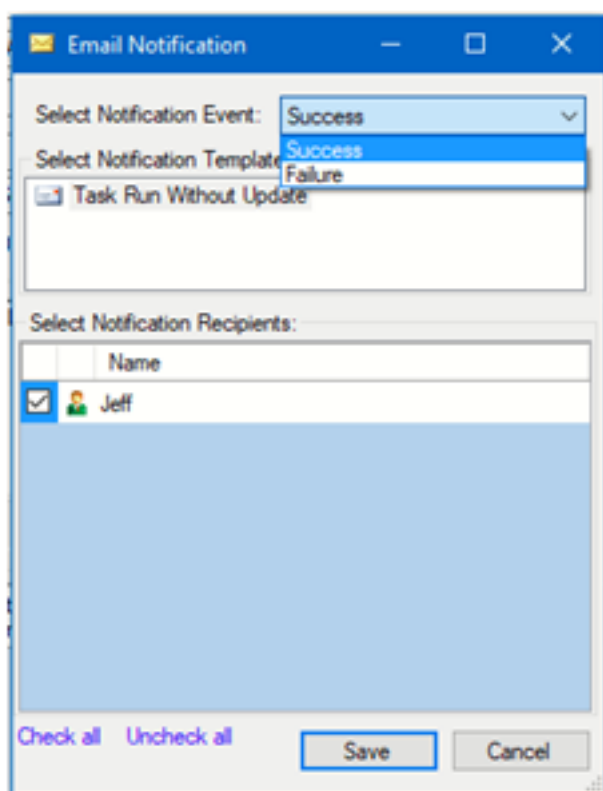
21. **Select a Notification Event** that emails messages when Scheduled Tasks succeed or fail.

    Consider creating a **Failure** notification for every **Success** notification. Failure notifications inform the appropriate people if tasks do not run as scheduled.

    Select to whom notifications are sent from the **Recipients** list, select a template from the **Template** list, then click **Save** to return to the **Email Notifications** list.

22. A report that identifies differences and the program file can be attached to the email notifications. In the **Email Notifications Events** list, check the desired boxes to in-

clude these items with the emails. Click **Next**.
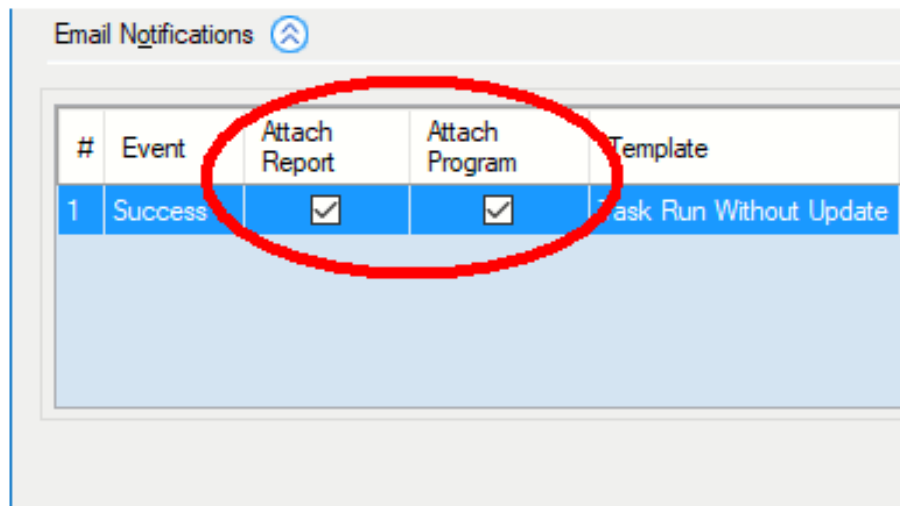


23. In the next **Create New Task** dialog, check the items that are compared when this Scheduled Task runs. Click **Next**.
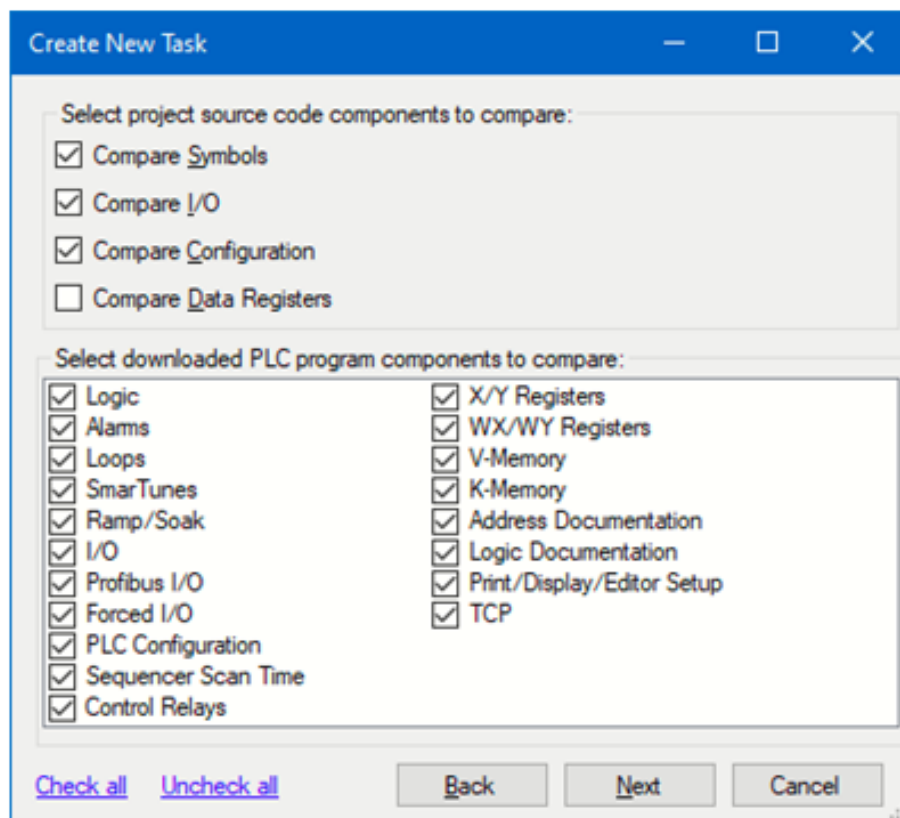
24. In the next **Create New Task** dialog, select when the Scheduled Task runs. Click **Next**.
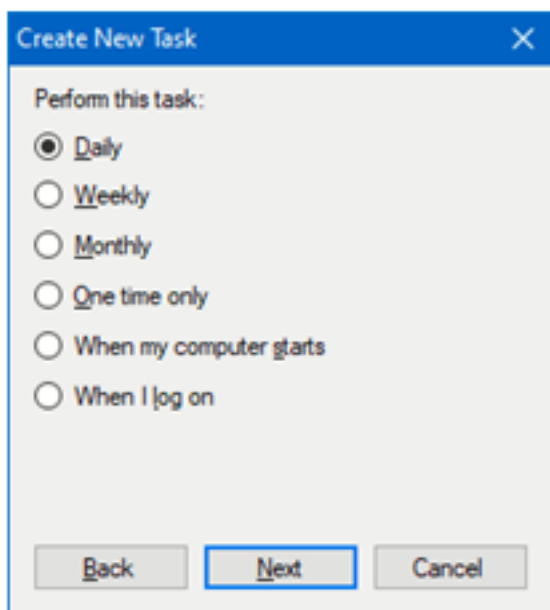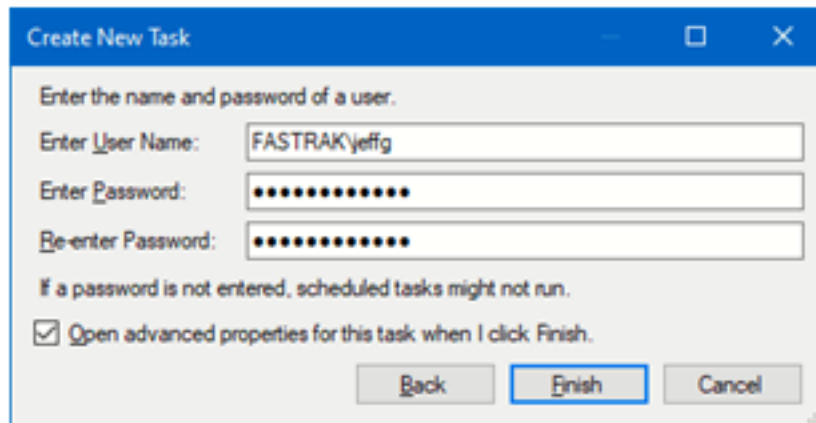
25. In the next **Create New Task** dialog, select at what time of day the Scheduled Task runs. Click **Next**.
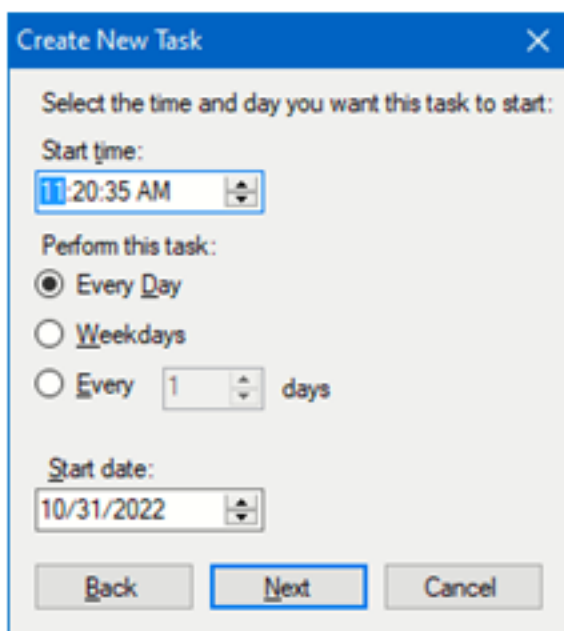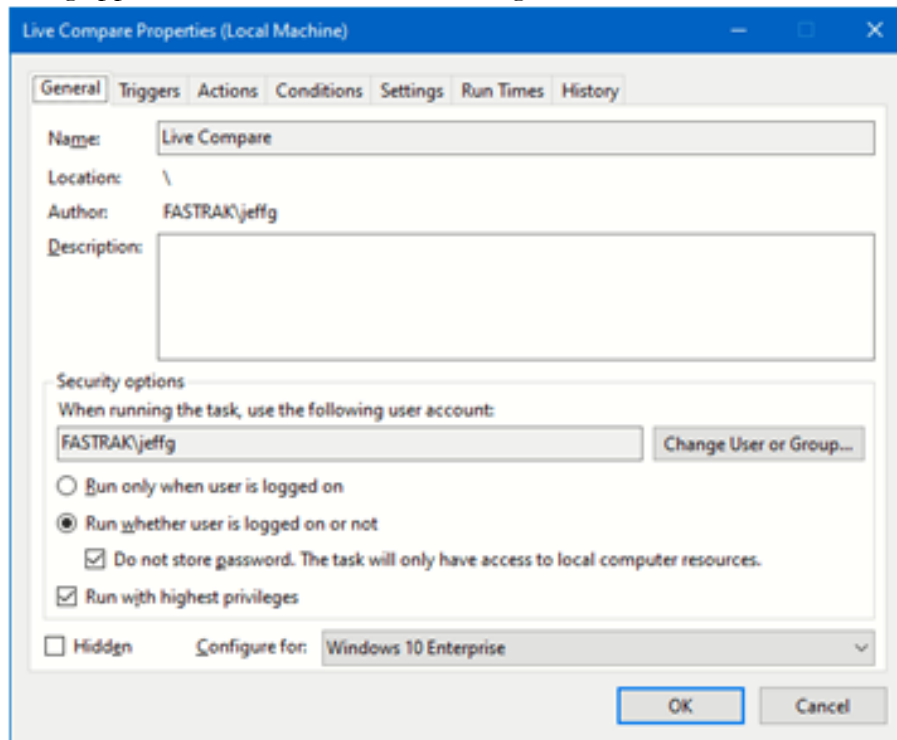
26. In the next **Create New Task** dialog, enter and re-enter the Windows user password. If desired, select the **Open advanced properties for this task when I click**

