TROUBLESHOOTING GUIDE (When using SQL Server)

November 2010

This manual covers these networked products:
Lucid CoPS, Lucid Rapid, LASS 8-11,LASS 11-15 LADS, LADS Plus, Lucid Exact, Memory Booster, Comprehension Booster *

* (formerly known as Reading Booster)

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1. Read this first!

Technical requirements

Lucid produces several software titles as a network version.
The core range of CoPS, Rapid, LASS and LADS titles have been produced in three generations beginning in 2003 with versions which used the MSDE 2000 Desktop engine, the Version 4 series (from 2007) which used SQL Server 2005 Express Edition and now the Version 6 series (2009) which are designed to run on SQL 2005 or 2008, including 64 bit editions.

The database file format has changed from each generation so a migration is necessary. See the separate document entitled **Lucid Data Migration Guide** from Lucid Research.

Typically, many users have a Windows Server 2003 or 2008 server with XP, Vista or Windows 7 workstations. The software does not necessarily need to have a traditional server but can run its SQL database engine on a good specification workstation.

It is possible to run Lucid software on a Domain Controller subject to the Microsoft advice shown below.

Lucid continues to distribute Microsoft SQL Server 2005 ® Express Edition (32 bit) on our CDs, courtesy of Microsoft ®, though many users are now moving to SQL Server 2008 R2, which can be downloaded for free from Microsoft.
See this link http://www.microsoft.com/express/Database/

Notes for users taking advantage of the free Microsoft ® SQL Server ® 2005 Express Edition

Because technical requirements may change we recommend you visit the Microsoft website link below for full details of hardware and software specification for hosting Microsoft ® SQL Server ® 2005 Express Edition.
http://support.microsoft.com/kb/910229

IMPORTANT NOTE: The following note is quoted directly from the Microsoft Knowledge Base link above:

> **Security Note** We recommend against running SQL Server Express on a domain controller.
> It is possible to install SQL Server Express on a Windows domain controller; however, it cannot run on a Windows Server 2003 domain controller as Local Service or Network Service. SQL Server service accounts should run as Windows domain user accounts. It is also possible to install SQL Server service accounts to run as Local System, but this option is not recommended.

If you are installing *SQL Server 2005 Express Edition*, please ensure the components in the box below have been installed on the server or workstation which will host it. Both can be freely downloaded from Microsoft – try doing a web search with the name of the component.

.NET Framework 3.5 SP1 (or later)
Microsoft Core XML Services (MSXML) 6.0

Notes on different methods to install Lucid databases

There are several different database formats used by various Lucid software titles. These all use SQL Server as the host engine, but have widely varying tables structures and each has a different Login Account for users.

From Version 4.0 to version 6.02 the database was installed from an SQL script loaded into Management Studio Express and run as an SQL Query.
From November 2010, Version 6.02 editions adopted a new method where the database is pre-installed with the application on the server and attached to the SQL Server instance using a new database installer tool created by Lucid.

Checklist of steps for deploying the software

(Please follow the steps in order)

ON YOUR SERVER

(If you already have SQL Server installed, see this note **)

1. Install and configure the SQL Server 2005 Express database engine
2. Install SQL Server Management Studio Express **(optional step but recommended)**
3. Install the SQL Native Client Driver **(if not already present)**

4. Install the *Lucid Product* Application software
5. Launch the *Lucid Product* Administration Module for the first time to start the *Database Installation Tool* which attaches the database.
6. Run *Lucid Product* Administration Module again to register your software serial number.
7. Set up a Share on the Server to the Application Folder. Please ensure the share uses a traditional Windows path (Drive letter and folders) not a UNC.

ON EACH WORKSTATION

8. Install the SQL Native Client Driver **(if not already present)**
9. Install the Thin Client (workstation) system files (a single MSI).
10. Create a shortcut pointing at the *Lucid Product* Test Module within the Share on the server and try out a Test yourself.

**** If you wish to use an existing SQL Server instance it needs to have been installed using Mixed Mode (Windows and SQL) Authentication.**
It should also have been configured to be visible across the network with the required SQL Services and Internet Protocols enabled. Therefore if you wish to attach the Lucid database to your existing instance please ensure it is a suitable platform.

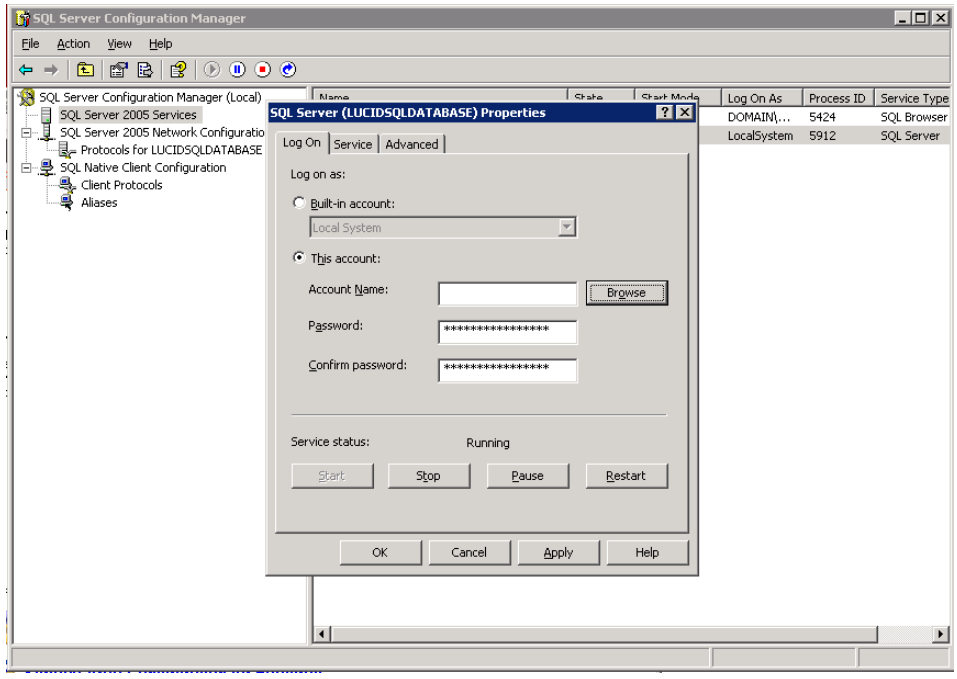
2. What if my SQL Server is on a Domain Controller?

First thing to be aware of is the advice from Microsoft which is shown word for word in the box below:
(see also this weblink http://support.microsoft.com/kb/910229)

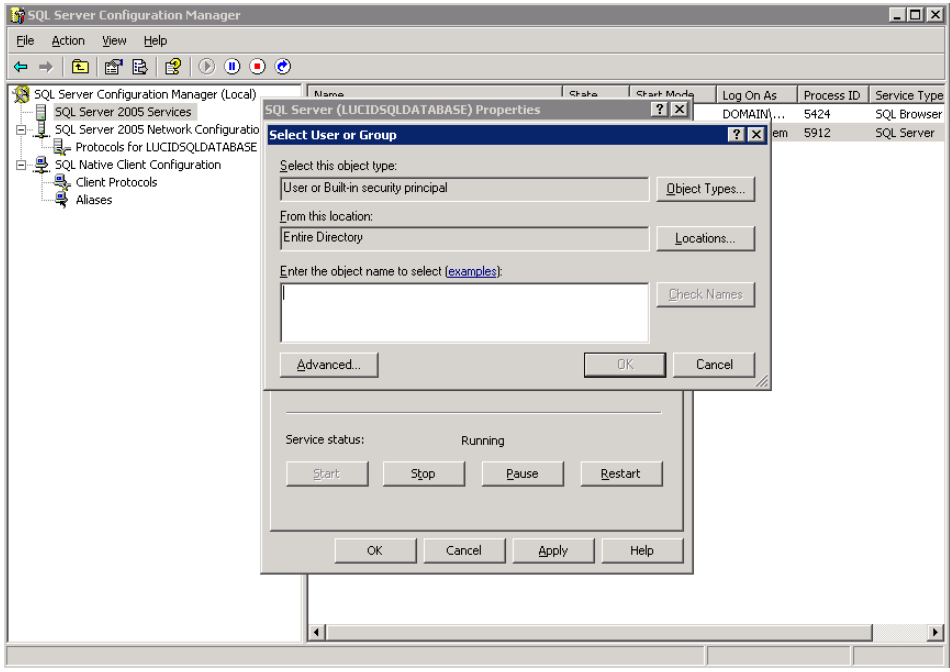
Security Note We recommend against running SQL Server Express on a domain controller. It is possible to install SQL Server Express on a Windows domain controller; however, it cannot run on a Windows Server 2003 domain controller as Local Service or Network Service.
SQL Server service accounts should run as Windows domain user accounts. It is also possible to install SQL Server service accounts to run as Local System, but this option is not recommended.

