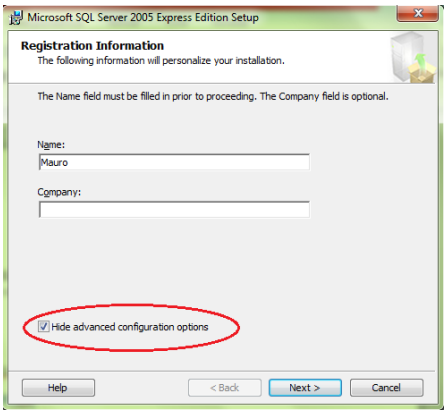
This guide will show, step by step, the complete work process of SAC 4000 under SQL. These steps go from the installation of SQL Server and Manager, to the communication process with SAC 4000.

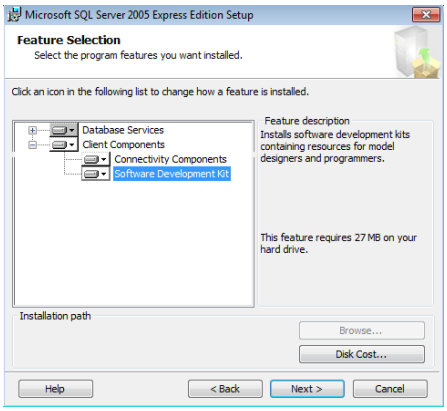
SQL Express Installation:

If during the installation it is canceled due to the lack of the "Native" plugin, it can be installed by running the "sqlncli.msi" installer.

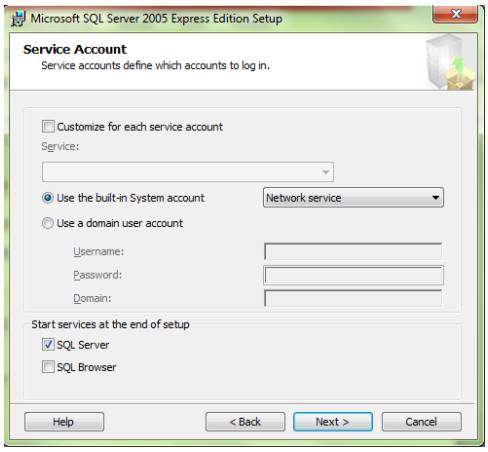
1.- Install by double clicking on "SQLEXPR.exe".
2.- During the installation process, uncheck the "Hide advanced configuration Setting" box. View image.



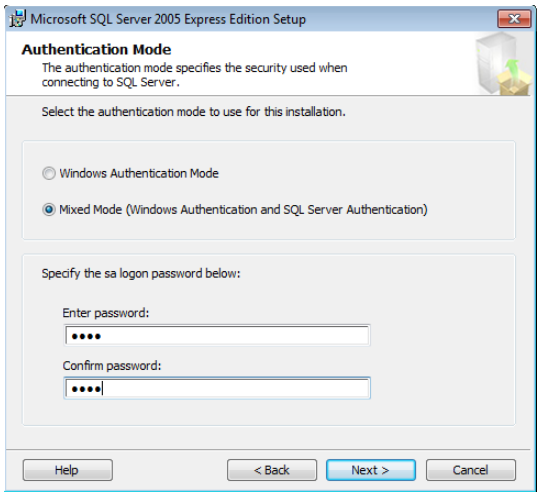
3.- Select the installation of "Client Components" as shown in the image.



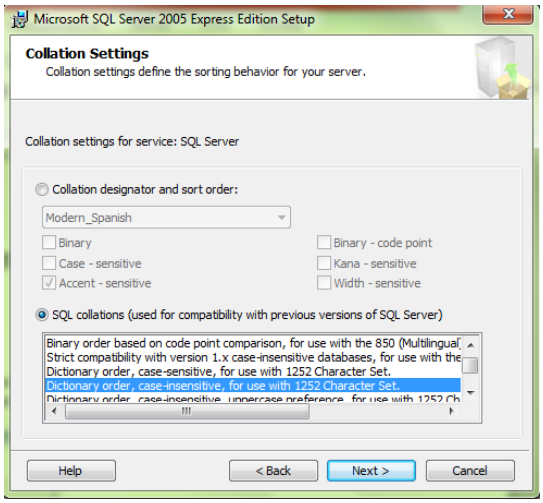
4.- Give a name for the instance or leave the one set by default.
5.- Select "Network Service". View image.