**Finish** check box. Click **Finish**.



27. If displaying the advanced properties was selected, the **Live Compare Properties** dialog appears. Review and edit its settings if desired. Click **OK**.



28. When the **Scheduled Tasks** dialog reappears, the new Scheduled Task is listed. The task will run at the configured time, but it can be executed now by selecting the task in the list and clicking **Run**.
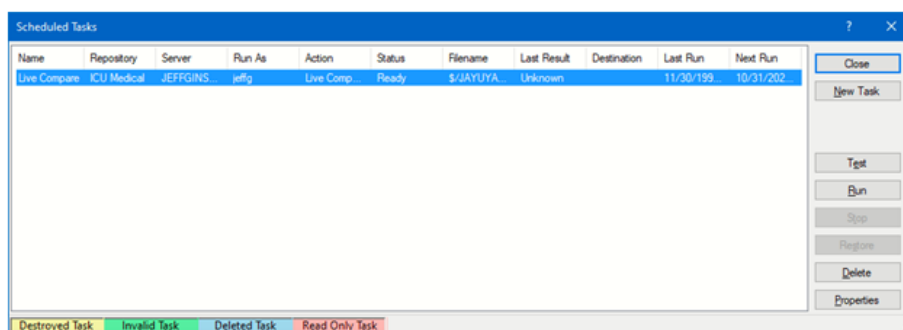
## Modicon Serial or Modem Communication Setup

To configure your serial port or modem connection with a Modicon PLC:

1. In **Communication Port** box, click the communication port you want to use.
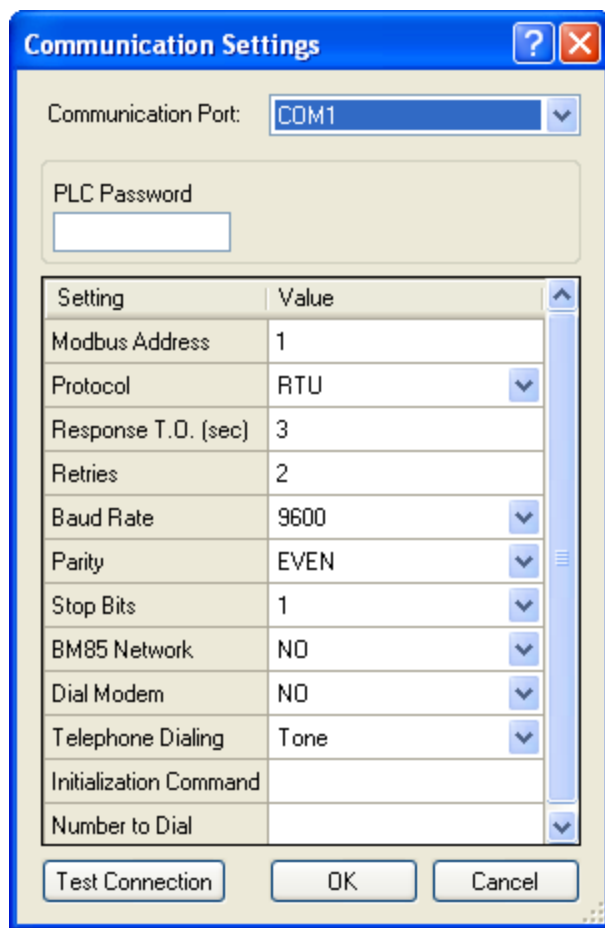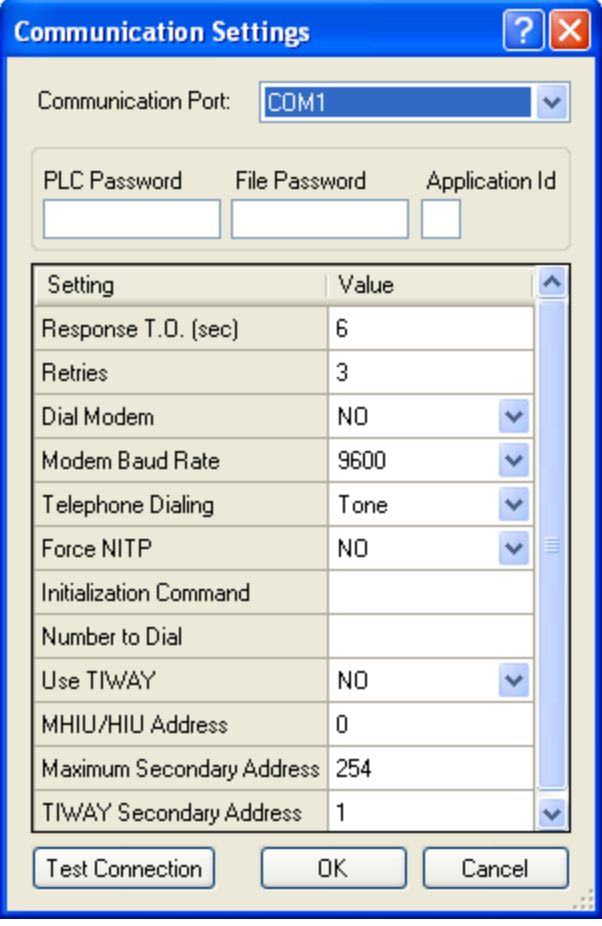
2. If the PLC is password-protected, enter the password in the **PLC Password** box.

