THOROUGHBRED®
SOFTWARE INTERNATIONAL, INC.

TS NETWORK BASIC WITH DATASERVER™

Installation Guide

Version 8.9.1

Thoroughbred Software International, Inc.

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INTRODUCTION

TS Network Basic with DataServer is an integral part of the Thoroughbred Software network solution. Server data can be made available across platforms for use in Dictionary-IV file maintenance, Report-IV, Query-IV, Script-IV, and Basic applications.

With TS Network DataServer software:

- Applications can now be configured to access a Network DataServer.
- New or existing applications can access and share data across a network.

When you access a file on another computer there is a large amount of network communication associated with accessing keys and locking records. This network traffic is in addition to the communication necessary to transfer the data.

Current file sharing capabilities with NFS, Netware, and Microsoft Network provide low-level access to files on other systems. They do not, provide acceptable levels of performance or ensure data integrity.

TS Network DataServer allows much of the logic required for distributed file I/O to reside on the system that contains the data. This process minimizes network exchanges and provides improved performance.

This guide first describes the Client side of TS Network DataServer, which is provided with every Thoroughbred Environment installation. It then provides specific information for Thoroughbred servers.

BEFORE INSTALLING THIS PRODUCT:
Please refer to the latest Release Notes found on the Thoroughbred website under Documentation and then Environment Release Notes:

https://www.thoroughbredsoftware.com/b_downloads.php

Package Contents

You should have received the following:

- An Order Confirmation email containing a License Assignment Card and a link for downloading the products in your order.

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Download Thoroughbred Products

All Thoroughbred products are available for download via the Thoroughbred Download Center.

To download your product(s):

- Click on the link in the Order Confirmation email to open the Downloads page.
- On the Downloads page:
    - Enter your Customer ID and Order Number from the Order Confirmation email.
    - Enter your name and email address.
    - Click on the Lookup Order button to open the Verification page.
- On the Verification page:
    - Click on the product to download.
    - Click on the button to accept the Thoroughbred License Agreement.
    - Click on the Download button.
    - Repeat these steps until all products from your order are downloaded.
- Once all products from your order are downloaded, copy them to the system where you will be installing your product(s).

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Requirements

To run TS Network DataServer your system must meet the following requirements:

- Windows 10/Windows 11/ Windows Server 2016/Windows Server 2019/Windows Server 2022/Windows Server 2025

Once the installation is complete, server access is enabled by the addition of a number of configuration items. Refer to the sections that follow for instructions about creating or modifying the *SERVER.MAP* and *IPLINPUT* file, *TERM.MAP* file, and executing the *Server Startup Program*.

TS Network Basic with DataServer Components

The TS Network Basic with DataServer consists of three components:

- A Client enabled Thoroughbred Environment,
- A Startup Program (tsmgr), and
- A Server Process (tsserv) for each connection.

Client Enabled Thoroughbred Environment

The client side is enabled in a standard Thoroughbred Environment. When configured for data server access, it detects requests for data that reside on a server. When this event occurs, it sends the I/O request to the server for processing. The server responds with the resulting set and processing continues.

Startup Program (tsmgr)

The Startup Program (tsmgr) creates server processes for clients as needed. When the Startup Program detects a client attempting to connect, it tries to create a Server Process for the client. If a server process is created successfully, they can perform client/server communications.

NOTE: A server system must have the Startup Program running before clients attempt to connect to it.

Server Process (tsserv)

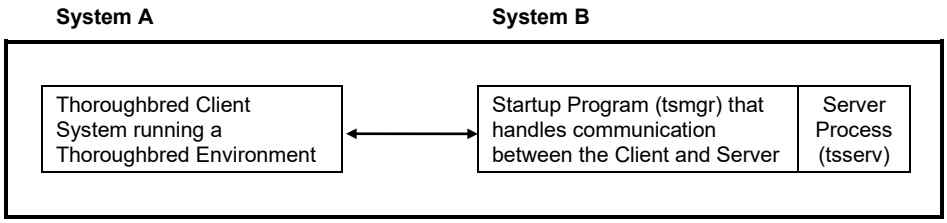
The Server Process (tsserv) is triggered by requests from the client. Once a request is received, it is processed and the results returned to the client.

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System Architecture

The following diagram describes the configuration of components for the Thoroughbred Client.

Client on System A and Server on System B.



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INSTALLATION

NOTE: All Thoroughbred Windows based products prior to Version 8.8.0 must first be uninstalled and then the 8.9.1 release installed. **BEFORE** continuing with this installation, please see the *Uninstalling TS Network Basic with DataServer* section below to properly prepare your system for 8.9.1.

Back Up Existing Program and Data File Before Installing

- Use site procedures to back up your application and data files.
- Use site procedures to back up the IPL, IPLINPUT, and TERMINAL files from the Thoroughbred Basic directory. From the IDL4 directory, back up the TCONFIGW and TCONFIG8 files.

Uninstalling TS Network Basic with DataServer – 8.5.x through 8.6.0

These instructions assume you had previously installed using the default folder C:\Program Files\Tbsc. The folder names may vary slightly depending upon which products you have installed and where the products were originally installed.

1. **Login** using an **Administrator** account.
2. **Backup** your application data and programs.
3. From the Administrative tools select **Services** and stop the Thoroughbred Server Manager (tsmgr.exe).
4. Uninstall the Thoroughbred Server Manager by running srvcmgr.exe with the –d argument.

   From the Windows **Start** menu Select **RUN.**

   Click on the **Browse** button and point to the folder where you installed the Basic. Typically, this is **C:\Program Files\Tbsc**. Highlight the file named **srvcmgr.exe** and press the **Open** button. Edit the Open option in the Run dialog appending the **-d** option. The run option is not quoted. For example: **C:\Program Files\Tbsc\srvcmgr.exe –d**

   From the Run dialog press **OK**.

   If the service is deleted a message box will display saying: Service 'tsmgr' successfully deleted! When the Thoroughbred Server Manager is uninstalled click the **OK** button and continue with the uninstall procedure.

   If the service could not be deleted, a message box will display saying: Unable to delete service 'tsmgr'!. If the delete fails do not continue with the uninstall procedure, contact Thoroughbred Support for assistance.
5. From the Control Panel select the applet to add and remove applications. Remove TS Network Basic with DataServer.

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6. Files not installed by the setup or files that have changed since the setup was run are not removed. If you have already uninstalled other Thoroughbred products some the following files may no longer exist. Erase the following folders and files:
   C:\Program Files\Tbsc
   C:\Windows\Tsi.ini
   C:\Windows\tsiconst.ini
   C:\Windows\TBRED8?.BAS

7. We **recommend running a reliable registry cleaner** at this point.

8. **Reboot** your system.

The system is now ready for the 8.9.1 TS Network Basic with DataServer installation. When that is complete you can recover your application data and programs. Please be sure to review the Installed Directories and Files section of this manual before you recover your application files.