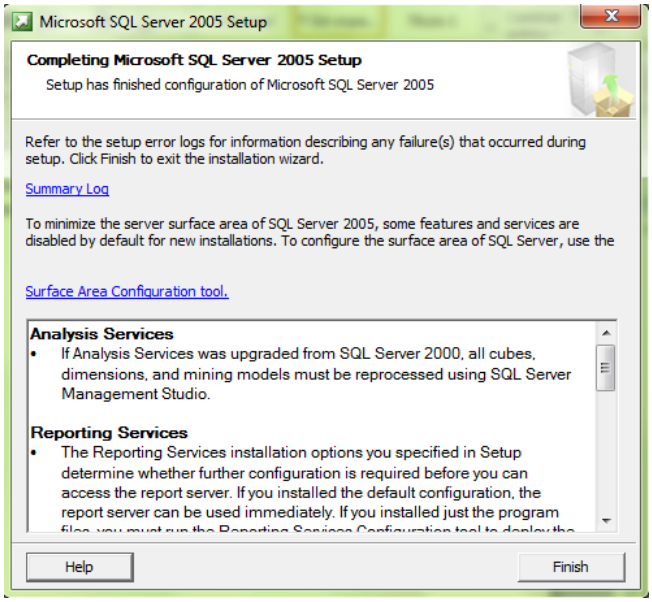
6.- Select the authentication mode "Mixed Mode" and enter a password for the user "sa" (it is important to remember this password as it will be requested). View image.



7.- Select "SQL Collations". View image.



8.- Continue with “Next” until the “Install” button appears, press it to start installing, once the installation is finished press "Finish".



2.- Installing "SQL Server Management"

Note: *If the installation process is canceled due to error # 29506, disable Windows UAC, (From Win Vista in more). To disable UAC, type "msconfig" in "run or home search bar", go to "Tools", check "Change UAC settings" and press "Start", in the new window, lower the bar to the minimum "Never notify me" and press "Accept".*

1.- Start the installation process by executing the file "SQLServer2005_SSMSEE.msi".
2.- Press "Next" and "Install" to begin the installation process.
3.- To finish press "Exit".

3.- Enabling remote connection to SQL server:

To enable remote connections on the instance of SQL Server 2005 and activate the SQL Server browser service, use the SQL Server 2005 surface configuration tool. The surface Configuration Tool is installed when you install SQL Server 2005.

3.1 Enable remote connections for SQL Server 2005 Express or SQL Server 2005 Developer Edition

You will have to enable remote connections for each instance of SQL Server 2005 that you want to connect from a remote device. For this, follow these steps:

1. Click **Start,** select **Programs**, select **Microsoft SQL Server 2005**, choose **Configuration Tools** y luego haga clic en **Configuración de superficie de SQL Server**.
2. On the **SQL Server 2005 Surface Settings** page, click **Surface Settings for Services and Connections**.
3. On the **Surface Settings page for services and connections**, expand the **Database Engine**, click **Remote Connections**, click on **local and remote connections**, click the appropriate protocol to enable for your environment, and then click **Apply**.

   Note: Click **OK** when you receive the following message:

   Connection settings changes will not take effect until you restart the Database Engine service.

4. On the **surface Settings page for services and connections** , expand the **Database Engine**, click **service**, click **Stop**, wait until the MSSQLSERVER stops and then click **Start**, to restart the MSSQLSERVER service.

3.2 Enable the SQL Server browser service

If you are running SQL Server 2005 by using an instance name and does not use a specific TCP / IP port number in the connection string, you will need to enable the SQL Server browser service to allow remote connections. For example, SQL Server 2005 Express is installed with a default instance name of Name of the team\SQLEXPRESS. Just enable the SQL Server browser service once, regardless of how many instances SQL Server 2005 is running. To enable the SQL Server browser service, follow these steps:

Click **Start**, select **Programs**, select **Microsoft SQL Server 2005**, choose **Configuration Tools** and then click **SQL Server Surface Configuration**.

1. On the **SQL Server 2005 Surface Settings** page, click **Surface Settings for Services and Connections**.
2. On the **Surface Settings for Services and Connections** page, click **SQL Server Explorer**, click **automatic** for **startup type** and then click **Apply**.

   Note: When you click the **automatic** option, the SQL Server browser service starts automatically every time Microsoft Windows starts.

3. Click **Start**, and then click **OK**.

3.3 Create Windows Firewall exceptions

Note: If you do not want to do the configuration below, you can avoid it by overriding the Windows firewall, with the corresponding security risk.

These steps apply to the version of Windows Firewall that is included in Windows XP Service Pack 2 (SP2) and in Windows Server 2003. If you use a different firewall, see your firewall documentation for more information.