3. Select the appropriate setting for each option in the dialog box:

- **Modbus Address** – Specifies the value of the controller Modbus address (1-247).

- **Protocol** – Specifies the transmission mode. The communications mode toggles between RTU and ASCII.

- **Response T.O. (sec)** – Specifies the amount of time, in seconds, that the software waits for a response from the PLC before returning a time-out error. Any whole number between 5 and 25 can be used.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0 and 10 can be used. Use 0 for no retries.

- **Baud Rate** – The rate of communications between the computer and modem.

- **Parity** – Specifies a parity bit for error detection. Can be set to EVEN, ODD, or NONE.

- **Stop Bits** – Specifies the number of stop bits per transmission as either 1 or 2.

- **BM85 Network** – Select NO if you are not communicating via a BM85 Bridge/MUX or modem. Select YES to set a two-minute response timeout for applications using a Bridge/MUX or modem.

- **Dial Modem** – Selected when the selected form of serial communications is through a modem. The modem parameters must be set to exactly the same communication parameters that you will use.

- **Telephone Dialing** – Specifies which type of dialing to use. Specify pulse dialing only if this is the only type your phone line supports.

- **Initialization Command** – The initialization commands sent to the modem. Consult your modem manual for a list of appropriate commands.

- **Number to Dial** - Specifies the phone number to be dialed. The number format can be dash (262-238-8088), space (262 238 8088), period (262.238.8088), or none (2622388088). Commas (,) may be used if a pause is needed to gain access to an outside line before the number is dialed. For example, if 9 is used to gain

access to an outside line and there is a pause between the time 9 is pressed and a dial tone, then the number entered should be 9,262-238-8088.

4.  Click **OK** to accept the settings.

### *Modicon SA85 Interface Board Communication Setup*

To configure a SA85 interface board for communication with a Modicon PLC:

1.  In the **Communication Port** box, click either **SA85 1** or **SA85 2**. The SA85 settings appear.



2.  If the PLC is password-protected, enter the password in the **PLC Password** box.

3.  Select the appropriate setting for each option in the dialog box:

    - **Route** – Specifies the network location of the PLC you want to communicate with. Each set of three integers can be a value from 1 – 247 and identifies a Modbus Plus address. The last address specified is the PLC selected for communications. Any preceding addresses specify the communications path that leads to the desired PLC. To access the routing path, enter a routing address (0–247 in the form of X.X.X.X.X) and a 32-character label/path description.

- **Response T.O. (sec)** – The response timeout is the amount of time FTVersionTrak waits for a response from the controller before returning a timeout error.

- **BM85 Network** – Select **NO** if you are not communicating via a BM85 Bridge/MUX or modem. Select **YES** to set a response timeout for applications using a Bridge/MUX or modem.

- **LAN Adapter** – Specifies the Local Area Network (LAN) adapter number assigned to the SA85 board you are using. If you have multiple SA85 boards installed, each must have a unique LAN adapter number. Valid values range from 0 – 9.

- **Retries** – Specifies the number of attempts to make to connect to the PLC.

4. Click **OK** to accept the settings.

### Modicon TCP/IP Communication Setup

To configure a TCP/IP connection with a Modicon PLC:

1. In the **Communication Port** box, click **TCP/IP**. The TCP/IP settings appear.

2. If the PLC is password-protected, enter the password in the **PLC Password** box.

3. Select the appropriate setting for each option in the dialog box:

   ■ **IP Port** – Any number is acceptable as long as it does not interfere with other protocol numbers.

   ■ **Response T.O. (sec)** – Specifies the amount of time, in seconds, that the software waits for a response from the PLC before returning a time-out error. Any whole number between 5 – 25 can be used.

   ■ **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0–10 can be used. Use 0 for no retries.

   ■ **IP Address** – Specifies the IP Address for the associated Interface Board. An IP Address is a 32-bit value that is divided into four 8-bit fields; each separated by a period. For example, 192.3.2.1 is an IP Address. Each computer on a network has a unique IP Address. You should consult your network administrator for the correct IP Addresses for your computer and board.

   ■ **MBP Index or Route** – Specifies the Bridge MBP Index or Bridge Dynamic Route as described in the *Modicon Modbus plus to TCP/IP* manual.

4. Click **OK** to accept the settings.

### *Modicon APPLICOM Communication Setup*

To configure an APPLICOM connection with a Modicon PLC:

1. In the **Communication Port** box, click **APPLICOM**. The APPLICOM settings appear.
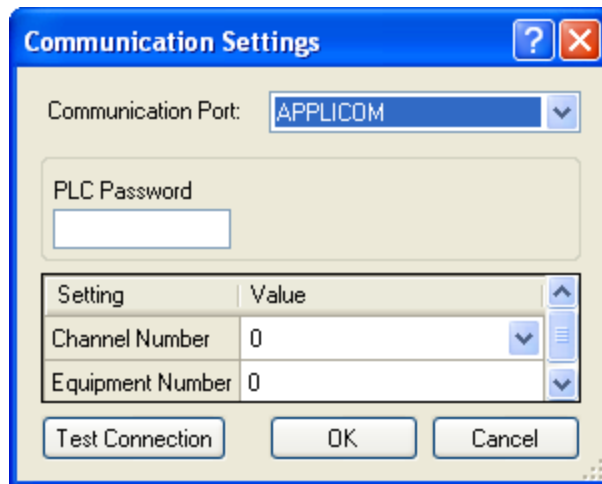
2. If the PLC is password-protected, enter the password in the **PLC Password** box.

3. Select the appropriate setting for each option in the dialog box:

   ■ **Channel Number** – Specifies the value of the APPLICOM channel.

   ■ **Equipment Number** – Specifies the value of the equipment number.

4. Click **OK** to accept the settings.

### *505 Serial or Modem Communication Setup*

To configure your serial port or modem connection with a Simatic 505 PLC:

1. Within the Communications Setup dialog box, in the **Communication Port** box, se-lect **COM 1**, **COM2**, **COM 3**, or **COM4**. The Serial Port settings appear.

2. If the PLC is password-protected, enter the appropriate password information in the **PLC Password**, **File Password**, and **Application ID** boxes.

3. Select the appropriate setting for each option in the dialog box:

- **Response T.O. (sec)** – Specifies the amount of time, in seconds, that the software waits for a response from the PLC before returning a time-out error. Any whole number between 5–25 can be used.

- **Retries** – Specifies the number of times the software will try to re-establish communications with the PLC after a time-out error. Any whole number between 0 –10 can be used. Use 0 for no retries.

- **Dial Modem** – Selected when the selected form of serial communications is through a modem. The modem parameters must be set to exactly the same communication parameters that you will use.

- **Modem Baud Rate** – The rate of communications between the computer and modem.

- **Telephone Dialing** – Specifies which type of dialing to use. Specify pulse dialing only if this is the only type your phone line supports.

