
User's Guide

Surface Manager Server

Version 2.19



Epiroc

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Introduction

General information

Surface Manager Server manages connections from multiple Surface Manager clients.

Surface Manager Server in its context

Surface Manager Server manages the database, imports log files and connects to an RRA service for RRA drill status.

Multiple Surface Manager clients connects to the Surface Manager Server.

The user

This guide assumes that the user has some knowledge of the Windows environment. This applies in particular to the use of the mouse, keyboard and menus.

Quick Start

1. Install Surface Manager Server and start the configuration tool
2. Select *Help – License information* and activate the server license
3. Select *Tools – Database*, create the database and validate the settings
4. Select *Tools – RRA Service* and configure the RRA service connection
5. Select *Tools – Import and export* and configure the import/export folders
6. Start/restart the Surface Manager service

Installation

System requirements

It is recommended that Surface Manager be installed on a Server Platform consisting of the following hardware specifications:

- Intel Core i7 or Xeon CPU of 2Ghz or higher with 4 cores or more.
- 16GB RAM
- Windows Server 2008 R2 or Windows Server 2012 R2
- Microsoft SQL Server 2008 or Higher
- 2GB for Surface Manager Server

It is recommended to have at least 500GB of free hard drive space allocated for log files sent from Drill Rigs. There is no requirement for this to be on a Regular Hard-Drive, a Solid State Drive, or a RAID Array, but higher burst IO Performance of the disk subsystem will substantially increase the performance of Surface Manager's log processing speed.

Disk Redundancy and Good Backup Procedures should be observed to ensure there is low risk of unrecoverable data loss. Ensure liason with your company's IT Team

Virtualized Environment Deployment

It is acceptable to deploy Surface Manager under a virtual infrastructure such as VMWare vSphere. While this will facilitate a better distribution of server resources, it is important to monitor the performance counters of the virtual machine where Surface Manager is located. In particular, ensure that the virtual machine is not starved of Disk I/O or Memory, as this will very quickly bring Surface Manager Server to crawl and users will begin to notice the lack of performance.



Installation steps

Preparation

Installing Surface Manager Server requires administrator privileges for the computer. Install the program by starting the program SurfaceManagerServer.exe available on your installation disc or USB memory stick.

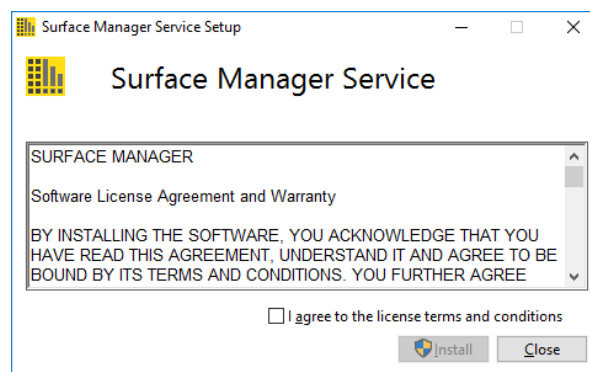
Then follow the instructions in the installation program.

Surface Manager is normally installed in the directory: **C:\Program Files\Epiroc\Surface Manager Server**. However, this may vary depending on the operating system's language version.

Surface Manager Server installs both a configuration tool and a Windows service.

Installation-step-by-step

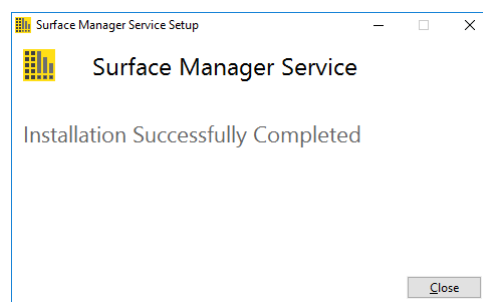
Start the installation package.



After you agree to the license terms and conditions, Install button is enabled. Once you click Install, the Surface Manager Service is installed on your system.

Accept the license agreement and click *Next*.

Click *Install* to start the Surface Manager Server installation. The installation will commence.

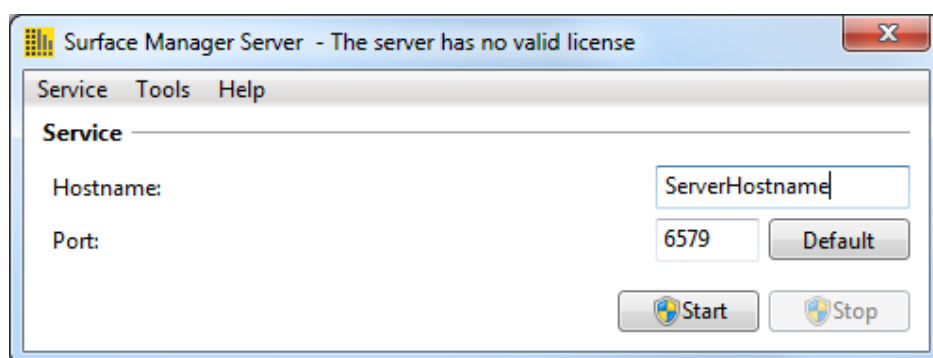


Click *Close*.

After a successful installation

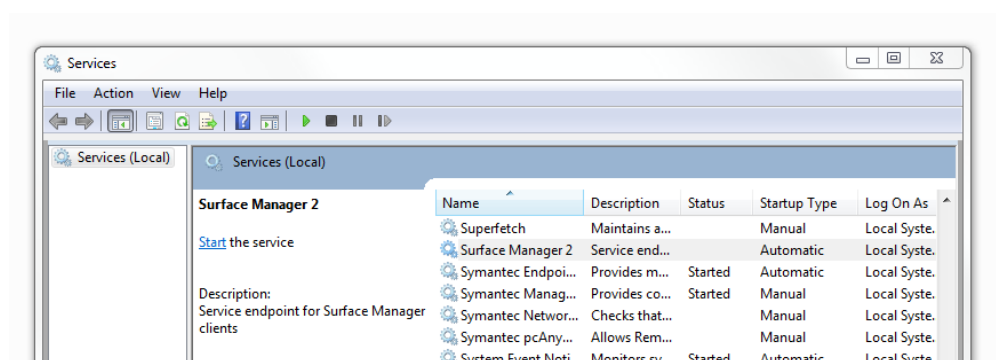
After a successful installation of Surface Manager Server the configuration tool is started.

