

Copyright © 2006 - 2008 ESRI

All Rights Reserved.

Printed in the United States of America.

The information contained in this document is the exclusive property of ESRI. This work is protected under United States copyright law and the copyright laws of the given countries of origin and applicable international laws, treaties, and/or conventions. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying or recording, or by any information storage or retrieval system, except as expressly permitted in writing by ESRI. All requests should be sent to Attention: Contracts Manager, ESRI, 380 New York Street, Redlands, CA 92373, USA.

The information contained in this document is subject to change without notice.

RESTRICTED/LIMITED RIGHTS LEGEND

U.S. Government Restricted/Limited Rights: Any software, documentation, and/or data delivered hereunder is subject to the terms of the License Agreement. In no event shall the Government acquire greater than RESTRICTED/LIMITED RIGHTS. At a minimum, use, duplication, or disclosure by the Government is subject to restrictions as set forth in FAR §52.227-14 Alternates I, II, and III (JUN 1987); FAR §52.227-19 (JUN 1987); and/or FAR §12.211/12.212 [Commercial Technical Data/Computer Software]; DFARS §252.227-7015 (NOV 1995) [Technical Data]; and/or DFARS §227.7202 [Computer Software], as applicable. Contractor/Manufacturer is ESRI, 380 New York Street, Redlands, CA 92373-8100, USA.

ESRI, MapObjects, ArcView, ArcIMS, ArcSDE, ArcInfo, ArcEditor, ArcGIS, ArcMap, ArcCatalog, ArcToolbox, ArcObjects, MapObjects, SDE, and the ESRI globe logo are trademarks of ESRI, registered in the United States and the European Community, or certain other jurisdictions. www.esri.com is a service mark of ESRI.

The names of other companies and products mentioned herein are trademarks or registered trademarks of their respective trademark owners.

Table Of Contents

Introduction	1
Features of geodatabases in SQL Server Express	1
System requirements	3
Microsoft SQL Server Express requirements.....	3
Desktop applications and SQL Server Express requirements.....	3
Installing SQL Server Express and enabling the ArcSDE component.....	4
Installation overview.....	4
Installing SQL Server Express with Advanced Services.....	5
Enabling SQL Server Express to store geodatabases.....	12
Using the Post Installation wizard to choose the instance and add an administrator	12
Using a silent postinstallation set up to designate the instance and add an administrator	13
Accessing documentation for the next steps	15
Upgrading	16
Upgrading your SQL Server Express instance	17
Upgrading geodatabases on ArcSDE database servers	20
Upgrading from a client that has the 9.2 direct connect drivers installed	20
Upgrading from a client that does not have the 9.2 direct connect drivers installed	20
Programatically upgrading a geodatabase	21
Uninstalling SQL Server Express.....	23
Troubleshooting.....	24
Enabling the TCP/IP protocol.....	24
Ensuring the services are running.....	24
Making sure a user has permission to add the database server	25

Introduction

This installation guide includes information on installing Microsoft® SQL Server® Express Edition with Advanced Services and enabling it to store ArcSDE® geodatabases. The ArcSDE functionality for these geodatabases is included with ArcGIS® Engine and ArcGIS Desktop at the ArcEditor™ or ArcInfo® license level; no additional license file is needed.

The files you will need for this installation are as follows:

- `Install_sqlexpress.htm`—This launches the installation guide. It contains instructions for installation and setup on Windows systems.
- `Documentation`—This is a folder that contains the installation guide files.
- `ArcSDEsqlExpressPersonal.exe`—This launches the SQL Server Express with Advanced Services installation and the postinstallation setup wizard.
- `Support`—This is a folder that contains files to support the Microsoft SQL Server Express with Advanced Services installation.

The installation and set up of a geodatabase in SQL Server Express is a two step process.

1. Install Microsoft SQL Server Express Edition with Advanced Services.
2. Perform the postinstallation setup, which adds an administrative user to the SQL Server Express instance (referred to as a database server in the ArcCatalog interface and IDataServerManagerAdmin interface in ArcObjects), enables the SQL Server Express instance to store geodatabases, and configures SQL Server Express to support remote connections.

The setup program will install the Microsoft Windows Installer if required and check the computer for Microsoft .Net 2.0 before continuing with the Microsoft SQL Server Express installation. If you do not have Microsoft .Net 2.0 installed on your computer, the setup program will close. You can download .Net 2.0 from the Microsoft site. Once it is installed, rerun the SQL Server Express installation.

When the SQL Server Express installation is complete, the installation wizard automatically continues with the postinstallation setup, which will enable the SQL Server Express instance (the database server) to use geodatabases.

Features of geodatabases in SQL Server Express

The geodatabases you create in SQL Server Express as part of your ArcGIS Engine Geodatabase Update license or ArcGIS Desktop ArcEditor or ArcInfo license have the following characteristics:

- Allow you to take advantage of ArcSDE geodatabase functionality, such as versioned editing, history tracking, and geodatabase replication, at your desk or in the field without having to install and manage an enterprise database management system or ArcGIS Server Enterprise.

Installation Guide: ArcSDE for SQL Server Express (Desktop)

- Can be used at the ArcInfo or ArcEditor license-level of ArcGIS Desktop or ArcGIS Engine applications with no additional licensing
- Are intended for individual users of ESRI desktop and mobile applications
- Allow three concurrent users to access the database server; one connection can be an editor connection
- Are accessed and administered through ArcCatalog by creating connections to a database server instance (local or on the network) or through the DataServerManager ArcObjects CoClass.
- Use Microsoft SQL Server Express
- Are preconfigured for optimal performance
- Use Windows authenticated users and direct connections to the geodatabases

System requirements

Microsoft SQL Server Express requirements

To see a list of the prerequisite software and minimum and recommended hardware and software requirements for running Microsoft SQL Server 2005 Express Edition with Advanced Services, check the [Microsoft support site](#).

Desktop applications and SQL Server Express requirements

If you will be running both ArcGIS Desktop or ArcGIS Engine and Microsoft SQL Server Express Edition on the same computer, **at a minimum**, you should have:

- 1 GB of RAM
- A Pentium III compatible 1GHz processor that supports cache prefetching
- Microsoft Internet Explorer 6.0 SP1
- Operating system options:
 - Microsoft Windows 2000 Professional with service pack 4
 - Windows XP Professional SP2
 - Windows Vista

If you will be running SQL Server Express on a computer separate from the ArcGIS Desktop software or a custom application, follow the individual requirements for each product.