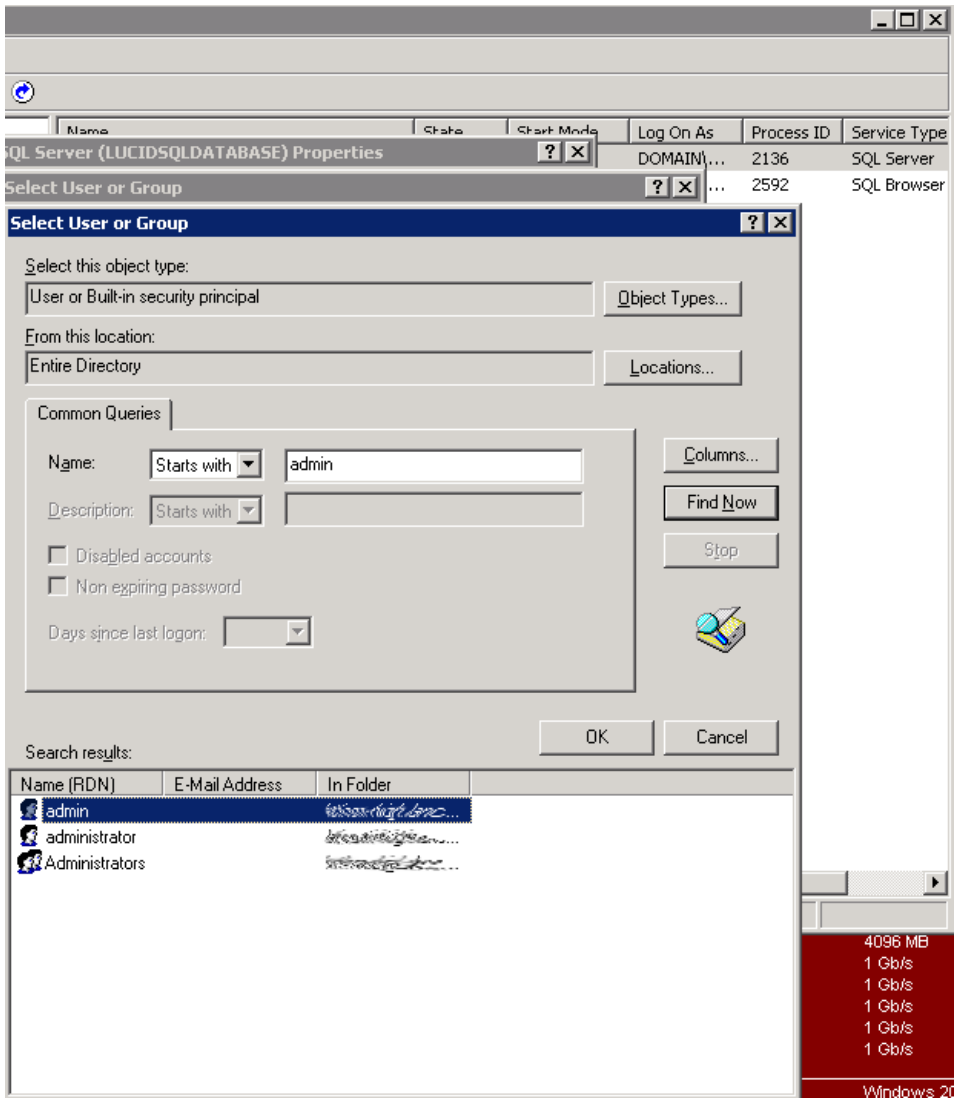
Not everyone has a spare server available, so you can follow the advice above and use a Domain User account to run the two SQL services.

Run *SQL Server Configuration Manager*. Highlight the service you want and right mouse click, selecting **Properties**. On the panel select '**This account**' as shown below.



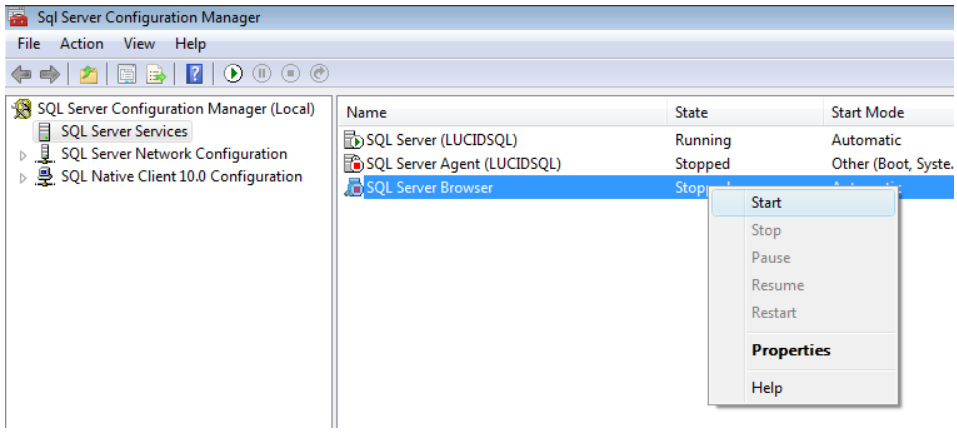
Select Browse to find the domain account you want to use for running the service. If you're not sure of the name, click '**Advanced'**.





You can do a search for accounts by typing in something in the '**Name'** box (see above) or leaving it blank and then selecting '**Find Now'**. You can then choose an account from those listed – you will off course need to specify the account password when you return to the Properties panel to confirm your choice.

Ensure that the services SQL Server and SQL Server Browser are running. By highlighting each service, right mouse clicking on it and selecting from the menu you can stop, start or restart the service. (See below).


Sql Server Configuration Manager
File Action View Help
SQL Server Configuration Manager (Local)
SQL Server Services
SQL Server Network Configuration
SQL Native Client 10.0 Configuration
Name
State
Start Mode
SQL Server (LUCIDSQL)
Running
Automatic
SQL Server Agent (LUCIDSQL)
Stopped
Other (Boot, Syste.
SQL Server Browser
Start
Stop
Pause
Resume
Restart
Properties
Help

3. Database connectivity problems

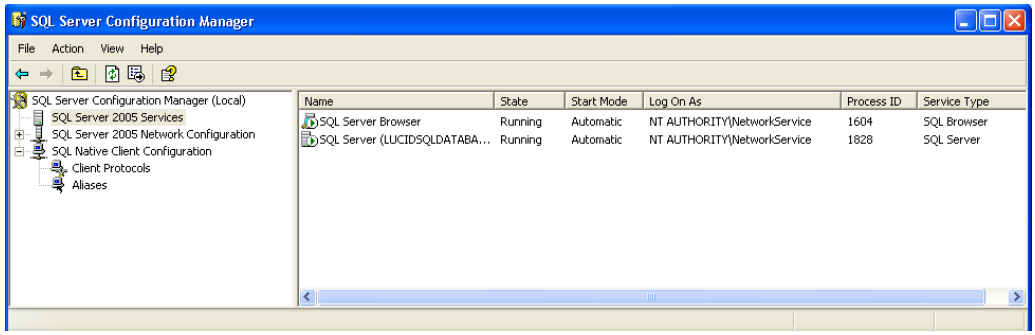
Amongst the most common problems with running software over networks is when the software cannot connect to its database. Sometimes the software runs happily on a server but not on a workstation. This chapter is intended to address these kinds of issues. There are three main areas to check:

1. Restarting the SQL Services
2. Checking your network protocols
3. Create a manual DSN to test the connection to the server

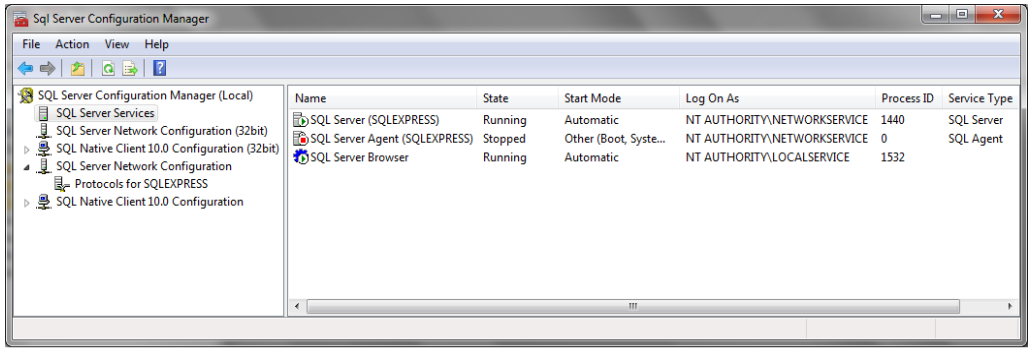
1. Restarting the SQL Services

Launch SQL Server Configuration Manager.

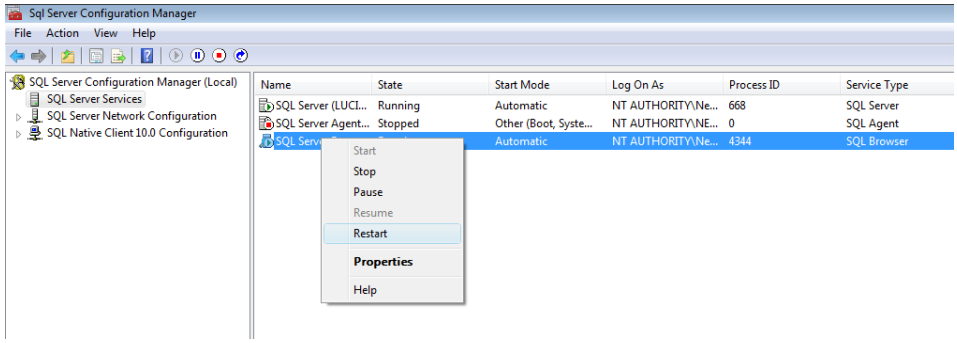
SQL Server 2005 Express



SQL Server 2008 R2



Right mouse click over the service and choose restart from the menu. (see example below).

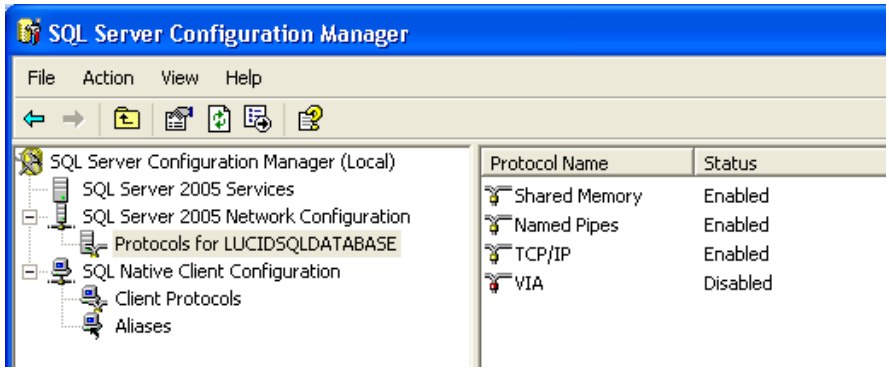


*Note: You can perform this same task by choosing **Administrative Tools > Services** on your server and looking down the list of services to find **SQL Server** and **SQL Server Browser.***

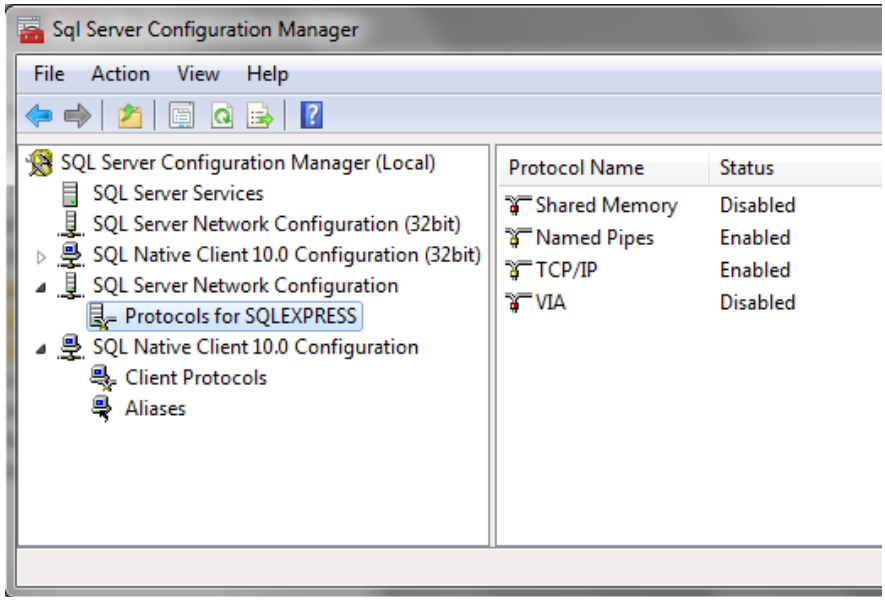
2. Check your network protocols

Again, launch SQL Server Configuration Manager and choose the Protocols as shown in one of the two screens below.
TCP/IP should be **enabled**.
Named Pipes should be **enabled** (unless you have good reason to disable it).
Shared Memory and *VIA* are not normally used so don't enable these if they are disabled.

SQL Server 2005



SQL Server 2008 R2



3. Create a manual DSN to test the connection to the server

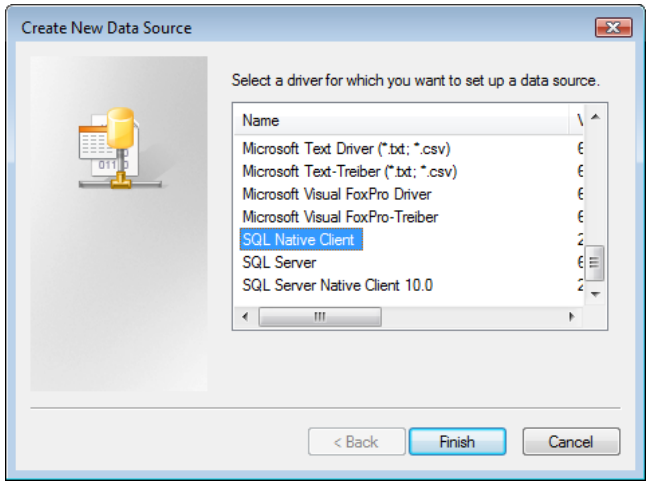
If you cannot manually link to the database from a suitable remote workstation then that suggests a problem with a firewall or services not running. Here's how to to create a System DSN.