The Surface Manager Server configuration may also be started by clicking the desktop icon or from the start menu.



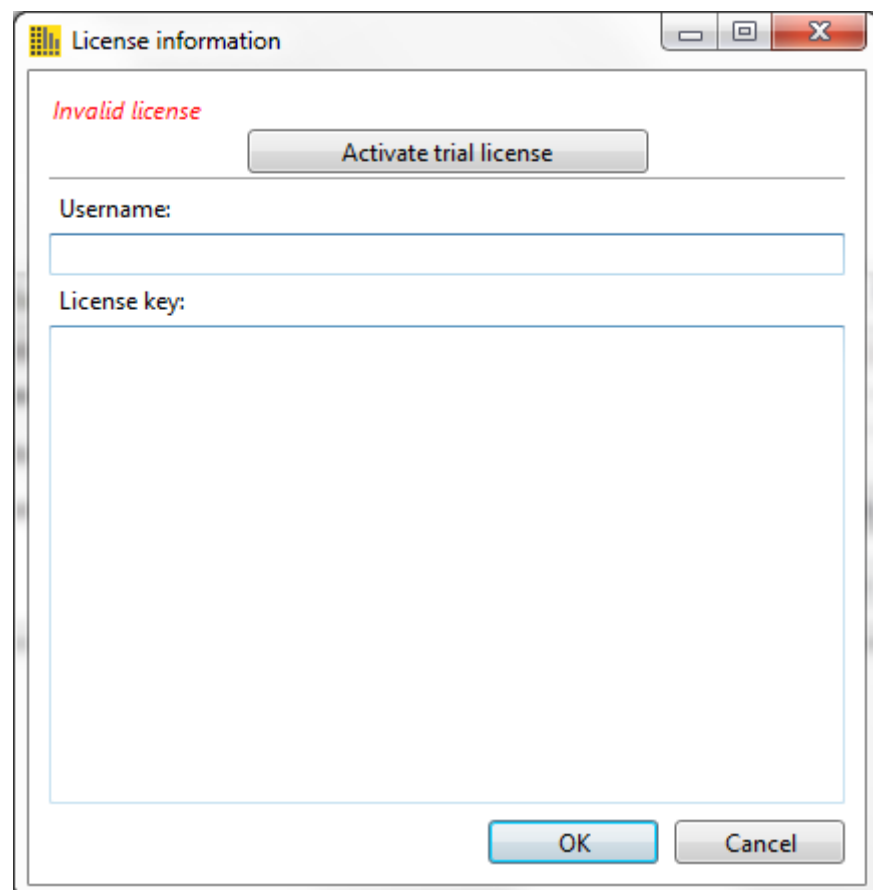
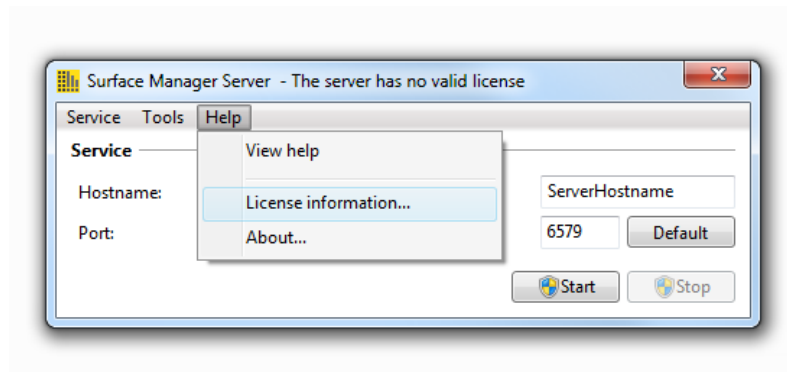
The main window shows the service endpoint for Surface Manager clients. The service must be running for the Surface Manager clients to be able to connect to the database.

The service is listed as *Surface Manager 2* in Windows services.



Activating license

Select the menu *Help –License information*.



Username

Enter the username supplied

License key

Copy and paste the license key supplied.

Activating a 30 day trial

Press the button *Activate trial license* and a 30 day trial license will be granted.

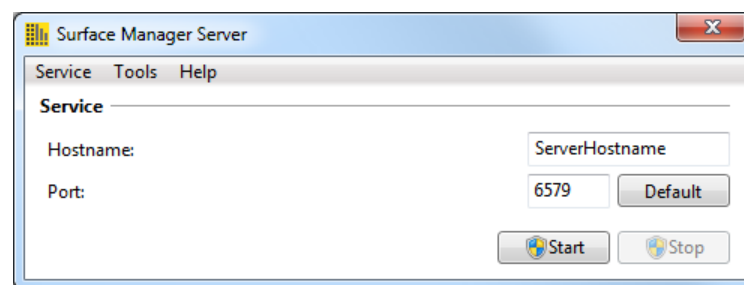
Surface Manager Server configuration

Overview

For *Surface Manager* to be fully functional the following configuration steps need to be taken:

- Database configuration (including the creation of a database)
- Import and export folders for automatic pulling of log files and pushing of drill plans to drill
- RRA server setup for RRA status indication

Surface Manager Service



Hostname

Specify the hostname for the *Surface Manager* service. Leave as is for most situations.

Port

The port that the *Surface Manager* service listens to. Leave as is for most situations.