Installing SQL Server Express and enabling the ArcSDE component

Installation overview

The installation wizard installs SQL Server Express with Advanced Services on your computer and enables the SQL Server Express instance to use the ArcSDE libraries that are included with ArcGIS Engine and the ArcGIS Desktop installation at the ArcEditor™ and ArcInfo® license level.

To perform the installation, you must have system administrator privileges on the computer on which SQL Server Express is to be installed and enabled to store geodatabases.

The installation procedure includes the following steps:

Start the setup program.

Insert the ArcGIS Desktop or ArcGIS Engine DVD into the drive. When the installation options dialog box appears, click ArcSDE for SQL Server Express. (If the installation options dialog box doesn't open automatically, browse to the ArcSDESqlExpressPersonal.exe on the DVD.)

Complete the Microsoft SQL Server 2005 Express Edition setup.

This is the main component of the setup and is done as part of the installation. If you use the wizard, follow the installation instructions in [Installing SQL Server Express](#). If you need to silently install SQL Server Express, consult the Microsoft article [How to: Install SQL Server 2005 from the Command Prompt](#). **Note:** This article is generic to all editions of SQL Server 2005; be sure to only use options relevant to SQL Server Express.

If you were using geodatabases in SQL Server Express at ArcGIS 9.2, please see [Upgrading SQL Server Express](#) and [Upgrading geodatabases](#).

Complete the postinstallation setup to enable the SQL Server Express instance to store geodatabases.

The postinstallation set up will add a database server administrator to the SQL Server Express instance, configure SQL Server Express for remote connections, and enable the SQL Server Express instance to store geodatabases. The postinstallation setup will automatically launch after the SQL Server Express installation is complete. Postinstallation must be completed to use geodatabases in SQL Server Express. For detailed instructions, see the topic [Enabling SQL Server Express to store geodatabases](#).

Once you complete the previous steps, you will have an instance of SQL Server Express that has been enabled to store geodatabases. See [Accessing documentation for the next steps](#) for links to information on creating geodatabases, adding users, and other administrative tasks.

Installing SQL Server Express with Advanced Services

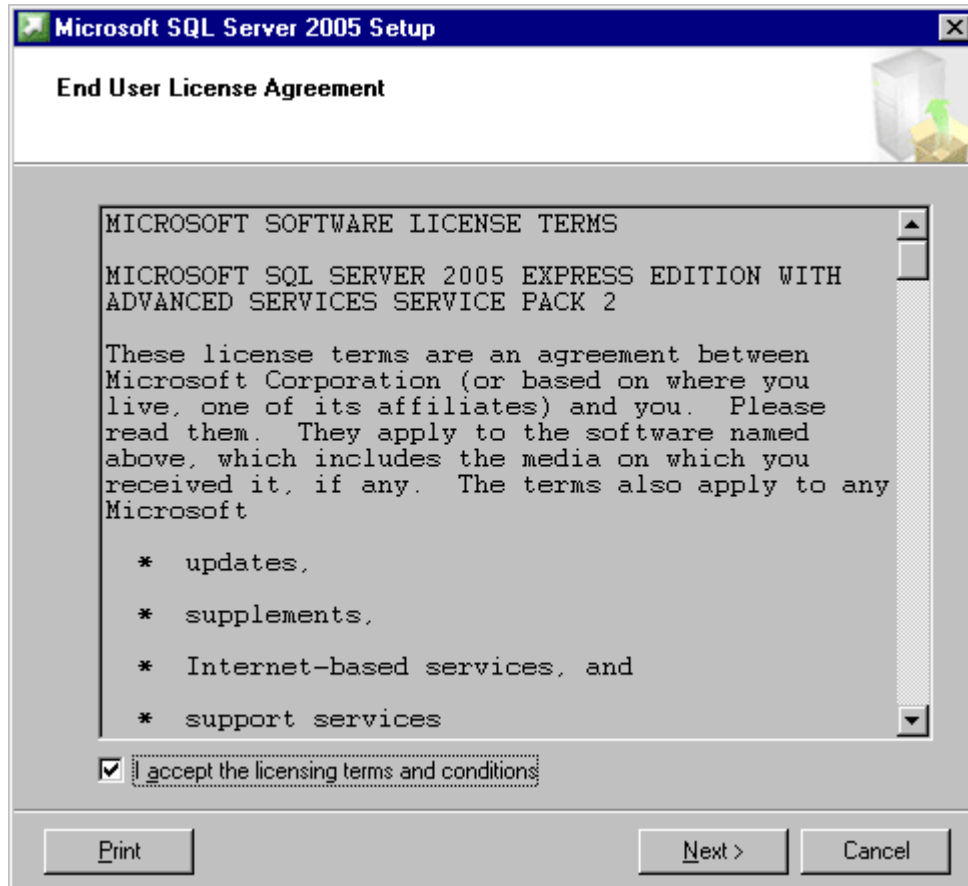
Follow the "How to prepare to install" and the "How to install SQL Server Express with Advanced Services" steps below to install SQL Server Express on your computer.

How to prepare to install

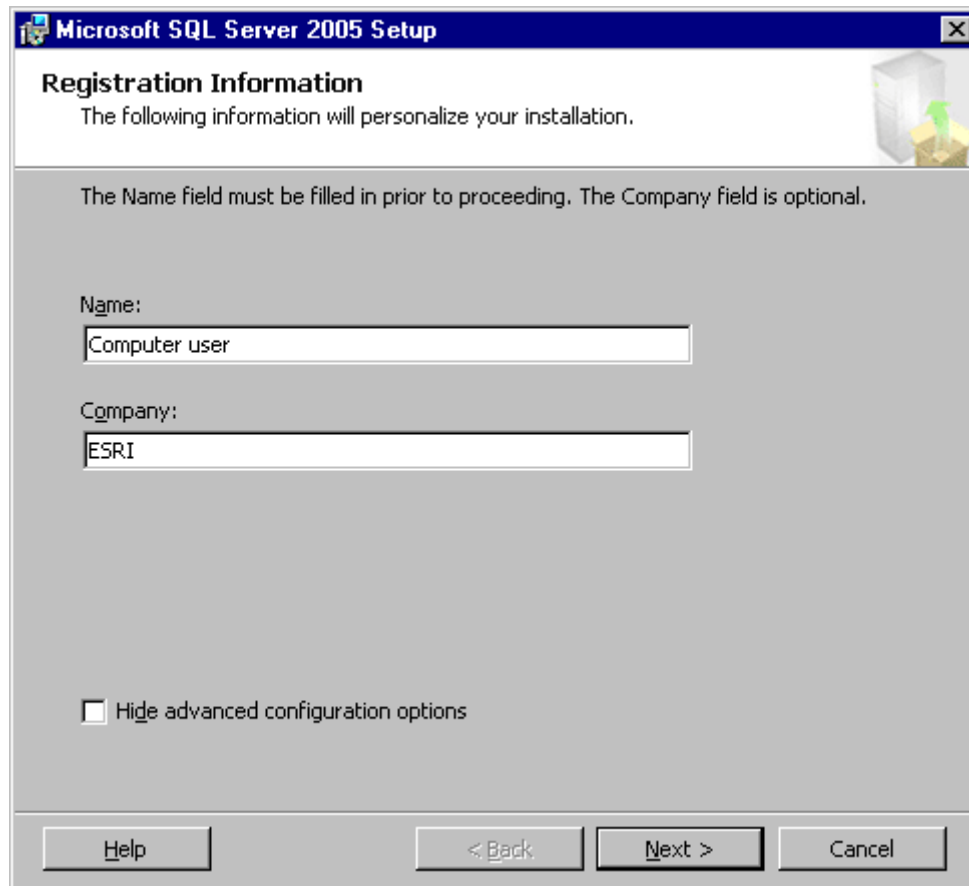
1. Log into the computer as a user with administrative privileges.
2. Close all applications on your computer.
3. Insert the ArcGIS Desktop or ArcGIS Engine DVD to the appropriate drive and follow the directions below on How to install SQL Server Express with Advanced Services. (If you already have an instance of SQL Server Express with Advanced Services installed that you want to use, uncheck the Microsoft SQL Server Express Edition option checked on the ArcSDE for SQL Server Express Installation Options dialog box, and skip to the [postinstallation setup](#).)

