



TSM Studio Server – User Guide 2.8.6.3

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Disclaimer

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"Please note that some jurisdictions may not allow the exclusion of implied warranties, so some of the above exclusions may not apply to you. Check your local laws for any restrictions or limitations regarding the exclusion of implied warranties."

What is TSM Studio Server?

TSM Studio Server is an advanced software for managing your TSM Server Environment. TSM Studio Server functionality includes.

- **Advanced Alerting**
- **Forward Forecasting**
- **Historical Analysis**
- **Operational Reporting**
- **Report Scheduling**
- **SQL Query Scheduling**
- **Trending**

TSM Studio tightly integrates with Windows security to provide a robust and secure environment for managing the TSM Servers in your environment

System Requirements

TSM Studio Server is designed and has been tested on Windows 2003 and Windows 2008 (R2 versions also supported). We recommended using the 64 bit version where possible so as to use all available memory. The amount of memory required will depend on the functionality used, the report generation feature will require a lot of memory for the generation of images and pdf's. We recommend a minimum of 8GB. 4x Processors\Cores is also recommended.

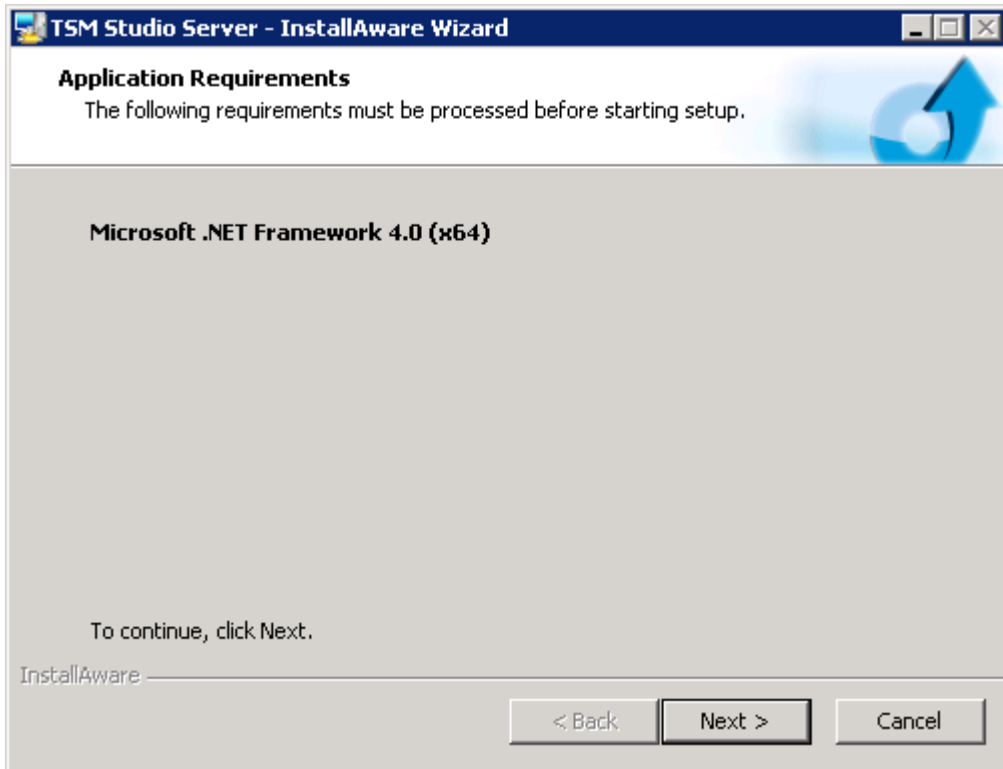
- Windows 2003\2008 (64 bit recommended)
- 8GB Memory
- Quad Core
- Virtual Environments Supported
- Dotnet Framework Version 4 (Included in the installation Package)

Database Requirements

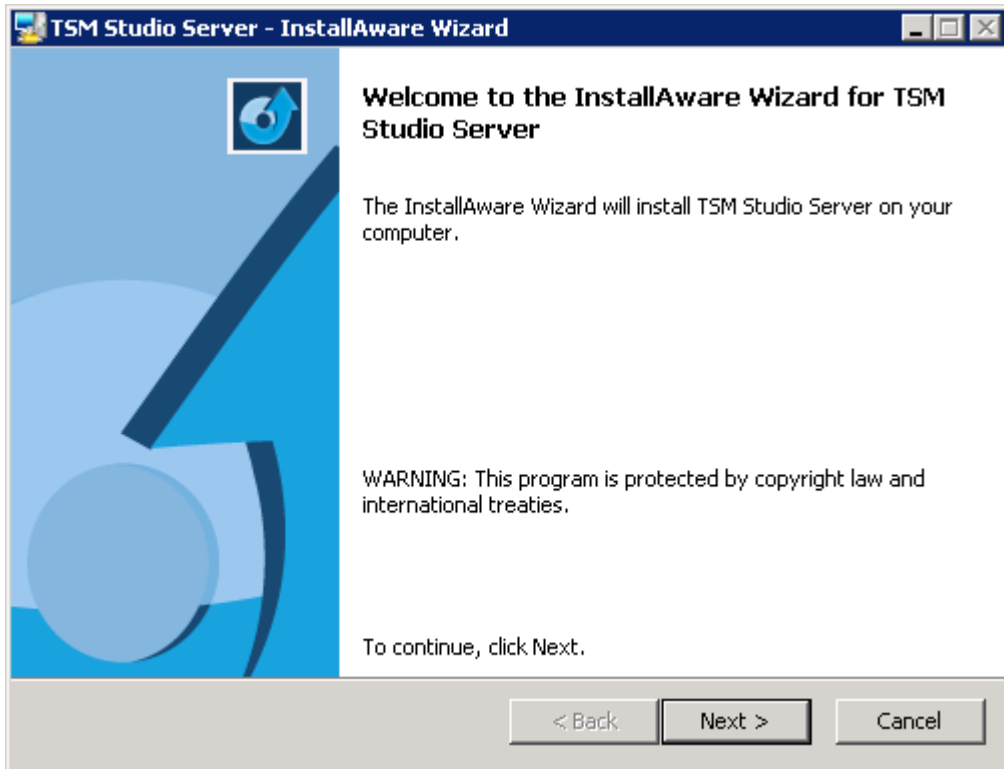
TSM Studio Server requires a database for the storing of collected data from the TSM Servers, the amount will depend on what is selected for collection and how many TSM Servers are in the Environment. Currently we support Microsoft SQL Server (2005 and 2008) and MySQL (5.5 and above). We recommended reserving 4GB for the initial install and increasing as the space as required. Database package is not included in the installation file.

