



Fast DBTools

User Guide

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Fast DBTools Features

Fast DBTools is a SQL Server specific program that performs Sage 300 DBLoad, DBDump and DBCopy operations, copying data between a Sage 300 dataset and a SQL server database.

It also provides a Sage 300 centric view of SQL Server databases, and supports operations not otherwise available using Sage 300 tools, facilitating DB creation, database clean-up and disk space management.

Key features and benefits:

- **Fast DBLoad:** A database load takes a fraction of the time taken by the standard Sage 300 utility – typically, it is 3x to 4x faster.
- **Fast DBDump:** Any number of Sage 300 databases can be dumped in a single, unattended operation. Dumps are performed using multiple threads, speeding up overall operation.
- **Fast DBCopy:** Database copy operations take about 60% of the time taken by the standard Sage utility. Further, databases can be copied directly from one SQL Server instance to another, eliminating tedious context switching operations.
- **Safe:** Includes a "Require Exclusive Access" checkbox on the Dump & Copy forms.
 - When checked, a dump will not proceed unless the program gets exclusive access to the database.
 - When unchecked, Fast DBTools will still attempt to get exclusive access, but will proceed if unable to do so. A dumped or copied database may not be consistent if users are able to make entries during the dump.

New for 2018 – warns you if a database being dumped has stored procedures, views, triggers, extra tables or extra columns that will not be saved in a dataset.

New for 2018 – records a database's collation information in the dataset. The program will warn you if you try to load a dataset into a database that has a different collation

- **Visibility:** Fast DBDump dumps data in a readable CSV format as well as in Sage REC format. All Sage 300 databases are displayed in a sortable, Sage 300 centric grid with Collation, Recovery Model and Log Space Available columns. Icons on the display separate Sage 300 and non-Sage 300 databases (e.g. CRM or Portal databases). The icons also indicate whether or not a Sage 300 database is connected and usable (i.e. that a Database Setup entry is present).
- **One-Stop Utility:** A Shrink Log button quickly recovers unused space in database logs without using the SQL Server Management Studio.

A convenient feature when loading a database allows you to set the Common Services company name to match the description in the database setup tables – saving time when repeatedly loading a test copy of a database.

New for 2018 – lets you create a new Sage 300 database or delete existing ones without using SQL Server Management Studio. When creating a database using an existing database as a model, a Database Setup entry will be created with the same credentials. When deleting, the Database Setup entry will also be deleted.

When creating a new database using an existing database as a model, you can enter the database description which will be used in the Database Setup entry.

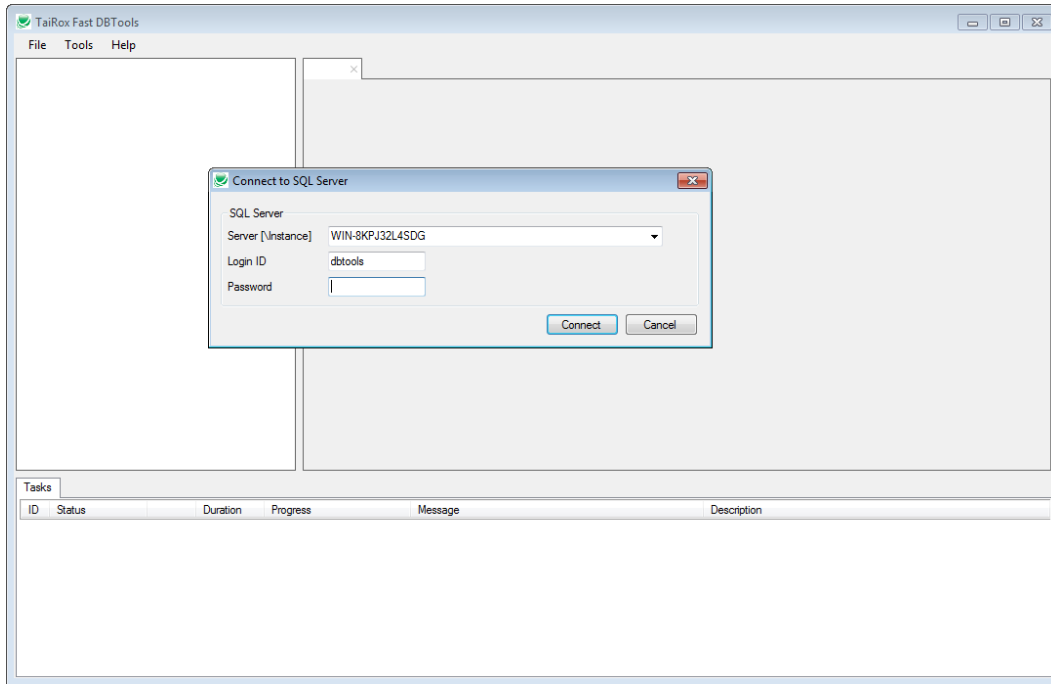
- **Provides Unique Capabilities:** A deactivation operation cleans up tables created by old, unused modules. Two-character prefixes being used in a database are shown for selection.

The Dataset Explorer opens and displays REC (or CSV) files, allowing you to scan tables and records in a dumped database without loading the entire database into SQL Server. You can associate DCT files with Fast DBTools in Windows to open and display dataset files when you double-click the DCT file in Windows Explorer.

Starting and Connecting to the Server

Fast DBTools is launched from the Windows Start List or from a shortcut on the desktop – like other Windows programs.

When launched, Fast DBTools displays a blank window and asks for a connection to a SQL Server instance. Connections can also be made using the **File > Connect to SQL Server** menu choice.



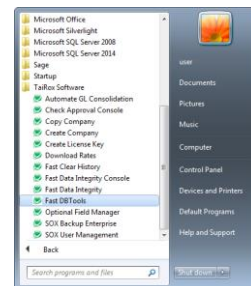
To start Fast DBTools and log in:

1. Click the Start List entry or shortcut to start Fast DBTools.
If Fast DBTools does not appear in the Windows Start List or you do not the shortcut on your Windows desktop, contact your supervisor or IT department.
2. Enter the SQL Server and Login information on the form that appears.

Your supervisor or IT department should provide you with SQL Server Login information.

If you have used Fast DBTools before, you may only have to enter the Password. All other fields use the entries from the last login by default.