Uninstalling TS Network Basic with DataServer – 8.7.x

These instructions assume you had previously installed using the default folder C:\Program Files\Tbsc and C:\Program Data\Thoroughbred Software. The folder names may vary slightly depending upon which products you have installed and where the products were originally installed.

9. **Login** using an **Administrator** account.

10. **Backup** your application data and programs.

11. From the Administrative tools select **Services** and stop the Thoroughbred Server Manager (tsmgr.exe).

12. Uninstall the Thoroughbred Server Manager by running srvcmgr.exe with the –d argument.

    From the Windows **Start** menu Select **RUN.**

    Click on the **Browse** button and point to the folder where you installed the Basic. Typically, this is **C:\Program Files\Tbsc**. Highlight the file named **srvcmgr.exe** and press the **Open** button. Edit the Open option in the Run dialog appending the **-d** option. The run option is not quoted. For example: **C:\Program Files\Tbsc\srvcmgr.exe –d**

    From the Run dialog press **OK**.

    If the service is deleted a message box will display saying: Service 'tsmgr' successfully deleted! When the Thoroughbred Server Manager is uninstalled click the **OK** button and continue with the uninstall procedure.

    If the service could not be deleted, a message box will display saying: Unable to delete service 'tsmgr'!. If the delete fails do not continue with the uninstall procedure, contact Thoroughbred Support for assistance.

13. From the Control Panel select the applet to add and remove applications. Remove TS Network Basic with DataServer.

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14. Files not installed by the setup or files that have changed since the setup was run are not removed. If you have already uninstalled other Thoroughbred products some the following folders and files may no longer exist. Erase the following folders or files:

    C:\Program Files\Tbsc
    C:\Program Data\Thoroughbred Software\Tsi.ini
    C:\Program Data\Thoroughbred Software\TBManager.ini
    C:\Program Data\Thoroughbred Software\TBSCSYS.ini
    C:\Program Data\Thoroughbred Software\TBRED8?.BAS
    C:\ProgramData\Thoroughbred Software\TS Network DataServer
    C:\ProgramData\Thoroughbred Software\Tbsc

    We **recommend running a reliable registry cleaner** at this point.

15. **Reboot** your system.

The system is now ready for the 8.9.1 TS Network Basic with DataServer installation. When that is complete you can recover your application data and programs. Please review the Installed Directories and Files section of this manual before you recover your application files.

Installed Directories and Files

NOTE: Starting with 8.7.0 the location of some TS Network Basic with DataServer directories and files have changed. Unlike previous releases Thoroughbred files should not be moved as this will render various ini file entries and registry keys invalid.

Windows Desktop workstation or Windows server class machine

The installs follow Microsoft best practice rules. Some of the rules are: all executables must be installed in Program Files, files that require read write access cannot be installed in Program Files or Window system folders. This required a new directory structure.

Application Data folder: This is where the Dictionary-IV and OPENworkshop environment will be installed. This includes IPLINPUT.TXT, SERVER.MAP, TERM.MAP, TERMINAL and the IDL4, UTILS, and WORK folders. The setup will install the Dictionary-IV merge files and all other merge files activated by the module code in the IDL4 folder. During the install process you will have the option to override the default folder C:\ProgramData\Thoroughbred Software\Tbsc. The application data folder requires read, write and modify permissions for all users.

Basic Executable folder: This is where the Network Basic with DataServer executables and dlls will be installed. During the install process you will have the option to override the default folder, we ***STRONGLY*** recommend selecting the default folder C:\Program Files\Tbsc. The Basic executable folder should limit permissions to read for all users.

Thoroughbred system files will always be installed in common folder C:\ProgramData\Thoroughbred Software\Tbsc , there is no override option. This includes TSI.ini, Tsiconst.ini, and TBManager.ini and other Thoroughbred system files. The common folder requires read, write, and modify permissions for all users.

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When referencing directories the Server ID must be included. To specify the IDL4 directory defined as DEV D0,1,,2,,,,S1:IDL4 use S1:IDL4.

All DEV lines defined in the IPLINPUT.TXT file are relative to the application data folder.

Installing the Host Files to Your Hard Drive

All installations and activations must be run with Administrator privileges. Once fully installed and activated the products can be run using standard user accounts.

If you are installing on Windows Server with Terminal Services in Execute Mode switch to Install Mode prior to running setup.exe.

1. To set Install Mode, from a command line enter **chgusr /INSTALL**.

2. After completing the install, switch back to Execute Mode. From a command line enter **chgusr /EXECUTE**.

3. At any time, the current mode can be verified with chgusr /QUERY.

The chgusr command is a Terminal Services tool. For more information regarding installing applications with Terminal Services please refer to Microsoft documentation.

1. **Login** using an **Administrator** account.
2. We **recommend closing all unnecessary applications** before running the install.

3. **Run setup.exe** located in the Tsnetbas folder. This setup will install TS Network Basic with DataServer on-Windows Server 2016, Windows Server 2019, Windows Server 2022 and Windows Server 2025. While it is possible to install on Windows 10 or Windows 11, we recommend installing product on a machine with a server class operating system.

4. The **InstallShield Wizard** will start the installation and guide you through the rest of the process.

Microsoft Prerequisites

The installation will first check the target workstation to determine if the required Microsoft prerequisites are present. If they are not, you will be prompted to install them. You must install the prerequisites if the install dialog prompts you to do so. When that installation is complete, the TS Network Basic DataServer installation will continue automatically

User Information – All Platforms

Enter your Name and Company.

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Thoroughbred Module Code – All Platforms

Enter the Module Code located on the label. You must enter the correct module code for your product. If you make a mistake, you will not be able to activate your system.

Choose Destination Location – Windows Desktop workstation or Windows Server class machine

The first destination dialog will allow you to choose the Application Data folder. This is where the Dictionary-IV and OPENworkshop environment will be installed (IDL4 folder) and where the IPLINPUT.TXT, Server.map, TERM.MAP, TERMINAL files will be installed. These files must reside in this folder. This is also where the application programs and data files should reside.