Installing TSM Studio Server

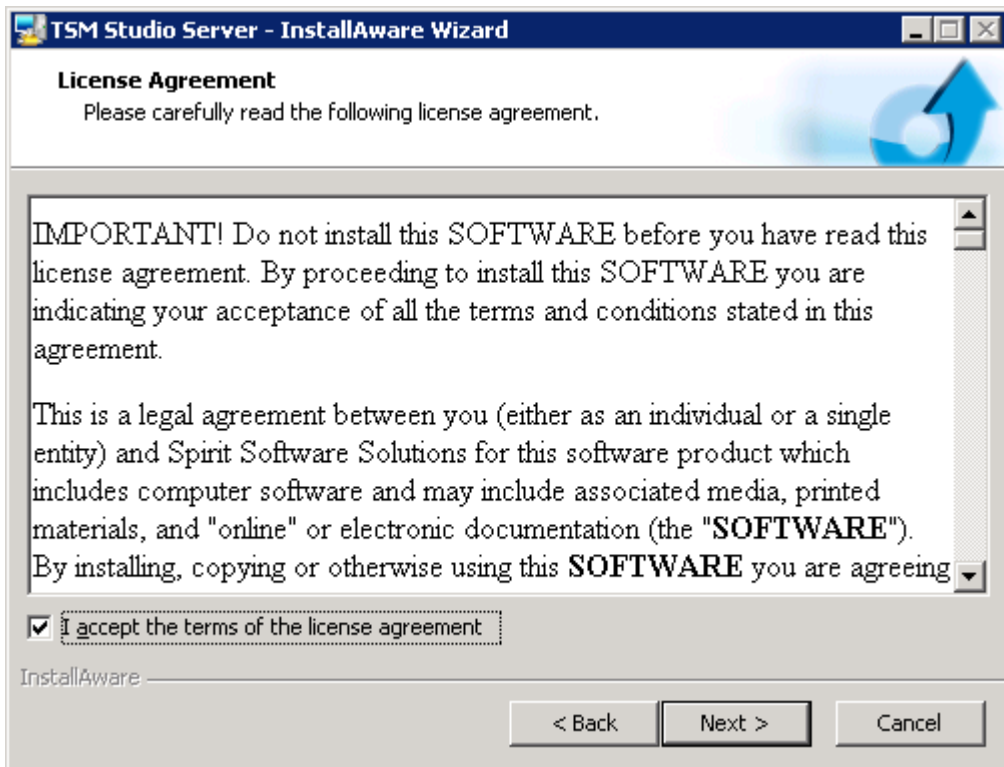
1. Download the installation package from <http://www.spiritsoftware.biz>. There are two versions depending on the hardware and operating system being used, a 32 bit version and a 64 bit version. If possible we recommend using the 64 bit version.
2. Run the Installation Package



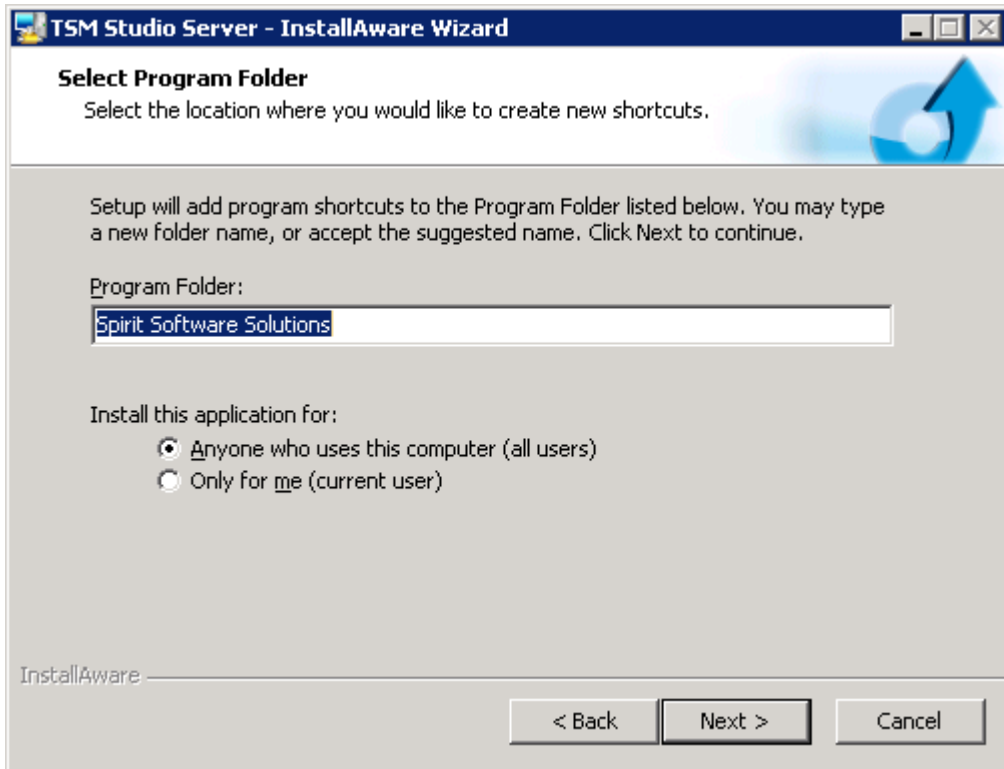
May require a restart if the framework is not already installed