Start and stop service

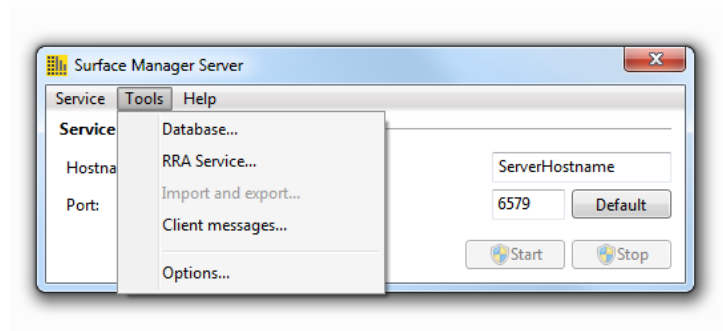
Controlling the service may be done differently:

- Use the Start and Stop button on the main Surface Manager Server Tool
- Use the menu Service – Start and Service –Stop
- Use Windows services administration to start and stop the service
Surface Manager

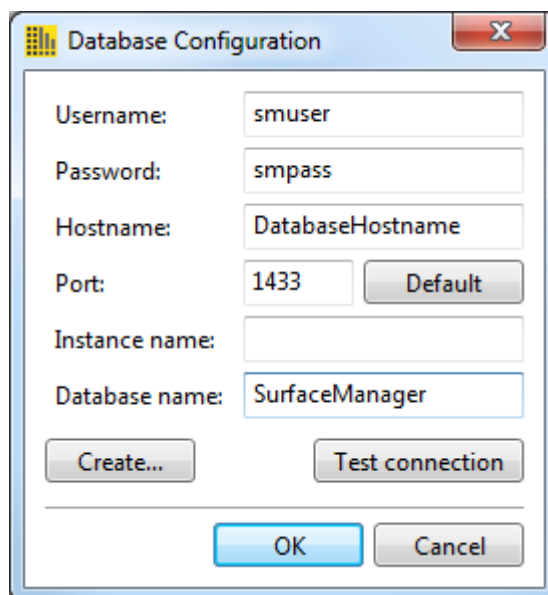
Database configuration

Database connection settings

Select the menu *Tools – Database*.



Specify connection settings for the clients connecting to the database.



Username

Username used by the *Surface Manager* clients to connect to the Surface Manager database. Leave as is for most situations.

Password

Password used by the *Surface Manager* clients to connect to the Surface Manager database. Leave as is for most situations.

Hostname

The hostname of the computer hosting the database

Port

Database port number

Instance name

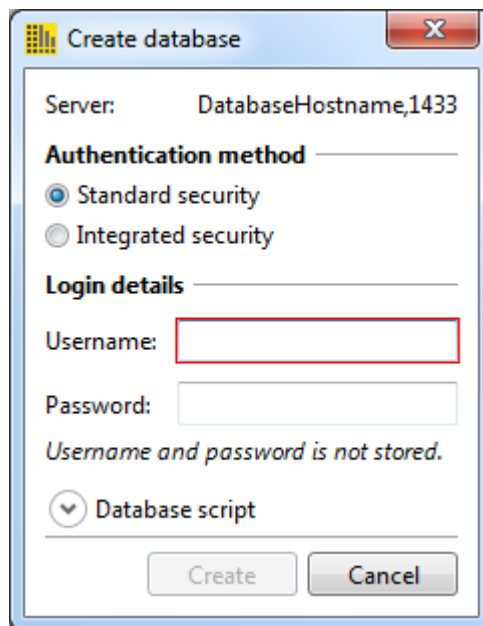
Database instance name (optional)

Database name

The database name. Leave as is for most situations.

Create database

Click the button *Create*.



Make sure the hostname and port are correct and valid for your database host.

Choose between *Standard security* or *Integrated security* authentication.

Standard security

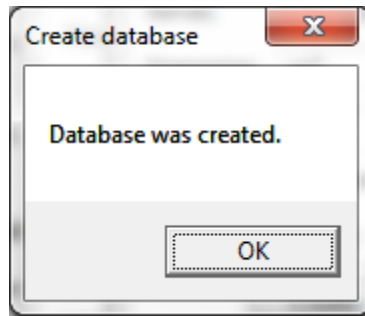
The user is setup in the SQL server itself. Typical username is *sa*.

Integrated security

The domain id and password is used for authentication. Typically when Surface Manager server and database host is the same machine.

Press *Create*.

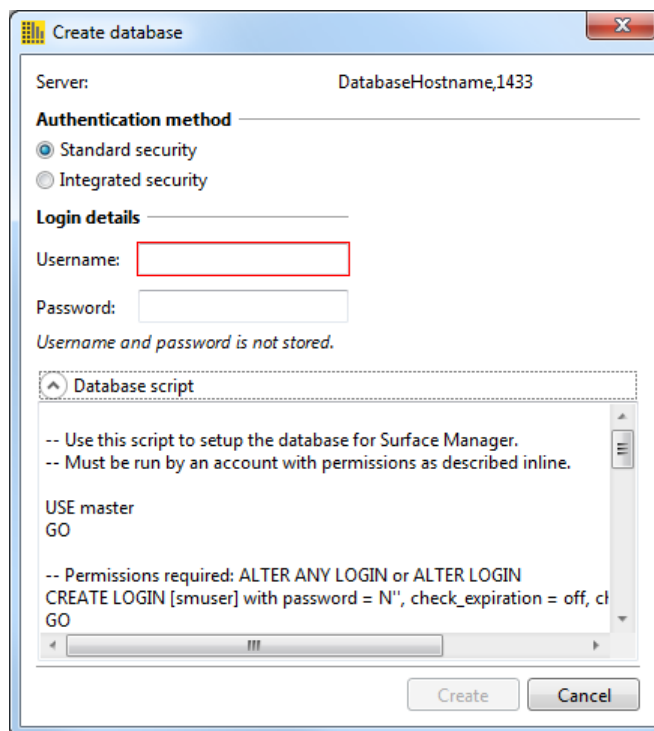
A message will show the result.



Restart the service for the changes to take effect.