- o Enter the name of the SQL Server that you are connecting to.
If the SQL server also has an instance name, you enter the name as “Server\Instance”. (Instances are often used for running different versions of MS-SQL Server or for managing resources for different company departments.)
If you are running Fast DBTools on the physical SQL Server, you can enter “Localhost” as the server name if there is no instance name.
- o Enter the SQL Server Login ID and password.

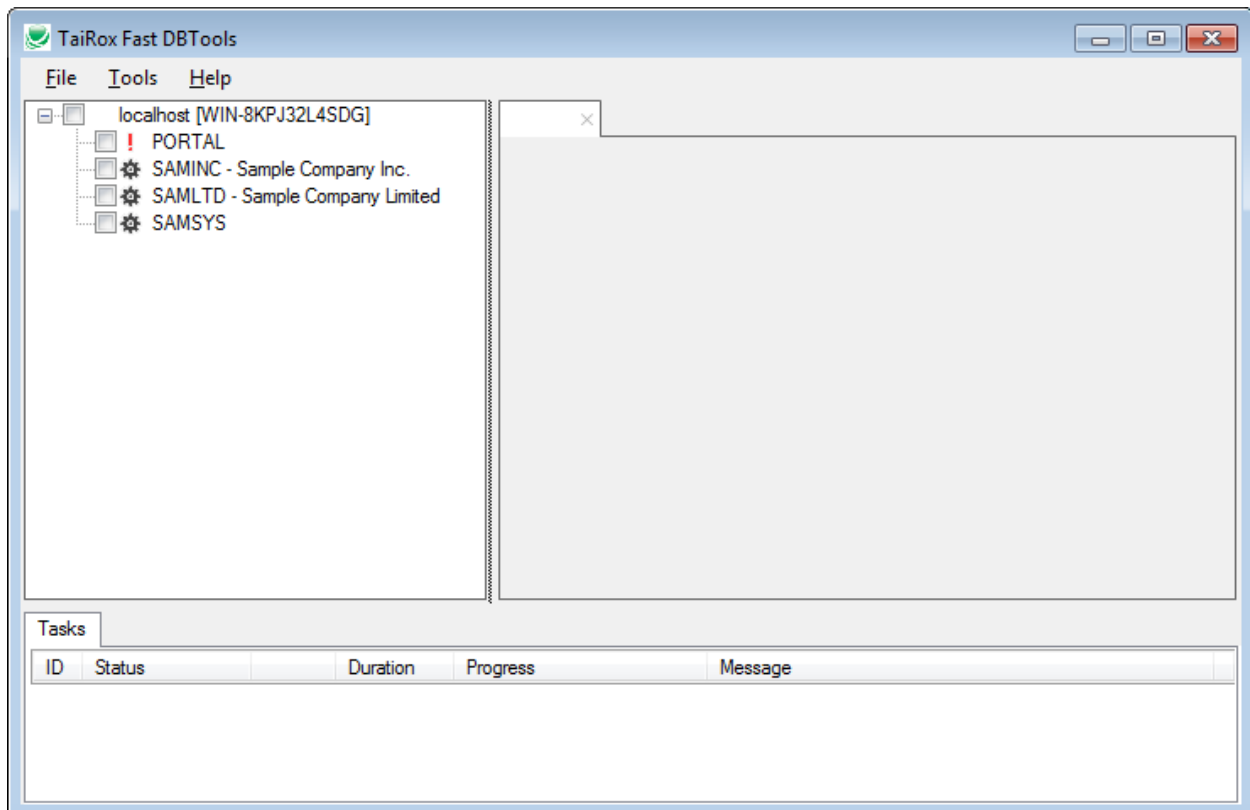


Using Fast DBTools

When you connect to a SQL Server instance, Fast DBTools displays all databases on the server that your SQL Server user ID has permission to view.

For example, if there are ten Sage 300 databases on the SQL Server, but your SQL login has permission to view only three of the databases, you will see only three databases when you log in to Fast DBTools.

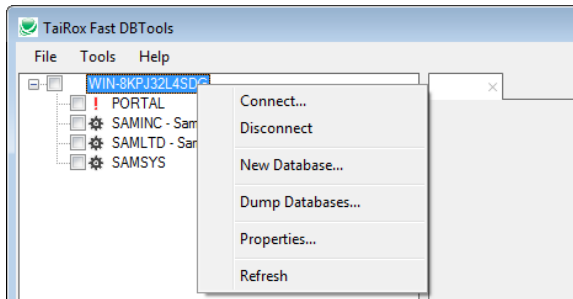
Database list



- Non-Sage 300 databases appear with a red icon (!).
- Sage 300 system and company databases show a "gear" icon if a Database Setup entry is present.
- Company databases display the company name.
This screen shows one system database and two company databases.
- Connections to multiple SQL Server instances will show the trees stacked vertically.