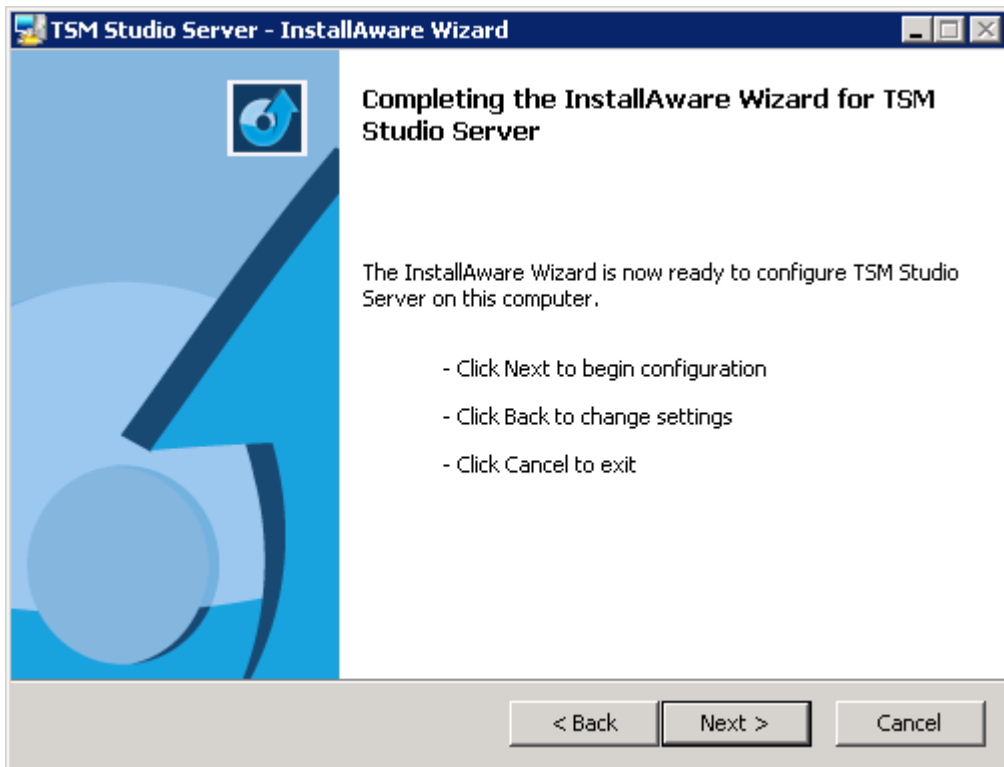
Select Next



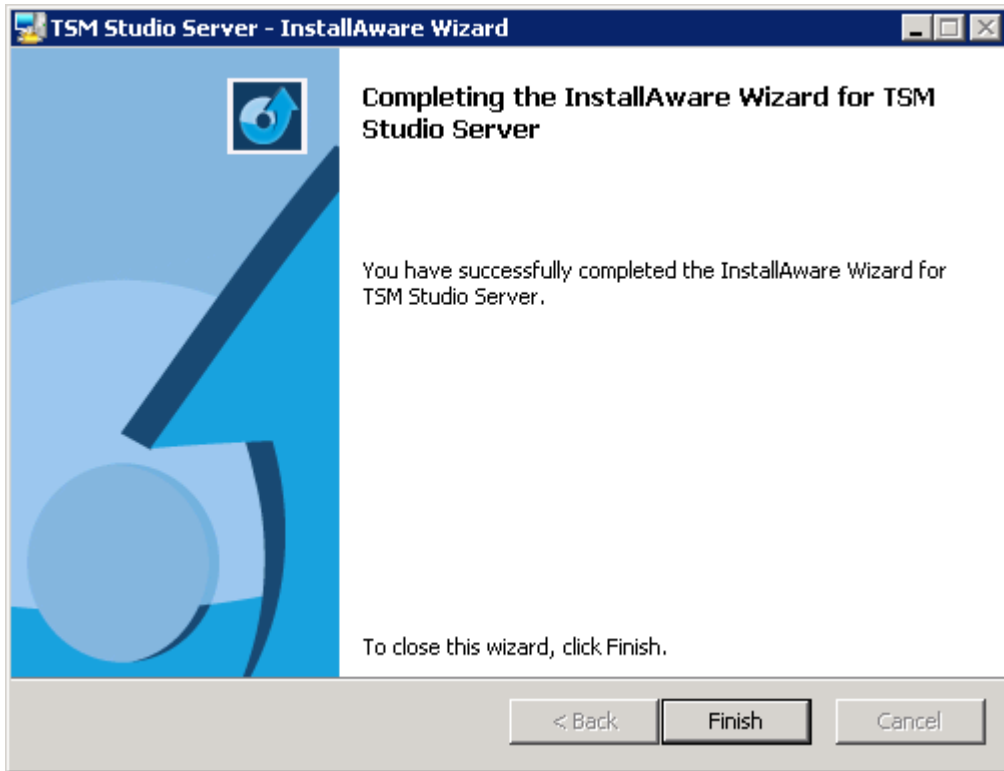
Accept the agreement and select Next



Choose the Program Folder and Select Next



Select Next

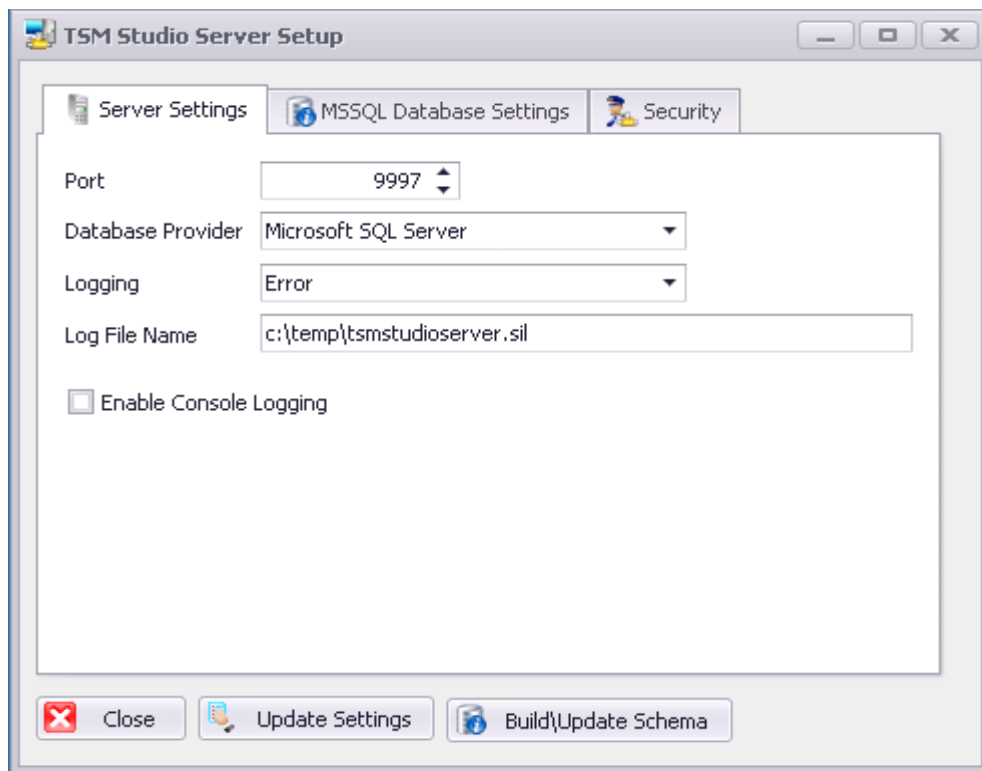


Select Finish.

Before Starting the TSM Studio Service Use the following section to first configure the database connection information. The first time TSM Studio connects it will build the database schema.

TSM Studio Server Configuration

After running the TSM Studio Server installation package and before starting the TSM Studio Server service, configuration of the database server, port and logging is required. From the Start→All Programs→Spirit Software Solutions→TSM Studio Server run the TSM Studio Server Configuration



Port: This is the port that TSM Studio will use to connect to TSM Studio Server

Database Provider: Currently MySQL and Microsoft SQL Server are supported.

Database system can be installed locally or on a remote server.