Create database (optional manual step)

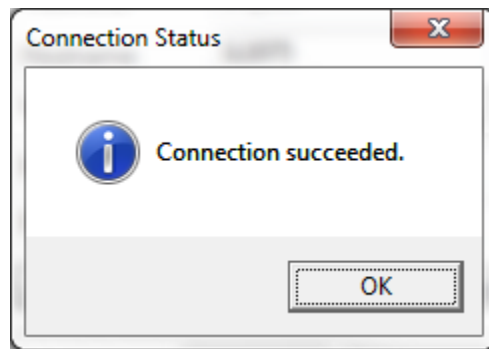
The database may be created manually by expanding the database script section. Copy the script and run it in SQL Server management studio or a similar tool.



Restart the service for any changes to take effect.

Test database connection

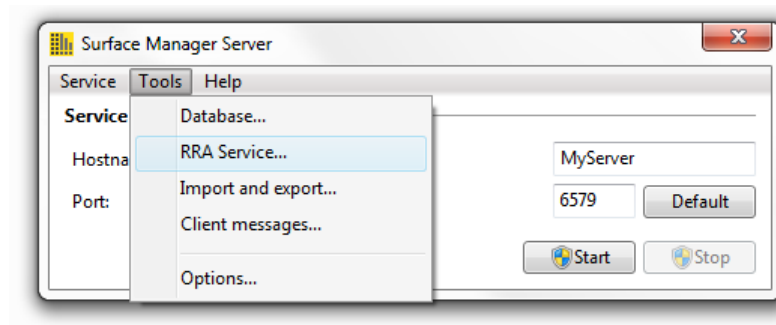
Click the button “Test connection” to test the database connection. A message will be shown.



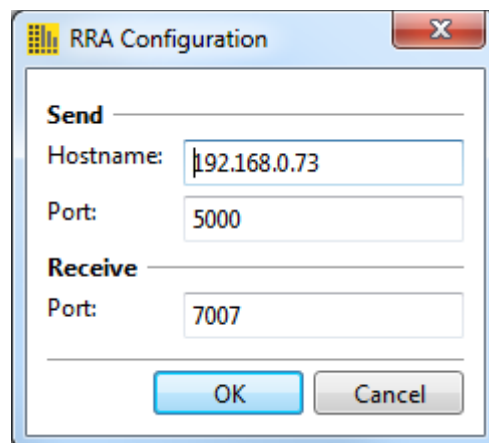
RRA Service

RRA service settings

Select the menu *Tools – RRA Service*.



The RRA settings allow Surface Manager to read the RRA status of the rigs.



Note: To get status information from the RRA service, the RRA server needs to be of at least version 2.1!

RRA hostname and port configuration

The connection settings are used to establish connection with the RRA server. The RRA server then responds to Surface Manager.

Send hostname

The hostname of the computer hosting the RRA service. If the RRA server is installed on the same computer as Surface Manager Server, leave as is.

Send port

RRA service communications port. Default RRA service port is 5000. If no special configuration has been made to the RRA service, leave as is.

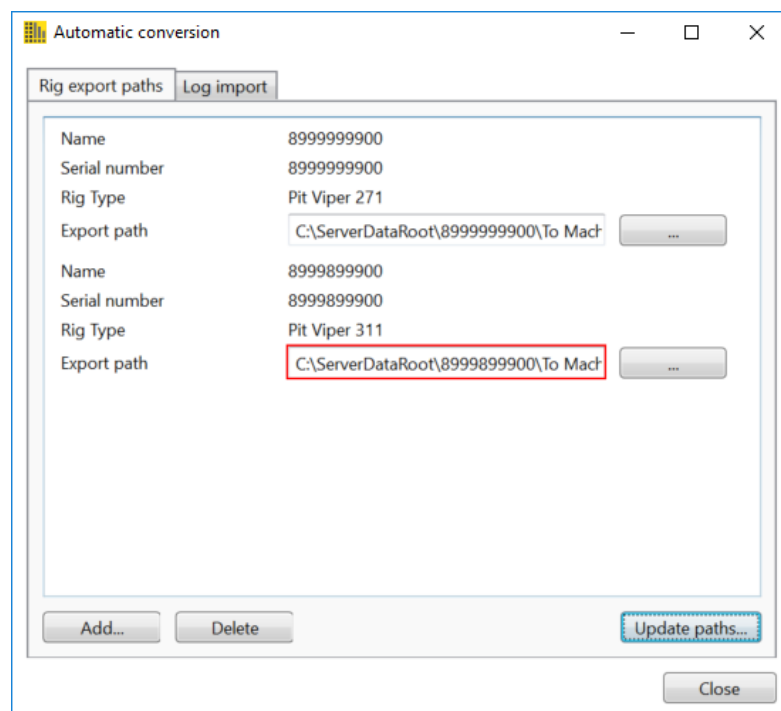
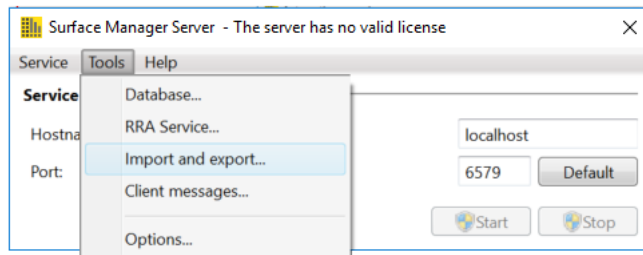
Receive port

The port that Surface Manager uses to listen for RRA service messages.

Import and export

Import and export settings

Select the menu *Tools – Import and export*.



Rig export paths

The export paths defined for the rigs.

Log Import

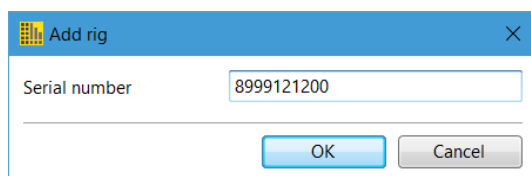
The import paths defined on the server, for each log file type, for each rig added to RRA Server.