If you are running a firewall on the computer that is running SQL Server 2005, external connections to SQL Server 2005 will be blocked, unless SQL Server 2005 and the SQL Server browser service can communicate through the firewall. You must create an exception for each instance of SQL Server 2005 that you want to accept remote connections and an exception for the SQL Server Browser service.

SQL Server 2005 uses an instance identifier as part of the path when installing its program files. To create an exception for each instance of SQL Server, you have to identify the correct instance ID. To get an instance identifier , follow these steps:

1. Click **Start**, select **Programs**, select **Microsoft SQL Server 2005**, **Configuration Tools,** and then click **SQL Server Configuration Manager**.

2. In SQL Server Configuration Manager, click on SQL Server browser service in the right pane, click on the instance name in the main window and then click on **Properties**.

3. On the **SQL Server Explorer Properties** page, click the **Advanced** tab, find the Instance identifier in the list of properties, and then click **OK**.

To open Windows Firewall, click **Start**, click **Run**, type firewall.cply, then click **OK**.

3.4 To create an exception for SQL Server 2005 in Windows Firewall, follow these steps:

1. In Windows Firewall, click the **Exceptions** tab and then click **Add Program**.
2. In the Add a program window, click **Browse**.
3. Click **C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\Binn\sqlservr.exe**, click **Open** and then click **OK**.

Note: The path may vary, depending on where SQL Server 2005 is installed. MSSQL.1 is a placeholder for the instance identifier that you got in step 3 of the previous procedure.

4. Repeat steps 1 through 3 for each instance of SQL Server 2005 that requires an exception.

3.5 Create an exception for SQL Server 2005 in Windows Firewall

To create an exception for the SQL Server browser service in Windows Firewall, follow these steps:

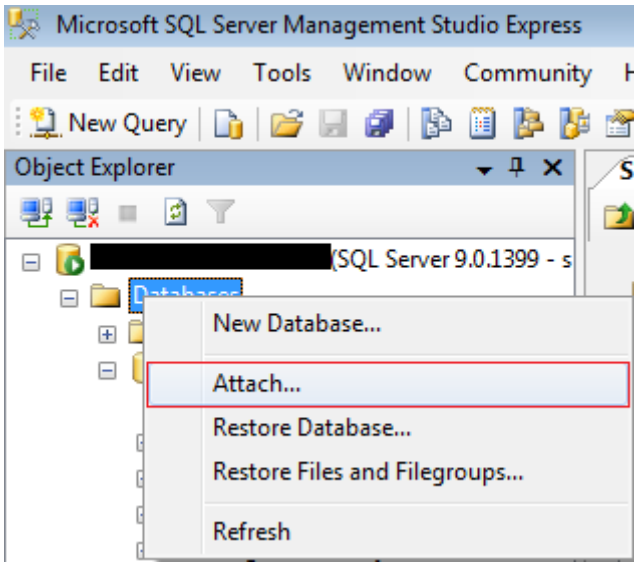
1. In Windows Firewall, click the **Exceptions** tab and then click **Add Program**.
2. In the Add a program window, click **Browse**.
3. Click on the executable program C:\Program Files\Microsoft SQL Server\90\Shared \sqlbrowser.exe, click **Open** and then click **OK**.

4.- Installing the software SAC 4000 Server SQL

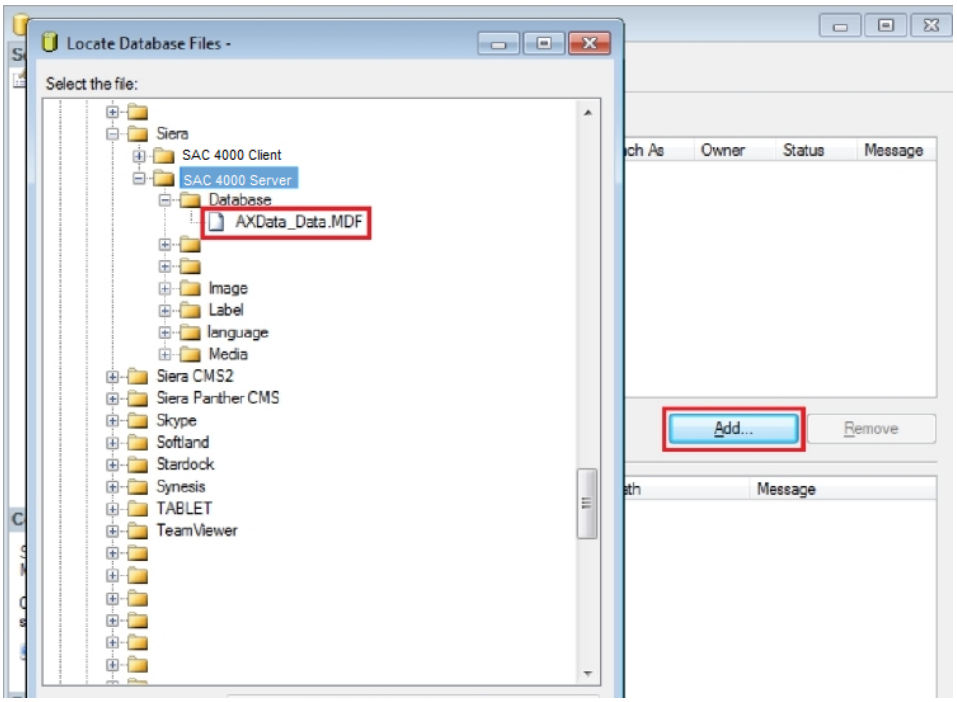
1.- Run the "SAC 4000 Server" installation program.
2.- Press "Next" until the installation is finished.