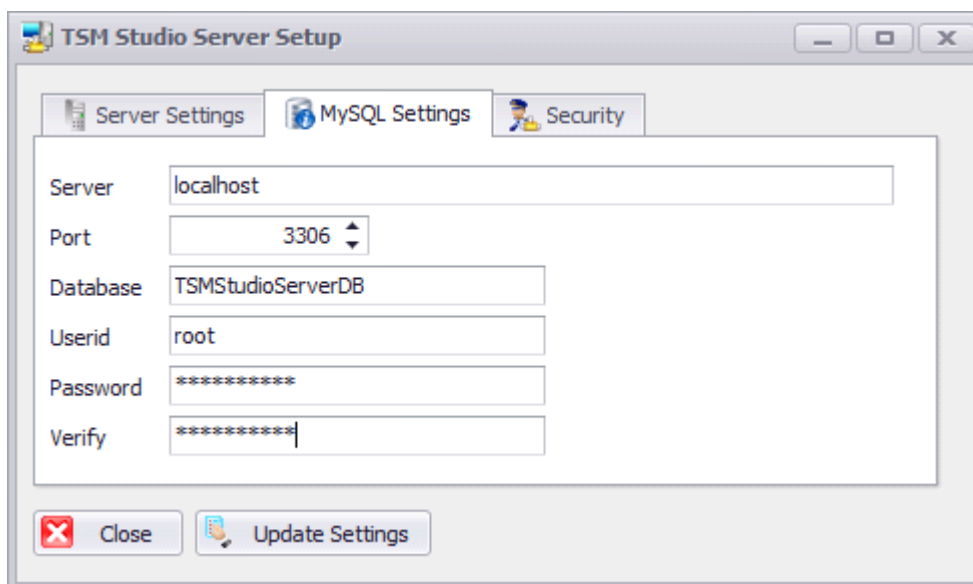
Logging: During this beta period we ask that you select Error

Log File Name: The name of the file to log errors to

Enable Console Logging: Used by Spirit Software support staff for debugging

Note: If you are using TSM Studio in a virtualized environment we would urge you to use Microsoft MSSQL due to timeout issues that we are seeing in our lab with MySQL.

Press the Updates Settings button to save the settingsMySQL Settings



Server: IP Address or DNS Name of the server where MySQL is installed

Port: MySQL Port

Database: Name of the database that already exists or will be created on the MySQL server

Userid: Provide a userid that has access to create a database schema

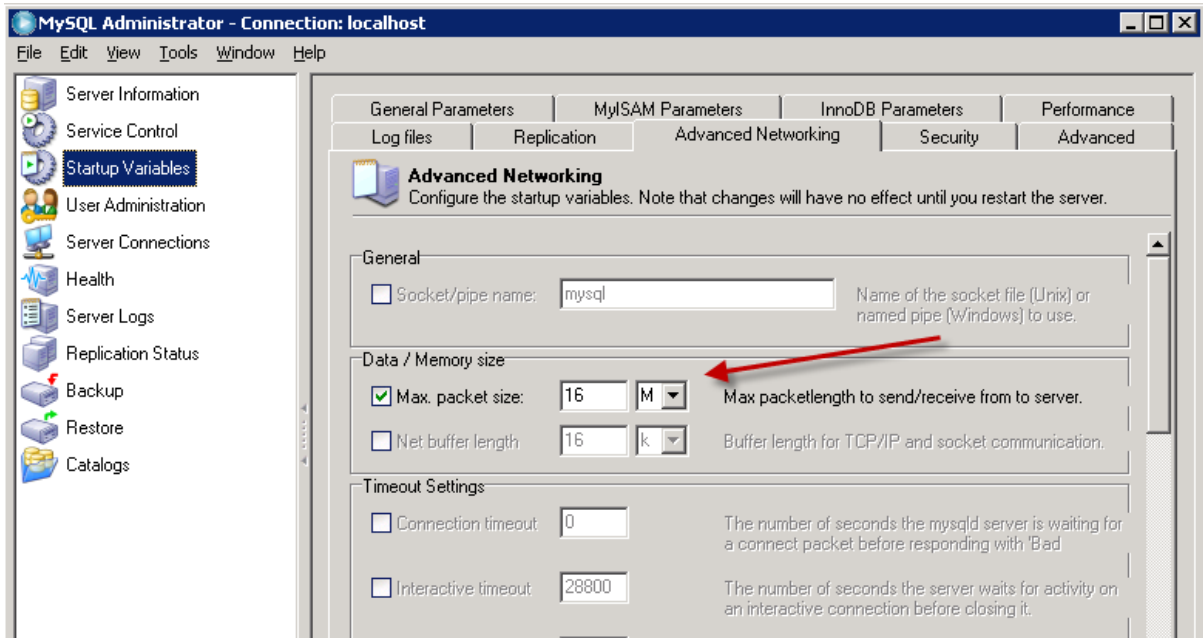
Password: Password for the specified user

Press the Updates Settings button to save the settings

Security Information is encrypted before being saved

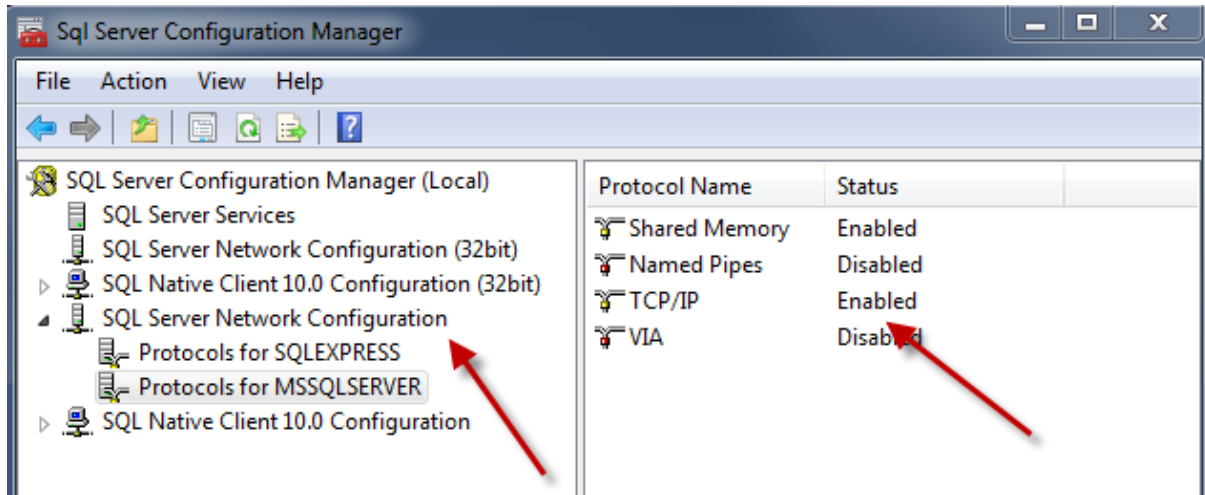
MySQL Server Settings

Some of the report templates use large bitmaps. For the transmission of these large objects the "Max. Packet Size" needs to be modified as shown here