How to install SQL Server Express with Advanced Services

1. When the installation options dialog box appears, click ArcSDE for SQL Server Express. (If the dialog box does not appear, navigate to the Windows folder on the installation media and launch ArcSDESqlExpressPersonal.exe to begin the installation.) As mentioned in the installation overview topic, if you need to silently install SQL Server Express, consult the Microsoft article [How to: Install SQL Server 2005 from the Command Prompt](#) and skip the remainder of these steps.
2. Install Microsoft SQL Server 2005 Express Edition with Advanced Services by leaving the Microsoft SQL Server Express Edition option checked on the ArcSDE for SQL Server Express Installation Options dialog box and clicking Install.
3. Follow the steps in the Microsoft SQL Server 2005 Express Edition with Advanced Services installation wizard to do the following:
 - a. Accept the Microsoft SQL Server 2005 Express Edition with Advanced Services license agreement. If you do not accept, the setup will exit and you will not install SQL Server Express.

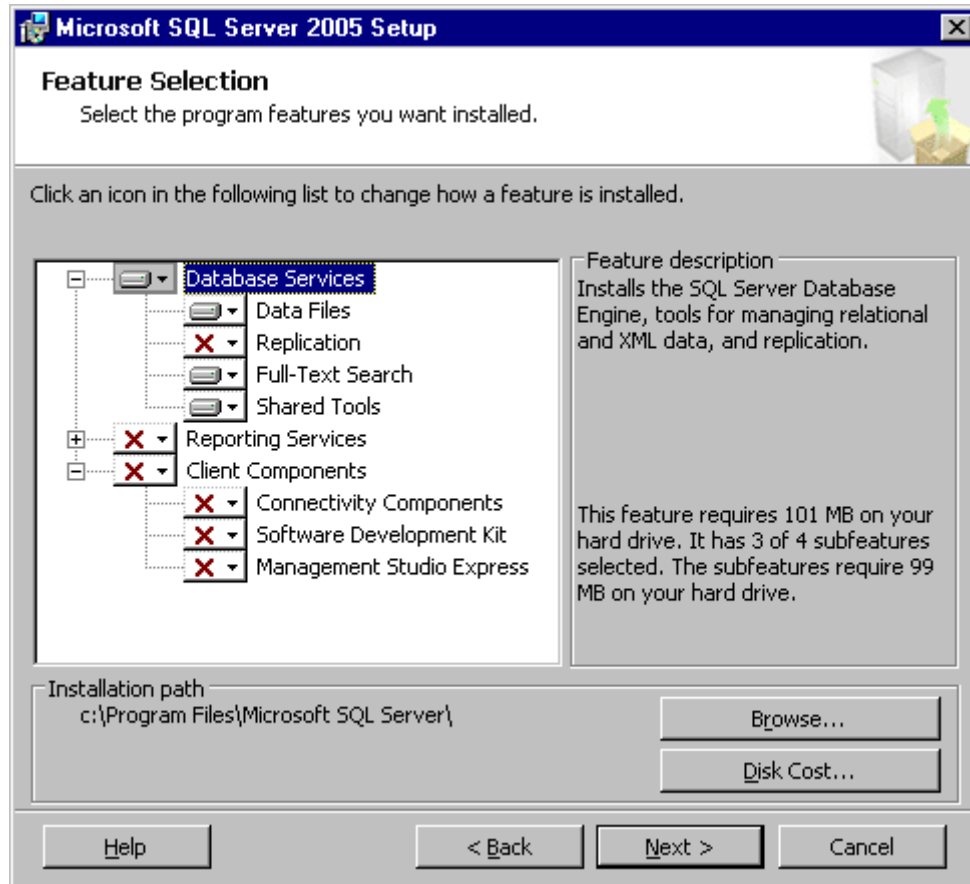


- b. Next, the setup checks your computer for the Microsoft Windows Installer 3.1 and .NET 2.0 Framework, which are required by SQL Server 2005 Express. If the Windows Installer 3.1 is not installed, the setup will install it for you. If you do not have the .NET 2.0 Framework, the setup will exit. You must install the .NET 2.0 Framework separately then restart the SQL Server Express installation. If your computer has all the required files, it will pass this check. Click Next to proceed to the next dialog box.
- c. On the Microsoft SQL Server 2005 Setup/Welcome to Microsoft SQL Server Installation Wizard dialog box, click Next.
- d. Microsoft will do another system configuration check. When it completes, click Next.
- e. On the Registration Information dialog box, provide a name for the registration and uncheck Hide advanced configuration options.