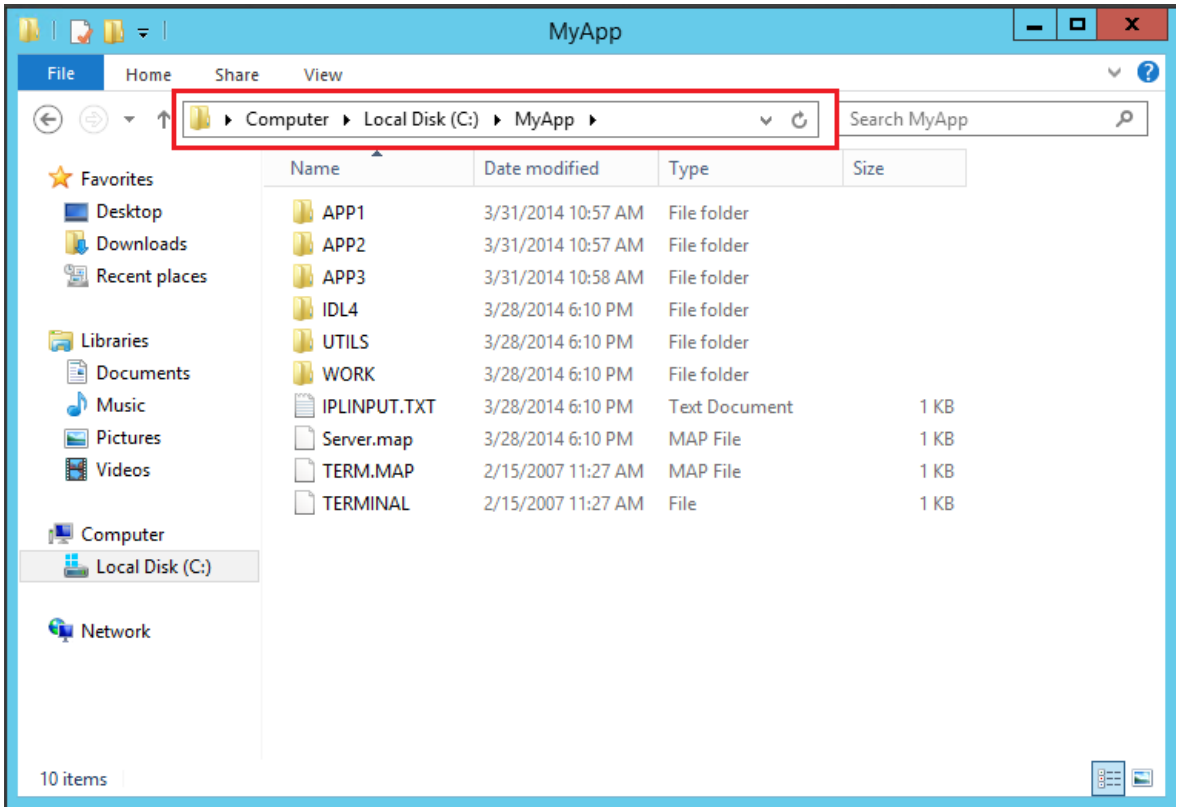
Press **Next** to install into the default folder C:\ProgramData\Thoroughbred Software\Tbsc or press **Browse** to select an alternate folder. Example Application Data folders are:

C:\ProgramData\Thoroughbred Software\Tbsc
E:\MyApps\Tbsc
C:\MyApps

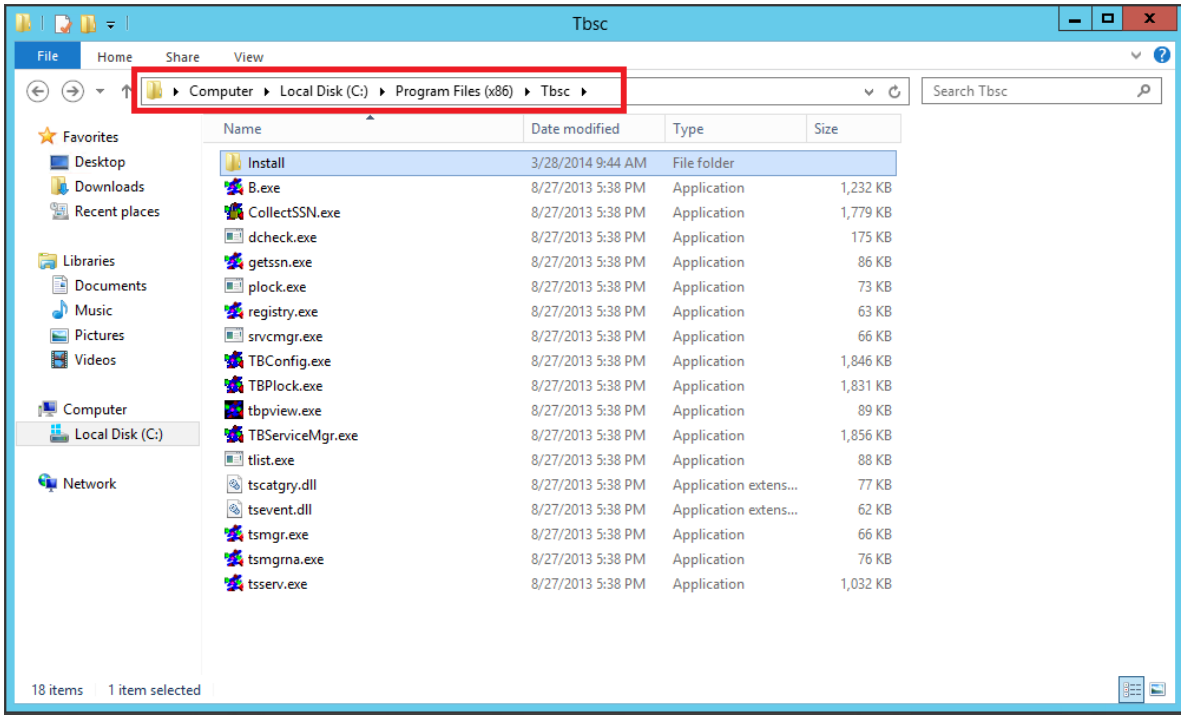
The second destination dialog will allow you to choose the Basic Executables folder. This is where the Network Basic with DataServer executables and dlls will be installed. No other files should be placed here. Press **Next** to install into the default folder. We ***STRONGLY*** recommend installing in the default folder.

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Example Application Data folder on Server 2012:



Example Program folder on Server 2012:



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Serial Number – All Platforms

The installation procedure will display a dialog box to collect the serial number.

Enter the Serial Number provided on the media label. If the operating system noted on the media does not match the target operating system, the serial number will not be validated. When internet access is available, you will have an option for Internet Activation. Press **Continue** to automatically activate over the internet. Automatic activation is easier and faster with no web forms to fill out and no delay waiting for an email reply. Activation is an immediate process using this method. Press **Skip** to activate manually; see the *Activation of the DataServer* section of this manual for details.

A serial number must be entered before TS Network Basic with DataServer can be run. The serial number can be entered at any time by manually executing CollectSSN.exe:

- Locate **CollectSSN.exe** in the <*install-path*>\directory. For example, C:\Program Files\Tbsc
- Double click to execute it and enter the serial number from the License Assignment Card in your Order Confirmation email.

If a serial number is not entered, then TS Network Basic with DataServer will not run and an "Unauthorized Installation" message will be displayed.

Setup Complete – All Platforms

Click **Finish** and then **reboot** the system.

See the OPENworkshop and Dictionary-IV Installation guides located on the Thoroughbred website under Documentation and then Reference Manuals.