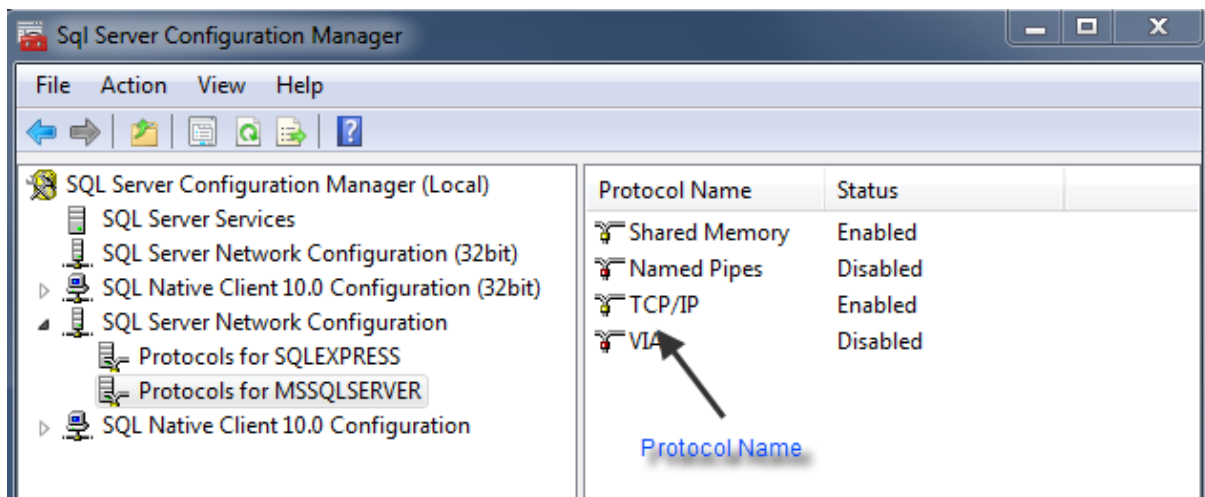


Microsoft SQL Server

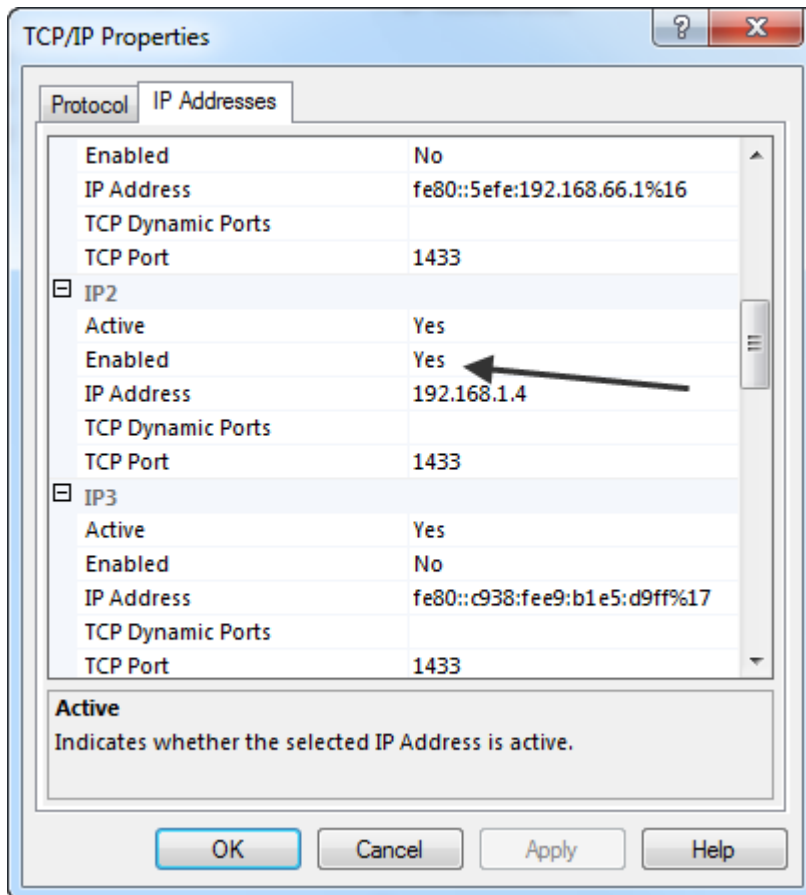
TSM Studio Server connects to SQL Server using a TCP/IP connection. To ensure that SQL Server is setup to use TCP start up SQL Server Configuration Manager and check the Network Configuration which should have TCP/IP Enabled.



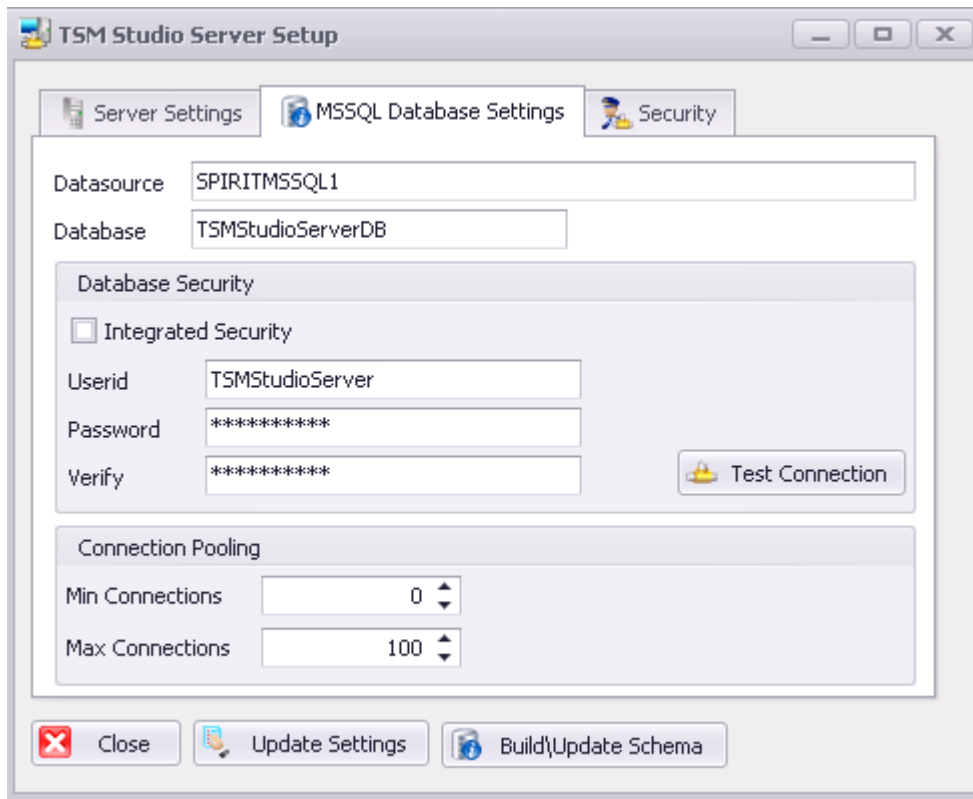
Then double click on the TCP/IP Protocol Name



This will display the TCP/IP Properties dialog. Select the IP Addresses tab and sure that TCP/IP is enabled for the IP addresses that will be used to connect to the SQL Server instance.