5.- Attaching the database from "SAC 4000" to "SQL"

1.- Open "SQL Server Management"
2.- Go to the folder "Database" and press Attach ... (see image)



3.- In the new window that will open, press "Add" to select the folder where the database is located, default “C:\Program Files\Siera\SAC 4000 Server” select the database "AXData_Data.MDF" and press "OK".



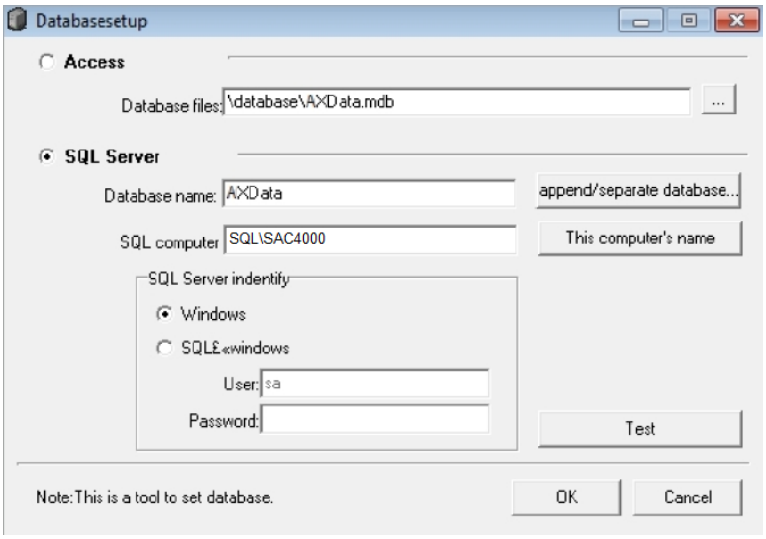
4.- Press "OK" to finish attaching the database.

Note: If you have "file read only" errors, you will need to give read and write privileges, to the database file for the user used to log into SQL, under Windows authentication.

6.- Change of database in "SAC 4000"

1.- Press the right mouse button on the "SAC 4000 Server" icon found on the desktop, then "Properties" and "Open location" to go to the installation path.

2.- Execute "DataBase Setup.exe" to open the database setup program.

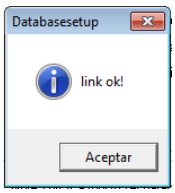


Fill in the fields as indicated below:

Database name: *Database name (by default "AXData")*
SQL computer: *SQL session path*
SQL Server identify*:* Determines the type of authentication to SQL

Once the data is complete, press "Test" to verify that the program communicates correctly with the SQL database.

If communication is established correctly you will see the following message:



Possible causes for not establishing communication with the database:
1.- The path in the "SQL Computer" field is not correct. Check that the path is the same as the one you have in SQL, if SQL server is on the same system as SAC 4000 server, just press the "This Computer's Name" button.
2.- Check that the type of SQL authentication is the same as the one configured in the "SAC 4000 Server" database. In case of using SQL authentication, check that you are correctly entering the User and Password.

Once finished, you will be able to access the SAC 4000 software, to manage your system. For the “SAC 4000 Client” users to connect, their accounts and their permissions must be created in the “User” menu.

Database backup can be scheduled as an SQL process to give more security to the system.

7.- Connection of “SAC 4000 Client” to “SAC 4000 Server”

1.- The "SAC 4000 Client" must be changed the database engine the same as the "SAC 4000 Server" as seen in the previous step **"6.- Change of database in "SAC 4000 "**.

2.- Start the "SAC 4000 Client" software and log in with the credentials created in the "SAC 4000 Server" software.

3.- Go to "System", "Link Status" and enter the IP address of the SQL Server .