Installing the Client Files to Your Hard Drive

The Host installation creates an Install folder on the server containing the installation files required for the Client installation. The client is installed by sharing this folder, mapping a drive to it and then running the client setup.

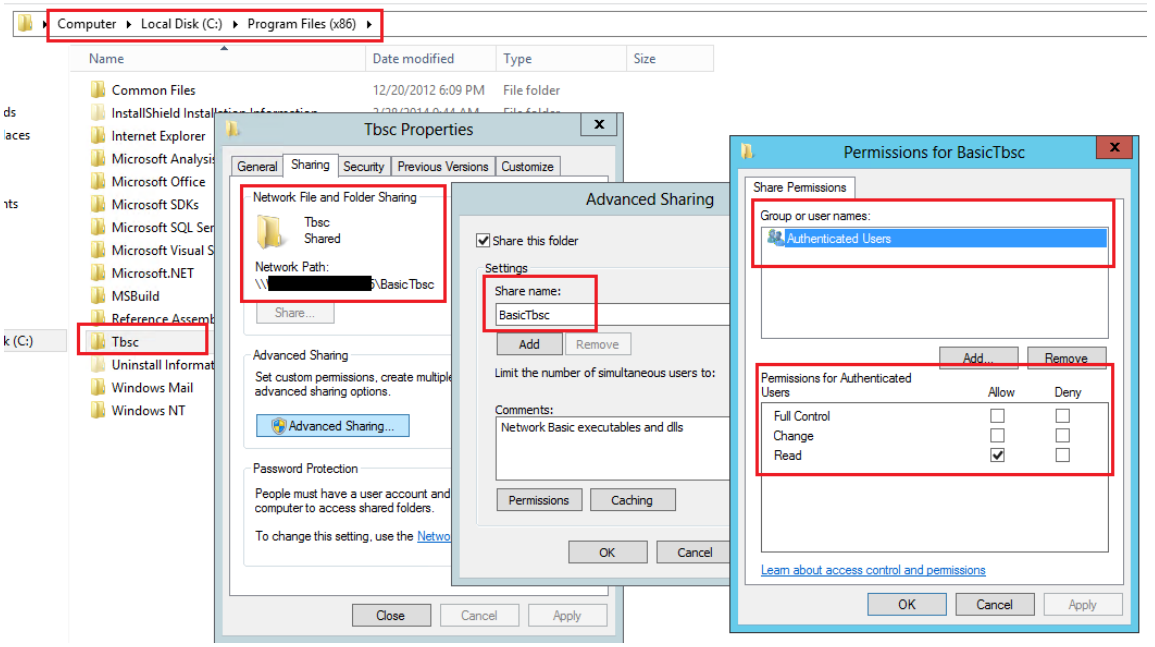
Share and Map the Client to the Host – Windows Desktop workstation or Windows Server class machine

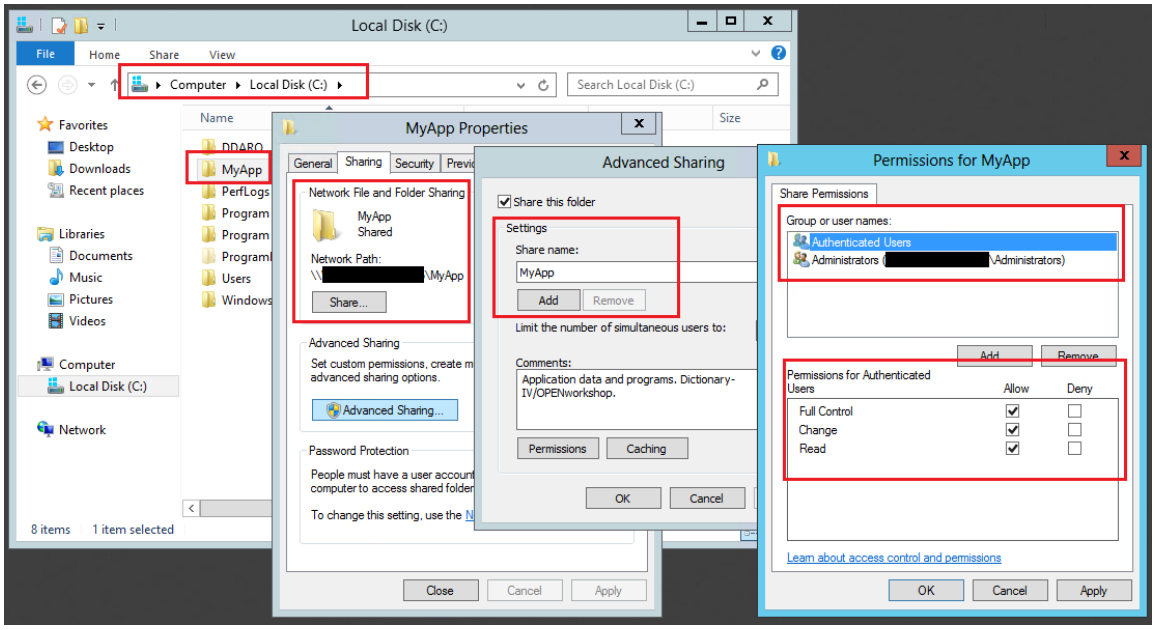
On the host, share the Basic Executable folder (for example C:\Program Files\Tbsc).

On the host, share the Application Data folder where the Dictionary-IV and OPENworkshop environment is installed (for example: C:\ProgramData\Thoroughbred Software\Tbsc, or E:\MyApps\Tbsc, or C:\MyApps). All users must have Full Control, Change, and Read permissions to this share.

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Example shares on Server 2012:



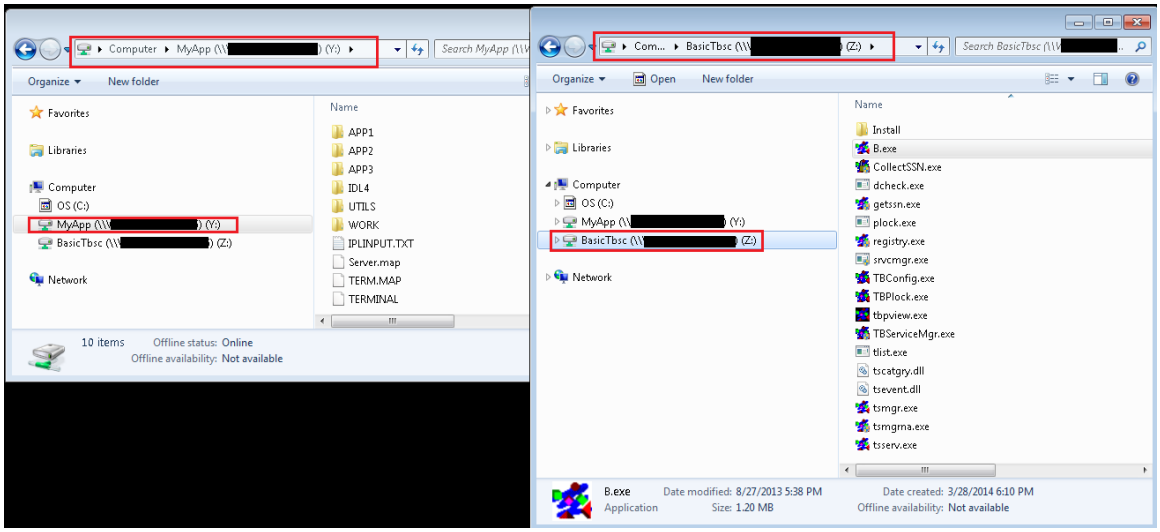


On the client, create a mapped drive to the server connecting to the Basic Executable folder (for example, Z).