Vista and XP
Using Control Panel > Administrative Tools > Data Sources (ODBC)
Windows 7
Control Panel > search for ODBC

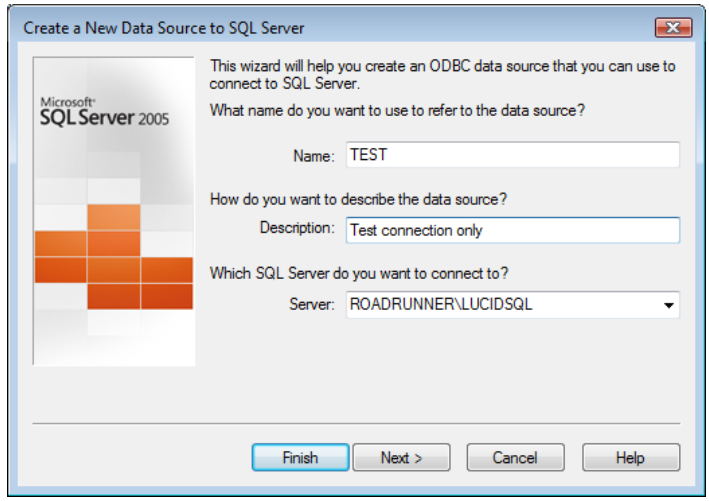
1. Select System DSN and then Add

2. Choose the most suitable ADO driver

   *For SQL Server 2005 this will be **SQL Native Client***
   *For SQL Server 2008 and R2 this will be **SQL Server Native client 10.0***

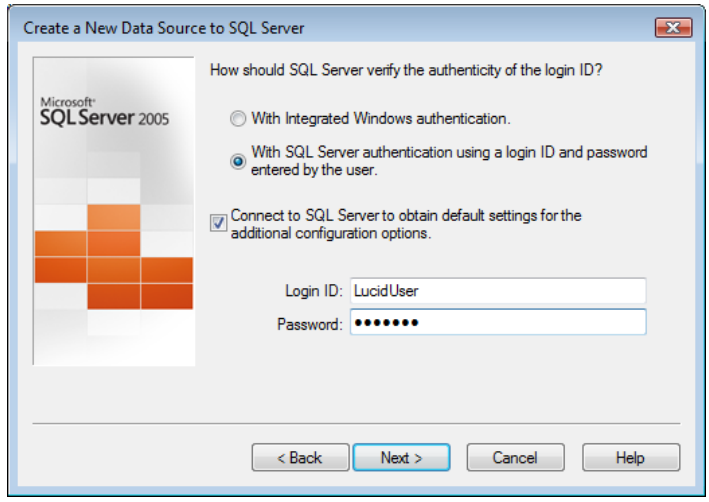


3. Give the DSN a name, optional description and choose the Server\Instance.



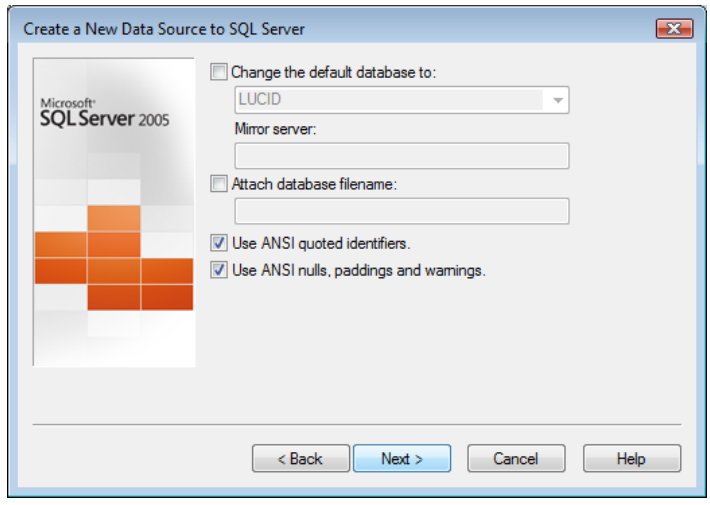
4. Choose the SQL Server authentication option and enter the Login ID and password.
   By default these are as follows:

Product	Login ID (User Account)	Default password
Lucid CoPS v6.03-N	LucidUser	ZX_123_abZ *
Lucid Rapid v6.031-N	LucidUser	ZX_123_abZ *
LASS 8-11 v6.031-N	LucidUser	ZX_123_abZ *
LASS 11-15 v6.031-N	LucidUser	ZX_123_abZ *
LADS v6.01-N	LADSUser	ZX123AB
LADS Plus v6.031	LADSUser	ZX_123_abZ *
Lucid Exact v1.03-N	ExactUser	ZX_123_abZ *
Memory Booster v1.2-N	MemoryBoosterUser	ZX123AB
Reading Booster v1.01-N	reading_booster_user	ZX123AB
*These are Nov 2010 release versions, use ZX123AB for earlier versions		

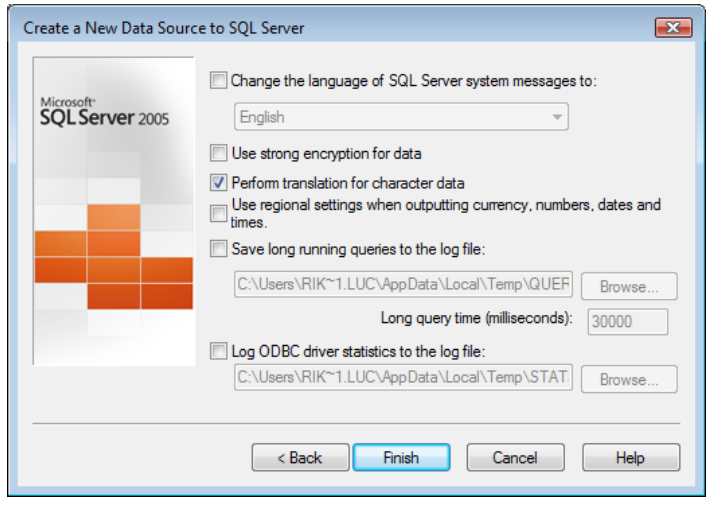


Move by clicking on **Next** and ensure default database is (choose from below):

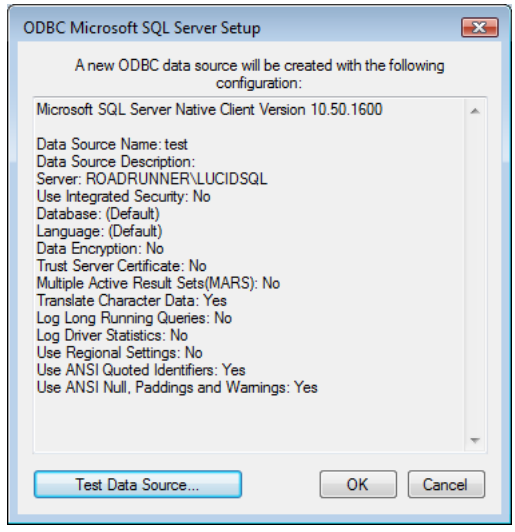
Product	Database name
Lucid CoPS v6.03-N	LUCID
Lucid Rapid v6.031-N	LUCID
LASS 8-11 v6.031-N	LUCID
LASS 11-15 v6.031-N	LUCID
LADS v6.01-N	LADS
LADS Plus v6.031	LADS
Lucid Exact v1.03-N	EXACT
Memory Booster v1.2-N	memory_booster
Reading Booster v1.01-N	reading_booster



5. At the next screen select Finish.



6. You should finally see the Test Data Source screen which should give a ‘Test Successful’ message upon clicking on the large button if the SQL database is visible to the network and the Login is working.



