

MassTrack

Installation Guidance

Version 14.0

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INSTALLATION OVERVIEW

MassTrack runs on Microsoft Windows operating systems. The databases run on Microsoft SQL Server 2012 and any version up to and including SQL Server 2022, as well as the EXPRESS editions.

Microsoft SQL Server needs to be installed on the network and set up properly before installation of MassTrack. If a Microsoft SQL Server installation or license is not available, ShipWeight will run fine on MS SQL Server Express version 2012 and any version up to and including SQL Server 2022.

See https://www.microsoft.com/en-us/sql-server/sql-server-editions-express **for download and installation instructions of the free SQL Server version.**

MassTrack will run on 512 KB RAM, however, 1 GB or more is recommended, especially if working with large databases (250.000 weight items or more). There are no other specific hardware requirements beyond what is required to run the operating systems and SQL Server.

To make a complete MassTrack installation, 4 tasks must be executed:

1. **Installation of MassTrack databases on the SQL server (server installation)**
2. **Installation of MassTrack executables on client machine (client installation)**
3. **Installation of the license**
4. **Registration of MassTrack users on the SQL server**

When installing MassTrack the user must be logged on with administrator rights.

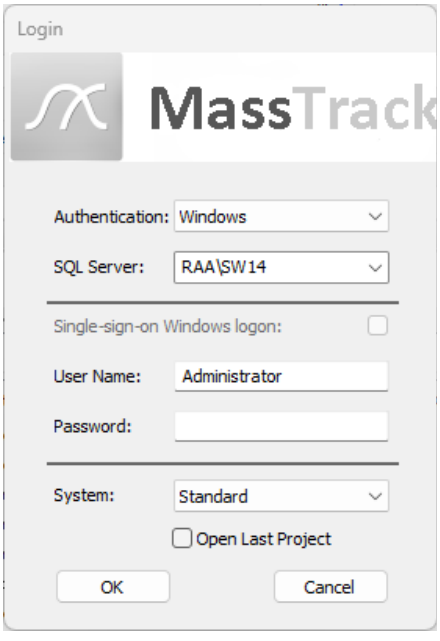
TO TEST IF INSTALLATION IS SUCCESSFUL

After installation, MassTrack should be found on the Start menu of the operating system. Start MassTrack in the MassTrack login dialog, use the following:

User name **Administrator**

Password **admin**

System **Standard**



In case of problems or questions, please contact:

MassTrack Support
Email: support@shipweight.com
Tel: +47 70 15 03 60

1. SETUP CONFIGURATIONS

MassTrack may be installed in the following configurations:

- Standalone installation
- Network installation
- network installation, separate database and license server

This page and the following two pages will show how these three configurations should be set up.

STANDALONE INSTALLATION

In this case, everything is installed on the same computer so that MassTrack may run outside a network. The following should then be executed:



Installation of SQL Software (i.e. SQL Express 2017) – See chapter 2

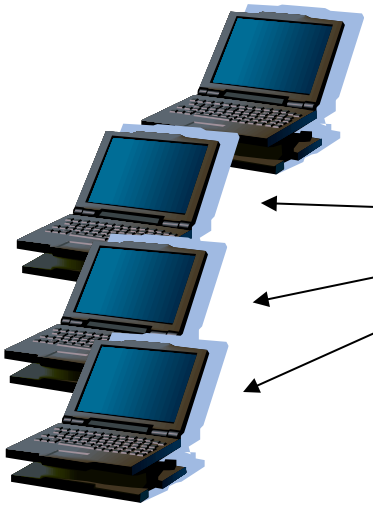
ShipWeight Databases Installation (Server installation) – see chapter 2

ShipWeight Client Installation (Client installation) – see chapter 3

Registering SQL users - see chapter 5

NETWORK INSTALLATION

In this case the MassTrack executable is installed on client machines on a network, while the databases and the license lock are installed on a network server shared by the clients. This way all client machines log on to the same databases:



ShipWeight Client Installation (Client installation) – see chapter 3



Installation of SQL Software (i.e. SQL Express 2017) – See chapter 2

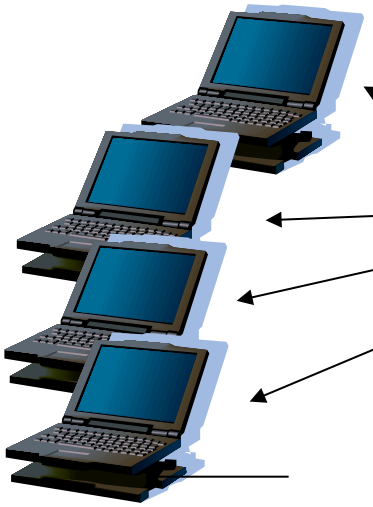
ShipWeight Databases Installation (Server installation) – see chapter 2

Installation of license - see chapter 4

Registering SQL users - see chapter 5

NETWORK INSTALLATION, SEPARATE DATABASE AND LICENSE SERVER

This is the same configuration as the previously described network configuration, only in this case the license lock resides on a separate server. All client machines must have access to both servers in this case:



ShipWeight Client Installation (Client installation) – see chapter 3



Installation of SQL Software (i.e. SQL Express 2016) – See chapter 2

ShipWeight Databases Installation (Server installation) – see chapter 2

Registering SQL users - see chapter 5



Installation of license - see chapter 4

2. INSTALLATION OF MASSTRACK DATABASES ON THE SQL SERVER

SQL SERVER SOFTWARE

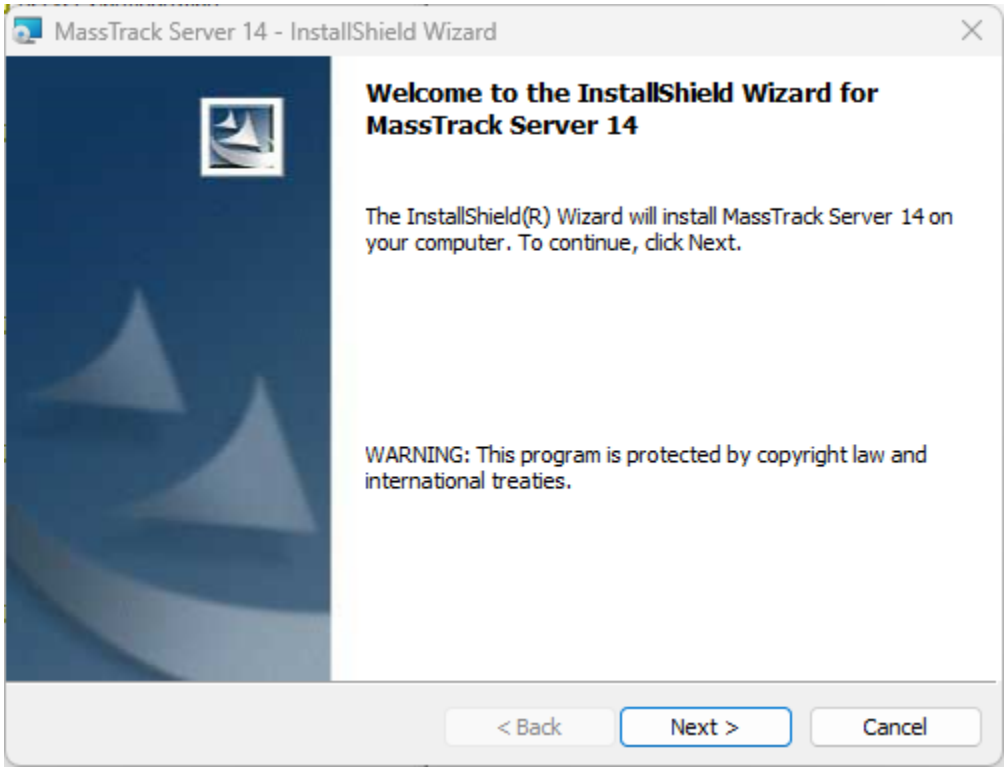
Prior to installation of the MassTrack databases, the server must have installed an instance of Microsoft SQL Server.

See https://www.microsoft.com/en-us/sql-server/sql-server-editions-express for download and installation instructions of the free SQL Server version. The SQL Server must be set up using Windows Authentication for authorization of users.

After an instance of SQL Server is present on the server, the MassTrack databases can be installed.

DATABASE INSTALLATION (SERVER INSTALLATION)

To start installation of the MassTrack databases, run **MassTrack Server 14.msi** installation file. This should launch the following welcome dialog:



Click **Next**…

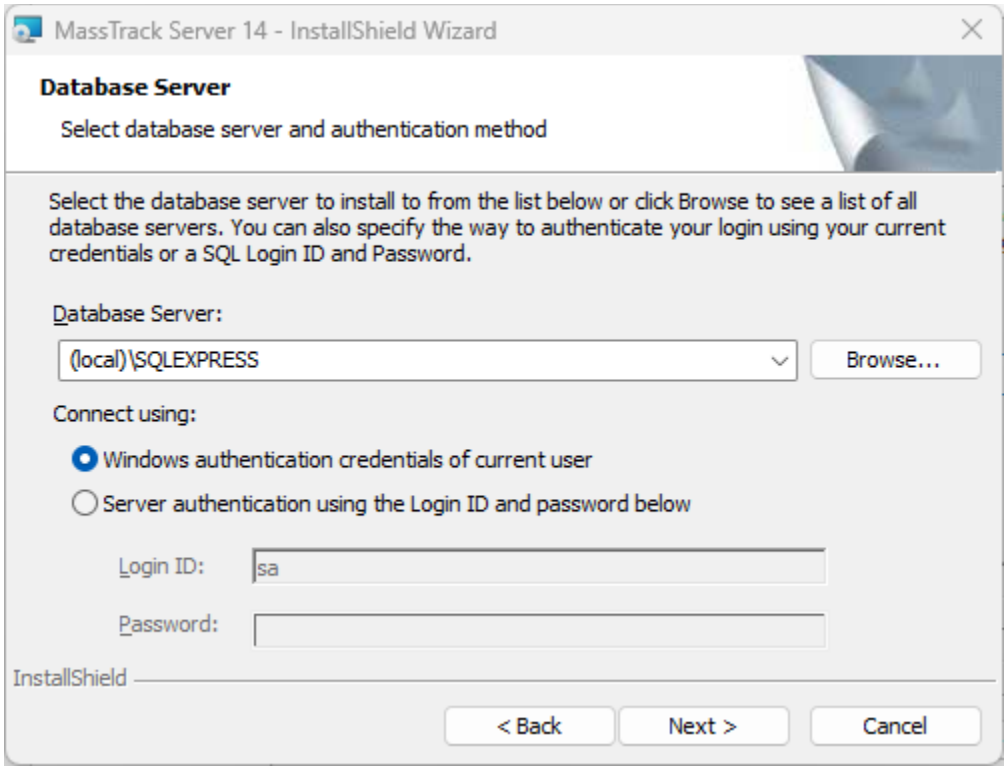
The next dialog shows the license agreement.