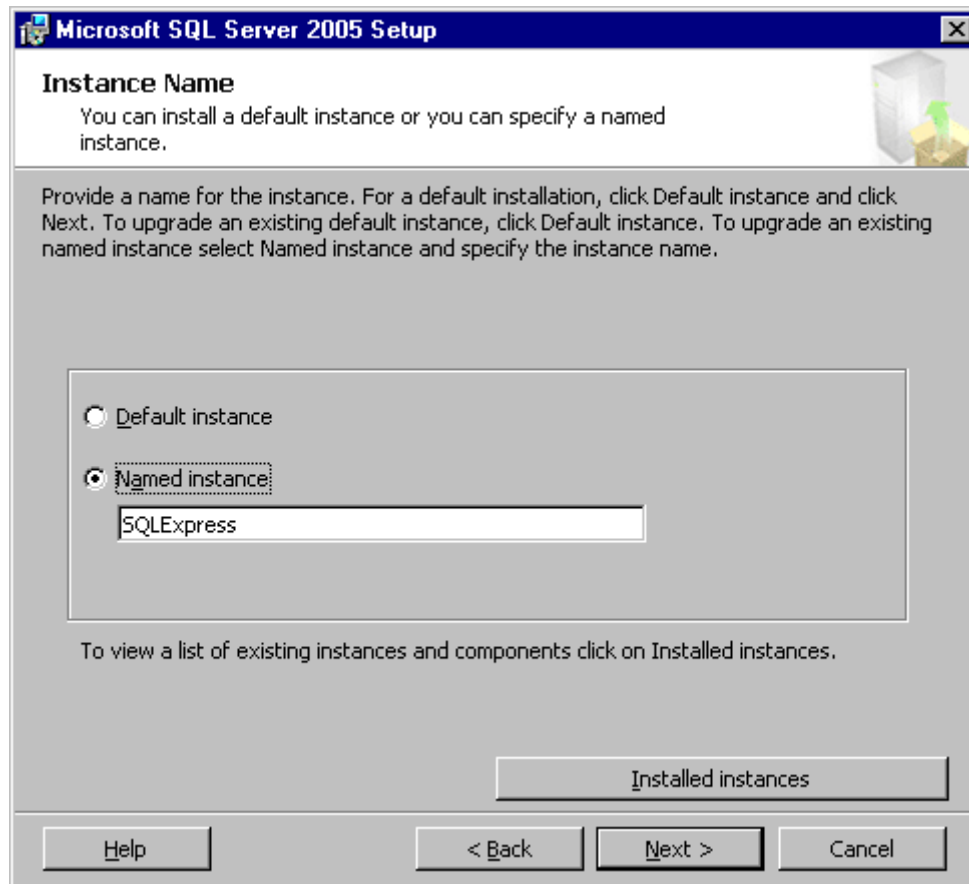


The screenshot shows the "Microsoft SQL Server 2005 Setup" window with the "Registration Information" tab selected. The window title bar includes the Microsoft logo and the text "Microsoft SQL Server 2005 Setup". The main content area has a header "Registration Information" and a sub-header "The following information will personalize your installation." Below this, a note states: "The Name field must be filled in prior to proceeding. The Company field is optional." There are two text input fields: "Name:" with the value "Computer user" and "Company:" with the value "ESRI". At the bottom left, there is a checkbox labeled "Hide advanced configuration options" which is currently unchecked. At the bottom right, there are four buttons: "Help", "< Back", "Next >", and "Cancel".

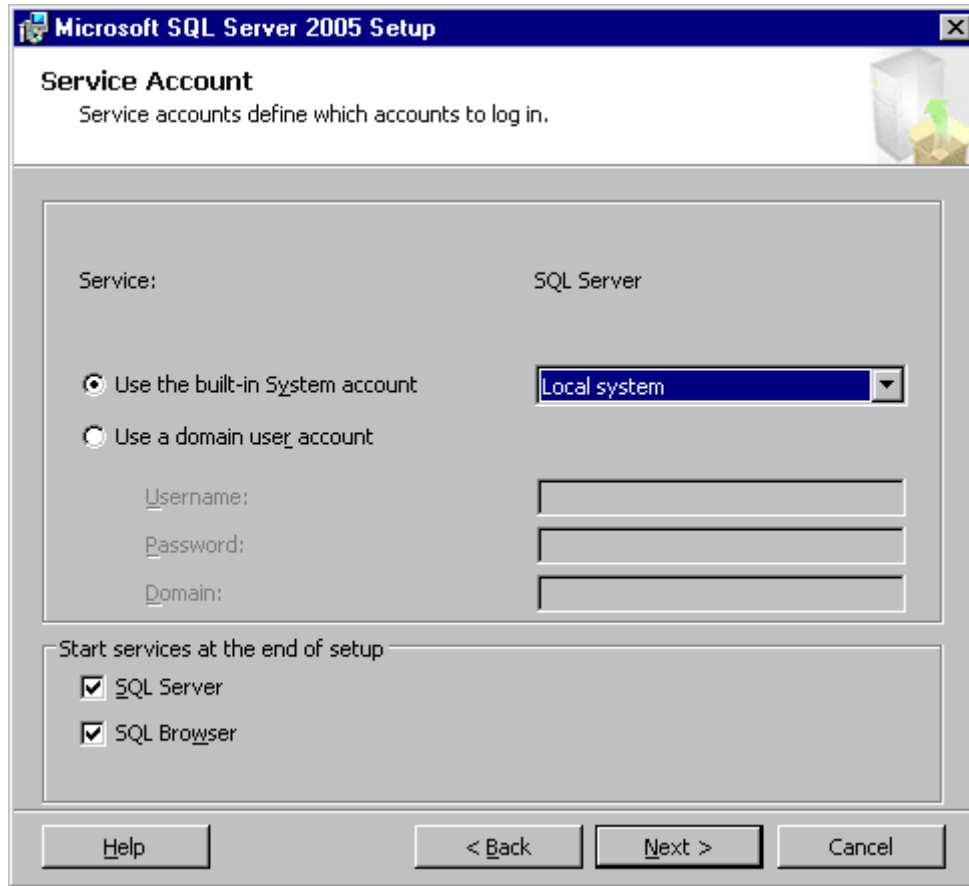
- f. On the Feature Selection dialog box, expand Database Services. Make sure the Full-Text Search feature is selected. If it is not, click the drop-down box next to Full-Text Search and click Entire feature will be installed on local hard drive. Click Next.