- **Force NITP** – Specifies ASCII communications for the Simatic 545, 555, and 575 PLCs.

- **Initialization Command** – The initialization commands sent to the modem. Consult your modem manual for a list of appropriate commands.

- **Number to Dial** – Specifies the phone number to be dialed. The number format can be dash (262-238-8088), space (262 238 8088), period (262.238.8088), or none (2622388088). Commas may be used if a pause is needed to gain access to an outside line before the number is dialed. For example, if 9 is used to gain access to an outside line and there is a pause between the time 9 is pressed and a dial tone, then the number entered should be 9, 262-238-8088.

- **Use TIWAY** – Specifies connection with either the TIWAY host adapter or UNILINK™.

- **MHIU/HIU Address** – Specifies the address for the TIWAY Master Host Interface Unit / Host Interface Unit.

- **Maximum Secondary Address** – Specifies the maximum number of secondary PLCs (up to 254).

- **TIWAY Secondary Address** – Specifies the controller secondary address for the associated controller. A controller secondary address is a unique number from 1 – 254 that is used to identify a controller on the TIWAY link. Each PLC on TIWAY has a controller secondary address.

4. Click **OK** to accept the settings.

### 505 TCP/IP Communication Setup

To configure a TCP/IP connection with a Simatic 505 PLC:

1. In the **Communication Port** box, click **TCP/IP**. The TCP/IP settings appear.

2.  If the PLC is password-protected, enter the appropriate password information in the
    **PLC Password**, **File Password**, and **Application ID** boxes.

3.  Select the appropriate setting for each option in the dialog box:

    -   **IP Port** – Any number is acceptable as long as it does not interfere with other
        protocol numbers.

    -   **Response T.O. (sec)** – Specifies the amount of time, in seconds, that the soft-
        ware waits for a response from the PLC before returning a time-out error. Any
        whole number between 5 – 25 can be used.

    -   **Retries** – Specifies the number of times the software will try to re-establish com-
        munications with the PLC after a time-out error. Any whole number between 0 –
        10 can be used. Use 0 for no retries.

    -   **IP Address** – Specifies the IP Address for the associated Interface Board. An IP
        Address is a 32-bit value that is divided into four 8-bit fields; each separated by a
        period. For example, 192.3.2.1 is an IP Address. Each computer on a network
        has a unique IP Address. You should consult your network administrator for the
        correct IP Addresses for your computer and board.

    -   **Packed** – This option is used for optimizing the Ladder Status and Data Win-
        dow updates. This should only be turned off if packed opcodes are not
        supported.

4. Click **OK** to accept the settings.

### *505 H1 Board Communication Setup*

Before H1 Communications can be established with FTVersionTrak the following procedures must be completed:

1. Install the Siemens **505-CP1413** or **1613** card.

2. Select I/O range.

3. Select unique interrupt address.

4. Select dual-port ram address.

5. Install TF-1413 or TF-1613 software drivers using the **Simatic Net** software CD.

6. Configure the CP1413 or 1613 hardware and software using the **COML TF** and **Setting the PG-PC Interface** utilities from Siemens' **Simatic Net** software CD.

7. Restart the PC.

#### ACCESSING H1 DEVICES USING FTVERSIONTRAK

1. In the Communications Setup dialog box, select **H1** from the **Communication Port** box. The H1 Network Access dialog box appears.

2.  Select a node name. These are the node names you configured using the **COML TF** utility prior to rebooting. Using the arrow keys or mouse, select an H1 network node name and click **OK**.

### 505 Profibus FMS Communication Setup

**INSTALLING THE PROFIBUS–FMS COMMUNICATIONS PROCESSOR**

Before Profibus FMS Communications can be established with FTVersionTrak, the FMS Communications Processor module must be installed and configured. The SIMATIC 505-CP5434-FMS Communications Processor module (referred to hereafter as the FMS CP module) provides the interface required for a SIMATIC 505 programmable logic controller system to communicate with other devices over a common PROFIBUS network. To install the FMS CP module in a SIMATIC 505 base, follow the installation instructions in the *SIMATIC 505 PROFIBUS–FMS Communication Processor (505-CP5434-FMS) User Manual*.

The FMS CP module must be configured with the **COM5434** configuration software included with the module. The **COM5434** configuration software operates in Windows 95 or Windows NT only. To install the software, follow the installation instructions in the *SIMATIC 505 PROFIBUS–FMS Communication Processor (505-CP5434-FMS) User Manual*.

Each FMS CP module in a 505 base must be configured to communicate over the PROFIBUS network. The "module local configuration" for each FMS CP module identifies its station address and the network communication parameters it uses to operate on the network.

> **NOTE**: You must define the module local configuration for each FMS CP module using the RS-232 port with the standard 505 WorkShop programming cable before you can communicate with it using the PROFIBUS-FMS port.

Refer to the *SIMATIC 505 PROFIBUS-FMS Communication Processor (505-CP5434-FMS) User Manual* for complete information on configuring the FMS CP module with the **COM5434** configuration software.

> **NOTE**: Make sure to select the bus parameters, the baud rate, and the highest station address (HSA) that match those of all the other modules on the network. Also be sure to select a unique station address for each FMS CP module on the network.

Once each FMS CP module has been configured to operate on the network, connect each FMS CP station and the CP 5412 card in your PC to the PROFIBUS network, using the PROFIBUS cables and connectors described in the *SIMATIC 505 PROFIBUS-FMS Communication Processor (505-CP5434-FMS) User Manual*.

**ACCESSING FMS PROFIBUS DEVICES USING FTVERSIONTRAK**

1.  In the Communications Setup dialog box, select **FMS** from the **Communication Port** box. The FMS Network Access dialog box appears.



2.  Select a node name. These are the node names you configured using the **COM5434** configuration software prior to rebooting. Using the arrow keys or mouse, select an FMS network node name and click **OK**.

# Backing Up and Restoring the Repository Database

### Backing Up and Restoring the Repository Database Overview

As an added precaution to protect your sensitive data, an entire FTVersionTrak repository database may be backed up and restored using **Microsoft SQL Server Management Studio**. In the unlikely event that your repository becomes corrupt or accidentally deleted, it can be replaced by the backup copy. Repositories can also be moved from one machine or server instance to another using the same method.

> **NOTE**:  Restoring your repository database will only restore it to the point in time in which it was last backed up. We recommend backing up your repository database often and to a secure location.

Repository databases can be backed up and restored to the same machine in which SQL Server resides or imported to a remote machine that has access to the instance of SQL Server that contains your repositories.

> **NOTE**: Only SQL administrators can back up and restore repositories. See Server Securityfor more information.

### Backing Up the Repository Database

To back up your repository database:

1. Launch **SQL Server Management Studio**. If you do not have SQL Server Management Studio installed, see Installing SQL Server Management Studio for more information. The Connect to Server dialog box appears.
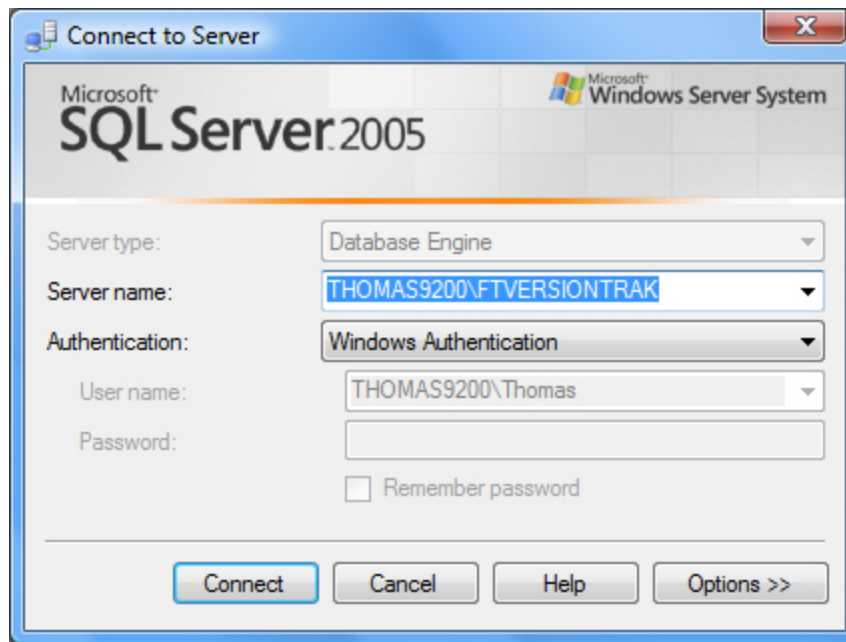
2. Connect using the administrator login for the instance of SQL Server that contains your FTVersionTrak repositories. See Server Security for more information. The main window of SQL Server Management Studio Express appears.