Select the radiobutton "**I accept the terms in the license agreement**" and click **Next**…

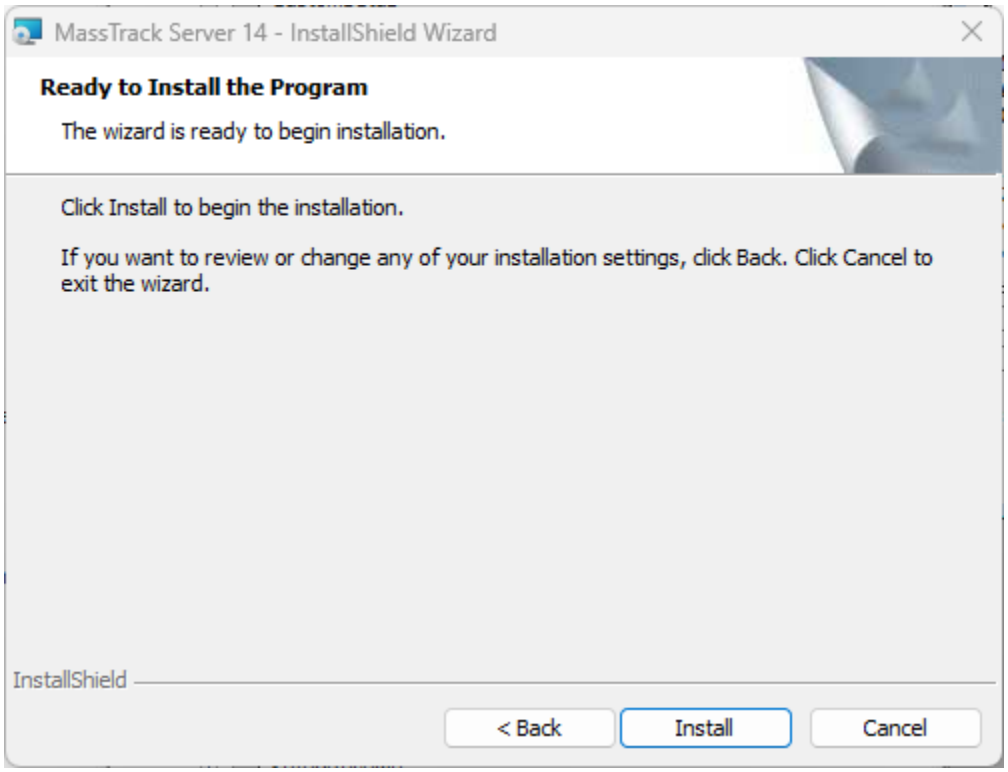


Please click the **Browse…** button to select the appropriate server to install MassTrack database. Note that you might find the droplist in the "Database Server" combobox to be incomplete. Therefore we do recommend that you select to browse to the correct SQL Server.

If you cannot find the desired SQL Server when browsing, this could happen of the SQL Browser service is not running for the server. In this case you will have to manually enter the name of the SQL Server into this dialog window.



Once correct server instance name is found or entered, click **Next**…



Finally click "**Install**" button to execute the installation of the databases.

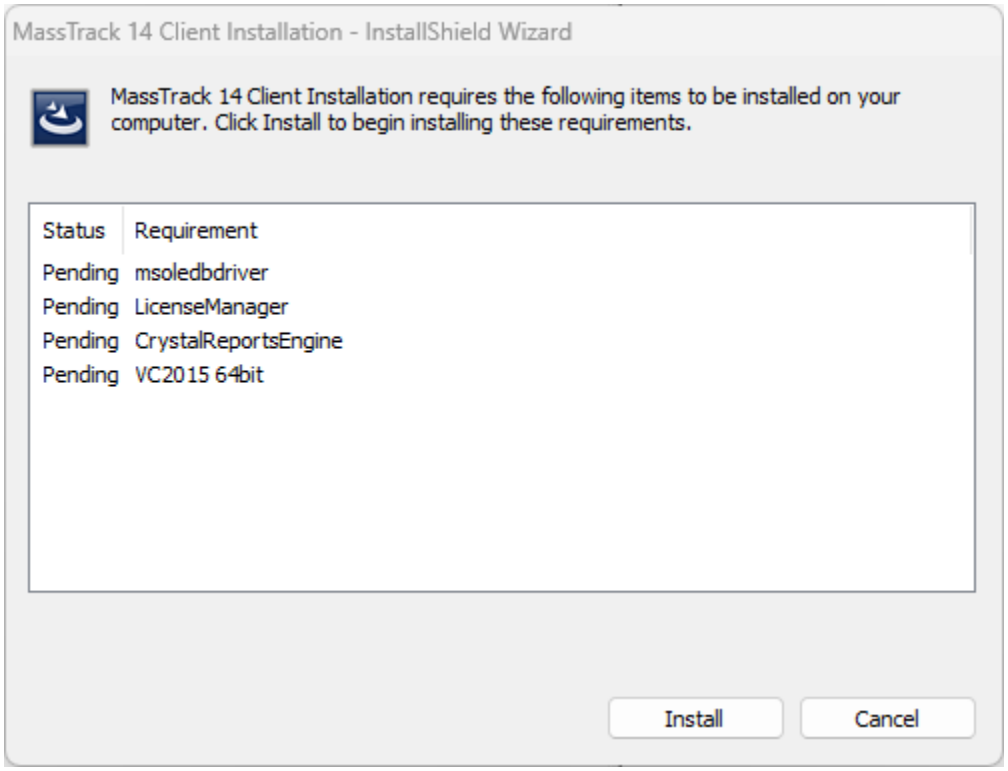
If installation is successful, at least the following databases should be present on the server:

- SWLogin – MassTrack user database
- sdb_ShipdDb - Database for historical ship data
- SWSystem - Database for work breakdown structure (one or more)
- SW00_ProjectDB - Project database
- SW00_ProjectDB_Log - Project log database
- SW04_ProjectDB - SWBS Project database
- SW04_ProjectDB_Log - SWBS Project Log database

3. INSTALLATION OF MASSTRACK EXECUTABLE ON CLIENT MACHINE(S)

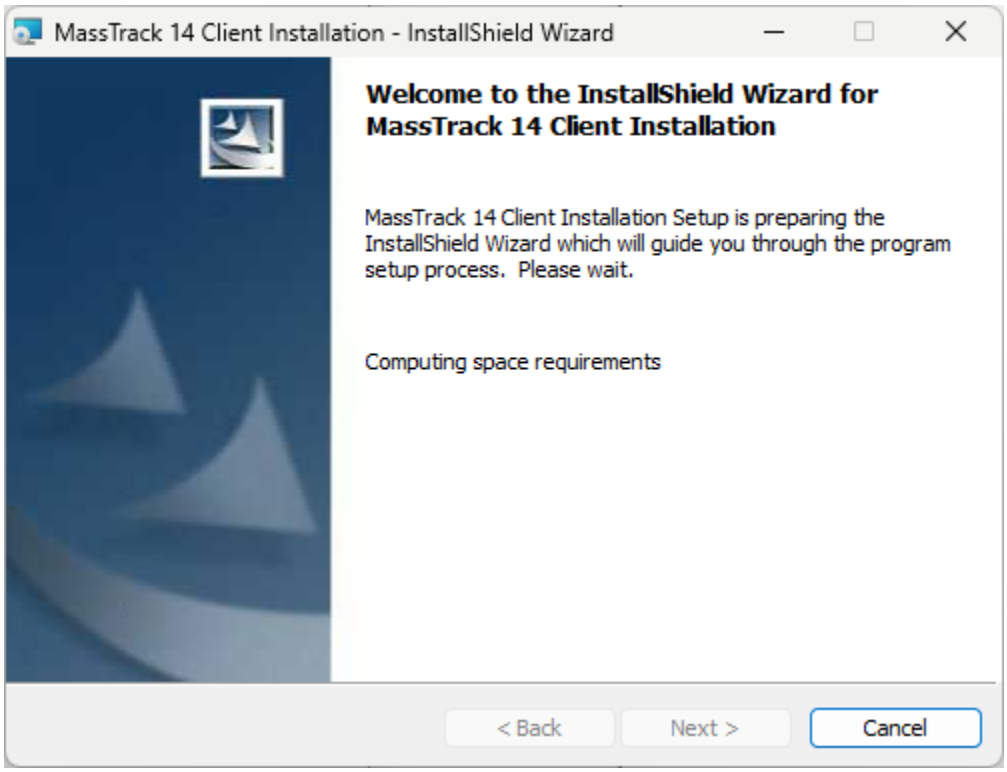
To start installation of MassTrack executables on the client machine(s), run **MassTrackClientInstall14.exe**

First, a prerequisite screen will open showing the components that must be installed prior to the MassTrack installation.