Next setup TSM Studio Server to communicate with SQL Server



Datasource: Enter the IP Address or DNS name of the database server

Database: Name of the database that already exists or will be created on the MySQL server

Integrated Security: Check this option to all TSM Studio Server to connect to the database using the same userid as is being used to start the TSM Studio Sever service. Userid and password fields will be disabled if this option is checked

Userid: Enter the a userid to connect to the database

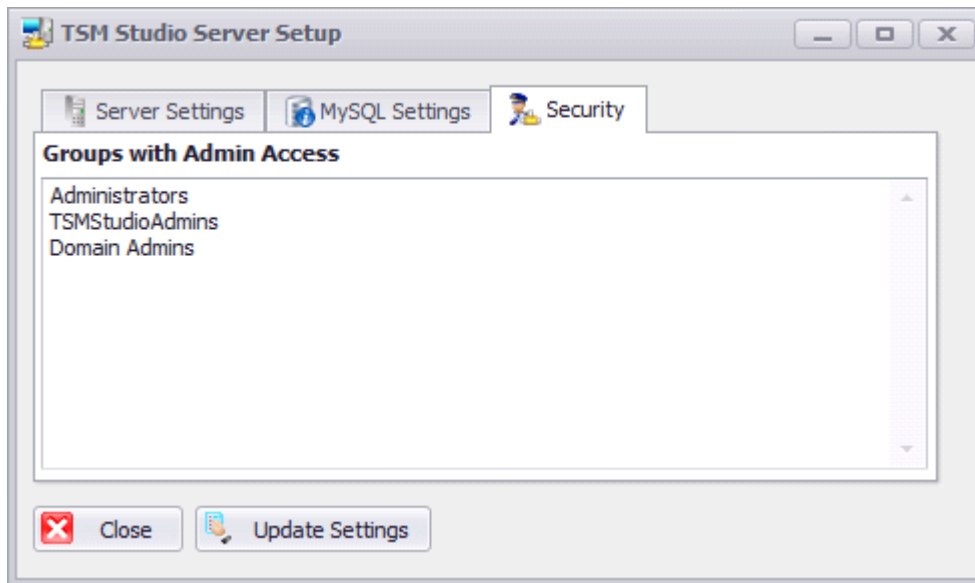
Password: Enter the password for the specified userid

The userid needs to have access to create the database if it does not exist and to create the schema.

Press the Updates Settings button to save the settings

Use the Test Connection button to verify connectivity to MSSQL Server

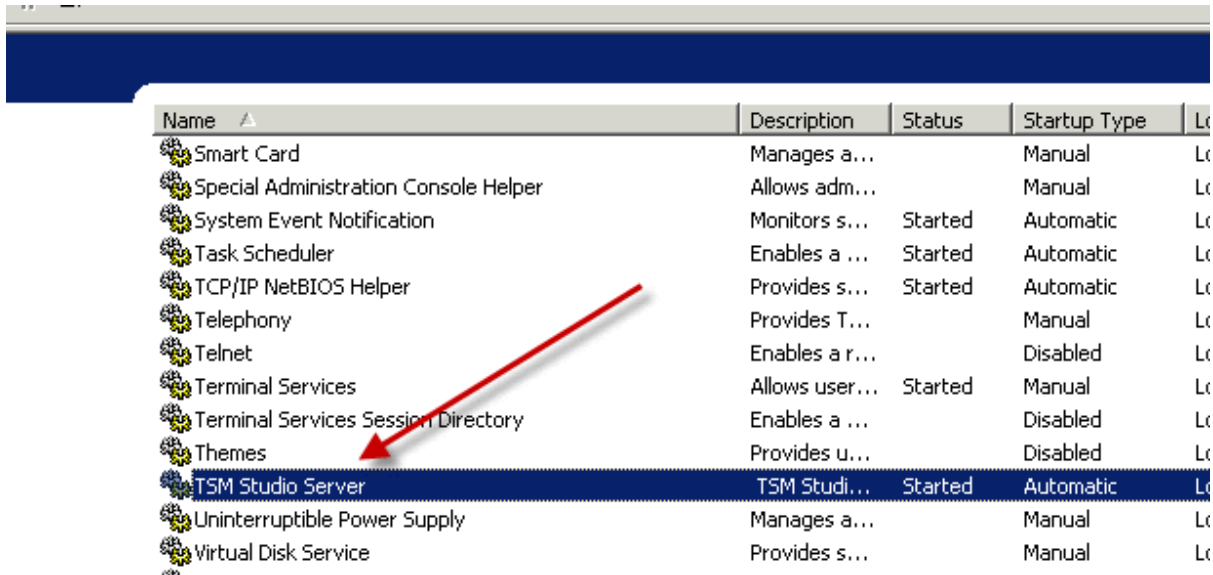
TSM Studio Server Security



Add the windows groups that will have access to TSM Studio Server. These groups can be local windows groups or domain groups