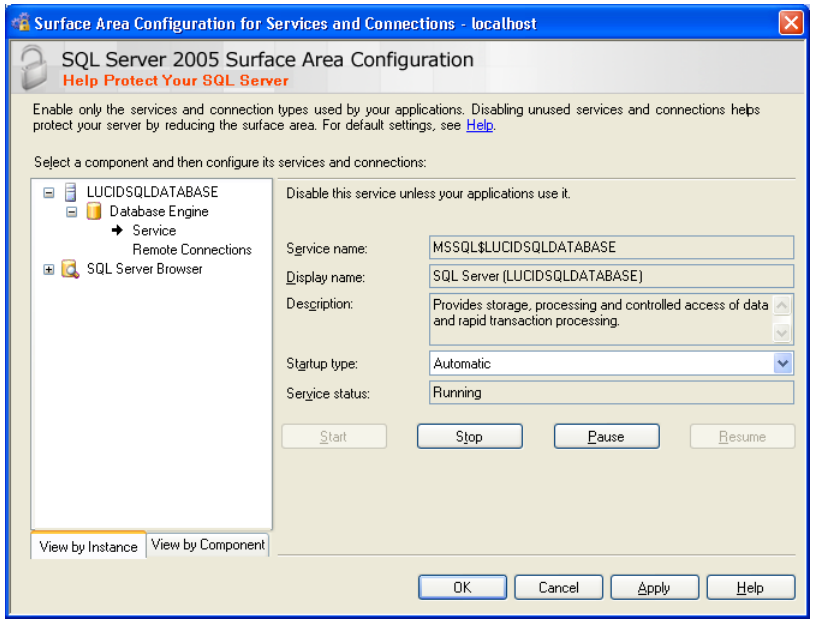
4. SQL Server Configuration tools

SQL Server comes with tools to configure services and protocols and to make the database secure.
SQL Server 2005 has two such tools:
SQL Server Surface Area Configuration
SQL Server Configuration Manager

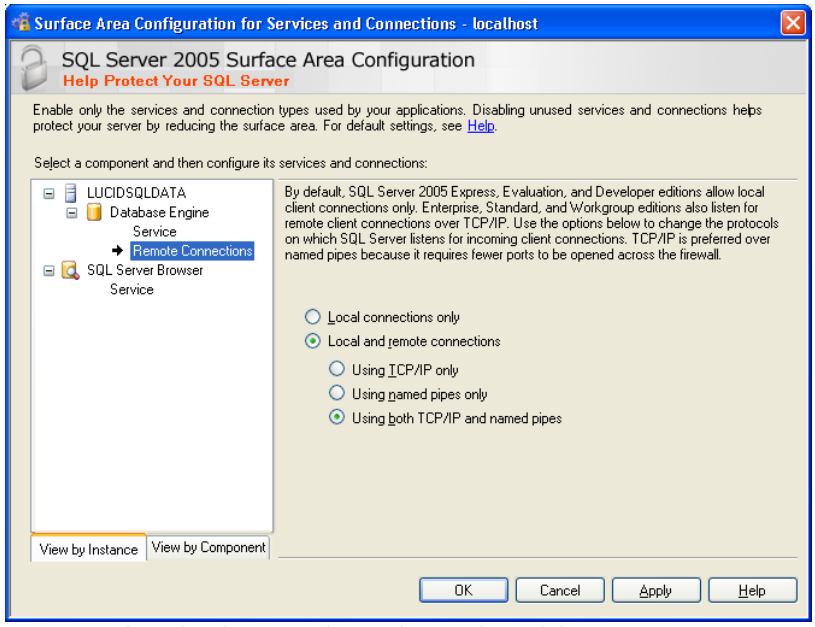
1. SQL Server 2005 Surface Area Configuration tool

Launch this from All Programs under the group Microsoft SQL Server 2005.

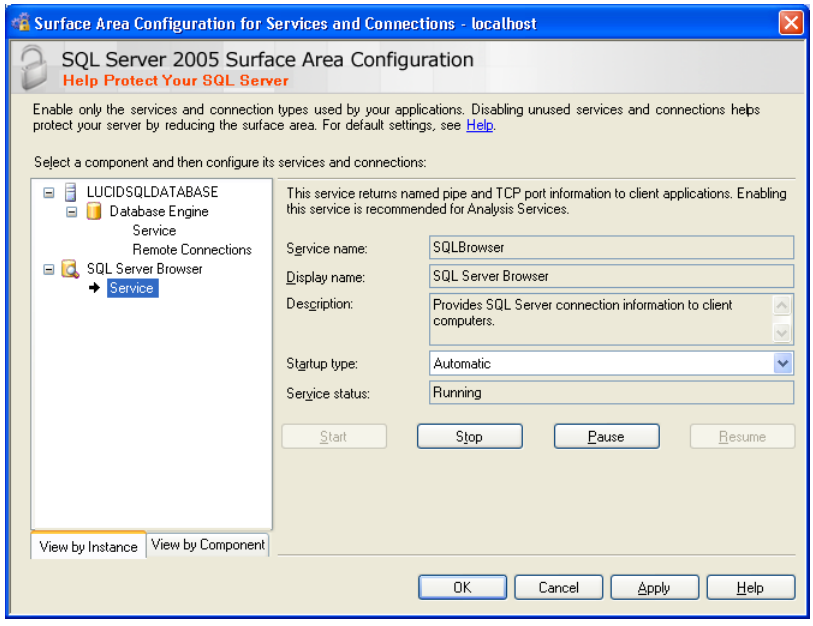
The most relevant of the two main options is the *Surface Area Configuration for Services and Connections*. You can check the status of the Service (see below).



It is essential to allow **Local and remote connections** so that Lucid software can run properly over the network.
We recommend you choose **Using both TCP/IP and named pipes** as your network protocols (see below).

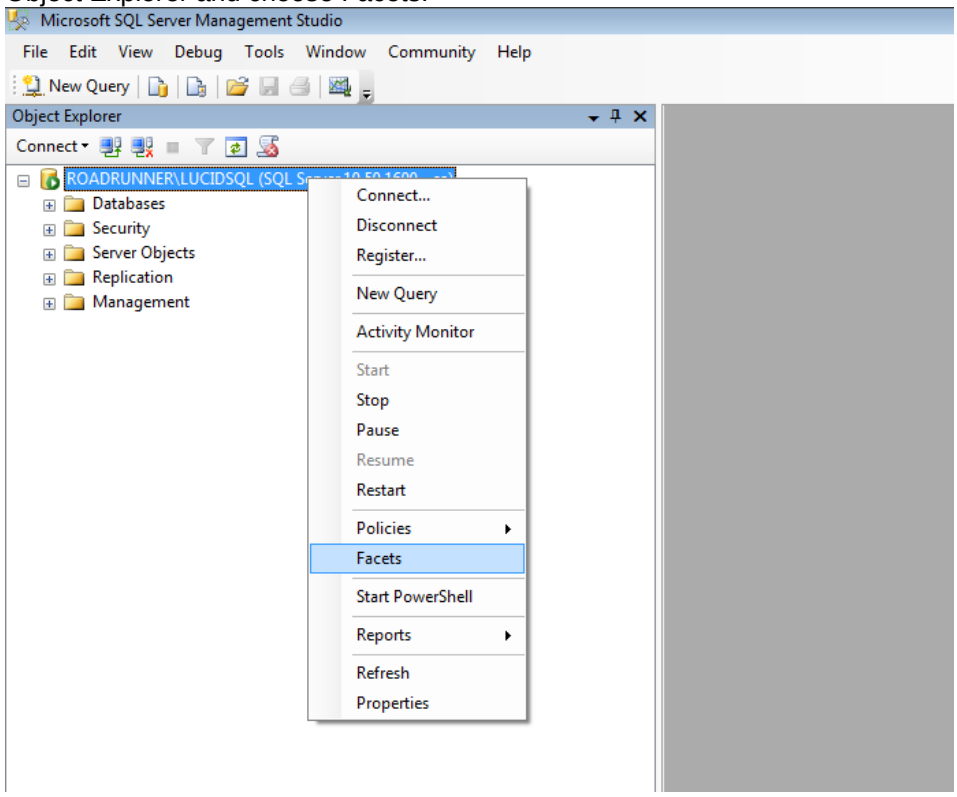


You can also check or configure the setting of the SQL Browser Service.