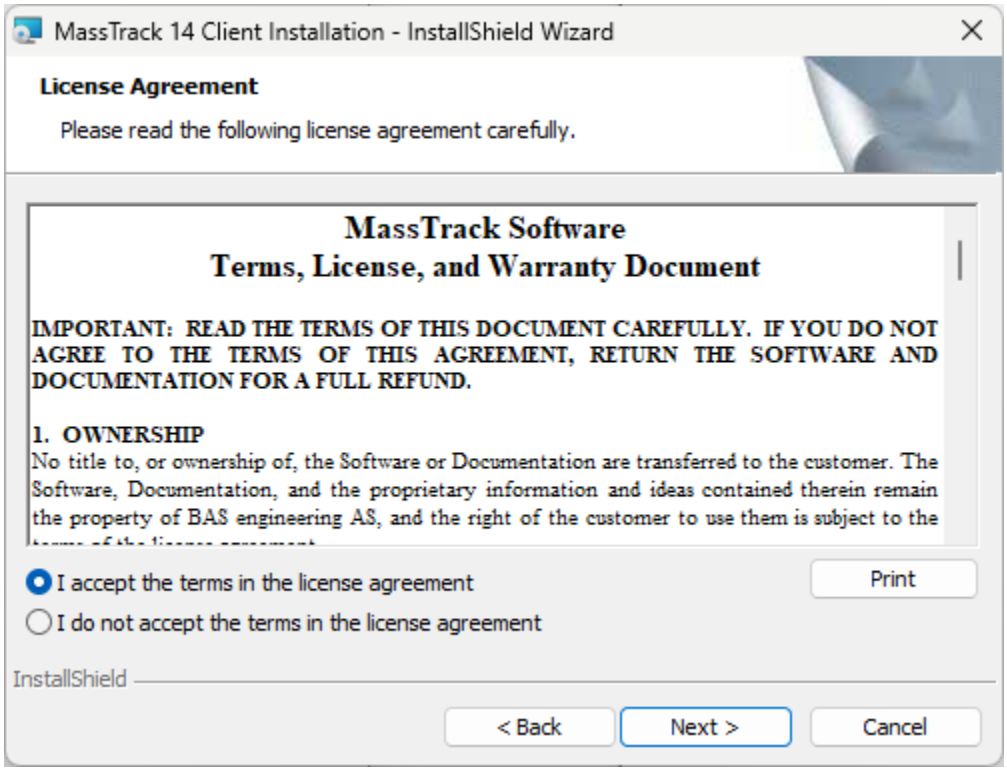


Click “Install” button to install these requirements.

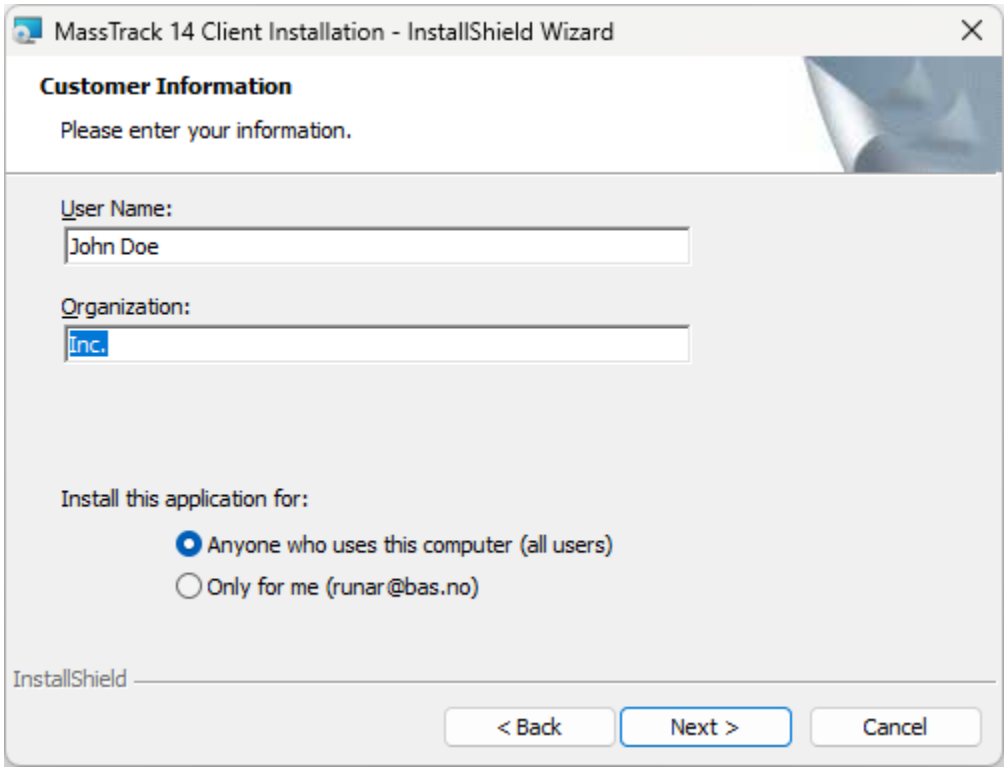
Next a welcome screen should pop up:



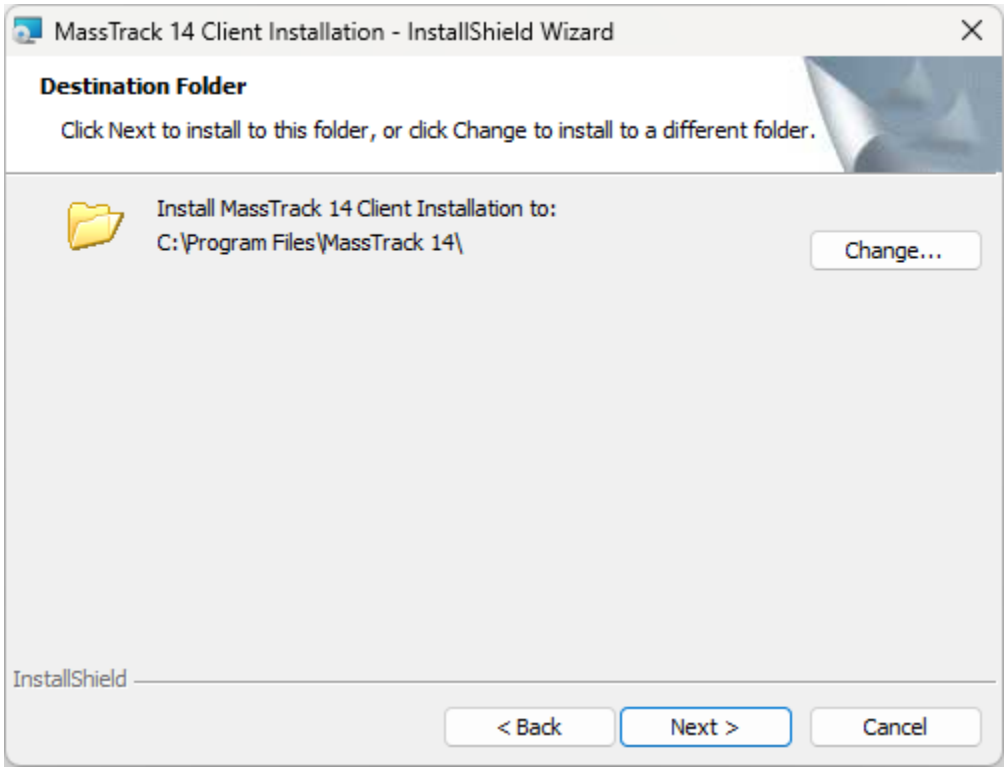
Click **Next**…



The license agreement is displayed. Select radiobutton "**I accept…**" and click **Next**…

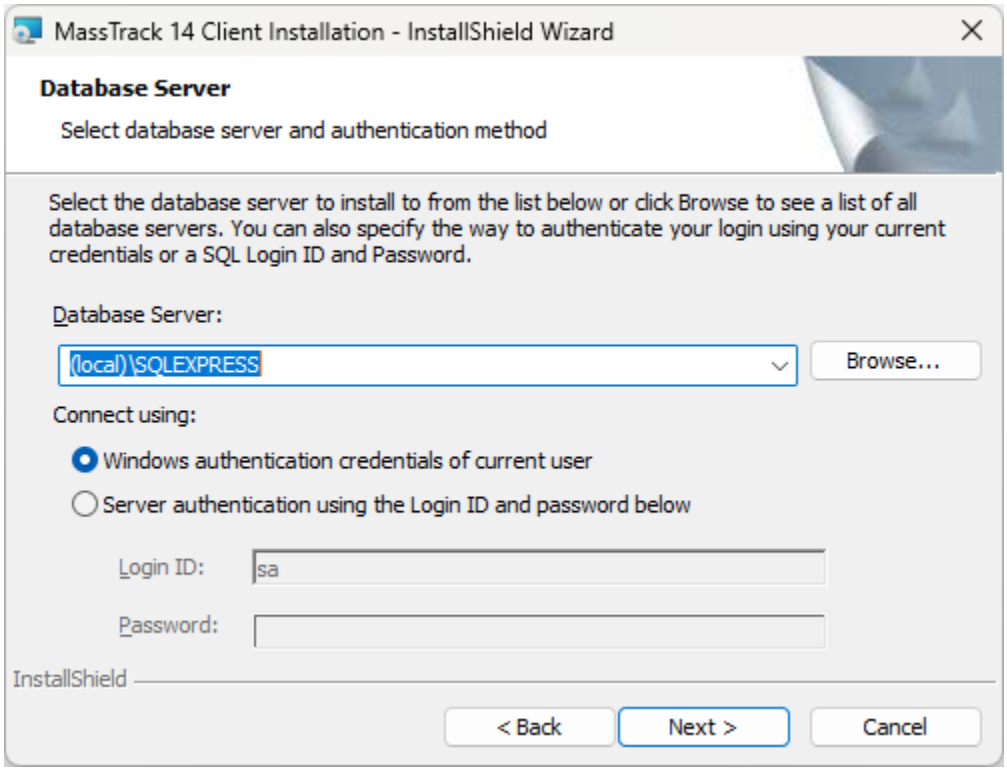


Fill in user name and organization and click **Next**…

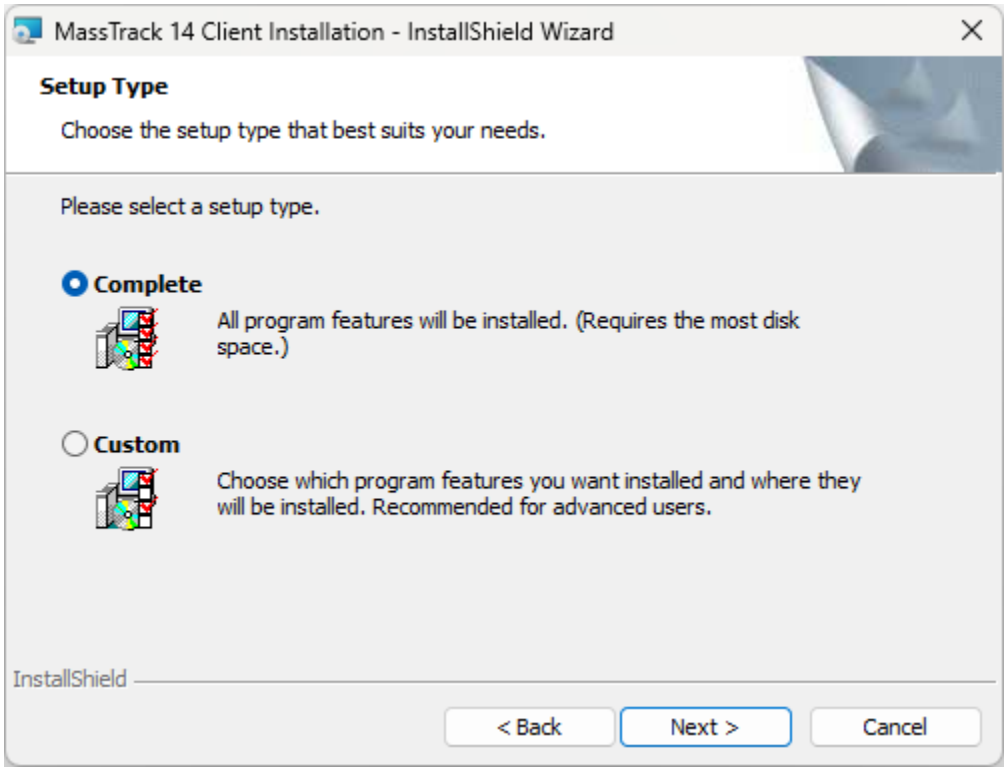


Select folder to install the executables. If you would like to install MassTrack at a different location than then the default location, click **Change…** button to change the default location of the destination folder.