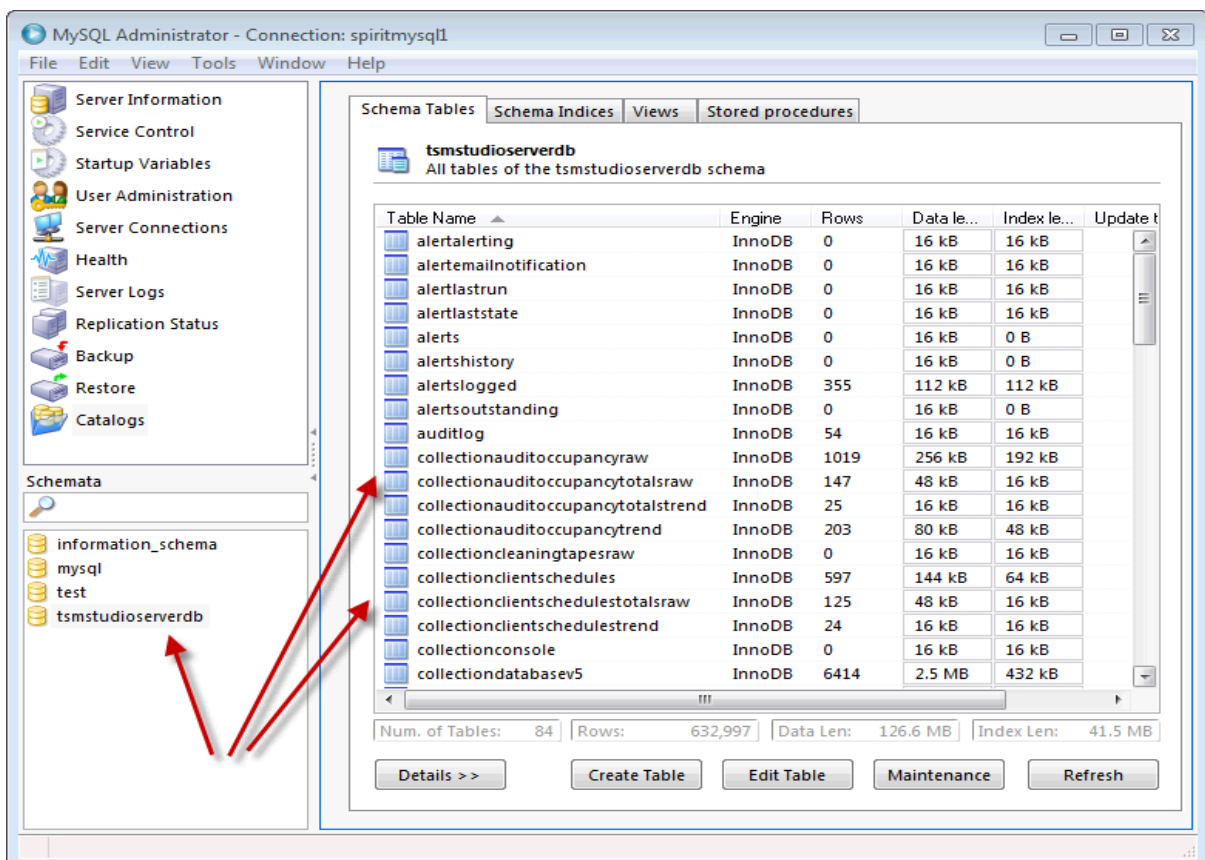
Starting TSM Studio Server

After configuring TSM Studio Server start the service

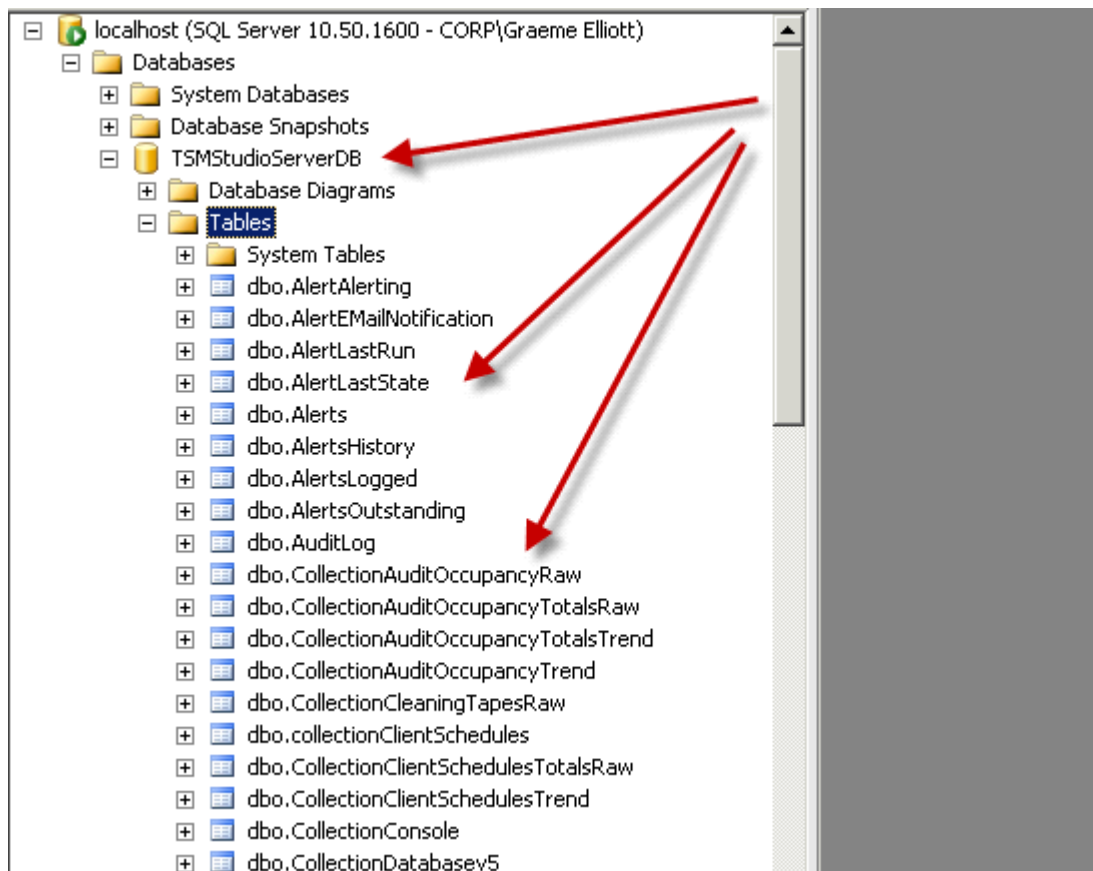


To verify that TSM Studio Server has started correctly firstly check for errors in the event log

If using **MySQL** check that the Database Schema has been created

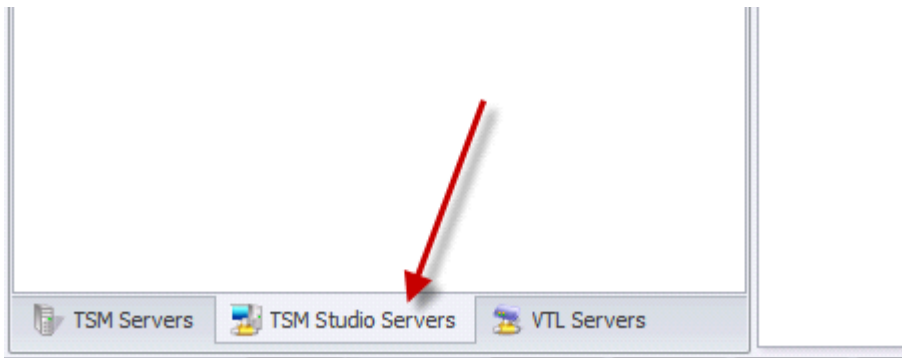


If using Microsoft SQL Server check using SQL studio



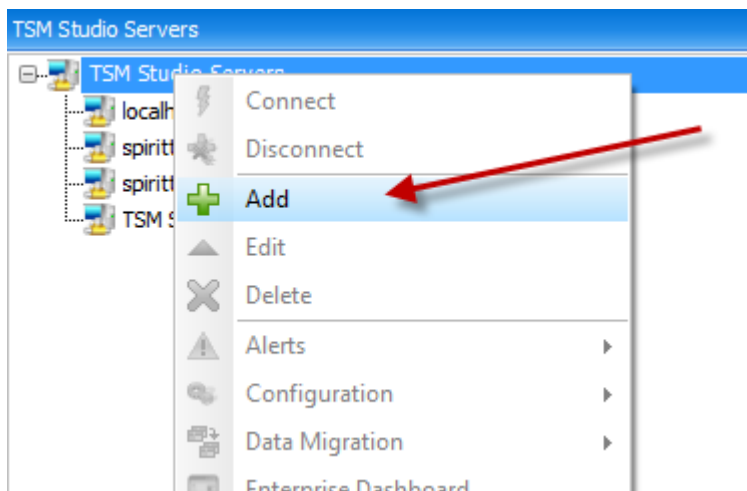
Adding a TSM Studio Server to TSM Studio