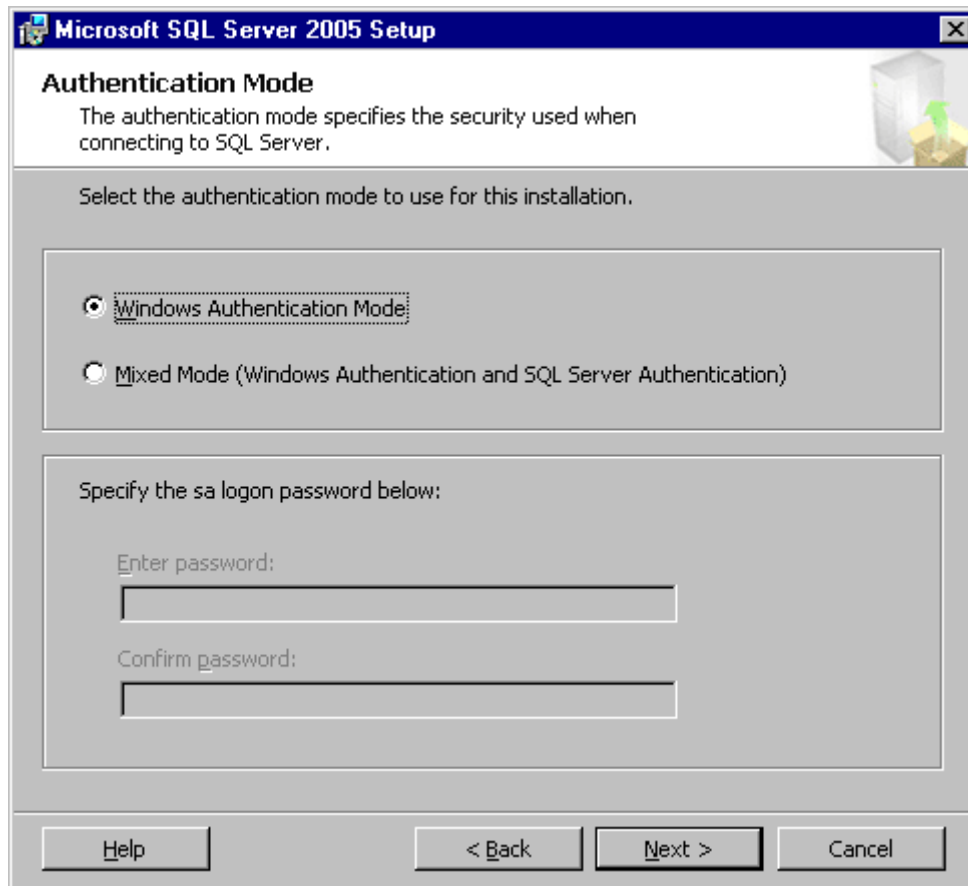
- g. On the Instance Name dialog box, use a Named instance. The default name is SQLEXPRESS. You can accept this name or type a different name and click Next. Note that the instance name cannot exceed 16 characters, must start with a letter, cannot contain spaces or special characters, and must be unique.



- h. Click Next on the Existing Components dialog box.
- i. For the Service Account, keep Use the built-in System account selected. From the drop-down list, choose the Local system account. Make sure the SQL Server and SQL Browser services remain checked to be started automatically at the end of the setup. Click Next.



- j. By default, Microsoft SQL Server Express 2005 uses Windows Authentication Mode. Geodatabases stored in SQL Server Express can only accept Windows logins; therefore, there is no need to change the authentication mode. Click Next.



- k. If you need to alter the collation settings to use a different collation, you can do so on the Collation Settings dialog box. Click Next. **Note:** Be sure to use a case insensitive collation; case sensitive collations are not supported.
- l. You can accept the default on the User Instances dialog box and click Next. If you are installing on a Windows Vista machine, you can add a login to the SQL Server Express DBO server role by clicking Add user to the SQL Server Administrator role.
- m. On the Error and Usage Report settings dialog box, you can optionally choose to send information to Microsoft.
- n. Click Install to proceed with the SQL Server Express with Advanced Services installation. When the installation completes, click Finish.

The postinstallation setup will launch automatically after the SQL Server Express with Advanced Services installation completes. See the topic [Enabling SQL Server Express to store geodatabases](#) for instructions.



Enabling SQL Server Express to store geodatabases

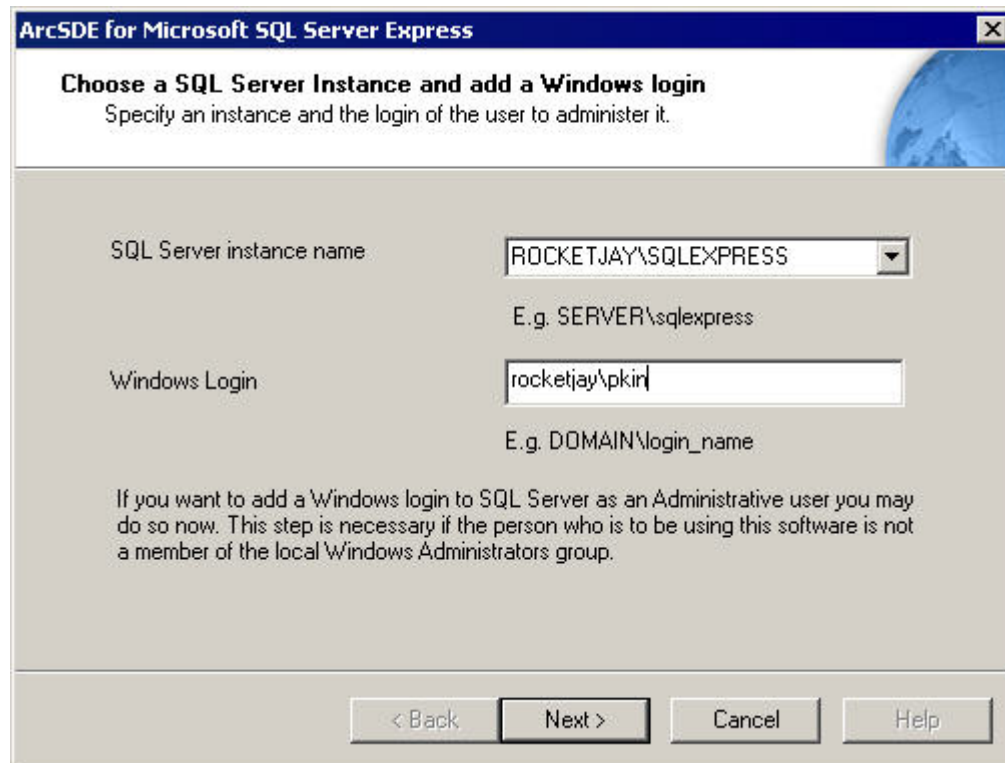
The postinstallation setup designates the SQL Server Express instance to be used as the database server for your geodatabases and adds an administrator login to the database server. There are two options for running the postinstallation setup: using the Post Installation wizard, which will automatically launch after the SQL Server Express installation completes, or using a silent setup. Follow the appropriate steps for the type of postinstallation you want to perform.