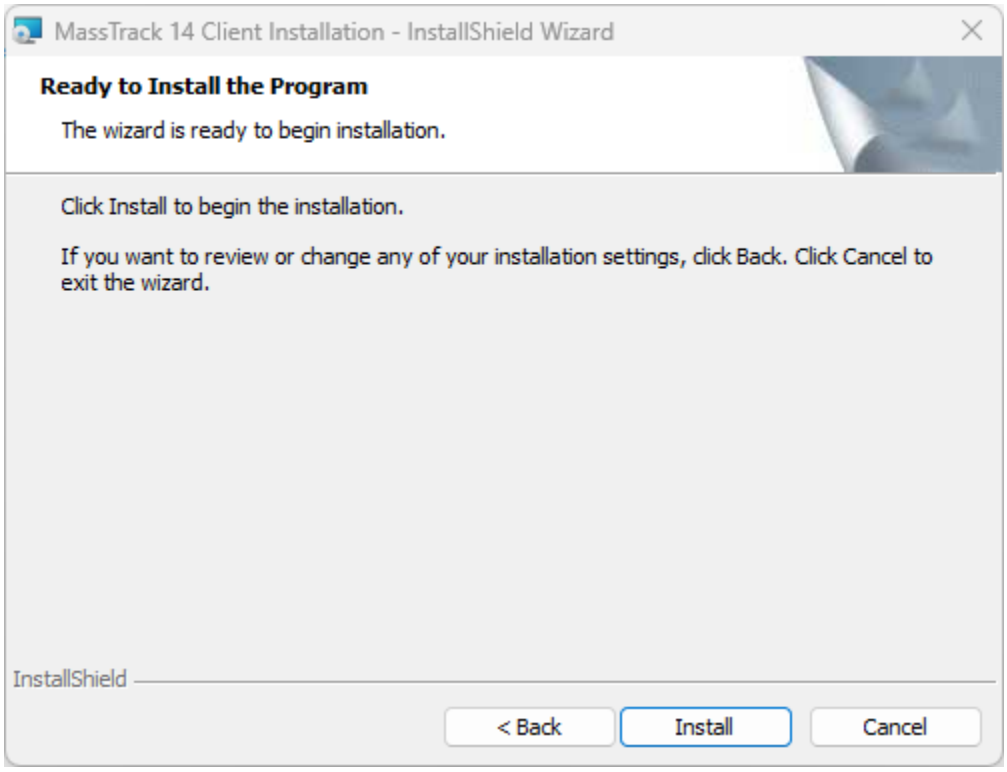
Click **Next**…



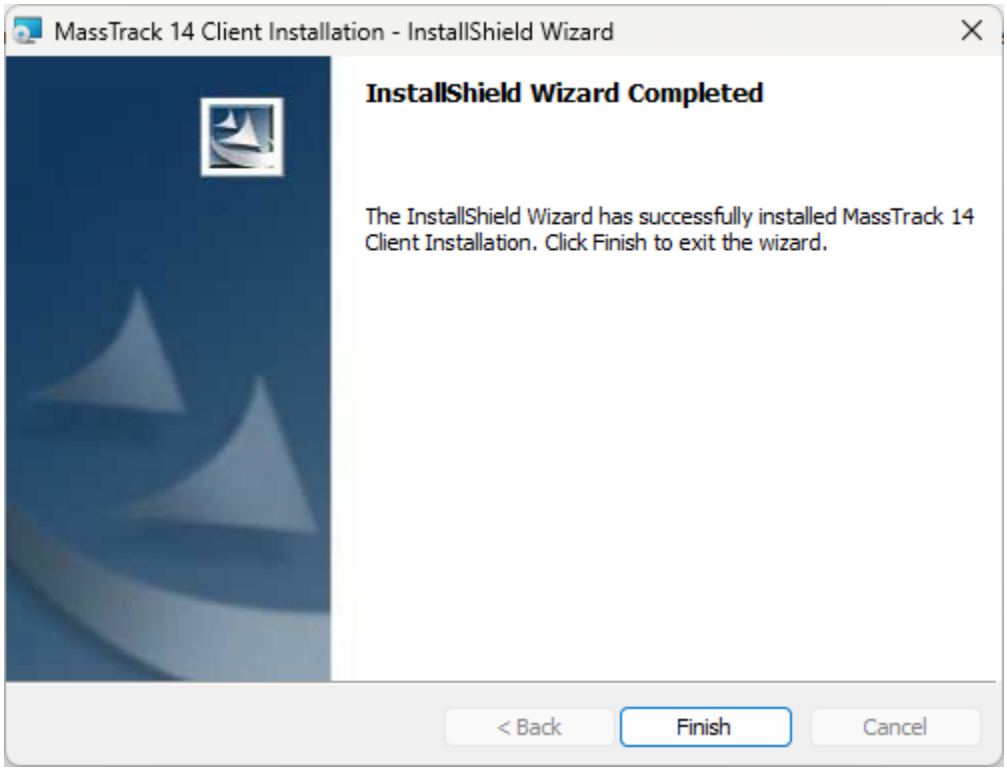
Use **Browse…** button to select the SQL Server containing the MassTrack databases. Select connection using "Windows authentication…" (default) and click **Next**.0



For a normal installation, select "Complete" as setup type (default) and click next…



Finally click **Install** to start executing the installation.



4. INSTALLATION OF THE LICENSE

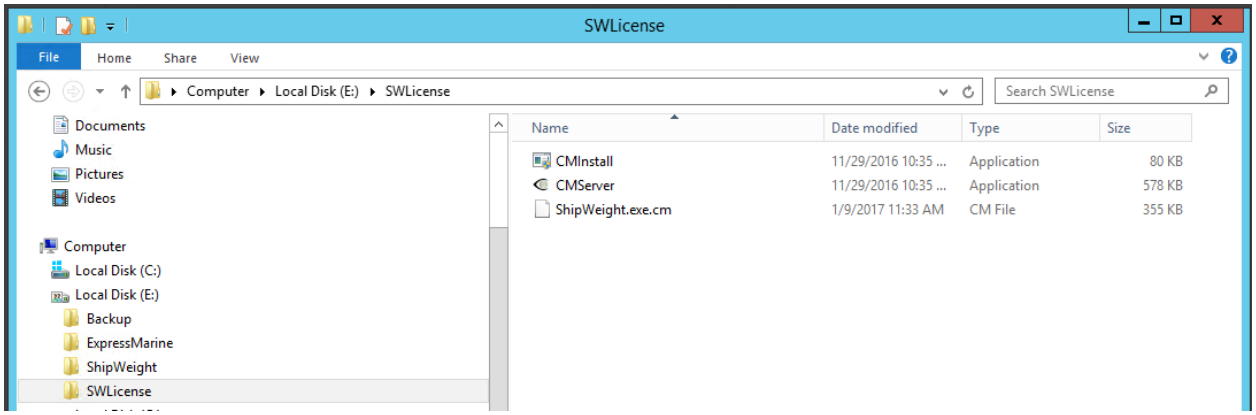
To install the network license you will need these files:

- CMServer.exe
- ShipWeight.exe.cm

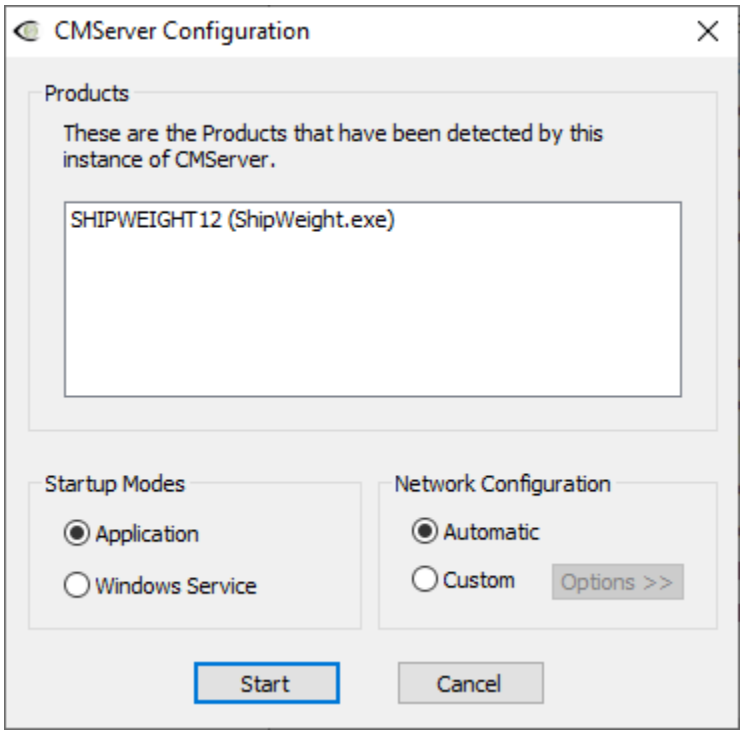
After installing MassTrack on a client machine you will find these files in this “MassTrack 14” folder, usually this folder will be:
C:\Program Files\MassTrack 14