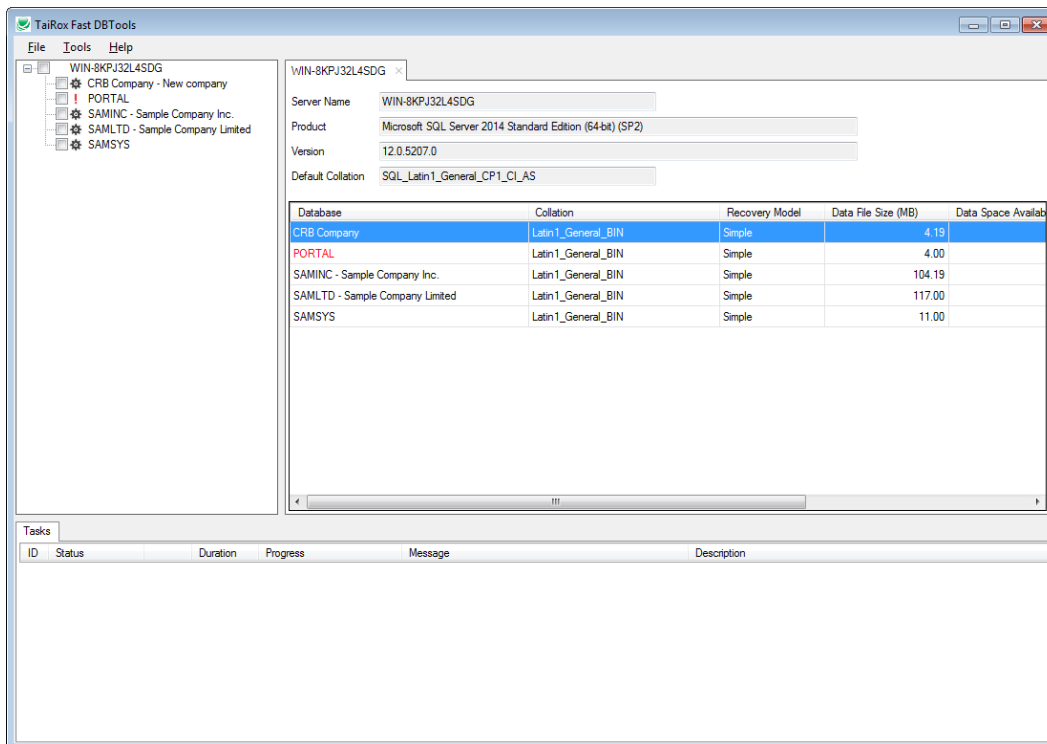
Server operations

Right-click on a SQL Server instance name to display operations that can be performed on that instance or on the selected group of Sage databases on the server.



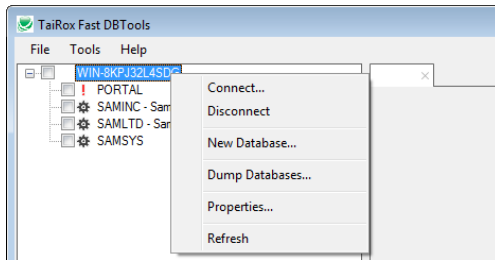
Properties – server instance details and database summary information

Select the Properties operation to display details about the SQL Server instance and summary information about each database in the instance.



- Click on a column heading to sort by that column. Sorting by one of the Size or Space columns can be useful when managing disk space.
- Databases in Red are non-Sage databases.
 - The PORTAL DB is a non-Sage database, shown by the ! icon in the left panel. The program displays the database properties in the right panel.

Disconnect and connect to SQLServer instances



To Disconnect:

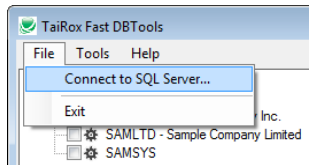
- Right-click the SQL Server instance name, and choose Disconnect.

To Connect to a new SQL Server instance:

- Right-click the SQL Server instance name, and choose Connect.

OR

- Choose **File > Connect to SQL Server...** from the Fast DBTools menu.



The SQL Server login window will appear, where you can enter the SQL instance name and login user ID and password.

Create a new Sage 300 database – use the databases pop-up menu

Note: Although you can right-click the Server name and choose New Database from the Server menu to create a Sage DB, *we recommend* that you create a new database by right-clicking an existing Sage database to use it as a model for the new one.

See [Creating New Databases](#), under Database Operations.

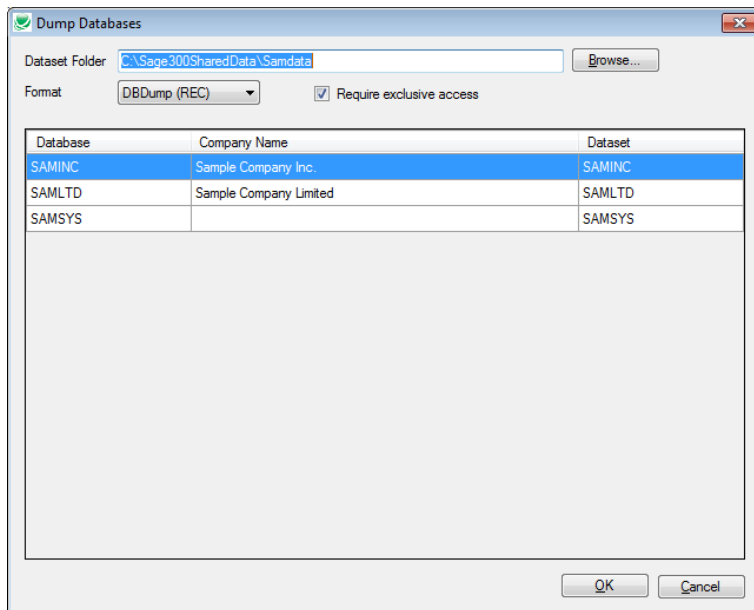
Dump more than one Sage 300 database in a single operation

Fast DBTools lets you dump any number of Sage 300 databases on the same server instance in a single, unattended operation.

Dumps are performed using multiple threads, speeding up the overall operation.

- Use the checkboxes to select the databases that you want to dump.
- Right-click the SQL Server instance name, and choose Dump Databases....

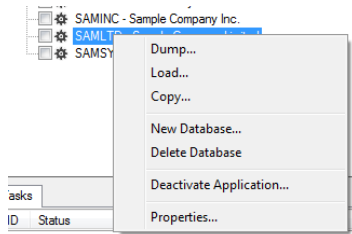
The Dump Databases form will appear for all selected databases.



For details, see [Dumping Databases](#) in the next section, Database Operations.

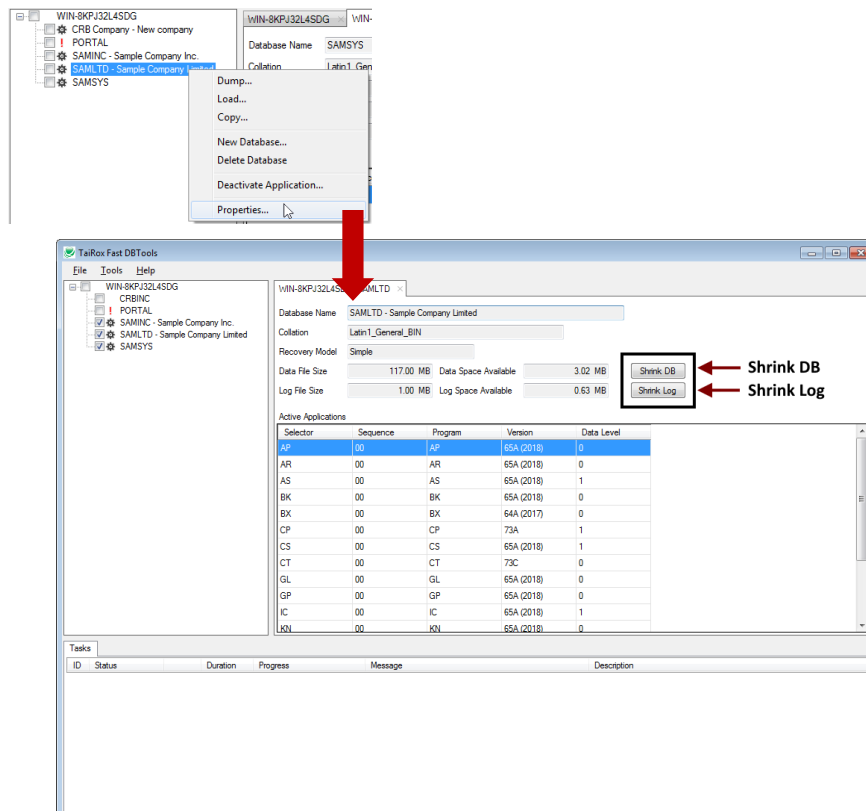
Database operations

Right-click on a database name to display operations that can be performed on that database:



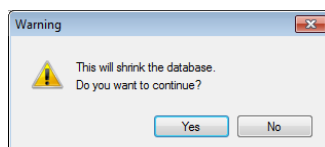
Database properties

Select Properties to display details about the database. The Properties panel also provides two functions that let you manage databases and free up space on the server:



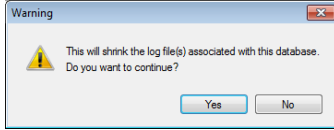
Shrink DB

The Shrink DB button reduces the size of the database file after first displaying a warning message.



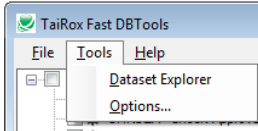
Shrink Log

The Shrink Log button reduces the size of the Log file after first displaying a warning message.

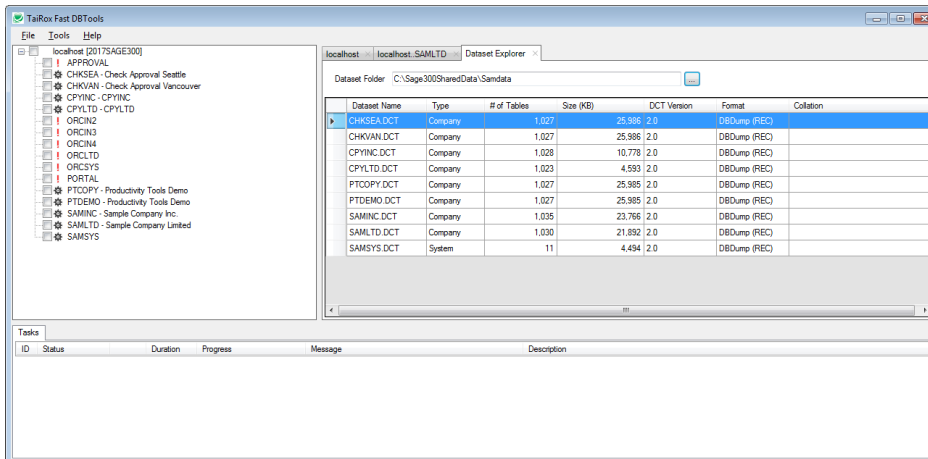


Exploring datasets and displaying REC and CSV files

Fast DBTools provides a tool for exploring datasets and displaying the contents of REC and CSV files. (Datasets are the files created by DBDump, and contain all the data from the Sage database.)



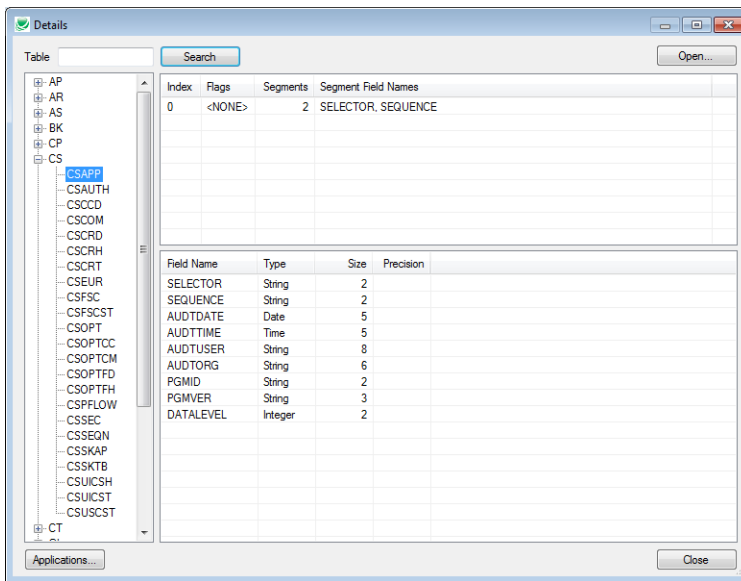
The Dataset Explorer provides a way to browse to a directory where datasets are stored and see directory details in a convenient way:



Note that if the database has been dumped using Fast DBTools, the Collation column will display the database collation when the database was dumped. Databases dumped with the standard Sage 300 utility will have a blank Collation column.

Viewing Dataset files and records

Double-click a dataset name to pop up a window showing all active modules in the dataset. The structure is shown, including keys.



- Select an individual table name and click the Open button to see the rows that are in the dataset.
- Click a column to sort by that column.

Displaying REC files without loading the entire database into SQL Server can save minutes or hours for large databases.

	SELECTOR	SEQUENCE	AUDTDATE	AUDTTIME	AUDTUSER	AUDTORG	PGMID	PGMVER	DATALEVEL
▶	AP	00	20160524	17442478	ADMIN	SAMLT	AP	64A	0
	AR	00	20160524	17442442	ADMIN	SAMLT	AR	64A	0
	AS	00	20170113	20475877	ADMIN	SAMLT	AS	64A	1
	BK	00	20160524	17442397	ADMIN	SAMLT	BK	64A	2
	BX	00	20160613	20564374	ADMIN	SAMLT	BX	64A	0
	CP	00	20170113	20481451	ADMIN	SAMLT	CP	73A	1
	CS	00	20170113	20475876	ADMIN	SAMLT	CS	64A	1
	CT	00	20170113	20481584	ADMIN	SAMLT	CT	73B	0
	GL	00	20160524	17442347	ADMIN	SAMLT	GL	64A	0
	GP	00	20160524	17442373	ADMIN	SAMLT	GP	64A	0
	IC	00	20160524	17442515	ADMIN	SAMLT	IC	64A	0
	KN	00	20160524	17444011	ADMIN	SAMLT	KN	64A	0
	OE	00	20160524	17442550	ADMIN	SAMLT	OE	64A	0
	PM	00	20160524	17443114	ADMIN	SAMLT	PM	64A	0
	PO	00	20160524	17442597	ADMIN	SAMLT	PO	64A	0
	TX	00	20160524	17442384	ADMIN	SAMLT	TX	64A	0
	XL	00	20170116	15290357	ADMIN	SAMLT	XL	61A	2

Record 1 of 17 records.