SQL Server 2008 – no surface area configuration tool

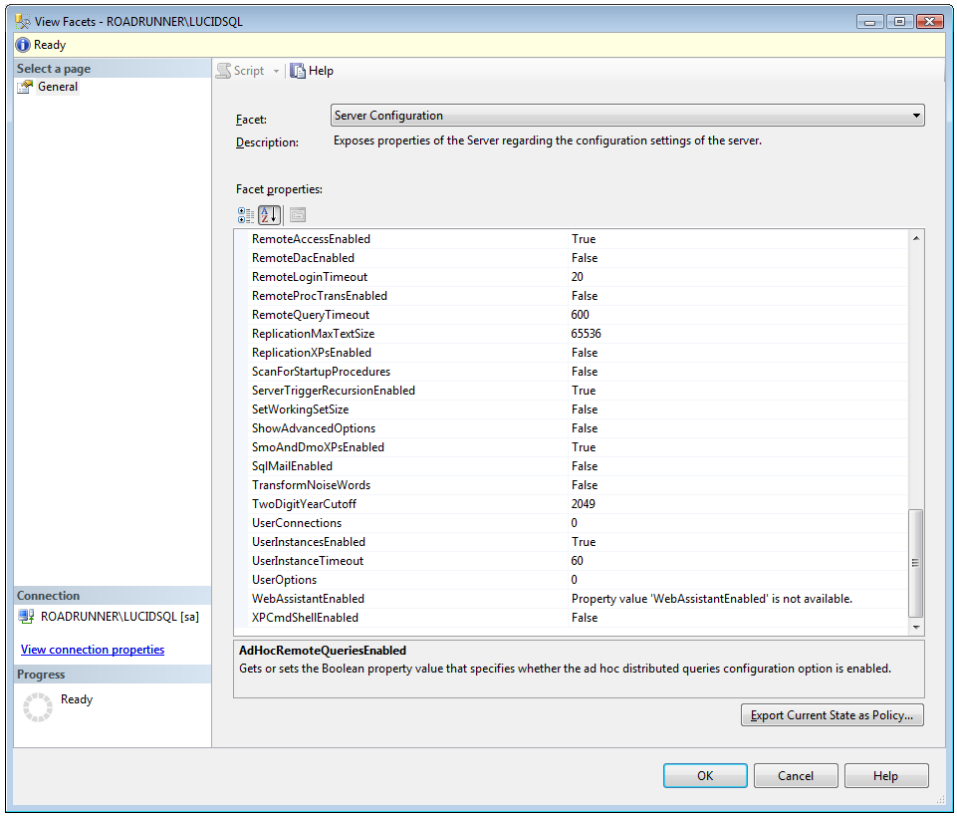
SQL Server 2008, unlike 2005 editions, does not have a Surface Area Configuration tool. Instead you can access the settings directly from SQL Server 2008 Management Studio. Right mouse click on the SQL Server instance in the Object Explorer and choose Facets.



You can view various categories and alter settings.

Try this web link below to find out a bit more about the use of SQL Server Policy-Based Management in SQL Server 2008.

http://blogs.msdn.com/b/sqlpbm/archive/2008/05/24/facets.aspx

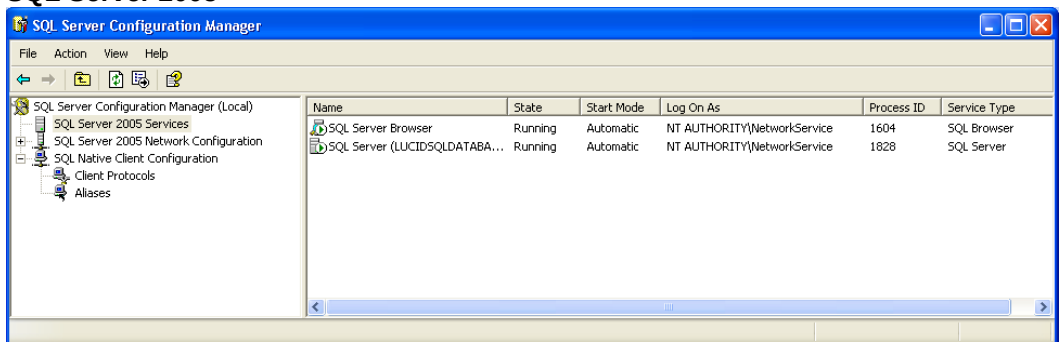

View Facets - ROADRUNNER\LUCIDSQL
Ready
Select a page
General
Script
Help
Facet:
Server Configuration
Description:
Exposes properties of the Server regarding the configuration settings of the server.
Facet properties:
RemoteAccessEnabled True
RemoteDacEnabled False
RemoteLoginTimeout 20
RemoteProcTransEnabled False
RemoteQueryTimeout 600
ReplicationMaxTextSize 65536
ReplicationXPsEnabled False
ScanForStartupProcedures False
ServerTriggerRecursionEnabled True
SetWorkingSetSize False
ShowAdvancedOptions False
SmoAndDmoXPsEnabled True
SqlMailEnabled False
TransformNoiseWords False
TwoDigitYearCutoff 2049
UserConnections 0
UserInstancesEnabled True
UserInstanceTimeout 60
UserOptions 0
WebAssistantEnabled Property value 'WebAssistantEnabled' is not available.
XPCmdShellEnabled False
AdHocRemoteQueriesEnabled
Gets or sets the Boolean property value that specifies whether the ad hoc distributed queries configuration option is enabled.
Export Current State as Policy...
Connection
ROADRUNNER\LUCIDSQL [sa]
View connection properties
Progress
Ready
OK
Cancel
Help

2. SQL Server Configuration Manager

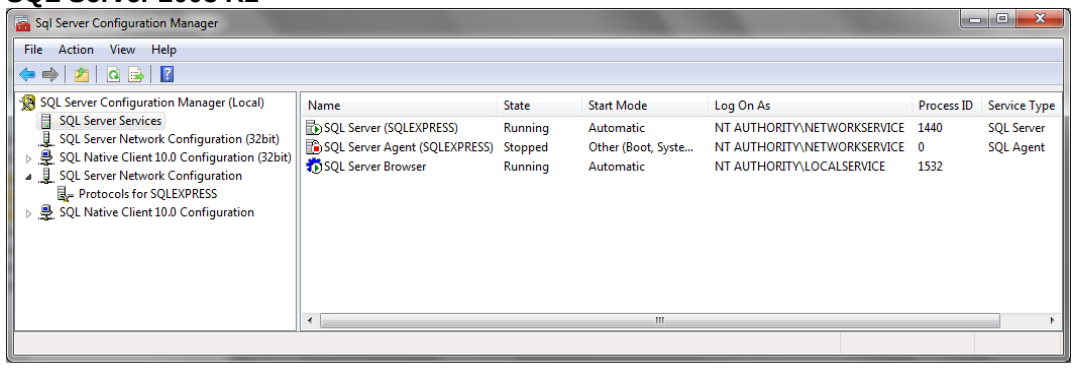
Note: Applies to both SQL Server 2005 and 2008

This tool is installed onto the computer's *All Programs* menu and is used to enabled SQL services and protocols. If you first look at the settings for SQL Server Services, both the *SQL Server Browser* and the *SQL Server* services for the database instance are usually **not enabled** by default after installation. They can be started or stopped or otherwise configured by right-mouse clicking over them. In the example screen below, both services have been configured to run automatically when the computer is started.