Using the Post Installation wizard to choose the instance and add an administrator

1. If you are using the postinstallation wizard to complete the postinstallation setup, choose from the drop-down list the name of the SQL Server Express instance you just installed; for example, MyServer\sqlexpress. If you already had an installation of SQL Server Express you wanted to use, choose that instance from the list. **Be sure you choose the correct instance!** If you mistakenly choose, for instance, a SQL Server Enterprise Edition instance, your SQL Server Express instance will not be properly enabled to store geodatabases.
2. If the person who will be administering the database server is not a member of the local Windows Administrators group, you must add him or her to the SQL Server Express instance you just installed. This user will not have any additional permissions at the operating system level but will be able to perform all necessary administrative functions on the database server.

Note: If you are installing on the Windows Vista operating system (OS), you **must** add an administrative user here. If you do not, you will not be able to access the database server.

You can add the login for the database server administrator by typing the domain or machine name followed by a backslash (\) and the login name; for example, rocketjay\pkin, as shown below.



If you do not need to add a database server administrator user to the SQL Server Express instance (for instance, if you are the only user who will access this database server and you are using a Windows XP OS), don't type anything in the Windows Login field.

3. Click Next.
4. Click Finish to complete the postinstallation setup.

Your database server (SQL Server Express instance) is now ready for use. Consult the ArcGIS Desktop help for information on adding the database server to ArcCatalog and creating geodatabases in SQL Server Express.

Using a silent postinstallation set up to designate the instance and add an administrator

1. Open a DOS command window.
2. Execute the following command:

```
<path_to_executable>ArcSdeSetupSqlExpress.exe -silent -user
<user_login>
-instance <sql_server_instance> -logfile <log_file>
```

Where the user login is the full login of the user you want to make an administrator of the database server, the SQL Server instance is the name of the SQL Server Express instance and logfile is the path to and name of the log file. For example:

Installation Guide: ArcSDE for SQL Server Express (Desktop)

```
c:\ArcGIS\ArcSdeSetupSqlExpress.exe -silent -user ourdom\cmelch  
-instance myserver\sqlexpress -logfile c:\logs\logfile.log
```

The database server is now enabled to store geodatabases and has an administrative user added to it. Consult the ArcGIS Desktop help for information on adding the database server to ArcCatalog and creating geodatabases in SQL Server Express or the ArcObjects help if performing these tasks programmatically.


ArcGIS Installation Guide

Accessing documentation for the next steps

Documentation on using database servers and geodatabases is included in the [ArcGIS Desktop online help \(http://webhelp.esri.com/arcgisdesktop/9.3\)](http://webhelp.esri.com/arcgisdesktop/9.3). This documentation can also be found in the help that is installed with ArcGIS Desktop and ArcGIS Server, which (on Windows) can be accessed from the Start menu on the machine where ArcGIS Desktop or ArcGIS Server are installed.

To launch the ArcGIS Server help on UNIX machines, open the index.htm file in the documentation folder that is installed with ArcGIS Server.

Developer documentation can be found on the [ESRI Developer Network \(EDN\)](#).

After you finish the postinstallation setup, you are ready to add the database server (the SQL Server Express instance) to ArcCatalog or connect to it from a custom application, connect to the geodatabases, add other users, and add data to your geodatabase. If you are creating custom applications to access the geodatabases, you need to do these things through ArcObjects.

The following is a list of help topics to assist you in these tasks. Topics can be found in the ArcGIS Desktop online help or the help system installed with ArcGIS Server or ArcGIS Desktop. The Developer topics can be found on EDN or in the help installed with the ArcGIS Engine SDK. Open the help and search for the titles.

TASK	RELATED TOPICS
Adding a database server, creating a geodatabase, and connecting to geodatabases	<p>Desktop</p> <ul style="list-style-type: none"> An overview of database server connections Adding an ArcSDE database server Creating a new geodatabase Saving a geodatabase connection Troubleshooting connections to the database server <p>Developer</p> <ul style="list-style-type: none"> DataServerManager CoClass IDataServerManagerAdmin.CreateGeodatabase method IDataServerManagerAdmin.CreateWorkspaceName method
Adding and administering geodatabase users	<p>Desktop</p> <ul style="list-style-type: none"> Adding and removing users or groups for ArcSDE database

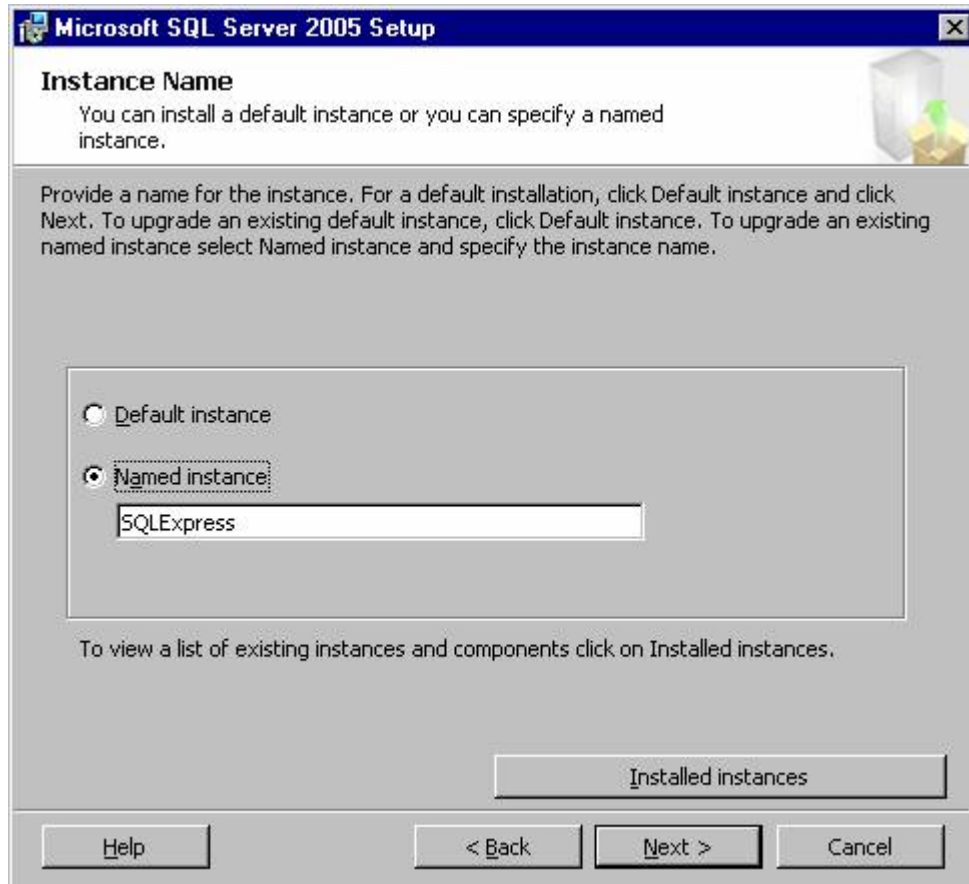
	<p>servers</p> <p>Administering user permissions for ArcSDE database servers</p> <p>Developer</p> <p>IDataServerManagerAdmin.CreateLogin method</p> <p>IDataServerManagerAdmin.DeleteLogin method</p> <p>IDataServerManagerAdmin.ModifyLoginSecurity method</p> <p>IDataServerManagerAdmin.ModifyGeodatabaseSecurity method</p>
Adding data	<p>Desktop</p> <p>An overview of adding datasets to the geodatabase</p> <p>Developer</p> <p>How to create features in the geodatabase</p> <p>How to convert simple data to a geodatabase</p>