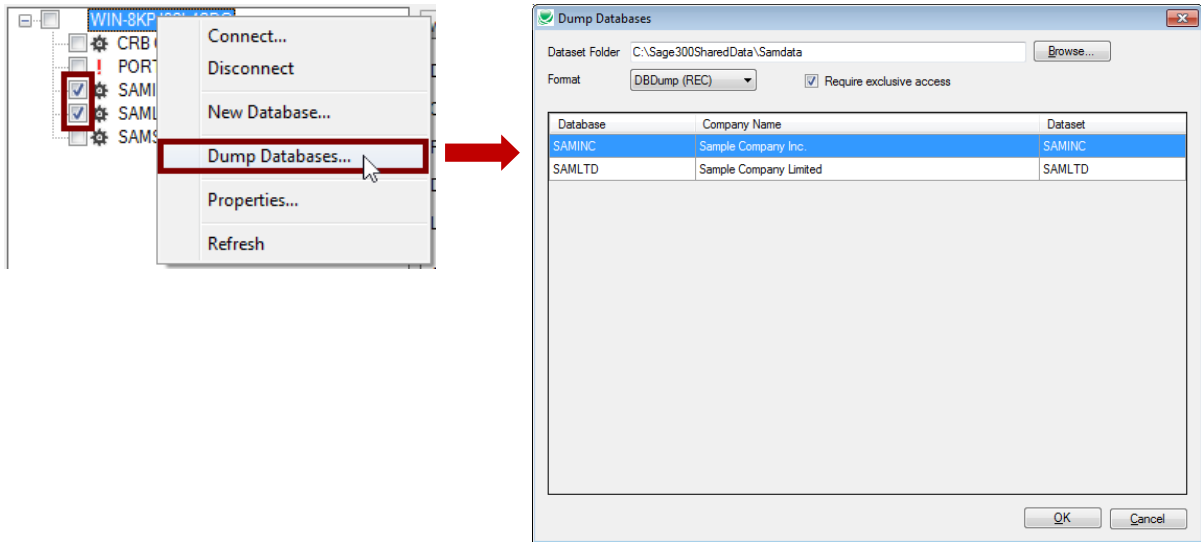
Dumping databases

To dump any number of Sage 300 databases on the same server instance in a single, unattended operation:

- Use the checkboxes to select the databases that you want to dump.
- Right-click the SQL Server instance name, and choose Dump Databases....

The Dump Databases form will appear for all selected databases.

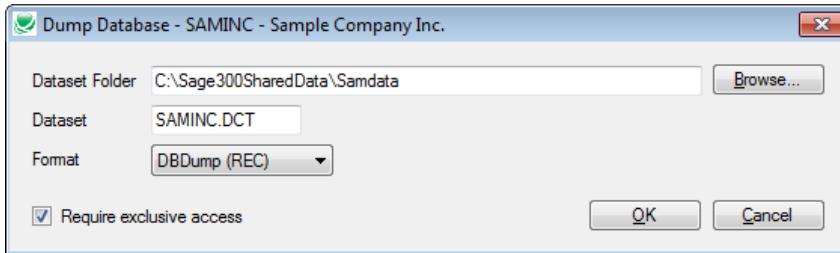
You can also right-click on an individual database, and choose Dump



- You can then Browse to a folder where you want to dump the new datasets, and select whether the dump is to a REC or CSV format. The CSV format is described in Appendix A of this document.

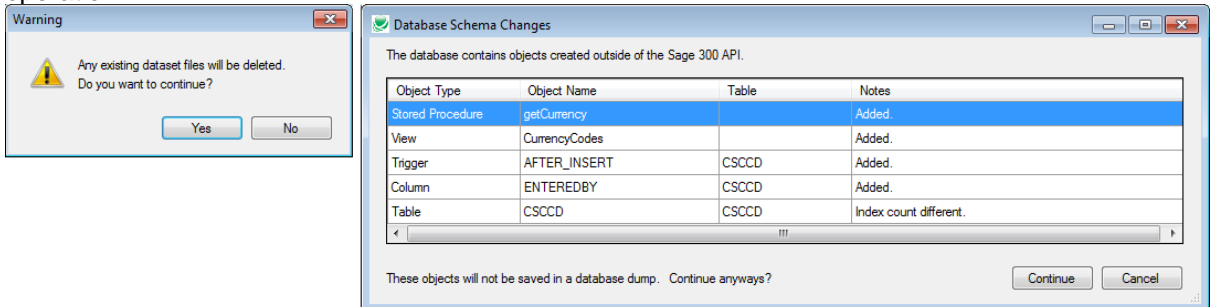
The program automatically displays the default dataset location. You can change it.

If you are dumping a single database (right-clicked a Database entry and chose “Dump”), the following screen will appear instead, allowing you to browse to a dataset folder and choose the format.



- The program will display a warning before the dump proceeds.