3. Within the **Object Explorer** pane on the left side of the main window, select **Databases**.
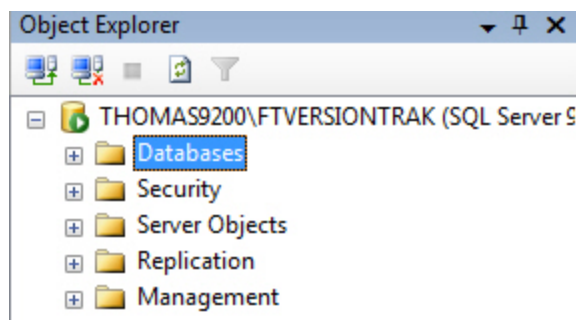


4. In the **Summary** pane on the right side of the main window, a list of databases appears, including your **FTVersionTrak repositories**.
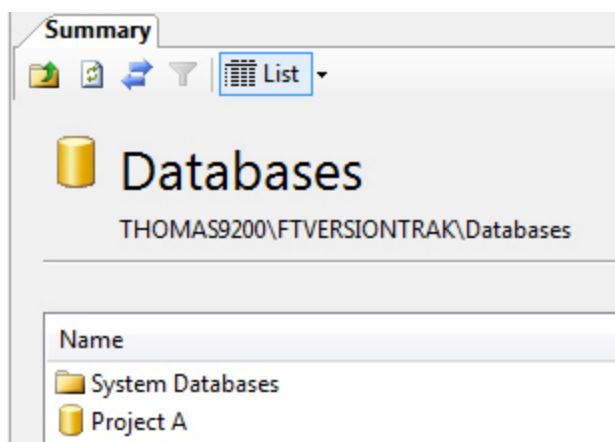
5. Right-click the name of the repository you wish to back up, point to **Tasks**, and then click **Back Up** from the shortcut menu. The Back Up Database dialog box appears.
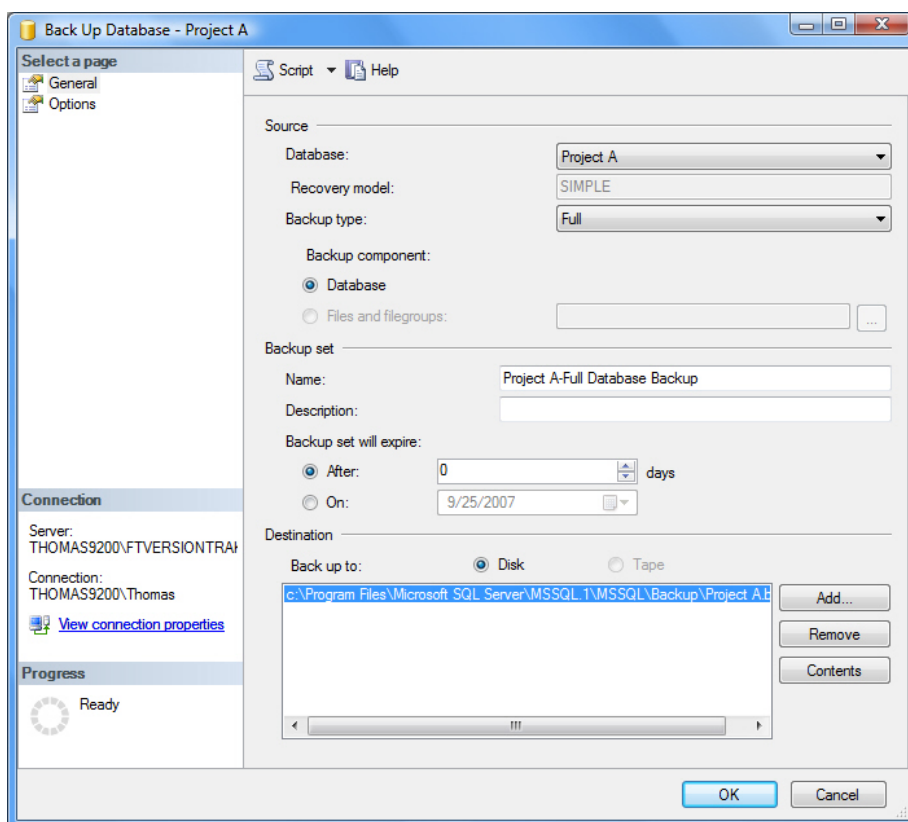
6. Under **Backup set**, in the **Name** box, you can specify a name for the backup set. By default, the name is *<repository name>-Full Database Backup*. Keep this name consistent if you plan on backing up frequently.

7. In the **Destination** box, make note of the path and name of the backup file, which by default is *<repository name>.bak*. You will need to reference this file when restoring.

8. Click **OK** at the bottom of the Back Up Database dialog box to begin backing up the repository database. Depending on the size of your repository, this may take some time.

9. After the backup process is finished, a message appears.
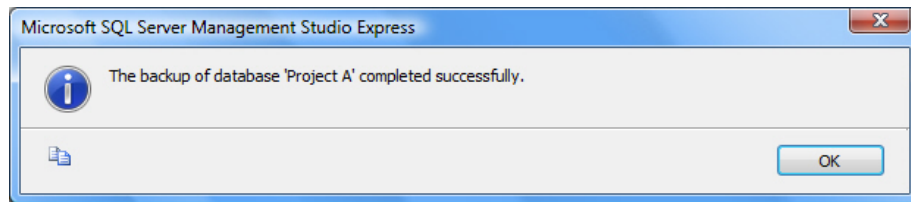


10. Click **OK** to complete the backup.

> **NOTE**: Management Studio Express contains many options that may facilitate the backup procedure, especially if the repository databases are very large. Click **Help** in the **Back Up Database** dialog box for more information.

### *Restoring the Repository Database to the Same Machine*

In most cases, restoring a repository will take place on the same machine as the one used when the backup is made. See Importing a Repository Database to a New Machine for instructions on restoring a backed up repository to a new machine or another instance of SQL Server. Before you can restore a repository database, it must first be backed up.

To restore a repository database:

1. Launch **SQL Server Management Studio**. If you do not have SQL Server Management Studio installed, see Installing SQL Server Management Studio for more information. The Connect to Server dialog box appears.

2. Connect using the administrator login for the instance of SQL Server that contains your FTVersionTrak repositories. See Server Security for more information. The main window of SQL Server Management Studio Express appears.

3. In the Object Explorer pane on the left side of the main window, click **Databases**.



4. In the Summary pane on the right side of the main window, a list of databases appears, including your FTVersionTrak repositories.