Upgrading

Upgrading your SQL Server Express instance

The SQL Server Express instances installed with ArcGIS Desktop 9.2 did not include Advanced Services. To move your SQL Server Express instance and geodatabases to SQL Server Express with Advanced Services, you can upgrade the SQL Server Express instance. **Note:** You must be a Windows administrator on the computer where SQL Server Express is installed to perform this upgrade.

1. Before upgrading the SQL Server Express instance, **create backups of all your geodatabases**. For instructions on creating geodatabase backups, see [Back up and restore geodatabases on an ArcSDE database server](#) in the ArcGIS Server or ArcGIS Desktop help or the `IDataServerManagerAdmin.BackupGeodatabase` method to programmatically create a geodatabase backup.
2. Insert the ArcGIS Desktop DVD to a drive on the computer where SQL Server Express is installed.
3. When the installation options screen appears, click ArcSDE for SQL Server Express. Or, if the installation options screen does not launch, navigate to the ArcSDE Personal folder on the ArcGIS Desktop DVD and launch the `ArcSDESqlExpressPersonal.exe` file to begin the upgrade.
4. Leave the Microsoft SQL Server Express Edition option checked on the ArcSDE for SQL Server Express Installation Options dialog box. Uncheck the postinstallation option and click Install.
5. Accept the Microsoft SQL Server 2005 Express Edition with Advanced Services license agreement. If you do not accept, the setup will exit and you will not install SQL Server Express.
6. Next, the setup checks your computer for the Microsoft Windows Installer 3.1 and .NET 2.0 Framework, which are required by SQL Server 2005 Express. These should already be installed since you have an existing SQL Server Express installation. Click Next to proceed to the next dialog box.
7. On the Microsoft SQL Server 2005 Setup/Welcome to Microsoft SQL Server Installation Wizard dialog box, click Next.
8. Microsoft will do another system configuration check. When it completes, click Next.
9. On the Instance Name dialog box, click the Installed instances button. Choose the instance you want to upgrade and click OK. **Be sure to choose the correct instance!** This will take you back to the Instance Name dialog box. Click Next to continue.



10. The next dialog box—the Existing Components dialog box—will indicate you will be upgrading the SQL Server Express instance. Click Next to proceed with the upgrade.
11. If the upgrade completes successfully, your instance now has the Advanced Services installed. Your existing geodatabases will likely need upgrading as well. See [Upgrading geodatabases](#) for information on geodatabase upgrades.

If the SQL Server Express upgrade did not successfully complete, you will need to uninstall your existing SQL Server Express instance and do a new installation of SQL Server Express with Advanced Services. To remove the SQL Server Express instance, see [Uninstalling SQL Server Express](#).

Once you have finished uninstalling the old SQL Server Express instance, do the following:

- a. Proceed with the new installation of SQL Server Express with Advanced Services by following the instructions in [Installing SQL Server Express with Advanced Services](#).
- b. Add the new SQL Server Express with Advanced Services instance (database server) to ArcCatalog by double-clicking Add database server and typing the machine and instance name of the new instance. Or use the IDataServerManager interface to connect to the database server.

- c. Restore the geodatabases of which you made a backup in step 1 by right-clicking the database server in ArcCatalog, clicking Restore, browsing to the location of the backup file, and clicking OK. Or, to programatically restore the geodatabase, use the `IDataServerManagerAdmin.RestoreGeodatabase` method.
- d. If you want to upgrade the geodatabase at this time, follow the instructions in [Upgrading geodatabases](#).



Upgrading geodatabases on ArcSDE database servers

How you upgrade depends on whether or not you have installed the ArcGIS Pre 9.3 geodatabase direct connect drivers. Follow the first set of instructions to upgrade from ArcCatalog if you have installed the 9.2 drivers on the machine from which you are running ArcCatalog to upgrade the geodatabases. Follow the second set of instructions if you have not installed these drivers.

The last set of instructions is for those programmatically upgrading a geodatabase.

Note: No other users should be connected to the geodatabase when you upgrade it.

Upgrading from a client that has the 9.2 direct connect drivers installed

1. Before installing a new version of ArcGIS Desktop, **create backups of all your geodatabases** stored in SQL Server Express. For instructions on creating geodatabase backups, see [Back up and restore geodatabases on an ArcSDE database server](#) in the ArcGIS Server or ArcGIS Desktop help.
2. Follow the instructions provided with ArcGIS Desktop for installing a newer version of the Desktop software.
3. Upgrade your geodatabases. To do this, you must log into the database server with a login that is a server administrator or a geodatabase administrator. As the administrator, open ArcCatalog, connect to the database server, and right-click on the first geodatabase and click Properties. Or, as the geodatabase administrator, right-click the first geodatabase on the database server to which you have administrator privileges and click Properties.
4. On the General tab, if the geodatabase needs to be upgraded, the Upgrade Geodatabase button will be active. Clicking this will upgrade the geodatabase.
5. Click OK to close the Database Properties dialog box.
6. If you have additional geodatabases to upgrade, repeat steps 3 through 5 until all the geodatabases you need to upgrade have been upgraded.

Note: You are not required to upgrade the geodatabase; however, if you do not, you will not be able to use any new geodatabase functionality the upgrade would allow.

Upgrading from a client that does not have the 9.2 direct connect drivers installed

1. Before installing a new version of ArcGIS Desktop, **create backups of all your geodatabases** stored in SQL Server Express. For instructions on creating geodatabase backups, see [Back up and restore geodatabases on an ArcSDE database server](#) in the ArcGIS Server or ArcGIS Desktop help.