Steps to install the network license system:

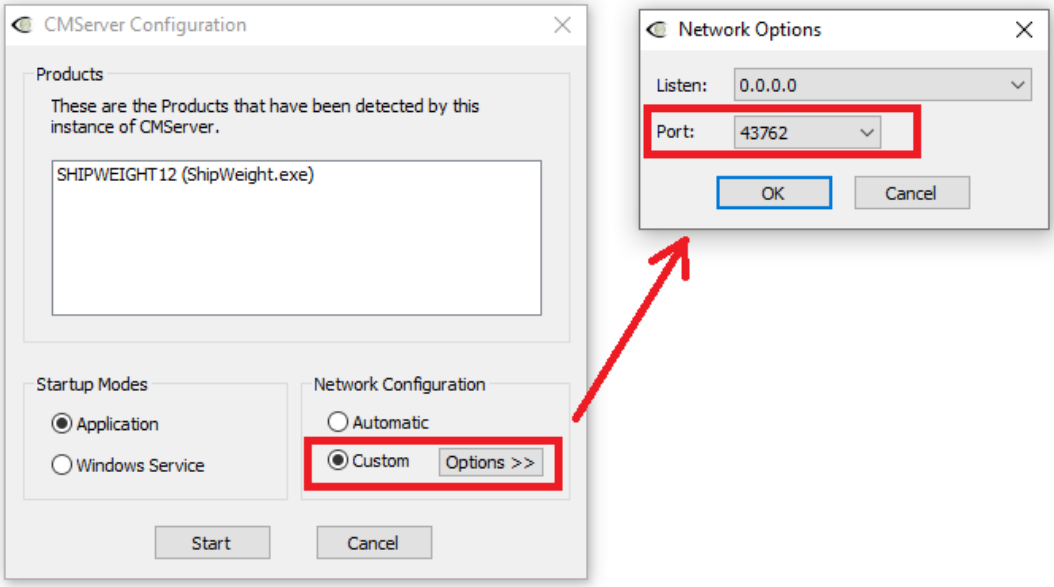
1. Put the license files in a directory on the server. Exactly where this directory is located is left up to you. CMServer must have write access to this folder.



2. Run CMServer.exe with Administrative privileges (right-click on the file and select Run as Administrator). It will display the configuration window.



3. To minimize potential port conflict with other software using the Copyminder protection system, please change the default port number from 10589 to 43762:



4. You will now need to decide whether you want to run CMServer as an application or a service. Some things to consider regarding this choice:
    - An application requires there to be a user logged in on the machine for it to run. This may not always be the case on server machines. If you choose to run CMServer as an application and want to have it start automatically when the user logs in, then you must create a shortcut to CMServer in that user's Startup start menu folder which gives the appropriate command-line parameters to make CMServer start automatically.
    - A service starts automatically when the machine starts and does not require a user to be logged in for it to run. This is now the most common way of running a background task on Windows.
    - Which method is choosen depends on a particular user's needs and requirements. Running CMServer as an application may be the ideal choice initially, while setting up the system, switching to running it as a service when the user has everything set up correctly.

    When you have decided how you want to run CMServer select the appropriate option from the Startup Modes section.

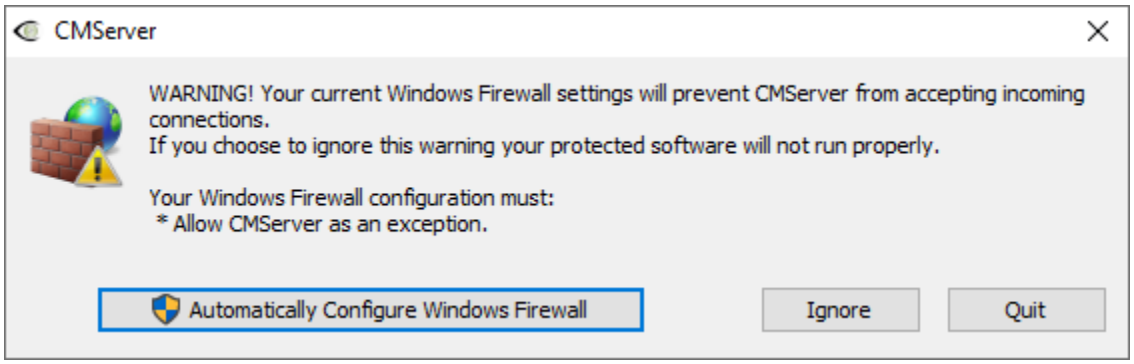
5. You are now ready to hit the Start button!

FIREWALL SETTINGS

6. Firewalls

    Like most server software, CMServer accepts incoming connections by "listening" on a given IP address and port. If the machine running CMServer also has a firewall (including Windows firewall as well as third party firewall software), then the firewall software will need to be explicitly told to allow the incoming connections to get through to CMServer. Likewise, if a firewall exists on a machine between the server machine (the one running CMServer) and the client machines then this will need to be configured too.

    CMServer will in most cases offer to automatically configure the firewall. You may accept this or alternatively manually configure the firewall.



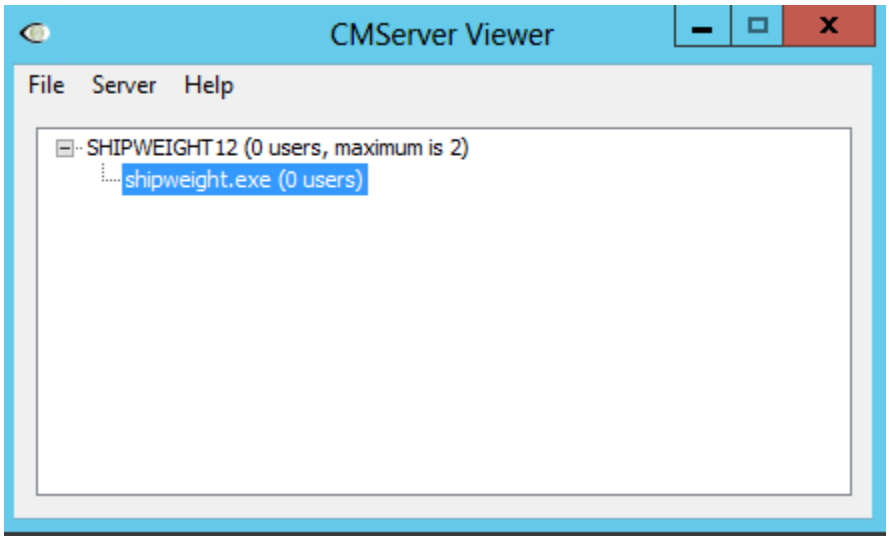


IMPORTANT

Failure to correctly configure your firewall(s) could result in the CopyMinder Server being inaccessible by client machines.

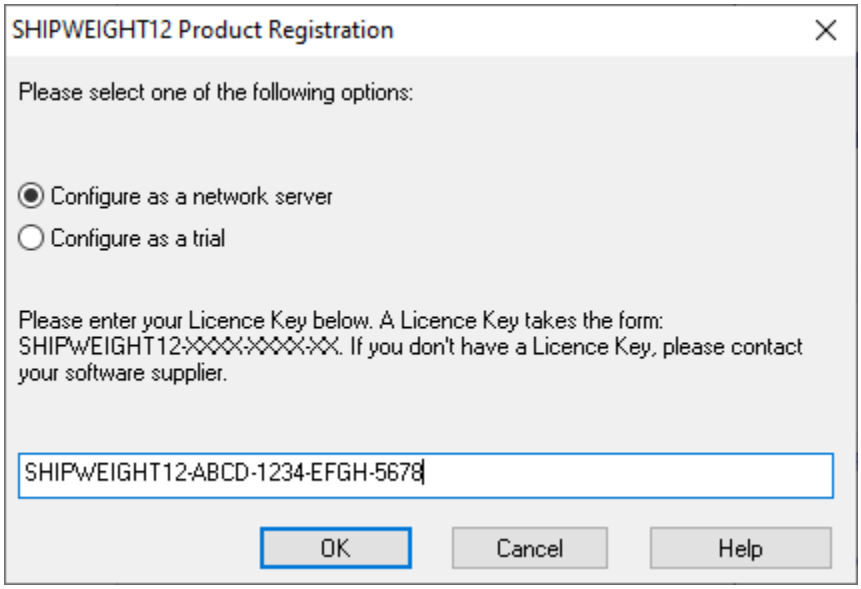
FIREWALL CHECKLIST FOR MANUAL CONFIGURATION (NOT USING AUTOMATIC CONFIGURATION)

- Your firewall(s) must allow both TCP and UDP traffic through to CMServer.
- Your firewall(s) must allow CMServer to accept incoming connections on the IP address and port that you chose when setting up CMServer.
- Clients auto-detect CMServer by performing a **multicast 239.255.219.184** on whichever port you configured CMServer to listen on. Your firewall(s) must not block traffic destined for this address/port, or auto-detection will not work.



CMServer Viewer after successfully starting the license server

7. Select “Configure as network server” and register MassTrack License Key



8. If CopyMinder is unable to establish an Internet connection, it will ask you if you wish to activate the software manually. If you choose to do so, you will be given a unique Installation Code and asked to enter a corresponding Activation Code. You need to give us this Installation Code and your License Key so that we can generate an Activation Code for your particular installation. You can generate this Activation Code yourself on another computer which has Internet access by going to primary.copyminder.com/activate or http://secondary.copyminder.com/activate. The web page will respond with an Activation Code. You should enter the Activation Code and the MassTrack network license server will then run provided it is not moved from its current location. Should you need to move it, you will need to contact us for help in activating it on the new computer.