5.  Right-click the name of the repository you wish to restore, point to **Tasks**, point to **Restore**, and then click **Database** from the shortcut menu. The Restore Database dialog box appears.
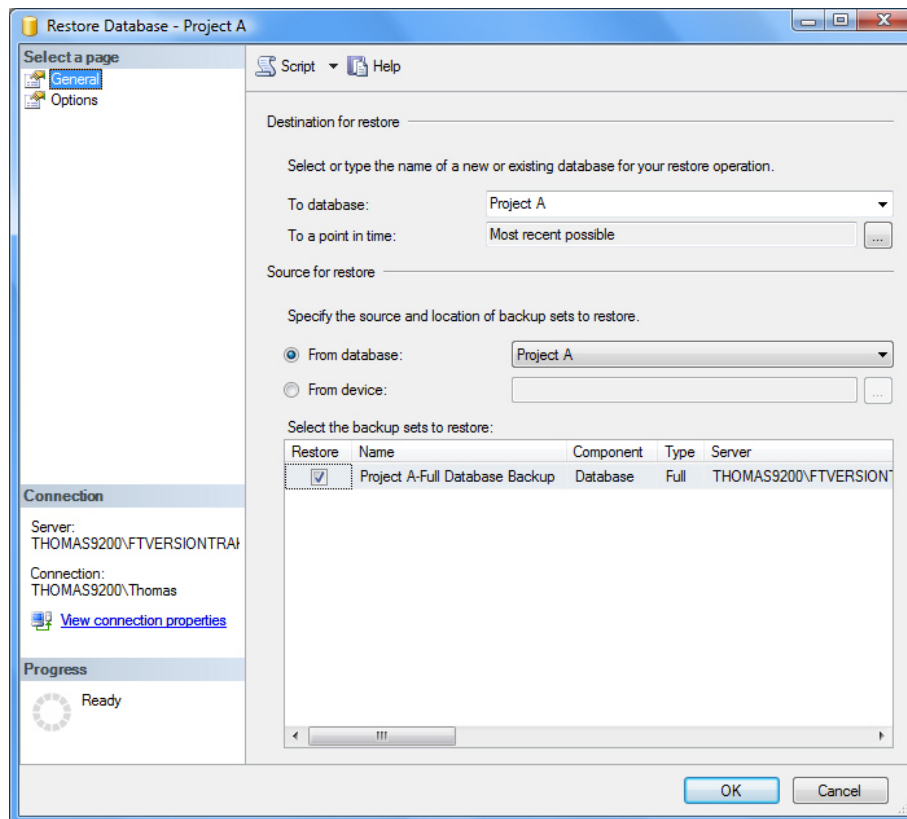
6. If you are restoring the same repository location that was backed up, all of the default settings should be correct. Click **OK** to begin restoring the repository.

> **NOTE**: If you would like to restore an exact copy of the backed-up repository, click **Options** at the top left corner of the dialog box and select the **Overwrite the existing database** check box before clicking **OK** at the bottom of the Restore Database dialog box.

**REPLACING A REPOSITORY DATABASE WITH A DIFFERENT BACKUP**

To replace an existing FTVersionTrak repository database with a backed-up copy of another database:

1. Launch **SQL Server Management Studio**. If you do not have SQL Server Management Studio installed, see Installing SQL Server Management Studio for more information. The Connect to Server dialog box appears.



2. Connect using the administrator login for the instance of SQL Server that contains your FTVersionTrak repositories. See Server Security for more information. The main window of SQL Server Management Studio Express appears.

3. In the Object Explorer pane on the left side of the main window, click **Databases**.



4. In the Summary pane on the right side of the main window, a list of databases appears, including your FTVersionTrak repositories.
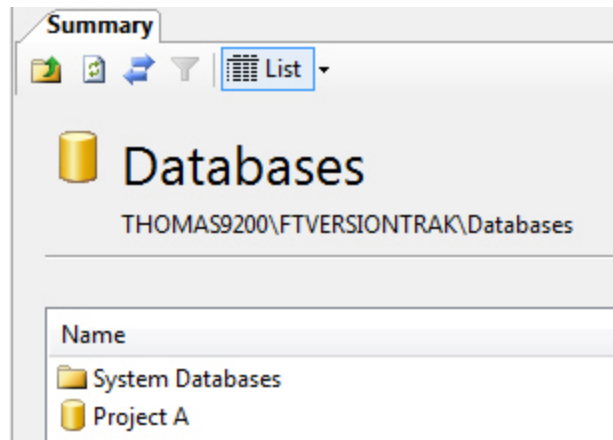


5. Right-click the repository database you wish to replace, point to **Tasks**, point to **Restore**, and then click **Database** from the shortcut menu. The Restore Database dialog box appears.

6. Under **Source for restore**, click **From device** and then click **Browse**. The Specify Backup dialog box appears.
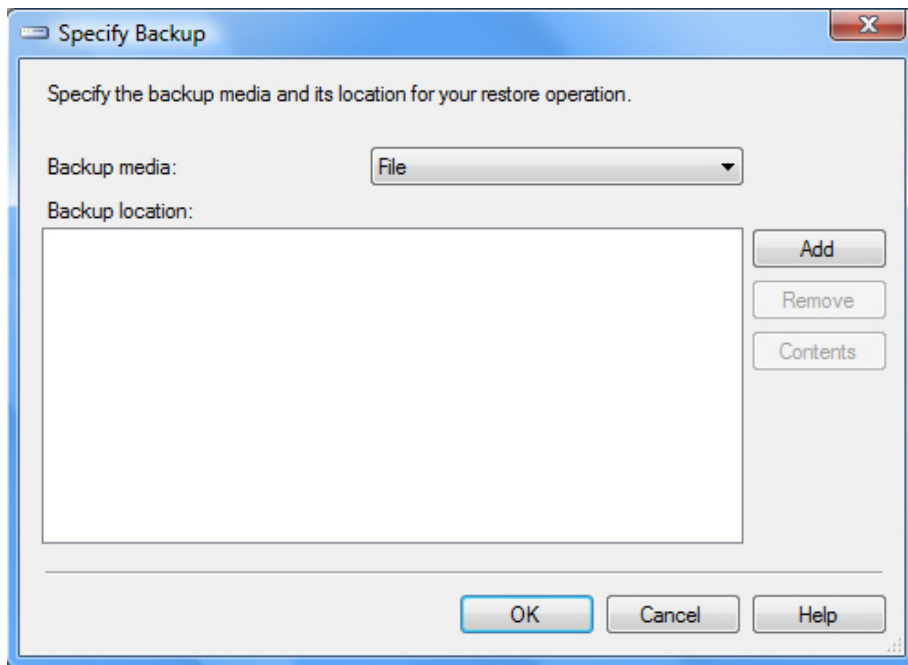
4.  Click **Add** and browse to the location of the backup file that you want to restore. Click **OK** in the Specify Backup dialog box to return to the Restore Database dialog box. The database now appears under **Select the backed up sets to restore**.
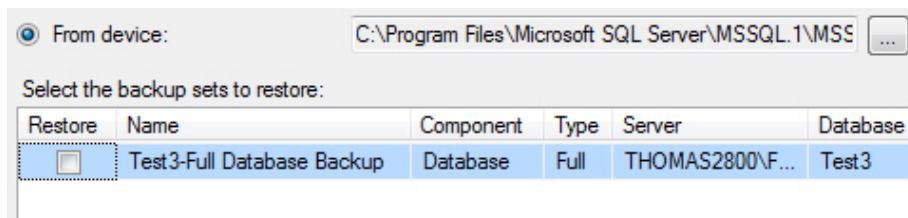


5.  Note that the original name of the database appears under the **Name** column. Select the check box under the **Restore** column.