Rig Export Paths

The export path for each rig is the defined location where drill plans and text files of system objects are placed, to be sent to the rig by RRA Server.

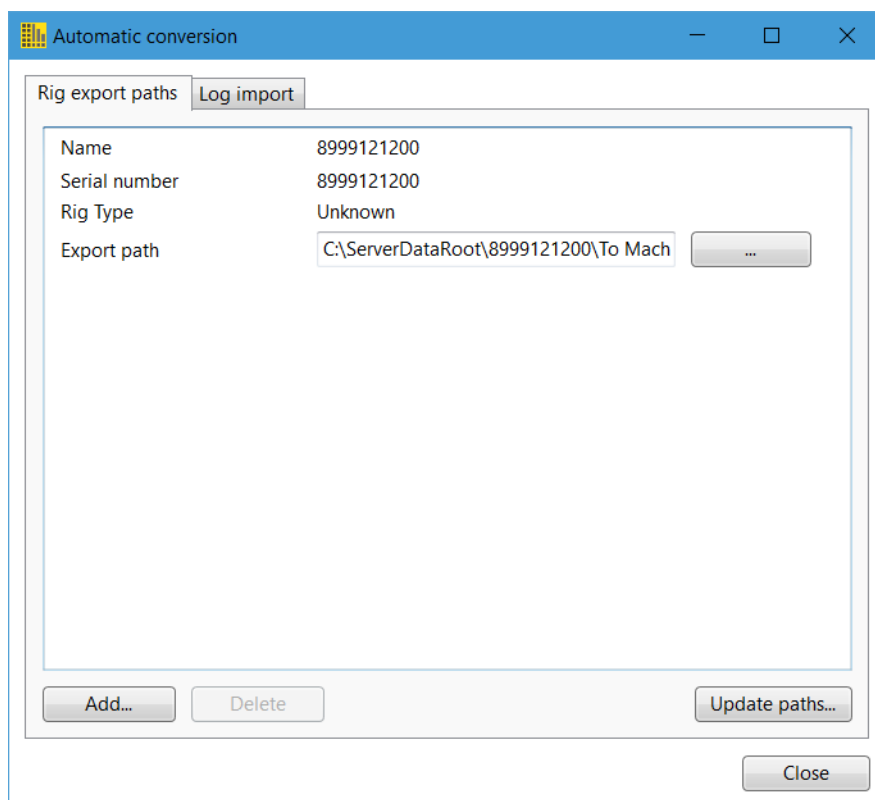
It is important to define each rig in the system so that it matches what is defined in RRA. For example, if rig 8999121200 is stored in RRA, that serial number must be added to Surface Manager Server.

Click 'Add' to view the Add Rig window.

A small dialog box titled "Add rig" with a close button (X) in the top right corner. It contains a text field labeled "Serial number" with the value "8999121200" entered. Below the text field are two buttons: "OK" and "Cancel".

Add rig	
Serial number	8999121200
<div>OK Cancel</div>	

Enter the serial number and select the type of rig, and press OK.

A larger dialog box titled "Automatic conversion" with standard window controls (minimize, maximize, close) in the top right. It has two tabs: "Rig export paths" (selected) and "Log import". The "Rig export paths" tab contains a table with the following data:

Name	8999121200
Serial number	8999121200
Rig Type	Unknown
Export path	C:\ServerDataRoot\8999121200\To Mach

Below the table are three buttons: "Add...", "Delete", and "Update paths...". At the bottom right is a "Close" button.

Automatic conversion	
Rig export paths Log import	
Name	8999121200
Serial number	8999121200
Rig Type	Unknown
Export path	C:\ServerDataRoot\8999121200\To Mach
<div>Add... Delete Update paths...</div>	
<div>Close</div>	

Once the new rig appears in the list, set the *Export path* to the 'To Machine' folder in the RRA Root Directory.

Setup Log Import Paths

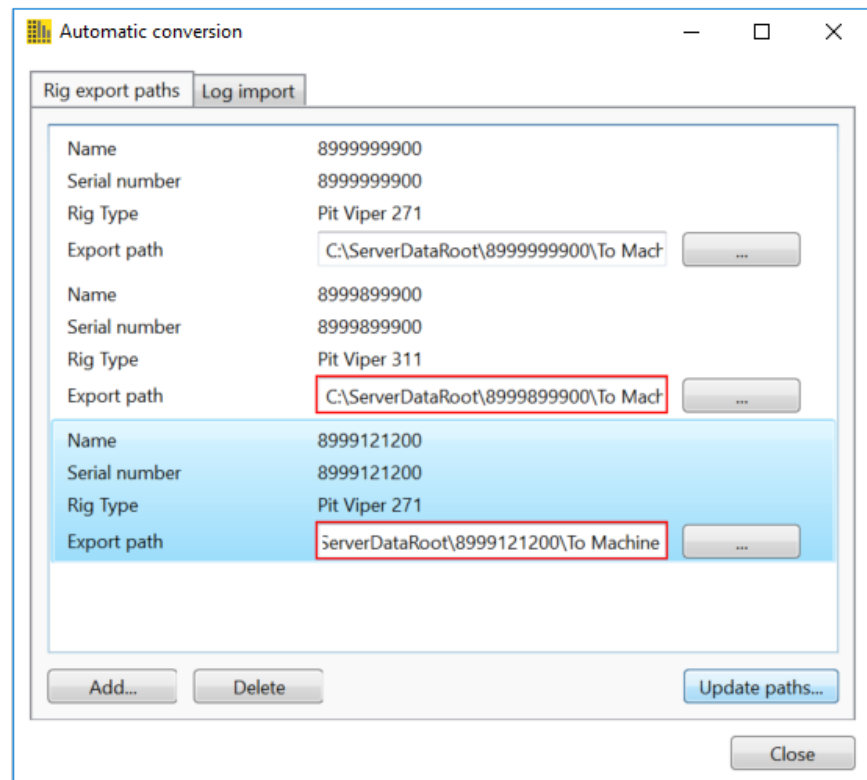
Three paths need to be defined for each type of RCS Log File

- Source
- Backup
- Error.