On the client, create a mapped drive to the server connecting to the Application Data folder (for example, Y).

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Example mapped drives on Windows 7:



Install Client Windows Desktop workstation or Windows Server class machine

On the client, open the mapped drive with the Network Basic with DataServer executables and browse for the Install folder, for example H:\Install. Open the Install folder and double click on Setup.exe to start the installation for the client.

InstallShield will display a dialog with the following input fields:

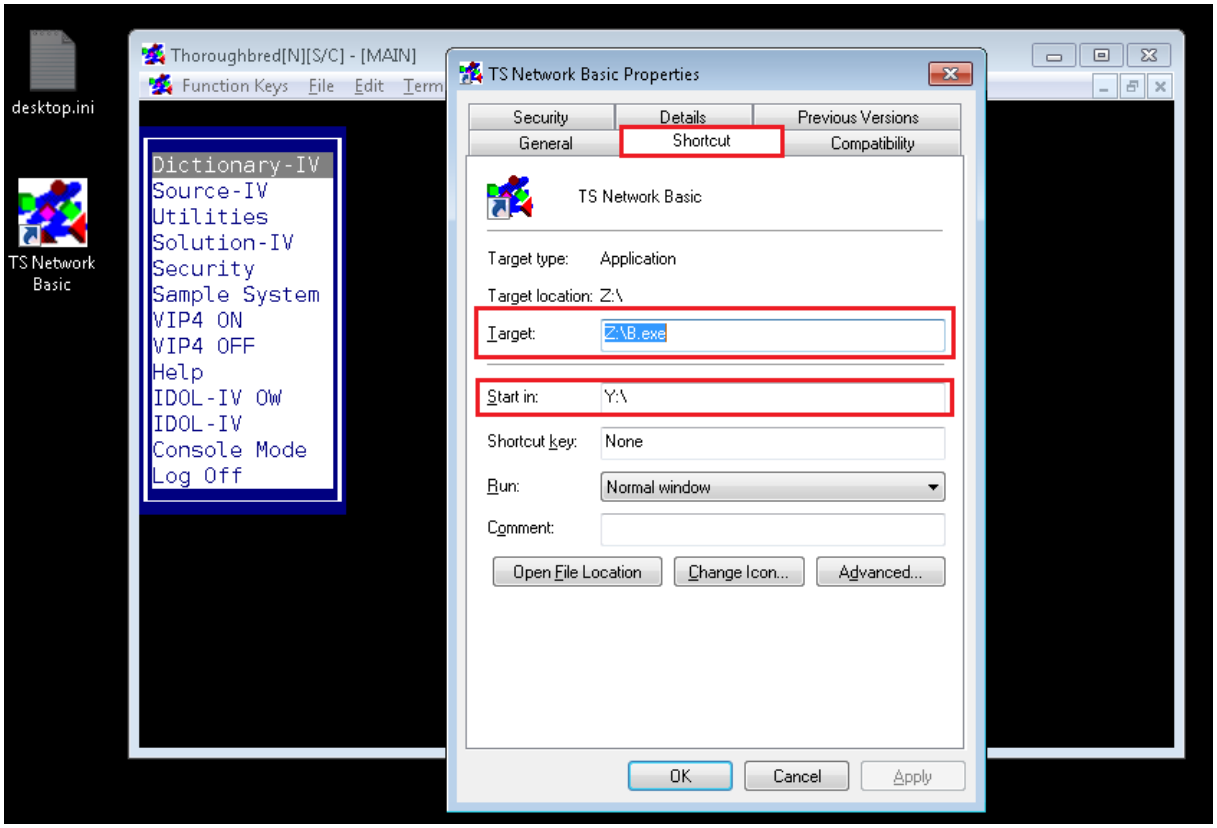
Shortcut Name — You will have the option to enter a shortcut name overriding the default name.

Shortcut Target Value — Enter the mapped drive where the Network Basic executables have been installed (for example, Z:\b.exe).

ShortCut Start in Value — Enter the mapped drive with the application data folder. If the application data share is C:\ProgramData\Thoroughbred Software\Tbsc, and mapped to Y, the Start In Value would be V:\ If the application data folder is E:\MyApps\Tbsc, shared as E:\MyApps and mapped to V, the Start In Value would be V:\Tbsc.

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Example shortcut on Windows 7:



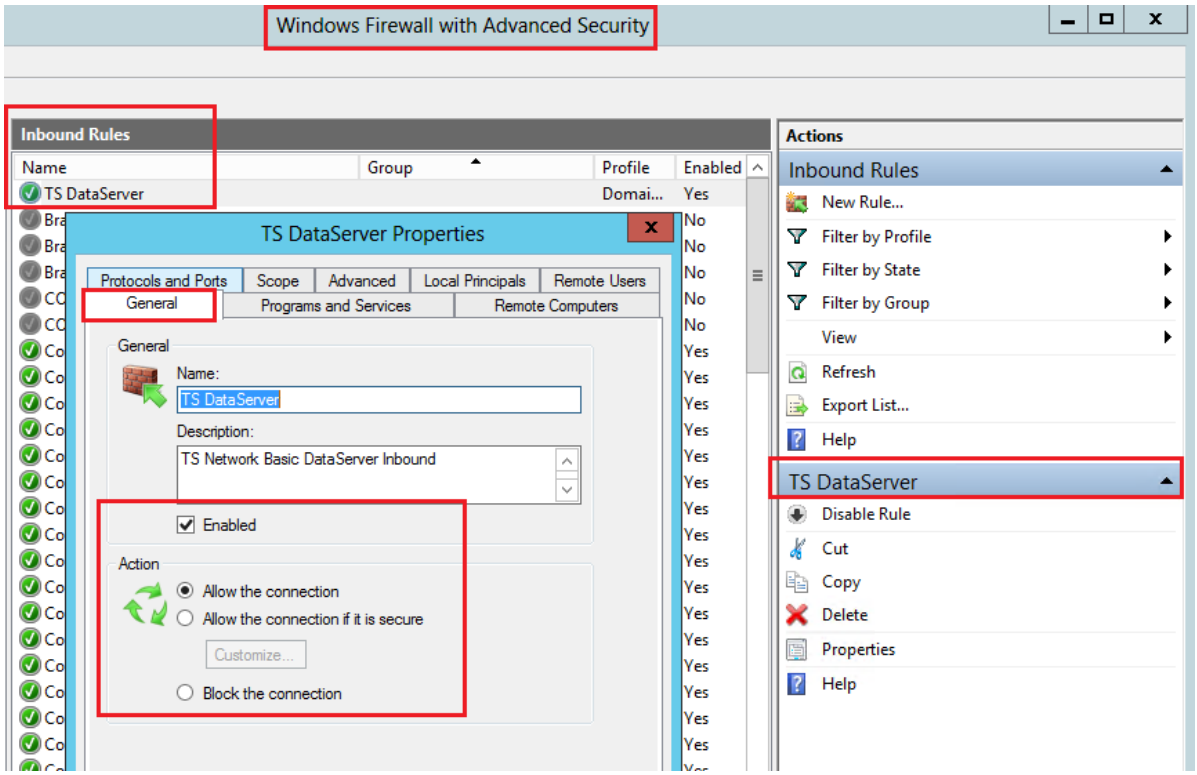
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CONFIGURING THE ENVIRONMENT