6.  Click **Options** in the top left corner of the Restore Database dialog box. The Restore Database options appear.
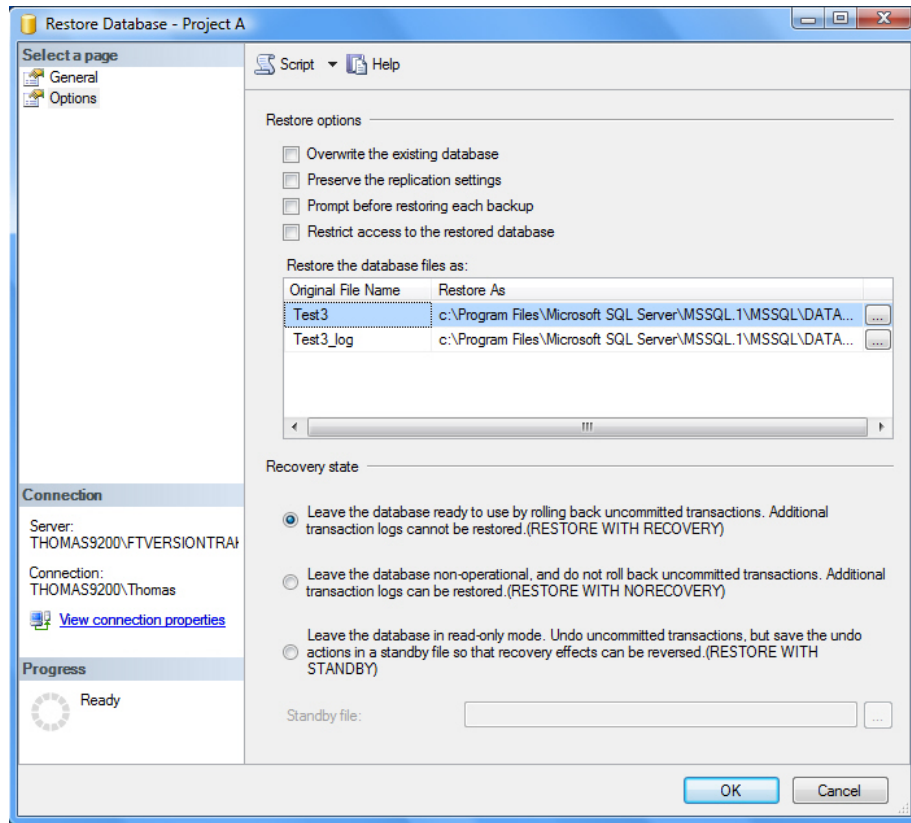
7. Under **Restore the database files as**, two files are listed. These two files will need to be renamed to the match the name of the database that is being replaced. For example, the database that is being replaced in the preceding example is named **Project A**, and it is being replaced by a database named **Test3**. The two files that need to be renamed are **Test3.mdf** and **Test3_log.LDF**. In the following figure, they are renamed **Project A.mdf** and **Project A_log.LDF**. Click in the file path in the **Restore As** column to rename each file.
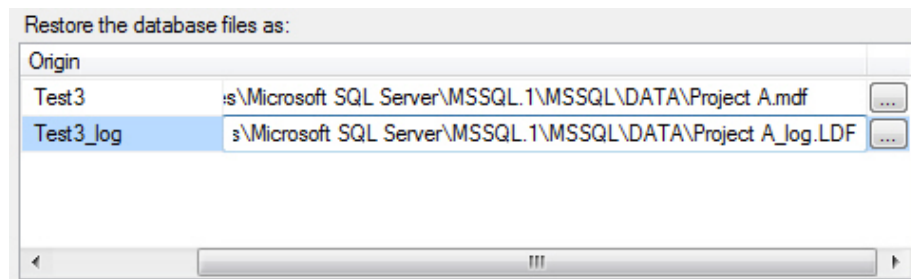
> **NOTE**: Continuing this process will overwrite the data present in the existing repository. This process cannot be reversed. Continue at your own risk.

8. Select the **Overwrite the existing database** check box. Click **OK** when finished to begin replacing the database. Depending on the size of your repository, this may take some time.

9. After the backup process is finished, a message appears.
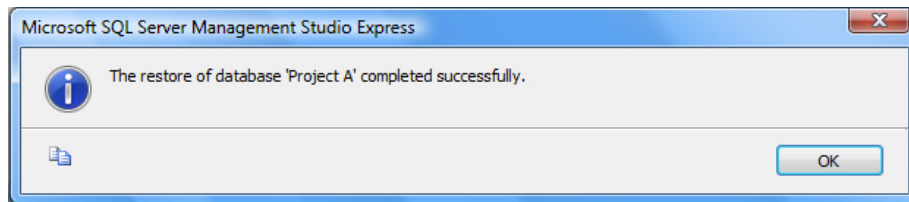


10. Click **OK** to complete the backup.

### Importing a Repository Database to a New Machine

Using the Restore Database function of SQL Server Management Studio Express, you can import a backed up repository database to another computer or another instance of SQL Server 2005. Before performing the following steps, you must create a repository on the server in which you will be importing the database. This repository will be overwritten by the imported data. You must also make a note of all the server accounts that will need access to the repository, and their authentication type. This information will not be imported, and must be entered manually. See Server Security for more information.

To import a repository database to a new machine or another instance of SQL Server:

1. Back up the repository database that you will be importing using Management Studio Express.

2. Move the backup file (*.BAK) to the new machine or otherwise verify that the new instance of SQL Server has access to the file.

3. On the new machine or SQL Server instance, launch Management Studio Express

and follow steps 1–8 of Restoring the Repository Database with a Different Backup.

4. Launch SQL Server Configuration Manager on the new machine.
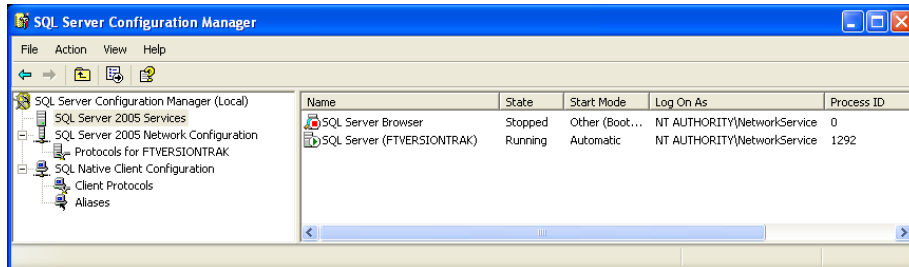


5. Right-click the SQL Server instance that contains the newly-imported repository (usually **SQL Server (FTVERSIONTRAK)**) and then click **Properties** from the shortcut menu. The SQL Server Properties dialog box appears.
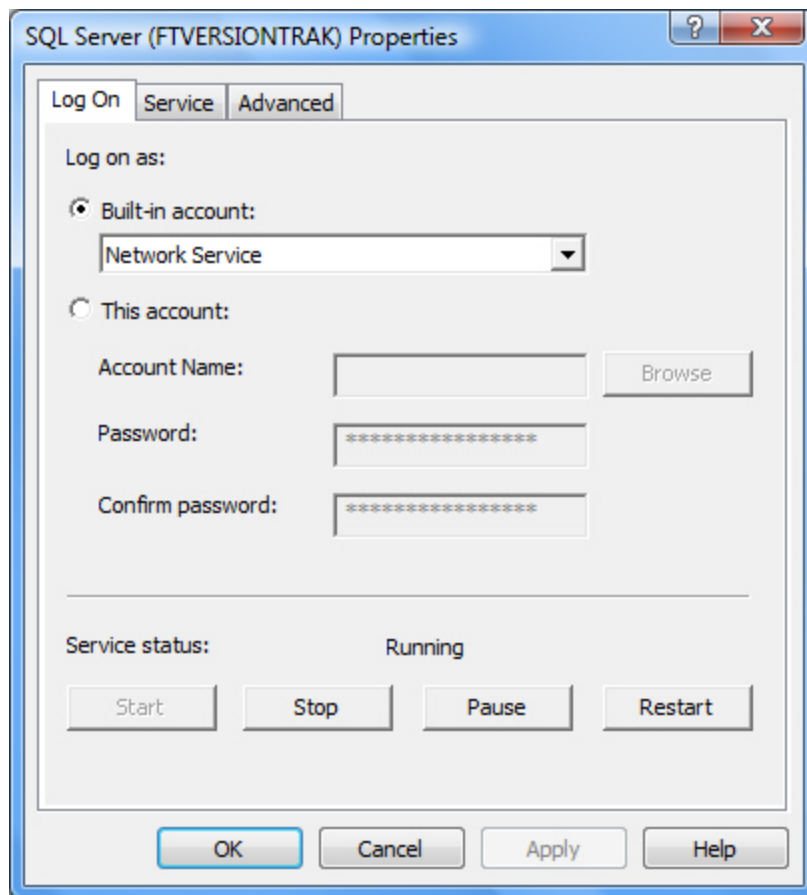
6. On the **Log On** tab, click **Built-in account** and then select **Local System**. Click **OK** to return to the main window.