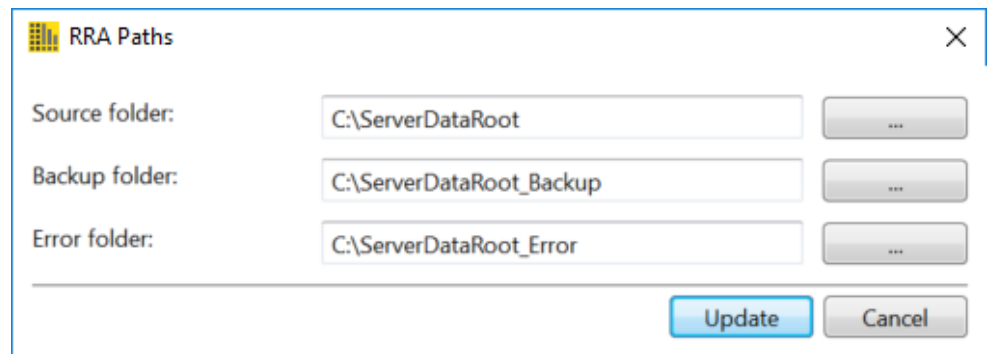
Surface Manager Server detects changes to the defined source directory for each log type, before parsing the data contained.

A log file successfully parsed will be moved to the specified backup folder. If a parsing error occurs, the log file will be put in the specified error folder.

After defining the Rigs and Rig Types, click ‘*Update paths*’.

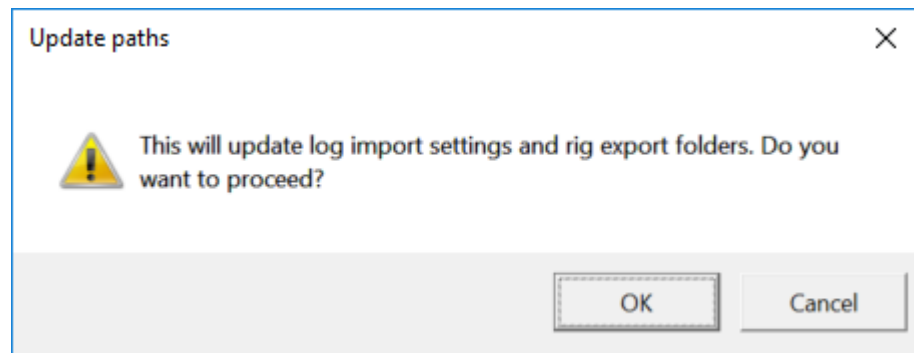


Select RRA server data source folder, custom backup path and custom error path.

The 'RRA Paths' dialog box has a title bar with a close button. It contains three rows of labels and text boxes: 'Source folder:' with 'C:\ServerDataRoot', 'Backup folder:' with 'C:\ServerDataRoot_Backup', and 'Error folder:' with 'C:\ServerDataRoot_Error'. Each text box has a browse button (three dots) to its right. At the bottom right are 'Update' and 'Cancel' buttons.

Note: The default RRA data path is the C:\ServerDataRoot. The recommendation is to give the backup and error folders the same name but with a trailing “_error” or “_backup”.

Click OK and confirm warning with OK.

The 'Update paths' dialog box has a title bar with a close button. It features a yellow warning triangle icon followed by the text: 'This will update log import settings and rig export folders. Do you want to proceed?'. At the bottom right are 'OK' and 'Cancel' buttons.

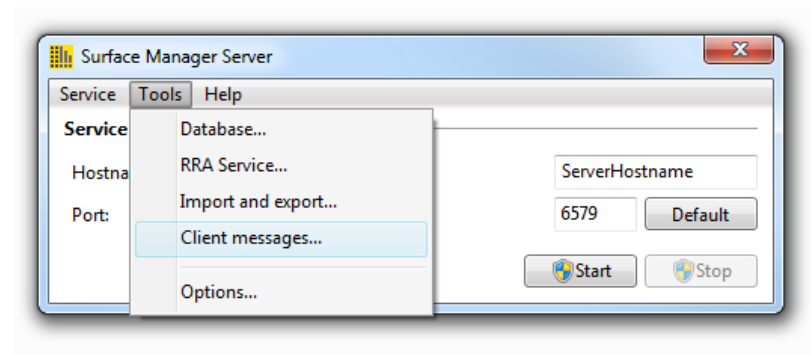
Rig export paths and log import paths will be updated with paths relative to the RRA server data root path.

Restart the service for any changes to take effect.

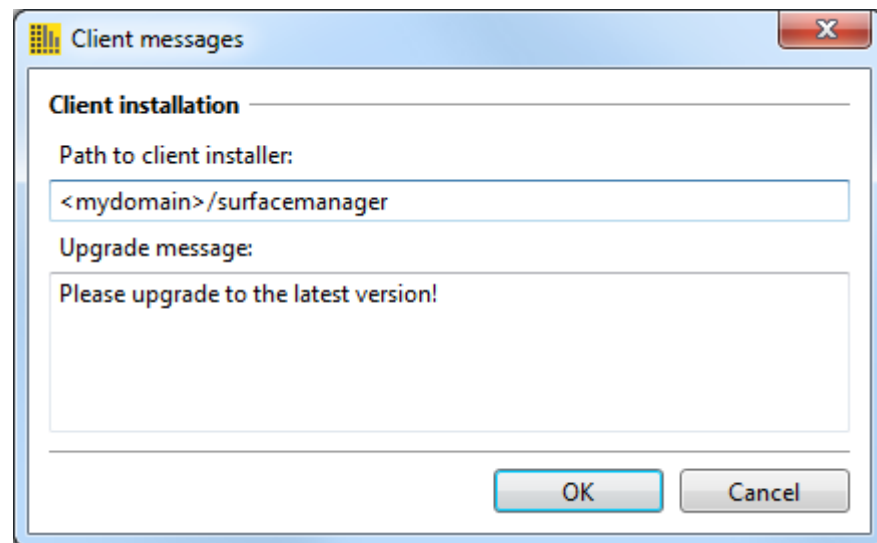
Client installation

Client installation settings

Select the menu *Tools – Client messages*.