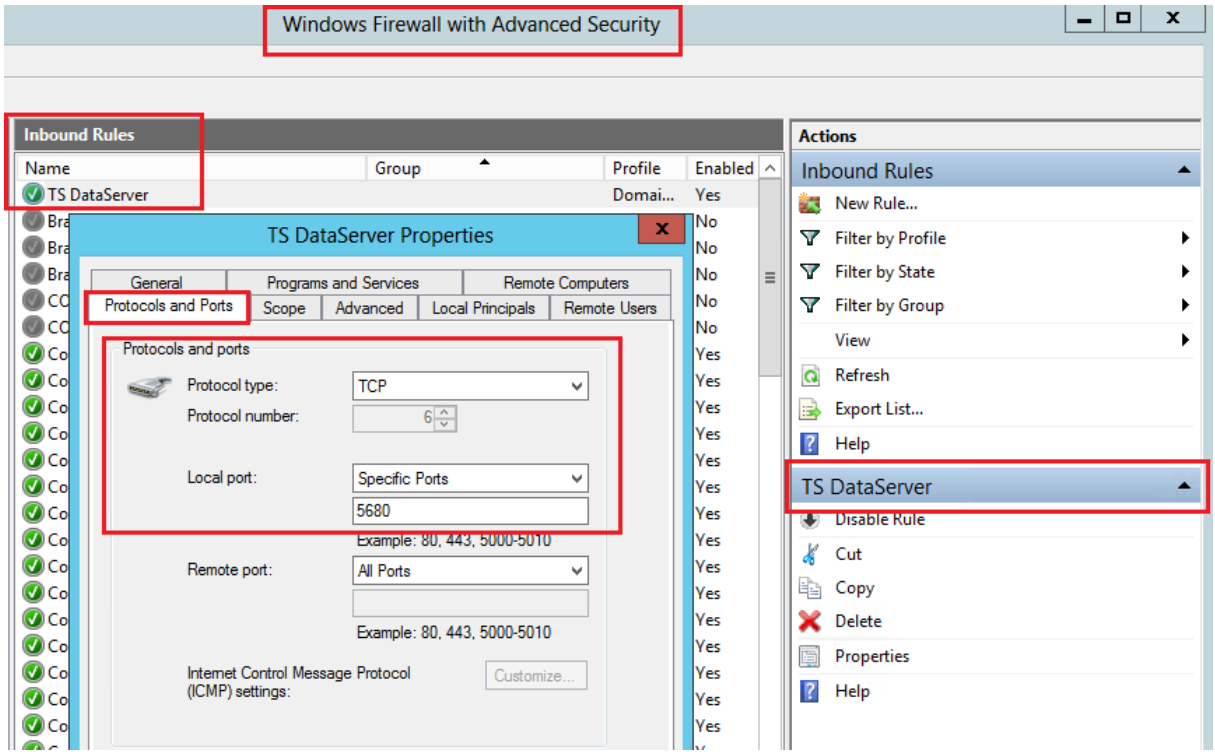
To setup TS Network DataServer software you must configure network communications and server access for the client.

All firewall software must be modified to allow Thoroughbred to communicate between the client and the server. Create a Firewall Inbound rule for the TS DataServer. Allow inbound TCP on port 5680. By default, the DataServer service (TbredServerMgr) will use port 5680. It can be configured to use an alternate port if that is required.

Example firewall on Server 2012:



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The install will create the following files on the server. In some cases, it may be necessary to modify one or more of these files:

- SERVER.MAP
- IPLINPUT.TXT
- TERM.MAP

On a Windows desktop workstation or Windows Server class machine these are located in the application data directory. For example, C:\ProgramData\Thoroughbred Software\Tbsc.

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SERVER.MAP

The SERVER.MAP text file establishes a relationship between a 2-character Server ID used by Thoroughbred and the server system.

Thoroughbred uses the Server ID to reference the server system. Enter a line in the file for each server.

The syntax for an entry is:

```
server-id:[host-name or IP address]:port :PARENT
```

server-id
is a 2-character alphanumeric string used within Basic to reference a particular server system.

host-name
is the host name or IP address for the server system. If the network is unable to resolve the host name specify the IP address.

port
is the optional port number used to override the default port 5680. In the event of a conflict with another TCP/IP process using 5680, specify an alternate port in the server.map file and start the DataServer on that port.

PARENT
is required syntax.

IPLINPUT.TXT

Once you establish the server ID you can make the required entries for the IPLINPUT.TXT file.

Each DEV line corresponds to a directory on the server. The syntax for a DEV line is:

```
DEV device-name,1,,server-flag,,,,server-id:path
```

device-name
is device ID used to reference logical disk directories. Valid values range from D0 through DZ.

server-flag
informs Basic that the disk directory is located on a server and defines the type of server. The value for the Thoroughbred server is 2.

server-id
is the two-character alphanumeric code assigned to this server. The server ID on the DEV line must match an entry in the SERVER.MAP file.

path
is the directory (on the server) where the data resides. The path may or may not be a fully qualified path. If it is not a fully qualified path, it is interpreted as relative to the directory where the server executable resides.

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Example
The following are example of valid DEV lines (using the SERVER.MAP entries defined previously):

DEV D0,1,,2,,,,S1:IDL4

An IPLINPUT file may contain DEV lines that point to directories on the Client system and DEV lines that point to directories on the Server system.

TERM.MAP

The Thoroughbred Environment and the Server Process (tsserv) uses terminal IDs to enforce data integrity (record and file locking). Terminal IDs must be unique not only with other client Basics but also with each server connection. The client and server(s) negotiate at startup to establish a terminal ID that is unique for the client Basic and all servers connected. Therefore, it is ***not*** recommended that client Basics be initiated as follows:

```
./b T5
```

Terminal table assignment is accomplished using TERM.MAP. See the Thoroughbred Basic Customization and Tuning Guide for information on creating and maintaining the TERM.MAP file.