CLIENT SIDE

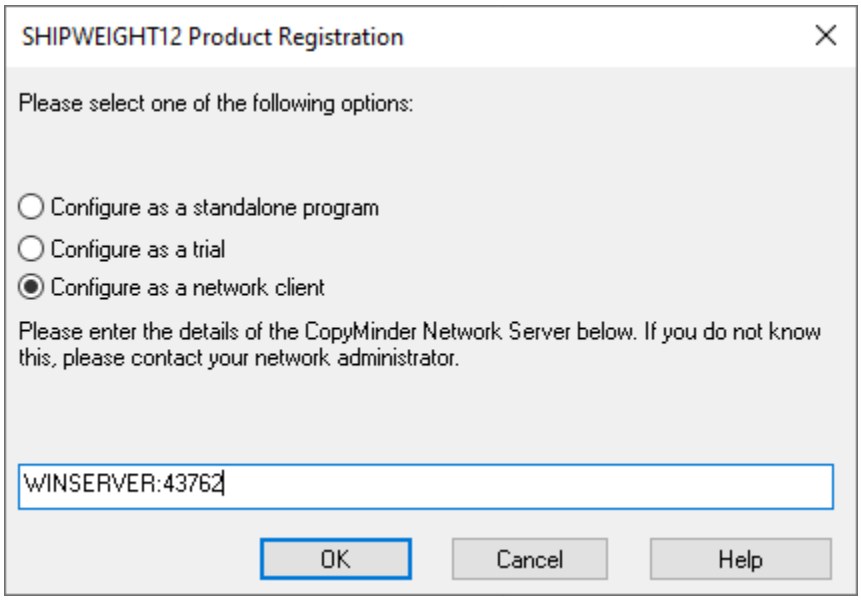
9. On the client side:

   If the MassTrack client is installed under a directory with limited access rights, such as the Program Files directory, you will need to run CMInstall – this can be found in the same place as the MassTrack executable (usually in “Program Files (x86)\MassTrack 12” folder).

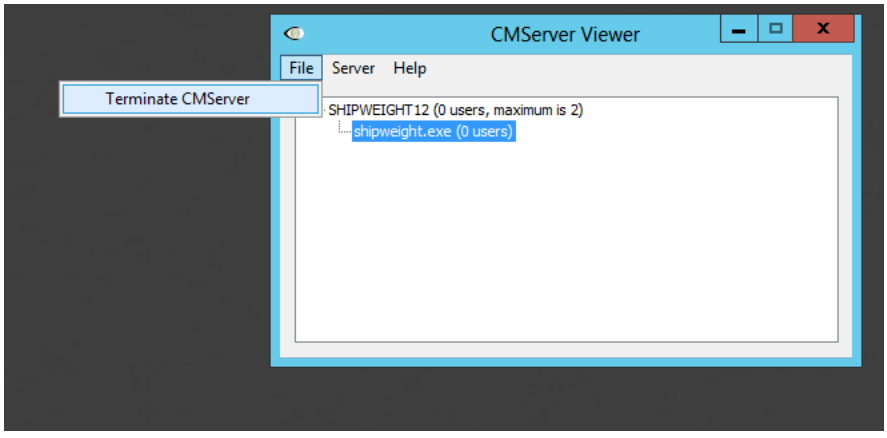
   The first time each installation of your software is run, the user will be prompted to specify what type of installation they want. They should choose Configure as a Network Client. In most cases the software will automatically detect the presence of the CopyMinder Network Server and the details will be filled in for them - all they need to do is click OK.

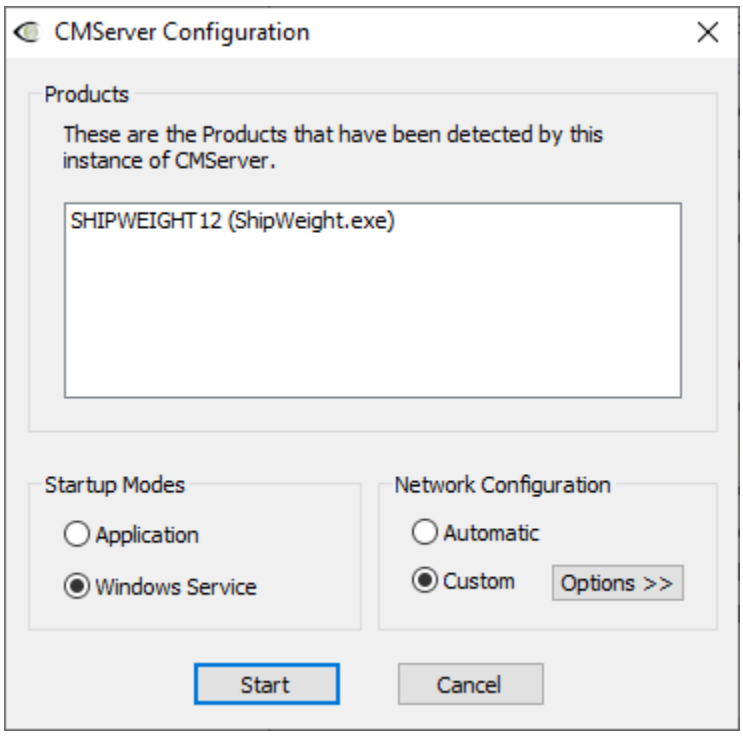
   If the server details do not appear in the text field then it may be that the server is not running or that a firewall is blocking communication between the client and server machines. It will usually be preferable to find and resolve the problem that caused the auto-detection to fail, as this problem could also affect the server and client's ability to communicate with each other during

protection checks. However, it is possible to manually specify the server details to use, in the form SERVER:PORT, where the SERVER part can either be a hostname or an IP address. For example, OFFICESERVER:43762 or 192.168.1.10:43762



10. When everything is working we recommend to terminate CMServer on the server and restart it as a Windows Service and not an application. Note that you should terminate the server from the File menu of the CMServer window, *not* using the "X" as the "X" only closes the Viewer application but does not terminate the license application (if you did use the "X", please open Task Manager and kill the CMServer process)





You are now done installing the license system on the server.

5. REGISTRATION OF MASSTRACK USERS ON THE SQL SERVER

MassTrack logs on to the SQL Server using **Windows Authentication** meaning the **windows user** is passed on from the client machine to the SQL Server.

It is recommended to set up a MassTrack user group in Windows active directory. This document will not describe how to do this, please see documentation for Windows-

This document will describe the following:

- Add a user group to the SQL Server
    - Adding the user group through GUI
    - Adding the user group through commands
- Check protocol enabling for the SQL Express 2005

ADDING THE USER GROUP USING THE SQL SERVER MANAGEMENT STUDIO

Start “Microsoft SQL Server Management Studio”. Expand the SQL Instance and the “Security” folder so you can see the “Logins” folder. Right click the “Logins” folder and select “New Login…” from the submenu.

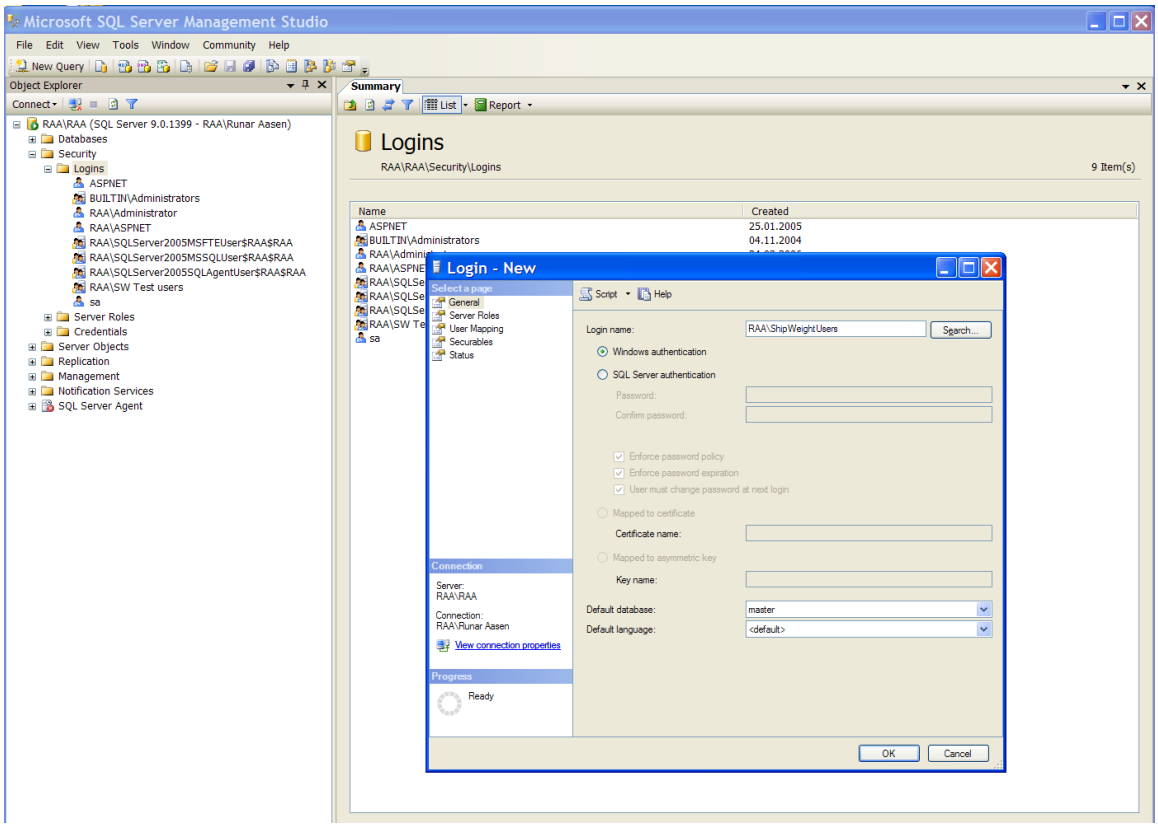


Figure 1: "Login - New" dialog

In the “Login name” editbox, write the complete domain name of the windows user group you want to give access to the MassTrack databases. In this example, the domain name is RAA and the user group was called “MassTrackUsers”, so the login name is RAA\MassTrackUsers.

You can use the “Search…” button to find the user group, but remember to include “Groups” as an object you will be searching for by clicking the “Object Types…” button in the “Select User or Group” dialog. See figure 7 and 8 on next page.