Messages showed when the server and clients are incompatible.



Client installer

Specify the optional path to the Surface Manager client installer.

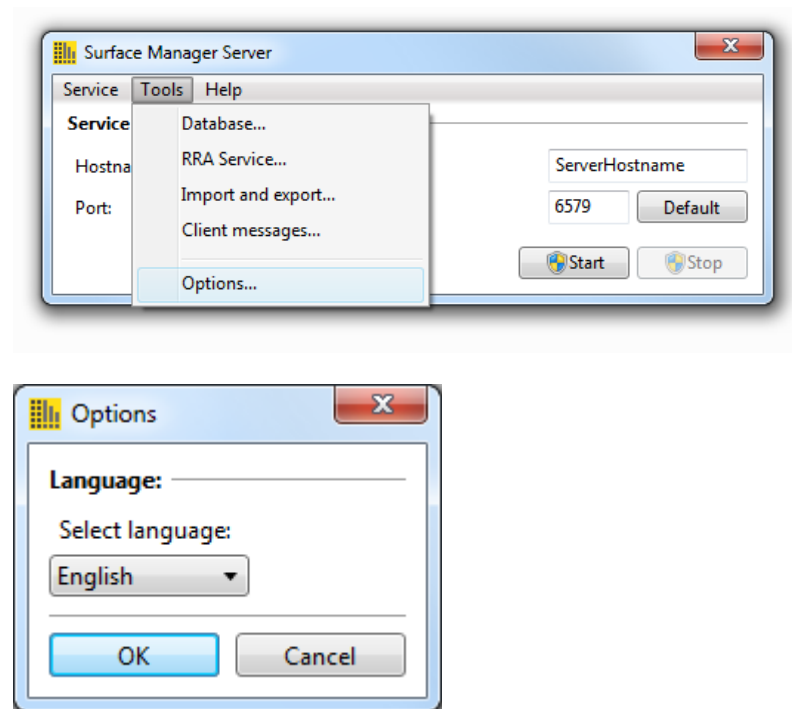
Upgrade message

The message to show when the Surface Manager client and server versions are incompatible.

Options

Language settings

Select the menu *Tools – Options*.



Select the language shown in the Surface Manager Server configuration interface.

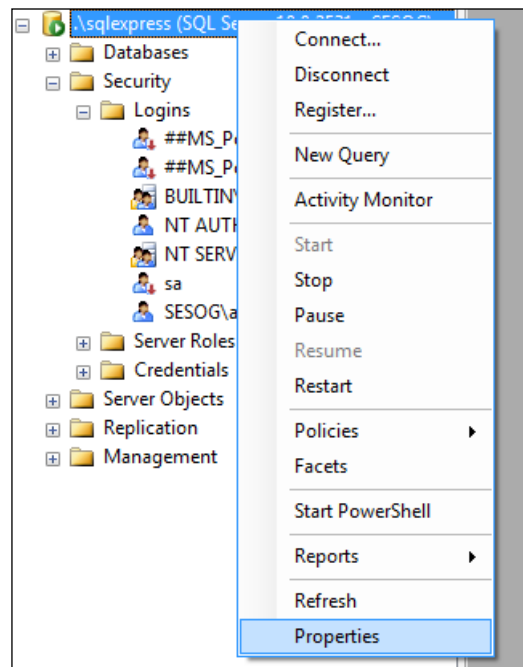
Restart the service for the change to take effect.

Database connection troubleshooting

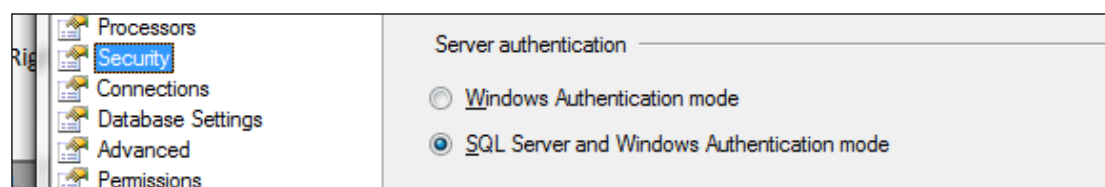
Database creation using the SA-account

The details may differ depending on the installed version of SQL Server and Management Studio.

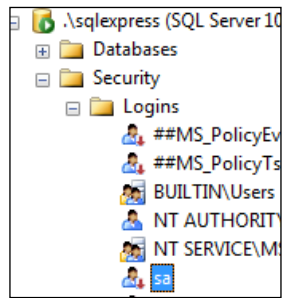
1. Start *Management Studio*.
2. Make sure *SQL Server Authentication* is enabled – Right click on the appropriate database instance, click *Properties*.



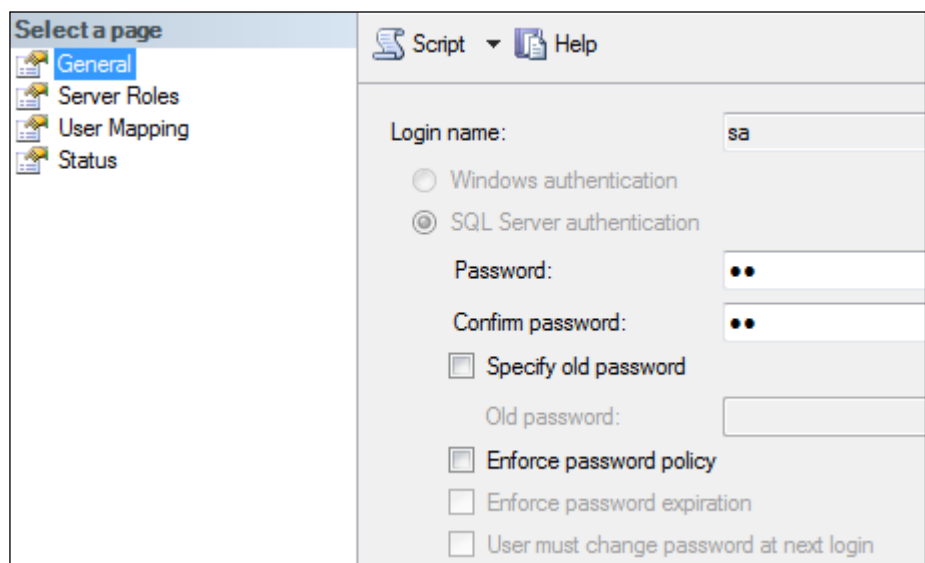
3. Select *Security* and make sure that *SQL Server Authentication* is enabled.