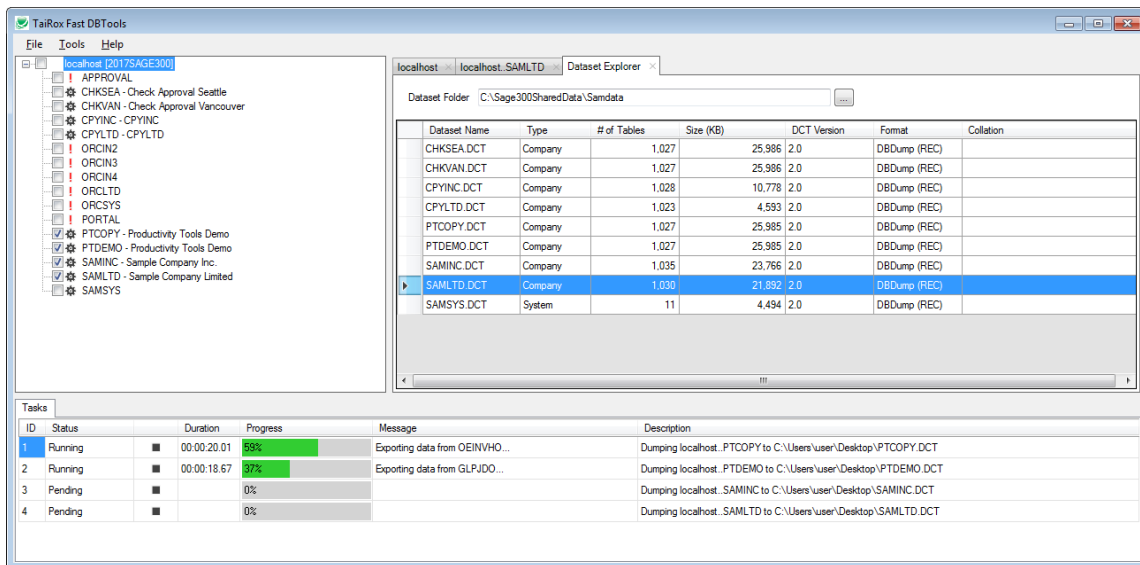
NOTE: For single database dumps, if SQL Server objects not saved in a DBDump are present an additional warning will appear. Note that table-related objects will be lost during a DBLoad operation.



Progress window

A progress window shows the operations being performed.

As you can see from this screen, multiple databases are being dumped at the same time, which significantly speeds up the operation.



The number of databases dumped at the same time is controlled by an option (Tools, Options). An optimal number will depend on computer and network characteristics, particularly number of CPU cores and disk drive characteristics:

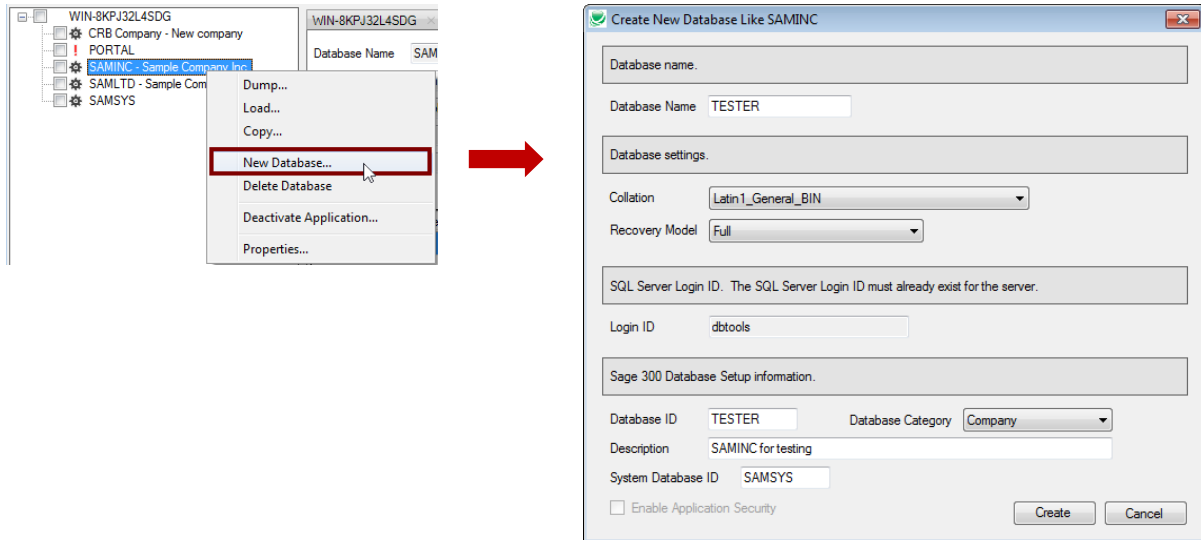
Maximum number of worker threads

Creating new databases

This menu choice creates a new database without opening SQL Server Management Studio, letting you use the settings of an existing Sage 300 database which is known to operate correctly.

This avoids the possibility of forgetting to override certain instance defaults that are important to Sage 300. It also eliminates the need to run Database Setup – the password for the new database is set to be the same as the model database.

Select the New Database operation by right-clicking on a database name to be used as a model. In this example, SAMINC is used as a model for a new database TESTER:



When a first database is created this way in an instance - or - when there is a reason to change the Collation and Recovery Model settings, these settings can be changed from the drop-downs.

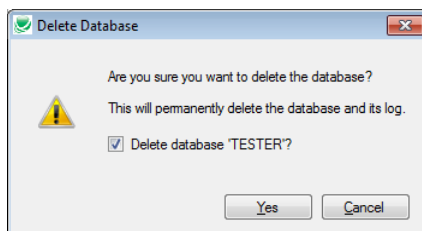
- Type the name for the new database. For simplicity, you should make the DB name the same as the Sage Database ID.
- Select database settings:
 - For collation, select Latin1_General_BIN (the default) unless you have a good reason to select a different collation.
 - Select Full Recovery Model (recommended by Sage).
- Enter the SQL Server login ID for the new database. The login ID must already exist for the SQL Server instance.

Note that you cannot enter the Database ID or category unless you use an existing DB as a model.

Deleting databases

You can also delete a database with Fast DBTools.

WARNING: Take an offline backup before deleting databases. The program will display a warning notice, and as an additional protection mechanism, you will have to confirm by clicking on the checkbox as shown below.

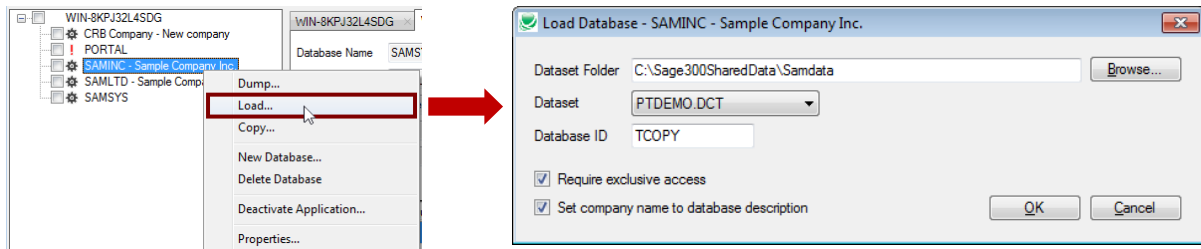


Loading new databases

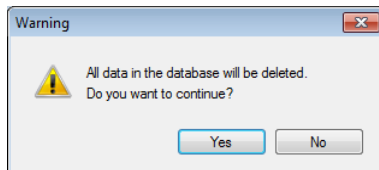
Loading multiple databases concurrently is not currently implemented.