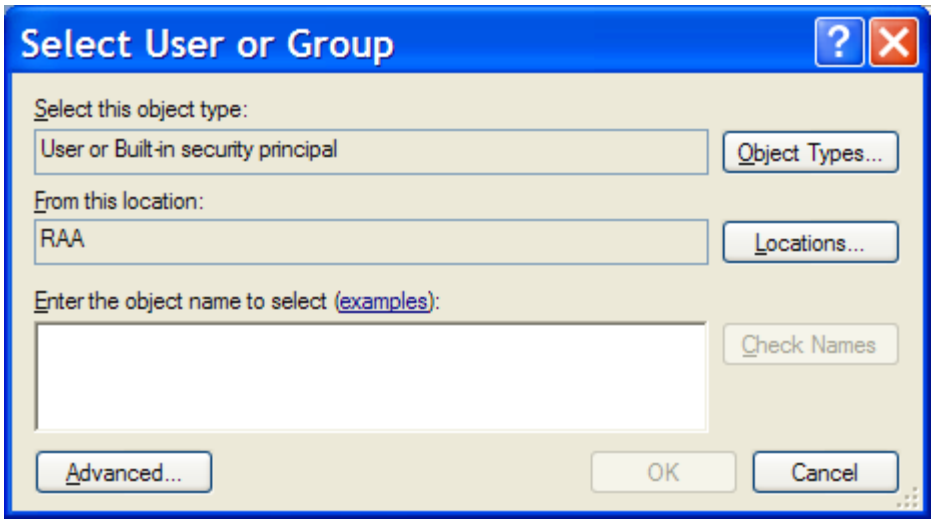


Figure 2: "Select User or Group" dialog

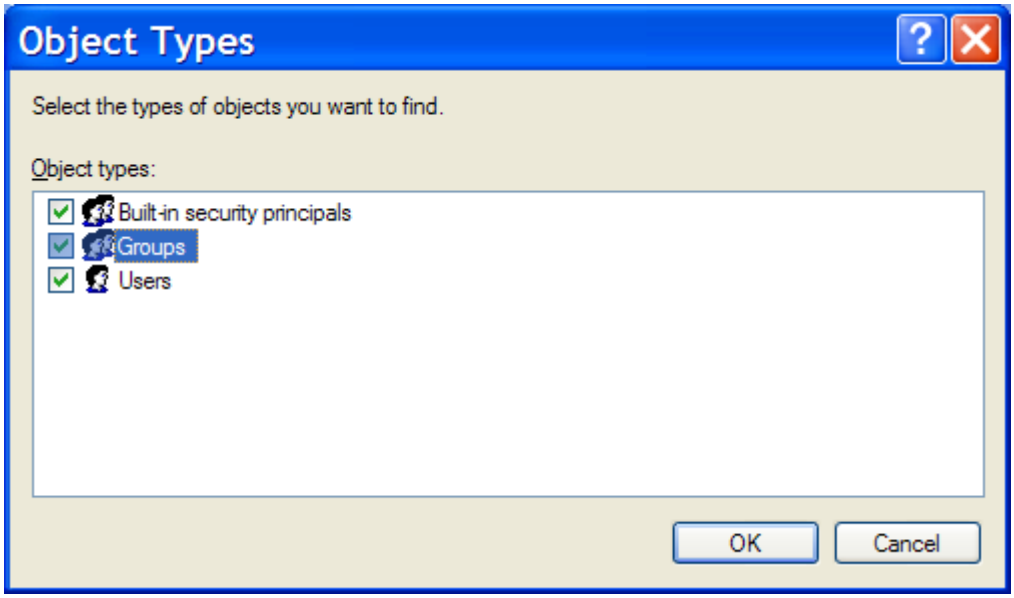


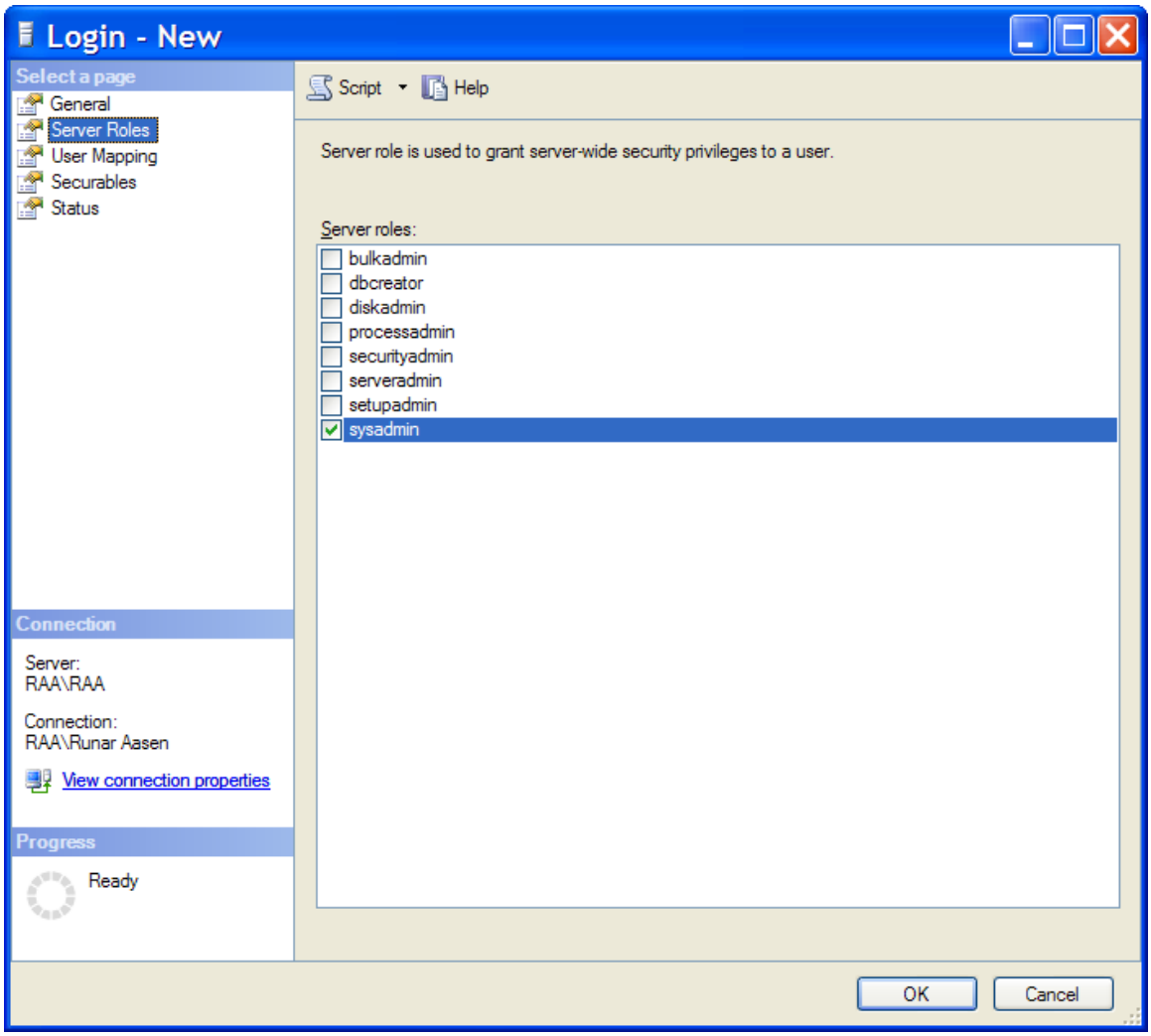
Figure 3: "Object Types" dialog - make sure to check Groups box

Then back in the “Select User or Group” dialog, click the “Advanced…” button to make a search for the user group.

When the name of the user group is in place you are ready to map up permissions for the user group.

SETTING UP THE USER GROUP WITH SYSADMIN PERMISSIONS

If the SQL Server instance is solely for the purpose of MassTrack and it may be considered whether the user group can have a “sysadmin” server role. In this case, select “Server Roles” page in the dialog and check the “sysadmin” box.



In this case you are done and can click “OK” button to create the user group. The user group is now added and ready for MassTrack.

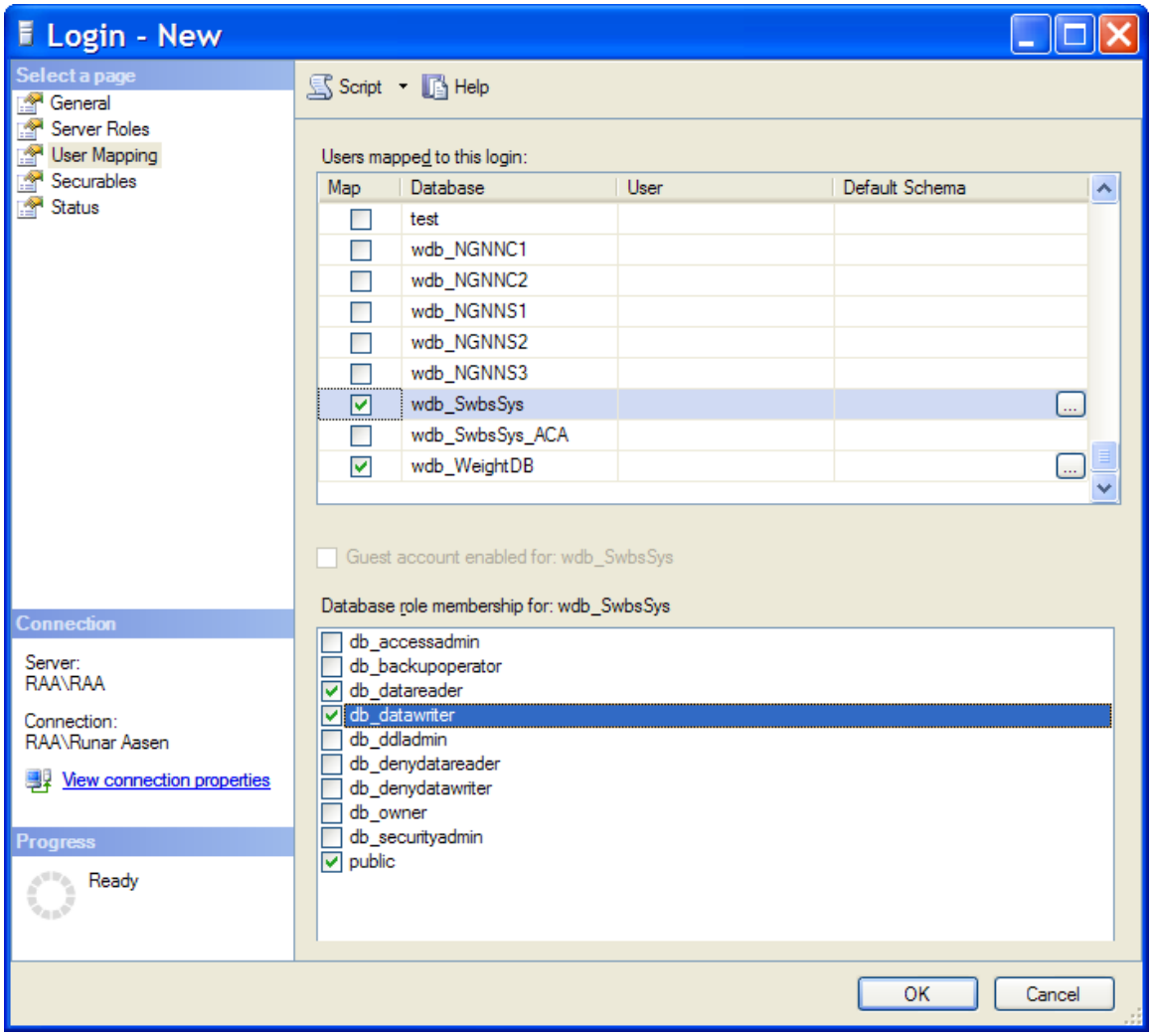
SETTING UP THE USER GROUP WITH MINIMUM PERMISSIONS

If it is not desired to give the user group Sysadmin permissions, the minimum permissions of **db_datawriter** and **db_datareader** given for the following databases:

- SWLogin
- sdb_Demo
- sdb_ShipDb
- SWSystem
- SW00_ProjectDB
- SW00_ProjectDB_Log
- SW04_ProjectDB
- SW04_ProjectDB_Log

See next pages on how to set this up

Select the “User Mapping” page and check the necessary permission for each of the database.