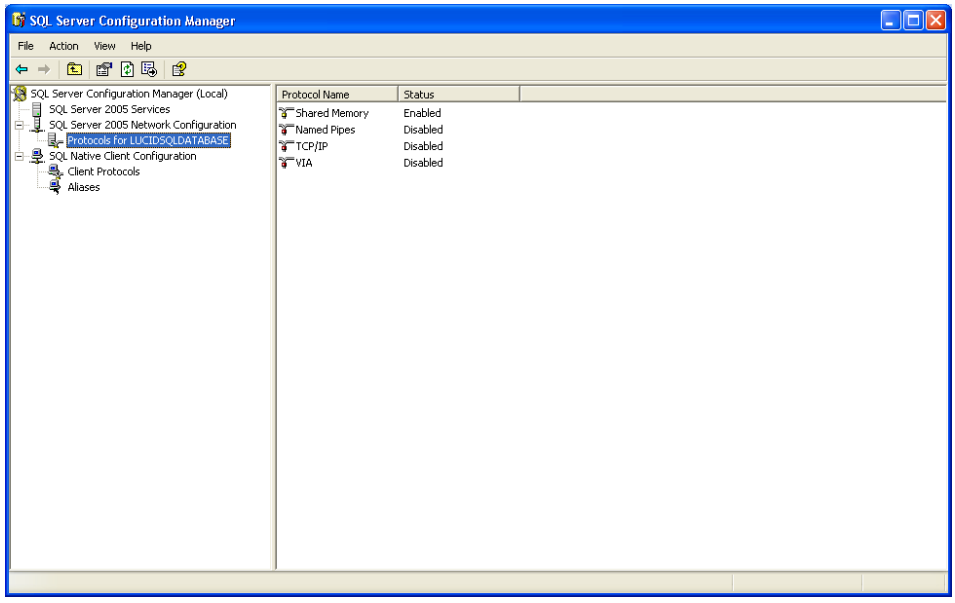
SQL Server 2005



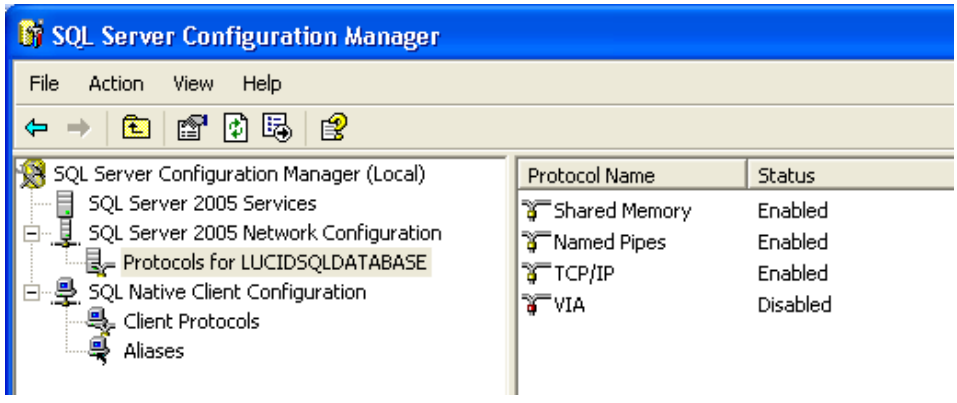
SQL Server 2008 R2



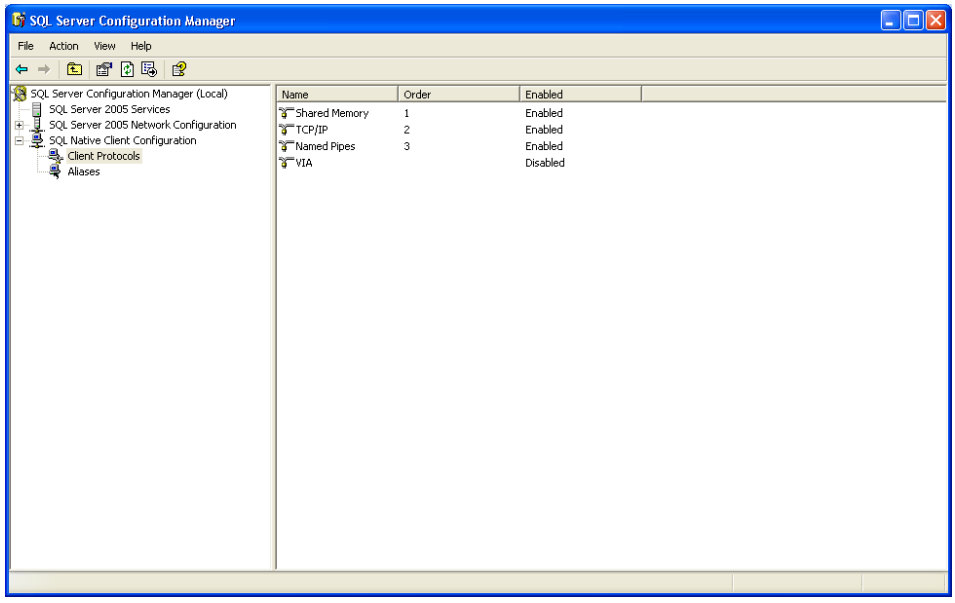
After installation, some or all networking protocols may have been disabled by default. In the picture below, three of the four protocols are disabled.



After configuration, the *Named Pipes* and *TCP/IP* protocols have now been enabled (see example below). You may choose not to enable unused protocols for your own security reasons.



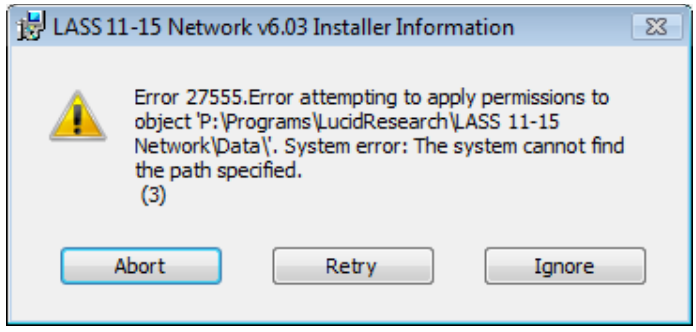
SQL Native Client protocols can also be configured in a similar way (see below).

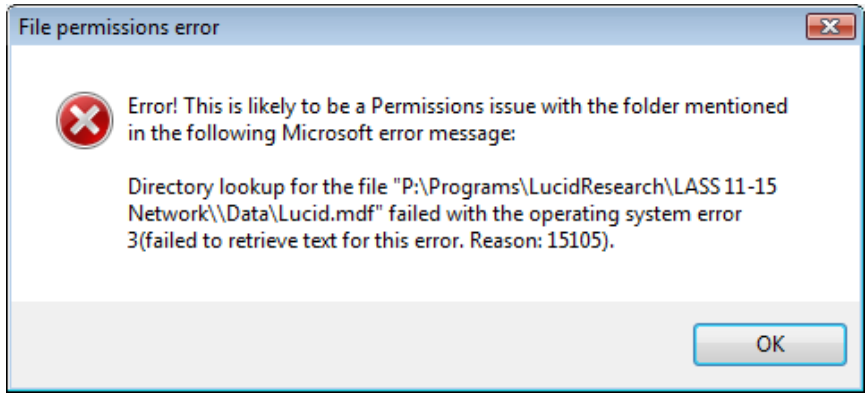

SQL Server Configuration Manager
File
Action
View
Help
SQL Server Configuration Manager (Local)
SQL Server 2005 Services
SQL Server 2005 Network Configuration
SQL Native Client Configuration
Client Protocols
Aliases
Name
Order
Enabled
Shared Memory
1
Enabled
TCP/IP
2
Enabled
Named Pipes
3
Enabled
VIA
Disabled

5. More troubleshooting

Database installation tool

Referring back to Chapter 6. (Installing the database) if you see these error messages immediately after completing Step 1 (see below) you may need to reconsider where you have installed the Lucid application software – it should not be on a network drive. Always install onto a locally attached disk.





Installing Lucid databases using a script – one possible issue

In all Version 4 series software and in Version 6.0 editions up to 6.02 the database is created using an SQL script run within SQL Server Management Studio.

Version 4 series

The script file is found on the CD in a folder called ***Database builder script***:

LUCID Products: Lucid CoPS, Lucid Rapid, LASS Junior and LASS Secondary:
The script file is called: **`Create_lucid.sql`**

LADS Products: LADS and LADS Plus:
The script file is called: **`Create_lads.sql`**

These two script files create the database and login account in one swift operation. The file is loaded into ***SQL Server Management Studio Express*** and run as a new SQL Query. The script is inflexible in that it uses fixed coding for both the destination location for the database files and for the Login Account's password.