7. Close the Configuration Manager and return to Management Studio Express.

8. To add existing users to the server, right-click **Security** in the **Object Explorer**, point to **New**, and then click **Login** from the shortcut menu. The Login - New dialog box appears.
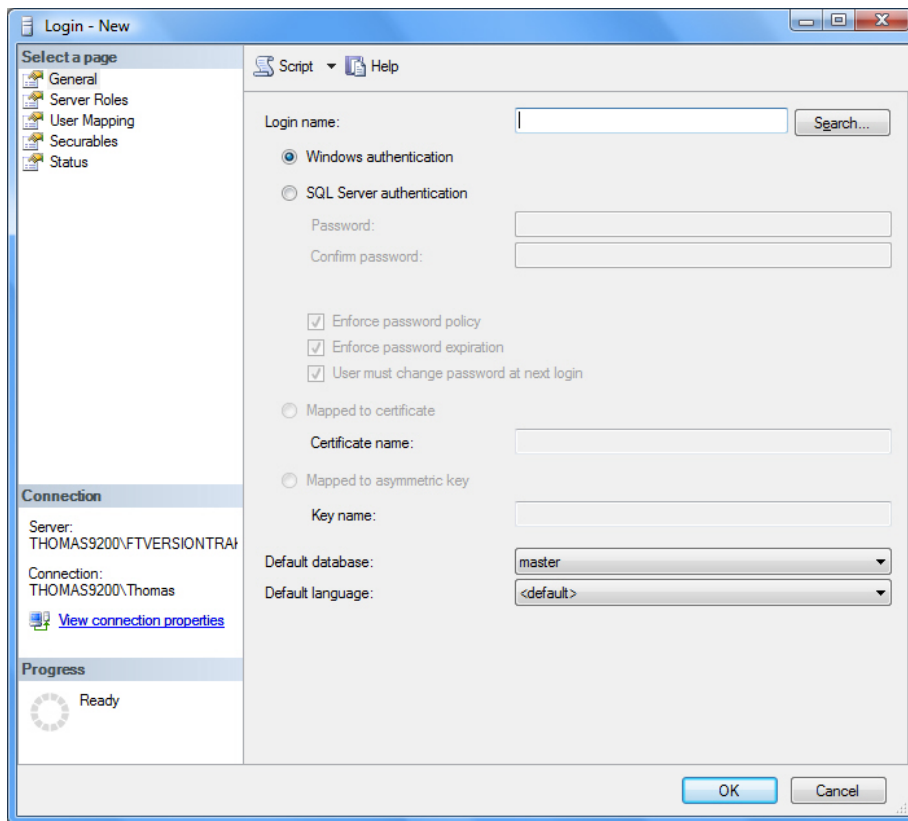


9. Select the proper authentication type (either Windows authentication or SQL Server authentication) for the user you are adding.

   - If selecting Windows authentication, enter the **Login** name.

   - If selecting SQL Server authentication, enter the **Login** name and **Password**.

10. Click **OK** when finished.

11. Repeat steps 8–10 for each additional user.

> **NOTE**: Windows authenticated users must have a Windows login on the new machine to have access to the repository. If this is not possible, create a SQL Server account for these users in FTVersionTrak Server Security.

12. To add existing users to the database, select the name of the repository database in the **Object Explorer** and right-click **Security** in the database **Summary** pane. Then, point to **New** and click **User** from the shortcut menu. The Database User - New dialog box appears.
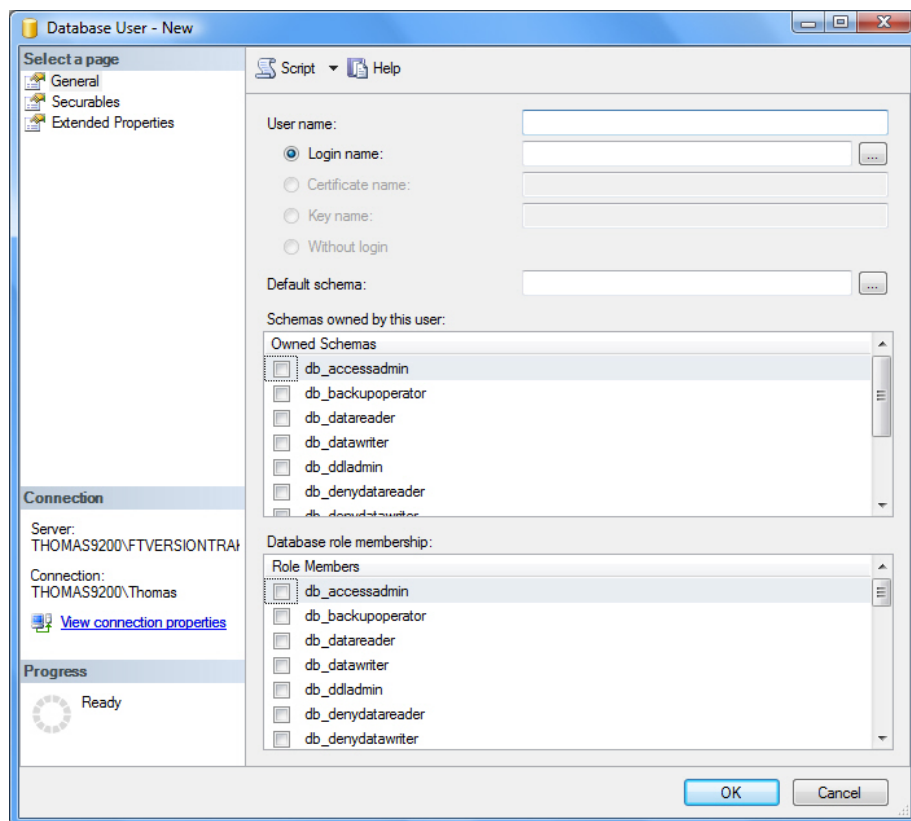


13. Enter each user's login name in both the **User name** text box and the **Login name** text box. Click **OK** when finished.

14. Repeat steps 12-13 for each additional user.

15. Right-click the repository database in the **Object Explorer** and then click **New Query** from the shortcut menu. The **SQL Query Editor** tab appears.
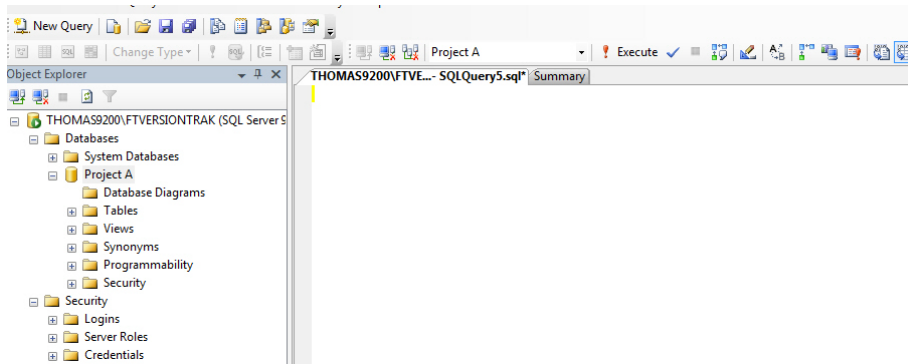
16. Enter the following SQL statement in the **SQL Query Editor**, substituting **<login name>** for a login name added to the database.

    *SP_change_users_login 'update_one', '<login name>', '<login name>'*

17. Press **ENTER** and enter the same line above, substituting **<login name>** for each login you need to add, as shown in the following example.
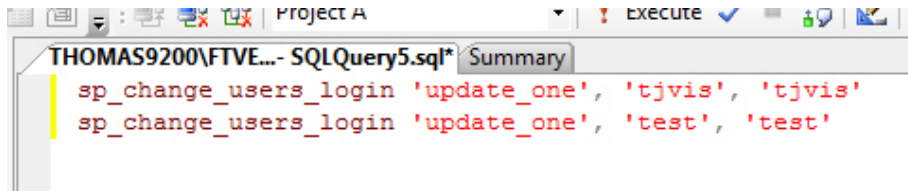


18. After all login names have been entered, click  in the Management Studio toolbar. A **Messages** tab appears, displaying the results of the SQL query. If everything has been entered correctly, the following message is displayed.
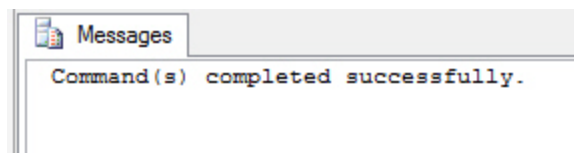


19. Close the Management Studio Express application. The repository database and user information has been successfully imported.

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