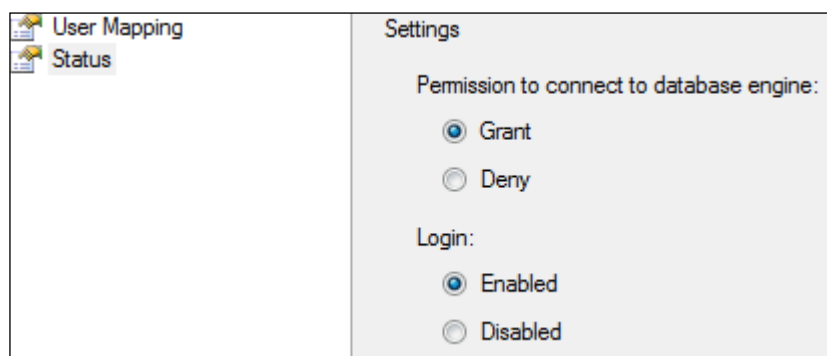
4. Enable the SA account - Expand the database instance, expand the *Security*-folder, expand *Logins*. Double-click the *sa*-account. ***You can also create another account with appropriate credentials and use that account instead of sa. This guide will not cover that scenario.***



5. Select *General* and enter a new password if you do not know the old one. If the password is short, do not select the Enforce password policy checkbox. Disable password expiration and make sure that the user does not have to change password at next login.



6. Select *Status*. Make sure that the account has permission to connect to the database engine and that the account is enabled.



7. Confirm and close all dialogs. Restart the SQL server if prompted at any step. SQL Server Configuration Manager can be used for this.

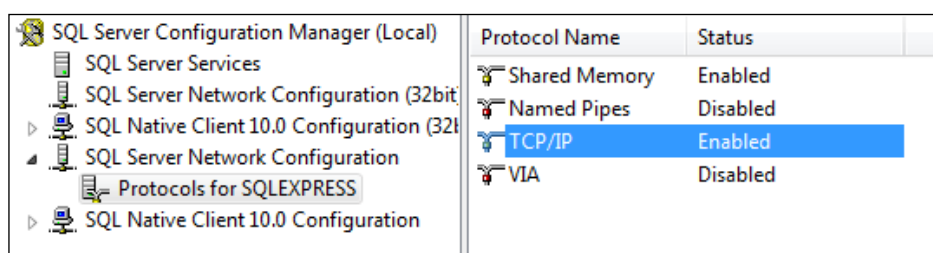
Now, Surface Manager Administration should be able to create the database.

SQL Server configuration when the service and client are on the same computer

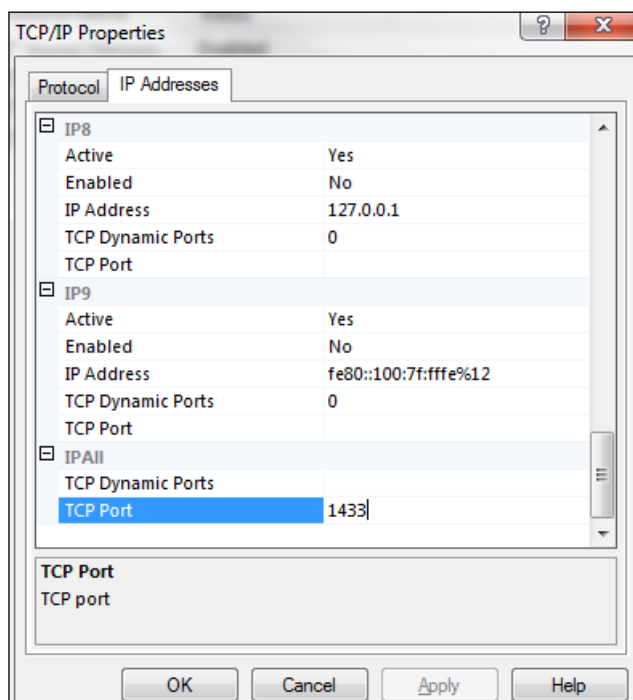
Surface Manager has problems connecting to the database when the client and server run on the same machine and the default port is used.

Workaround:

1. Start *SQL Server Configuration Manager*.
2. Expand *SQL Server Network Configuration* and select *Protocols for <name>*. Make sure that *TCP/IP* is enabled.



3. Right-click *TCP/IP* and select *Properties*. Select the *IP Addresses* tab. Scroll down to the bottom to the section named *IP All*. Clear the *TCP Dynamic Ports*-textbox and type 1433 or the port chosen in the *TCP Port*-textbox.



Click OK, close all dialogs and restart the SQL Server. Now, Surface Manager should be able to connect to the database.

Cannot upgrade database due to tables being locked during Server Upgrade.

If problems are encountered while trying to start the Surface Manager Server after upgrading the application to a new version, it is possible that the Server Executable was unable to successfully run the database upgrade scripts. This can be observed by trying to start the server from the Administration Screen. After clicking Start, the application will appear to freeze or hang for some time before eventually throwing an error message.

Ensure that Database Replication is disabled on your Server and/or Cluster before upgrading Surface Manager Server, as replication will lock out the tables from structural changes.