If the minimum permission selected and a MassTrack user is creating a new MassTrack project database, by default only this user can access this database. To enable other MassTrack users to access this database, permissions “db_datawriter” and “db_datareader” must be set for the user group in the “User Mapping” for this project as well as the log project (the log project is named <project>_log).

To make these permissions default for the user group for any new projects created even with minimum permission set, a few lines must be added to the files creating new MassTrack projects.

The two files to be edited are “ShipWeightDB.sql” and “ShipWeightDB_Log.sql” and is found in the ShipWeight folder at the client machine. Open the files in Notepad or similar and at the end of these files to add these lines. If the user group name is RAA\MassTrackUsers the lines would look like this:

EXEC sp_grantdbaccess 'RAA\MassTrackUsers'

EXEC sp_addrolemember 'db_datareader', 'RAA\MassTrackUsers'

EXEC sp_addrolemember 'db_datawriter', 'RAA\MassTrackUsers'

GO

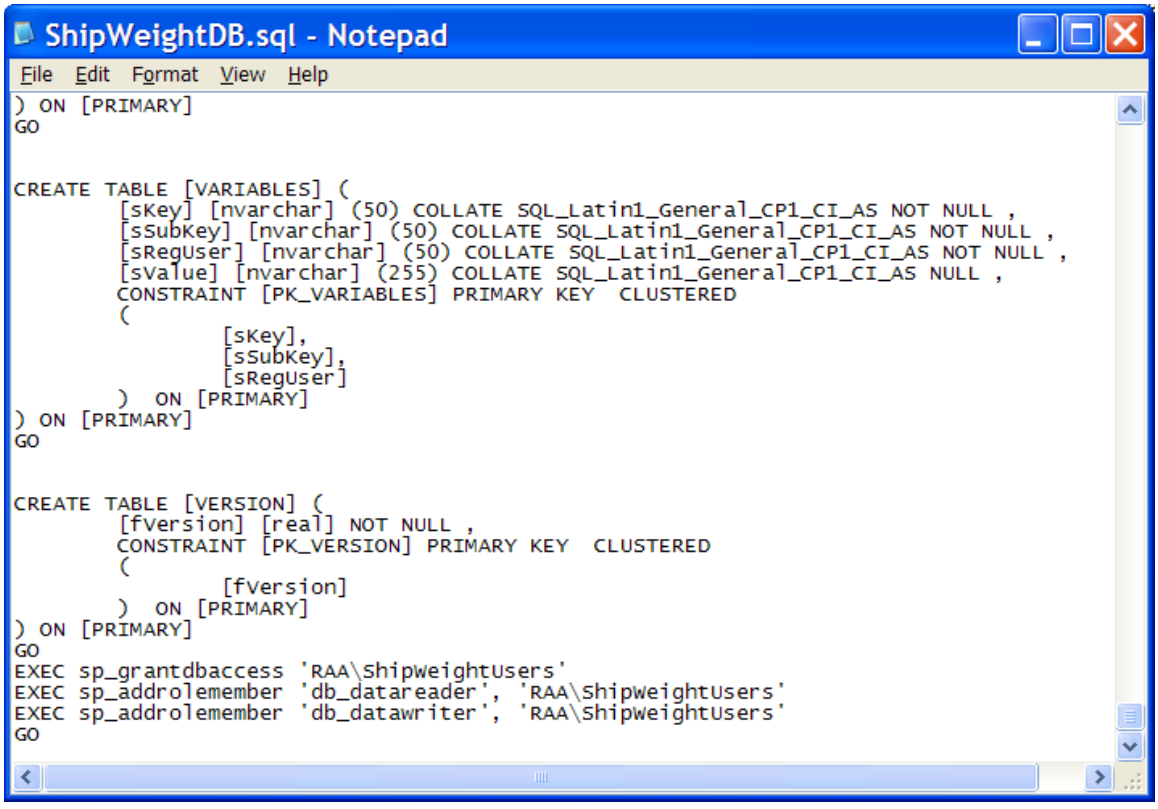


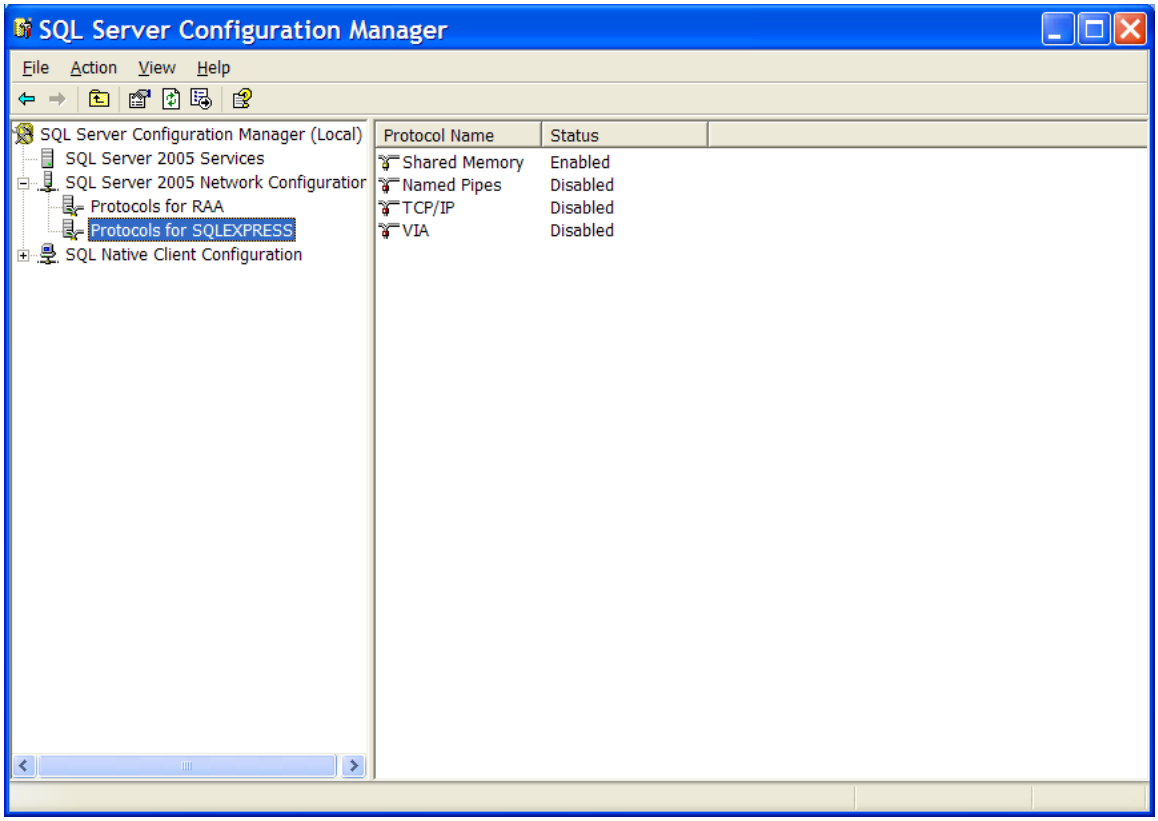
Figure 4: Showing the permission lines added to ShipWeightDB.sql

ENABLING TCP/IP PROTOCOLS FOR SQL EXPRESS 2005

SQL SERVER CONFIGURATION MANAGER

The SQL Server Configuration Manager is a graphical tool that is automatically installed with SQL Server 2005 Express to enable you to manage many aspects of your SQL Server installation, such as services, network configuration, and more.

Start the SQL Server Configuration Manager from the Configuration Tools group of the SQL Server Express group and expand the “SQL Server 2005 Network Configuration” and select “Protocols for SQLEXPRESS”.



The default protocols for SQL Server are:

Shared Memory - Secure way for a client to access a SQL Server on the same computer. Shared Memory is enabled by default and cannot be used when accessing SQL Server from across the network.

Named Pipes - Allows a client to connect to SQL Server by using any of a number of different protocols. The actual protocol used is dictated by the client application by indicating the path, or *pipe*, needed to access the server. Because of potential security risks, only **local Named Pipes** is enabled by default. If you want to use the **Named Pipes** protocol from a remote machine, you'll have to enable this in the **SQL Server Surface Area Configuration** manager

TCP/IP - Standard Ethernet protocol that enables a client application to access a specific SQL Server instance using its IP address. Because of potential security risks, **TCP/IP** is disabled by default.

VIA - Stands for Virtual Interface Architecture and is a network protocol that is used in high-speed networks. VIA is not available in SQL Server 2005 Express.

To enable or disable any of the protocols (except VIA), simply right-click the desired protocol name and select **Enable** or **Disable** as desired. If a protocol is enabled, a client application will be able to connect to SQL Server 2005 Express by using that protocol.

For further information on setting up users, database backup or other SQL questions, please do not hesitate to contact BAS engineering – office@bas.no