To load databases:

- Right-click the database name to load a dataset for that database.
- An option is provided that will set the common services company name to the description in the database setup tables - saving time when repeatedly loading a test copy of a database.



A warning message will appear before the operation starts:



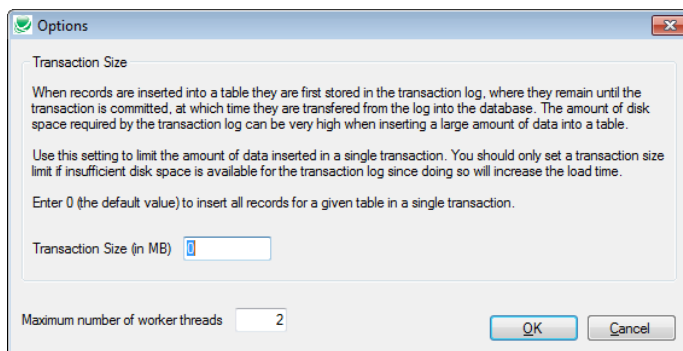
Fast DBLoad will operate in a fraction of the time taken by the Administrative Services ("AS") program. In a production-like network environment, a load time of 90 minutes was reduced to 22 minutes on a 10.8 GB database with 384 tables.

Fast DBTools will load a REC file or a CSV file produced by a Fast DBDump operation. If the CSV file is edited, the formatting rules specified in Appendix A must be strictly followed.

Loading large databases with limited disk space

Fast DBLoad gets its performance boost by committing many table rows at a time. Until rows are committed, they reside in a transaction log, using up disk space.

It is possible to cause a disk-full condition when loading a very large table onto a disk with a limited amount of free space. The Transaction Size setting limits the amount of disk space used for large tables. See the explanation on this form for more details:



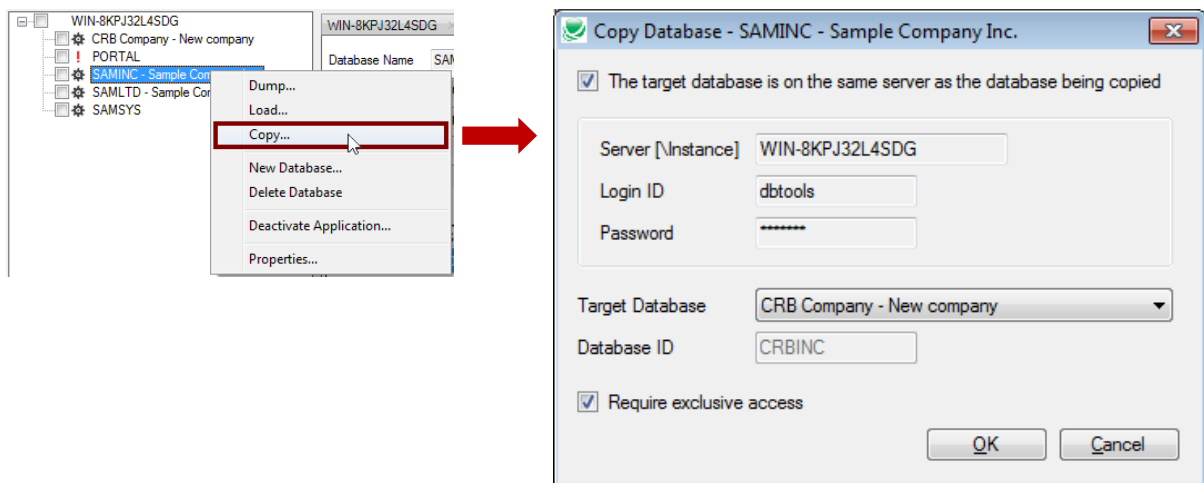
Copying databases

Copying multiple databases at the same time is not currently implemented.

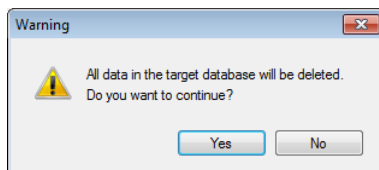
To copy databases:

- Right-click the database name that you want to copy.

Select the Copy Database operation by right-clicking on a database name:



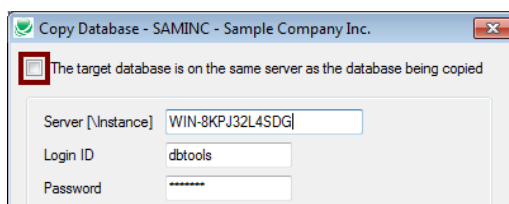
You must select the Target Database. A warning message will appear before the operation starts:



Fast DBCopy will perform the same operation as AS DBCopy, reducing the time taken by about 40%.

Copying a database to another SQL Server instance

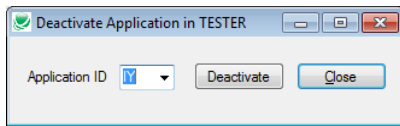
Note that when the target database is not on the same server as the source database, you must clear the checkbox and enter the target SQL Server instance. You must also enter the SQL Login ID and password for the operation.



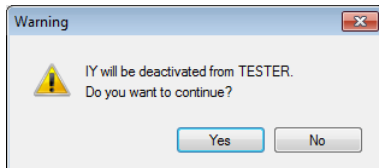
Copying across SQL Server instances takes about the same time as a DBDump and DBLoad operation:

Deactivating an application (module)

Select the Deactivate Application operation by right-clicking on a database name. You must select the two-character Application ID to be deactivated:



A warning message will appear before the operation starts:



A message appears when the operation is complete:



Appendix A – DBDump CSV File Formats

Formatting rules:

- The record separator is a linefeed (or carriage return / linefeed pair). This means one record per line.
- The field separator is a comma. Blanks before and after the separator are significant - they will not be discarded.
- Each record must specify all fields.
- Text fields containing record or field separators must be enclosed in quotes.
- If a quoted text field contains a quote then it must be escaped (ie doubled up)
- The first row is a header row. It specifies the field (column) names.