If you look at the script after loading it into Management Studio, you will see that very near the top of the script are these lines:

```
CREATE DATABASE [LADS] ON  PRIMARY
( NAME = N'LADS', FILENAME = N'C:\Program Files\Microsoft
SQL Server\MSSQL.1\MSSQL\DATA\LADS.mdf' , SIZE = 4096KB ,
MAXSIZE = UNLIMITED, FILEGROWTH = 1024KB )
 LOG ON
( NAME = N'LADS_log', FILENAME = N'C:\Program
Files\Microsoft SQL Server\MSSQL.1\MSSQL\DATA\LADS_log.ldf'
, SIZE = 1024KB , MAXSIZE = 2048GB , FILEGROWTH = 10%)
 COLLATE SQL_Latin1_General_CP1_CI_AS
```

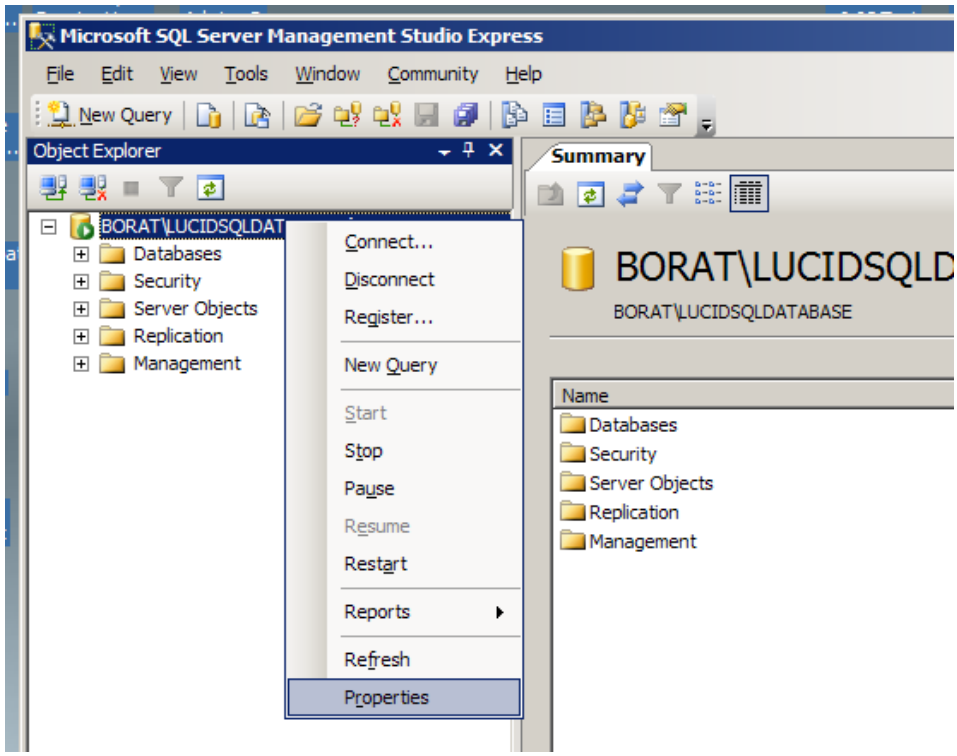
Looking at the lines above you can see that the database files LADS.mdf and LADS_log.ldf are destined to be created in the path:

```
C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\DATA\
```

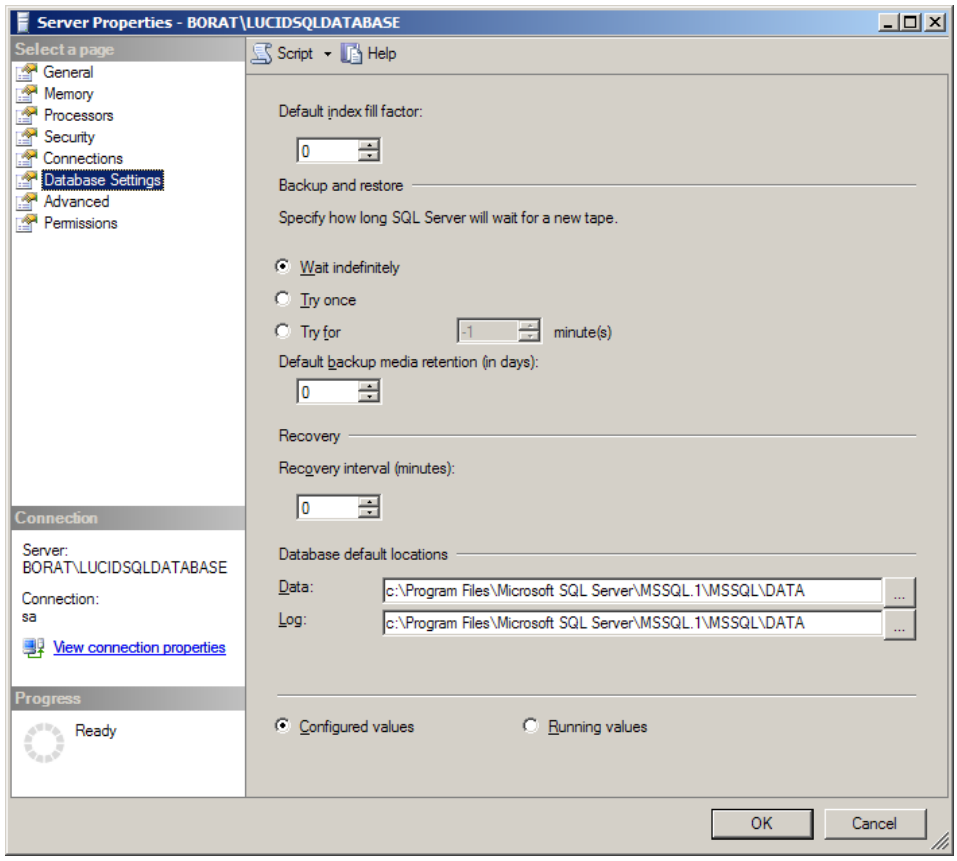
This is in fact the default path for a sole instance of SQL Server 2005 Express on a server or workstation.
If this doesn't match with your computer, for example, you've installed a second instance of SQL Server or if you are using SQL Server 2008, you will probably get 'path not found' errors when you run the script.

Therefore you need to find exactly where your database needs to be go.

To do this, run **Management Studio Express** (or Full Edition)
Right mouse click over the Server\Instance in the Object Explorer

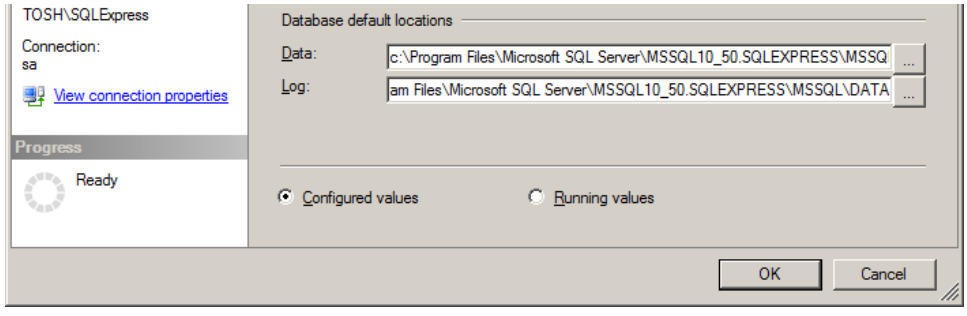


Choose Properties and you will then see a screen similar to the one below. As you can see, the path where databases (Data and Log) are stored is clearly shown.



In the example above, the path matches what is in the script, though this is not always the case, for example, a default instance of SQL Server 2008 R2 had the credentials below:

```
C:\Program Files\Microsoft SQL Server\MSSQL10_50.SQLEXPRESS\MSSQL\DATA\
```



A little way further down from the top of the script you will see the lines:

```
USE [master]
```

```
GO
CREATE LOGIN [LADSUser] WITH PASSWORD=N'ZX123AB',
DEFAULT_DATABASE=[LADS], CHECK_EXPIRATION=OFF,
CHECK_POLICY=OFF
GO
```

The Login Account password is shown as being **ZX123AB**.
If you want to change this, for example, if you are forced to use a stronger password, you need to change this within the script before you execute it.

Firewalls

Please check for firewalls on the client machines and server.
Check for particular ports being blocked by the firewall or a router.

These ports will normally be:

TCP Port 1433.
UDP Port 1434

You should add exceptions for these ports if they have been blocked

See the link below:
http://technet.microsoft.com/en-us/library/cc646023.aspx

Other sources of help

Please look on our website first as some issues may be reported on the *Technical Support* pages there. See the website link below:

http://www.lucid-research.com/networksupport.htm

Please also check the software updates page on the Lucid Research website at

http://www.lucid-research.com/updatesdla.htm

Bug fixes are put there to be freely downloadable.

If this doesn't help please email us at technical@lucid-research.com

We try and answer email queries within 24 hours, often sooner.
If you contact us by telephone then please have noted down in advance as many details about the problem encountered as possible, along with the software serial number.

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