The SETUP installation creates a TERM.MAP file with the one entry listed below:

```
WIN|win:WINNTCON
```


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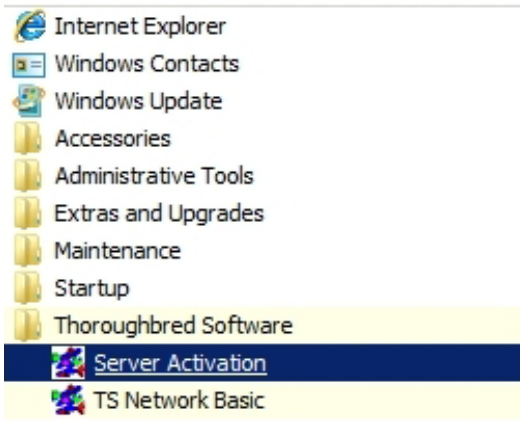
ACTIVATION OF THE TS DATASERVER

The TS DataServer will be activated automatically by the install process when internet access is available. Automatic activation is easier and faster with no web forms to fill out and no delay waiting for an email reply. Activation is an immediate process using this method.

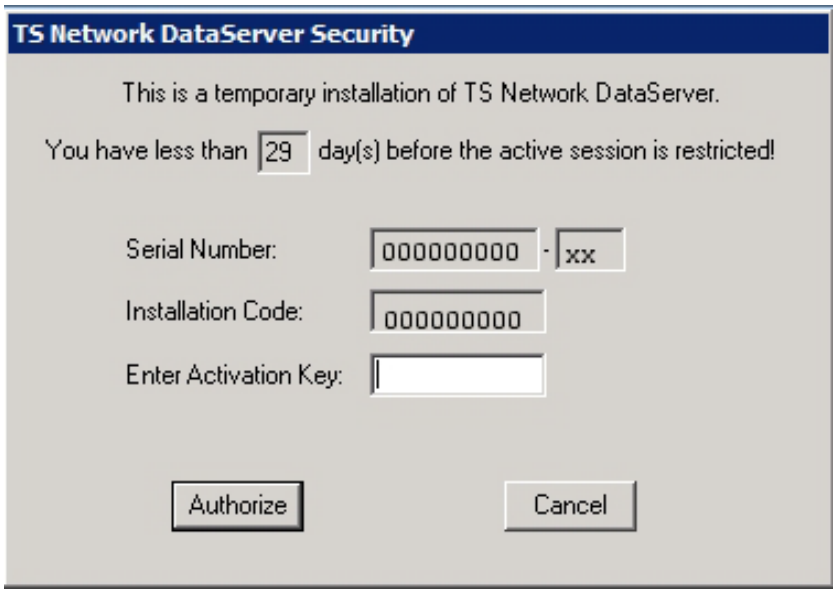
To manually activate the TS DataServer:

1. **Login** as **Administrator**.

2. From the **Start** menu select **All Programs-->Thoroughbred Software-->Server Activation**.



3. The TS Network DataServer Security dialog will display:



4. Your Serial Number and Installation Code will be displayed. Enter your **Activation Key** and press **Authorize** to activate the TS DataServer.

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USING TS NETWORK DATASERVER

The following describes how to access and manage server connections.

Operating System Interface

The Thoroughbred server makes any Thoroughbred native file accessible to a client. This includes Programs and Object Libraries. Your entire application may reside on the server.

If your application does an operating system check, the results are based on the Client Basic. It is important to understand that instructions that are operating system specific may not generate expected results.

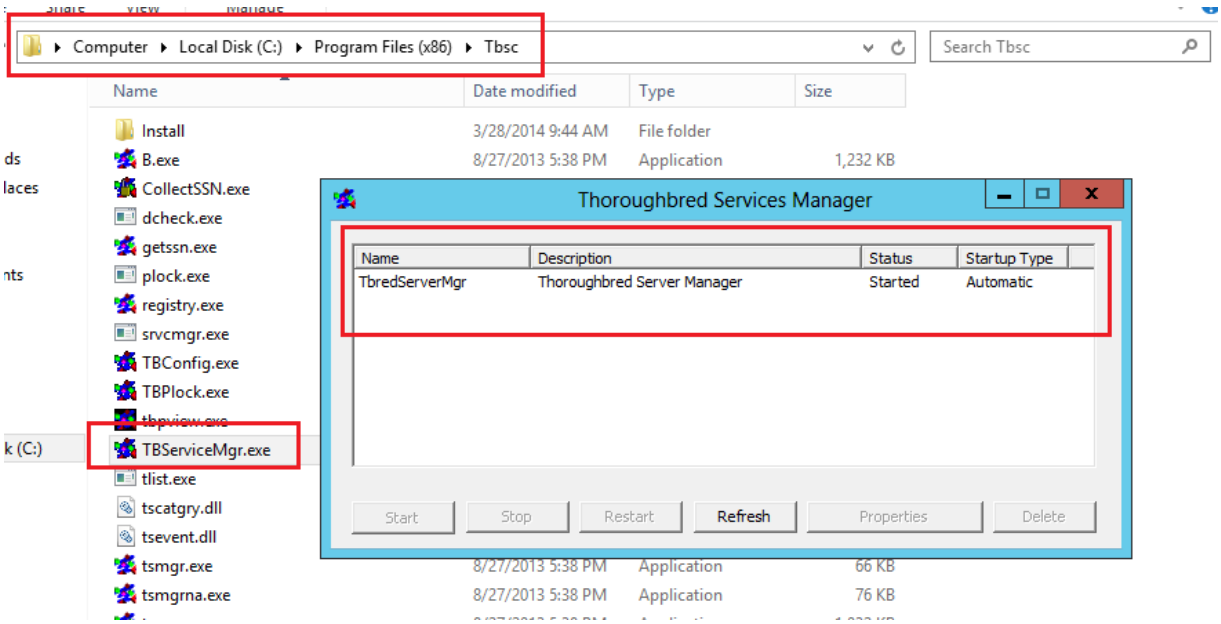
Server Process

Starting the Server Process

The installation sets up the Thoroughbred server as an automatic service. The server process is initiated each time the system is started.

You can manually start and stop the Server Process through **Services** in the **Control Panel**. The server can also be managed by running TbServiceMgr.exe. This can be used to Start or Stop the service, view version information, and modify properties like the port number.