2. Follow the instructions provided with ArcGIS Desktop for installing a newer version of the Desktop software.
3. Upgrade your geodatabases. To do this, you must log into the database server with a login that is a server administrator or a geodatabase administrator. As the administrator, open ArcCatalog and double-click the first geodatabase. You will be prompted to upgrade the ArcSDE system table. Click Yes to upgrade. If you do not, click Yes, you will not be able to connect to the geodatabase from the 9.3 client.

Note: Once you upgrade the ArcSDE system tables, any 9.2 clients prior to SP5 will not be able to connect to the geodatabase.

4. Right-click the geodatabase and click Properties. On the General tab, check the Upgrade Status. If the Upgrade Geodatabase button is active, you can click it to upgrade the geodatabase system tables.

Note: You are not required to upgrade the geodatabase system tables; however, if you do not, you will not be able to use any new geodatabase functionality the upgrade would allow.

5. Click OK to close the Geodatabase Properties dialog box.

Programmatically upgrading a geodatabase

If you are using an ArcGIS Engine license and want to programmatically upgrade the geodatabase, you need to do the following:

1. Obtain the newer release of the ArcSDE libraries provided with the newer release of ArcGIS Engine Runtime.
2. Create backups of your geodatabases using the `IDataServerManagerAdmin.BackupGeodatabase` method.
3. To programmatically upgrade individual geodatabases, use the `IDataServerManagerAdmin.UpgradeGeoDatabase` method.

Uninstalling SQL Server Express

1. Open the Windows Control Panel and double-click the Add/Remove Programs icon.
2. Select Microsoft SQL Server 2005 from the program list, and click the Remove button. **Note:** You must be a Windows administrator to remove programs.
3. For Component Selection, select the correct instance to remove. For example, if you used the default instance name of SQLEXPRESS, choose SQLEXPRESS:Database Engine.
4. Click Next.
5. Confirm you want to uninstall this instance by clicking Finish.

Uninstalling SQL Server Express removes the SQL Server Express software, but the geodatabase files you created remain. If you reinstall SQL Server Express and want to use the geodatabase files you had previously created, you will need to attach them or restore them from backup files.



Troubleshooting

To successfully run geodatabases in SQL Server Express, the SQL Server TCP/IP network protocol must be enabled and both the SQL Server Express and SQL Server Browser services must be started. In addition, to use a particular ArcSDE database server, your login must be recognized by the SQL Server Express instance. These topics are covered below.

Enabling the TCP/IP protocol

Upon completion of this install, if you have trouble making remote connections to the database server, please do the following to ensure that SQL Server Express has been correctly configured.

Start the SQL Server Configuration Manager

1. Click the Start button on the Windows task bar, point to All Programs, point to Microsoft SQL Server 2005, point to Configuration Tools, and click SQL Server Configuration Manager.

Check the Network Configuration

1. In the left-hand Table of Contents, expand SQL Server 2005 Network Configuration.
2. Click Protocols for <instance_name>. If you used the default instance name, this will be SQLEXPRESS.
3. Verify that TCP/IP status is Enabled. If it is not enabled:
 - a. Right-click TCP/IP and click Properties.
 - b. On the Protocol tab, click Enabled and choose Yes from the drop-down list on the right.
 - c. Click OK.
 - d. Click OK when the message 'Any changes made will be saved; however, they will not take effect until the service is stopped and restarted' appears. You will restart the service shortly.

Ensuring the services are running

Check the SQL Server 2005 services

1. In the left-hand Table of Contents, click SQL Server 2005 Services.
2. Verify that the SQL Server (SQLEXPRESS) service and the SQL Server Browser service have both been started. If the services are started, their State will be Running and the service icon has a green arrow on the lower right corner. (A red square indicates that the service is stopped.) If they have not been started:

- a. Right-click the service and click Start. If no Start item appears on the context menu and the Start Mode is listed as 'Other' or 'Disabled', you will need to enable the service before it can start. To enable the service:
 - Right-click the service and click Properties.
 - On the Service tab, change the Start Mode to Automatic by clicking Start Mode and choosing Automatic from the drop-down list.
 - Click OK.
 - Now you can start the service by right-clicking it and clicking Start.
- b. *If you have enabled the TCP/IP protocol, you must restart the SQL Server (SQLEXPRESS) service before this change will take effect. If the SQL Server (SQLEXPRESS) service is already running, right-click it and click Restart. This will stop and then restart the service.*
- c. *If a service will not start due to a timeout error, verify that the Start Mode is Automatic and reboot the computer. An Automatic Start Mode means that the service will start automatically on boot.*

If the TCP/IP network protocol and both the SQL Server (SQLEXPRESS) and SQL Server Browser services have been started, close the SQL Server Configuration Manager. SQL Server has been configured correctly and you can now begin working with ArcSDE Personal or Workgroup Edition.

Making sure a user has permission to add the database server

Users who are administrators on the computer on which the SQL Server Express instance is installed are automatically administrators in the database server (unless SQL Server Express is installed on a computer with a Vista operating system (OS)). If additional users need to access the database server, either locally or remotely, or SQL Server Express is installed on a Windows Vista OS, their logins must be added to the database server.

To do this, a user can be added during the [postinstallation setup](#).

Alternatively, after postinstallation is complete, the administrative user who installed SQL Server Express can add users through ArcCatalog.

1. With a Windows administrator login, log into the computer where SQL Server Express is installed.
2. Open ArcCatalog.
3. Expand the Database Servers folder in the Catalog tree and double-click Add Database Server.
4. Type the name of the server and the name of the SQL Server Express instance in the Database Server text box; for example, COMP\sqlexpress. Click OK.
5. The database server will be added to the Database Servers list in the Catalog tree. Right-click it and click Permissions.

Installation Guide: ArcSDE for SQL Server Express (Desktop)

6. Click Add User and browse to the login you want to add as a user. Since ArcSDE Personal and Workgroup use Windows logins, a local or network login must already exist for the user. **Note:** A user's local login (such as, CANINE\rocky) is not the same as his or her network login (such as, GLOBAL\rocky). If a user needs to connect to the database server with his/her local login—for instance, if the database server is installed on a laptop that will be used detached from the network—you need to be sure to add the user's local login to the database server.
7. Click OK.

To programmatically add logins to the database server, use the `IDataServerManagerAdmin.CreateLogin` method. To grant logins database server administrator privileges, use the `IDataServerManagerAdmin.ModifyLoginSecurity` method.

For additional troubleshooting tips, see the topic 'Troubleshooting connections to the database server' in the ArcGIS Desktop or ArcGIS Server Help.