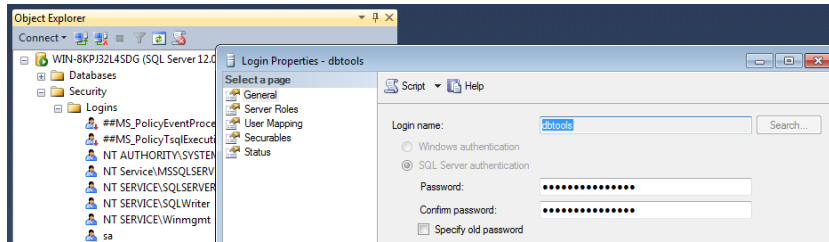
Example:

```
CURID,AUDTDATE,AUDTTIME,AUDTUSER,AUDTORG,CURNAME,SYMBOL,DECIMALS,SYMBOLPOS,THOUSSEP,DE
CSEP,NEGDISP
ATS,0,0, , ,Austrian Schilling,AtS,2,1,"",,,3
AUD,0,0, , ,Australian Dollars,$,2,1,"",,,3
BEF,0,0, , ,Belgian Franc,BeF,2,1,"",,,3
CAD,0,0, , ,Canadian Dollars,$,2,1,"",,,3
CHF,0,0, , ,Swiss Francs,SwF,2,1,"",,,3
CNY,0,0, , ,People's Rep of China Renminbi,RMB,2,1,"",,,3
DEM,0,0, , ,Deutsche Mark,DM,2,3,"",,,1
ESP,0,0, , ,Spanish Peseta,Pta,2,1,"",,,3
EUR,0,0, , ,Euro,€,2,1,"",,,3
FIM,0,0, , ,Finnish Markka,FiM,2,1,"",,,3
FJD,0,0, , ,Fijian Dollars,$,2,2,"",,,3
FRF,0,0, , ,French Francs,F,2,1,"",,,3
GBP,0,0, , ,Pound Sterling,£,2,1,"",,,3
GRD,0,0, , ,Greek Drachma,DR,2,1,"",,,3
HKD,0,0, , ,Hong Kong Dollars,$,2,1,"",,,3
IDR,0,0, , ,Indonesian Rupiah,Rp.,0,1,"",,3
IEP,0,0, , ,Irish Punt,Ir£,2,1,"",,,3
ITL,0,0, , ,Italian Lira,L.,0,1,,,"",,3
JPN,0,0, , ,Japanese Yen,¥,0,1,"",,,3
JPY,0,0, , ,Japanese Yen,¥,0,1,"",,,3
KIP,0,0, , ,Laos Kip,KIP,2,3,"",,,3
LUF,0,0, , ,Luxembourg Franc,LuF,2,1,"",,,3
MXP,0,0, , ,Mexican Pesos,$,0,1,"",,,3
MYR,0,0, , ,Malaysian Ringgit,RM,2,1,"",,,3
NLG,0,0, , ,Netherland Guilders,f.,2,1,"",,,3
NTD,0,0, , ,New Taiwan Dollar,NT$,0,1,"",,,2
NZD,0,0, , ,New Zealand Dollars,$,2,2,"",,,3
PGK,0,0, , ,Papua New Guinea Kina,K,2,2,"",,,3
PTE,0,0, , ,Portuguese Escudo,Esc.,2,1,"",,,3
SGD,0,0, , ,Singapore Dollars,S$,2,2,"",,,3
SLR,0,0, , ,Sri Lankan Rupees,Rs.,2,1,"",,,3
THB,0,0, , ,Thai Baht,฿,2,3,"",,,3
USD,0,0, , ,U.S. Dollars,$,2,1,"",,,3
VND,0,0, , ,Viet Nam Dong,VND,0,1,"",,,3
ZAR,0,0, , ,South African Rand,R,2,2, ,,,3
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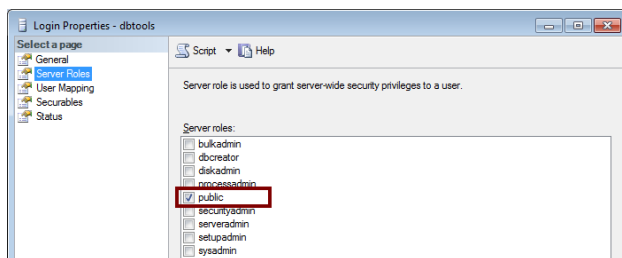
Appendix B – Setting Up SQL User Access for Fast DBTools

This appendix provides steps for adding a new SQL user and providing user access to one or more databases for Fast DBTools.

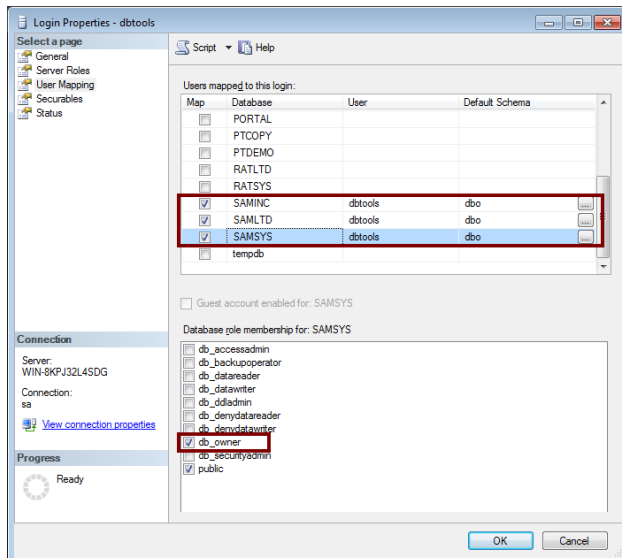
1. Use SQL Server Management Studio to create a new SQL Login for the user. If different users have access to different companies then you will need a minimum of one SQL login per combination of companies.
 - Choose SQL Server authentication.



2. On the Login Properties form - Server Roles page, select “public” as the role.



3. On the Login Properties form - User Mapping page, select the “db_owner” role for EACH database you want the user to be able to access.
 - Select the database in the top grid, then select db_owner as the role in the bottom grid.
 - Specify “dbo” as the default schema.
 - Select the next DB, etc.



When you log in to SQL Server as the new user for Fast DBTools, you will have access to the databases that you specified.

When you log in Fast DBTools as the new SQL user, you will see the databases that you specified in SQL Server Management Studio.