Example Thoroughbred Services Managers on Server 2012:



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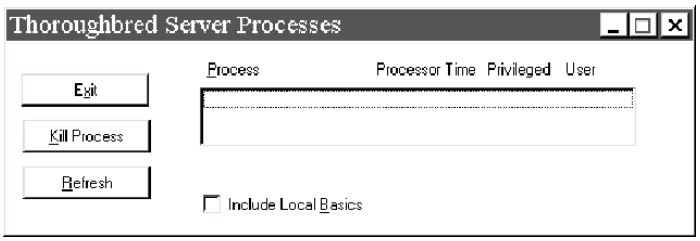
Managing the Server Processes

A server system that is running properly has one instance of the Startup Program (tsmgr) running and one instance of the Server Process (tsserv) running for every client that is connected.

For a given client machine and server system, there is a one-to-one correspondence between the client and server processes. When a client connects to a server, a Server Process is created for that client by tsmgr. When the client quits, the associated Server Process (tsserv) also terminates.

The Thoroughbred utility tbpview.exe can be used to produce a listing of processes that are currently running. This program can be found in the Thoroughbred folder (e.g. C:\Program Files\Tbsc). When tsmgr is not running, the (empty) output should be similar to the following dialog box:

List of Processes Currently Running



Client Connection

Once the Server Process is up and running, clients can begin to connect.

For each DEV line in the IPLINPUT file that specifies a connection to a server, an attempt is made to connect to that server.

- If an existing connection already exists, the existing virtual circuit will be used for communication.
- If no existing connection exists, a virtual circuit to the server will be created.
- If a connection cannot be made, an appropriate error message will be displayed. The device will be disabled.

NOTE: If there are no servers defined in the IPLINPUT file or the client could not connect the defined servers, the client can still operate accessing local files.

Managing Shortcuts and IPLINPUT Files

Do not modify the shortcut created by the installation. If a different shortcut is required use the Windows shortcut wizard to create a new desktop shortcut

To specify an alternate IPLINPUT file create a new desktop shortcut using the same target and start in values as the default shortcut created by the installation. Modify the target value, specifying the IPL file name after the b.exe. Example target: H:\b.exe MYIPLINPUT.txt.

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Specifying a Task ID is not recommended. See the TERM.MAP section for details.

Basic can only be run from a shortcut with a target value pointing to the Basic executables folder and a start in value pointing to the application data directory. For more information, please see the *Install Client Windows Desktop workstation or Windows Server class machine* section of this manual.

Managing the Number of Connections

The server manages the number of connections. Each time a new connection is initialized by a client, the user count will be incremented. When a user exits Basic (RELEASE), the user will be removed from the count.

If a client does not terminate the Basic session properly, that user will not be removed from the count. There should always be an equal number of b.exe and tsserv.exe processes running. If there are extra tsserv processes, this indicates that a basic client is still attached to the server. See the section Trouble Shooting, User Count later in this manual for additional instructions.

OPENing Data Files

Thoroughbred client follows the same methodology as standard Basic when searching for files. The disk directories are searched in the order they are defined in the IPLINPUT file.

If the client Basic attempts to OPEN /home/data/filename, the search starts with the first hierarchical disk defined in the IPLINPUT file. The client and each server may have a hierarchical disk directory defined in the IPLINPUT file. Adding a server ID to the above path S1:home/data/filename does not force access to the server. In this example the server ID S1 is ignored and the search is done as if the server ID did not exist.

On Windows 10, Windows 11, Windows Server 2016, Windows Server 2019, Windows Server 2022 and Windows Server 2025 when referencing a directory the Server ID must be included. To specify an IDL4 directory defined as DEV D0,1,,2,,,,S1:IDL4 you must use S1:IDL4.

Data Security

The server Process (tsserv) is installed with the set-UID bit set. Therefore, the client has the same permissions as the owner of the Server Process (tsserv) when accessing files on the server.

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ERROR MESSAGES

The following describes startup and Client Error Messages.

Startup Messages

`Unable to get host information for host name:`

Explanation: The host name in the SERVER.MAP file is not valid.

Action: Verify that the SERVER.MAP file contains valid host name entries for all of the defined servers. Try using the IP address in place of a host name to avoid name resolution issues. If an IP address was specified, try using a host name.

`Unable to get host information for host address:`

Explanation: The address in the SERVER.MAP file is not valid. Either the format is not correct or the address does not exist.

Action: Verify that the SERVER.MAP file contains valid addresses for all the defined servers. Try using the IP address in place of a host name to avoid name resolution issues. If an IP address was specified, try using a host name.

`Invalid SERVER.MAP entry for Server:`

Explanation: The entry in the SERVER.MAP file is not valid.

Action: Verify that the entries in the SERVER.MAP file are not missing any fields.

`Unable to connect to Server:`

Explanation: The client was unsuccessful in its attempt to connect to the server.

Action: Verify that the Startup Program (tsmgr) is running on the server.

Verify that the port number in the SERVER.MAP file is 5680. If the default port is being overridden, verify that the port number in the SERVER.MAP file and the port number used by the DataServer are the same.

Verify that the firewall is set to allow the port (default 5680). If the default port is being overridden, verify that the firewall is set to allow the port defined in the SERVER.MAP file.

Verify that the network is up and functional. Try alternate methods of communicating with the Server (e.g., ping, telnet, rlogin, rcp, ftp) or notify your network administrator.

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Client Error Messages

Error 103

Explanation: Operating system error. When running TS Network DataServer, there might be an error from a call made to the Socket API. The cause may be a broken or lost connection to the server.

Action: The client must exit Basic and restart.

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TROUBLESHOOTING

The following provides troubleshooting information for the Thoroughbred Server.

Server Crash

If the server crashes or the connection is lost, any attempt to access data on the server results in and Error 103. The client must exit Basic and restart.

User Count Exceeded

If a client does not disconnect properly, that connection will not be removed from the user count. There should be one tsserv process for each Basic connection. Verify that there are an equal number of b.exe and tsserv.exe processes running. Have a Network Administrator do a netstat –ano to determine if there are connections to port 5680 that are unaccounted for.

To resolve this, have all users exit their Basic sessions and reboot the server. Rebooting the server is recommended, however if this is not an option, have all users exit their Basic sessions. Wait a few minutes and check to see if there are any tsserv processes running. If so, kill all tsserv processes and restart the service (tsmgr.exe). All clients should be able to reconnect to the DataServer, if not, a reboot of the server will be required.

Performance

Performance problems can be caused by network connection or by the hangs that occasionally occur in mixed operating system environments. Contact the network administrator to determine if network problems exist. To see if you are running into excessive “hang” conditions, type:

```
DUMP IPLDEVS "STATS=YES"
```


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The listing shows the timeout errors for those servers to which the client is connected. The listing should look similar to:

Listing of Timeout Errors

***** IPL ENVIRONMENT INFORMATION**

***** TCP TIMEOUT INFORMATION**

	Level										
Server	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**Total**
S1:Server1	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
S2:Server1	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**

***** END OF DUMP2**

Remember that a Level 1 error is a timeout after one second, a Level 2 error is a timeout after two seconds, a Level 3 error is a timeout after four seconds, etc.

You should also contact the Server System Administrator to verify that the server is fully functional.

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