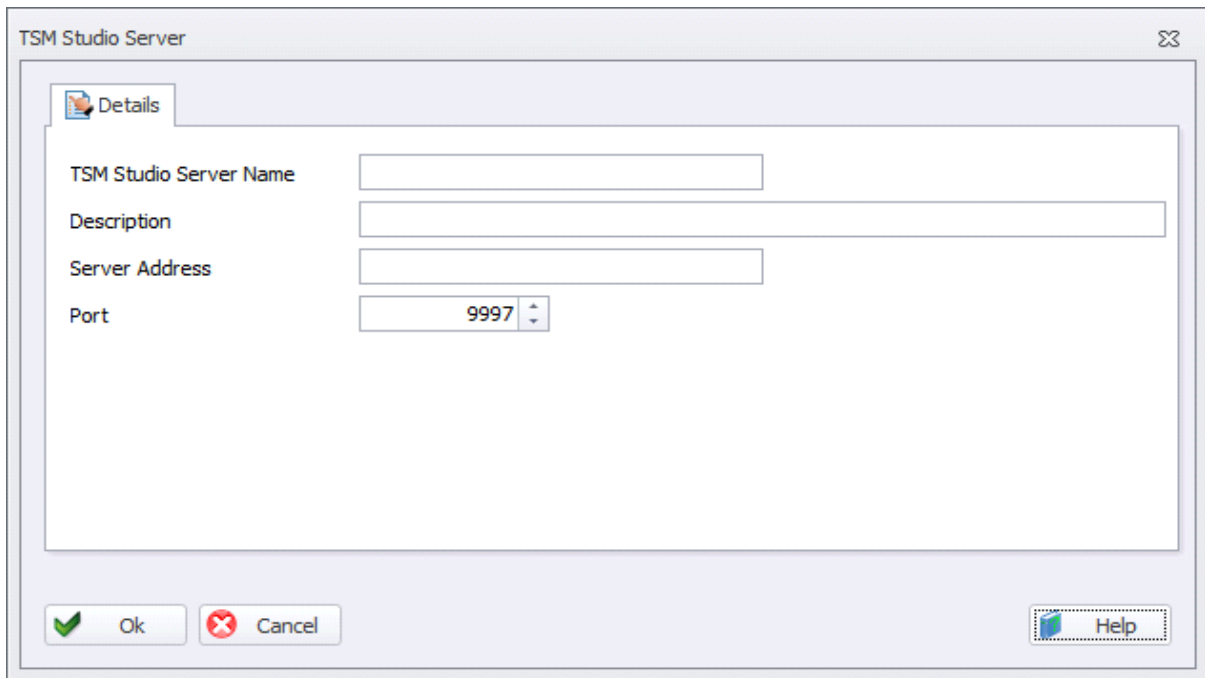
Change to the TSM Studio Server tab on TSM Studio



Right Click to bring up the TSM Studio Server context menu

Select TSM Studio Server → Add





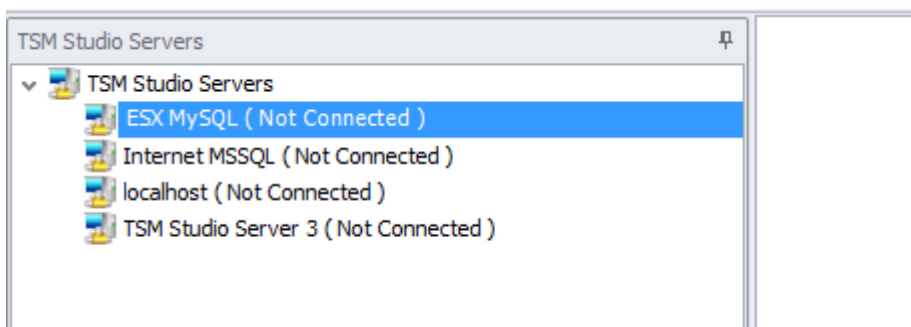
TSM Studio Server Name: A Name to identify this TSM Studio Server

Description: Optional Description for the TSM Studio Server

Server Address: Enter IP Address or DNS name of the TSM Studio Server

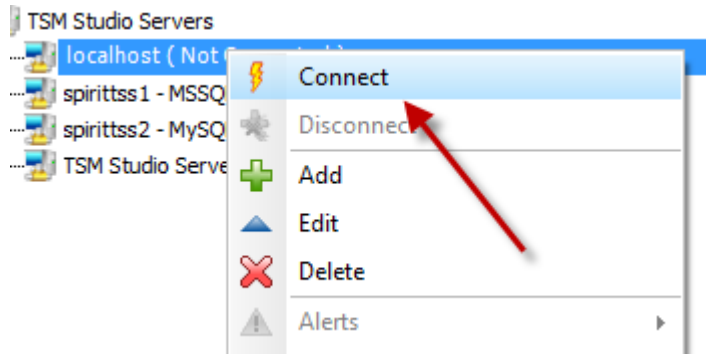
Port: Use the same port as specified when running the TSM Studio Server configuration

The new Server will now appear in the list of TSM Studio Servers

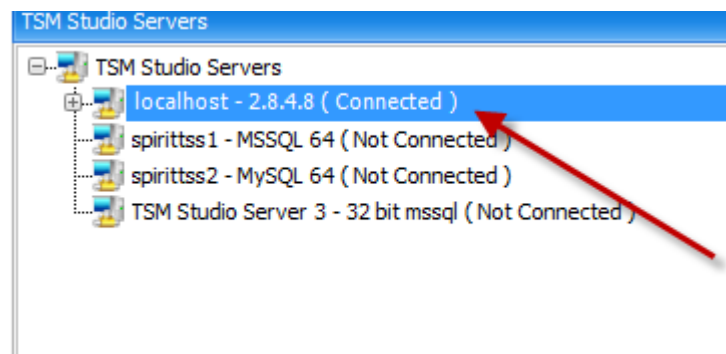


Connecting to a TSM Studio Server

There are two methods to connect to a TSM Studio Server, either double click on the TSM Studio Server or right click to access the TSM Studio Server context Menu and select TSM Studio Server→Connect



Once connected the TSM Studio Server status will change to connected

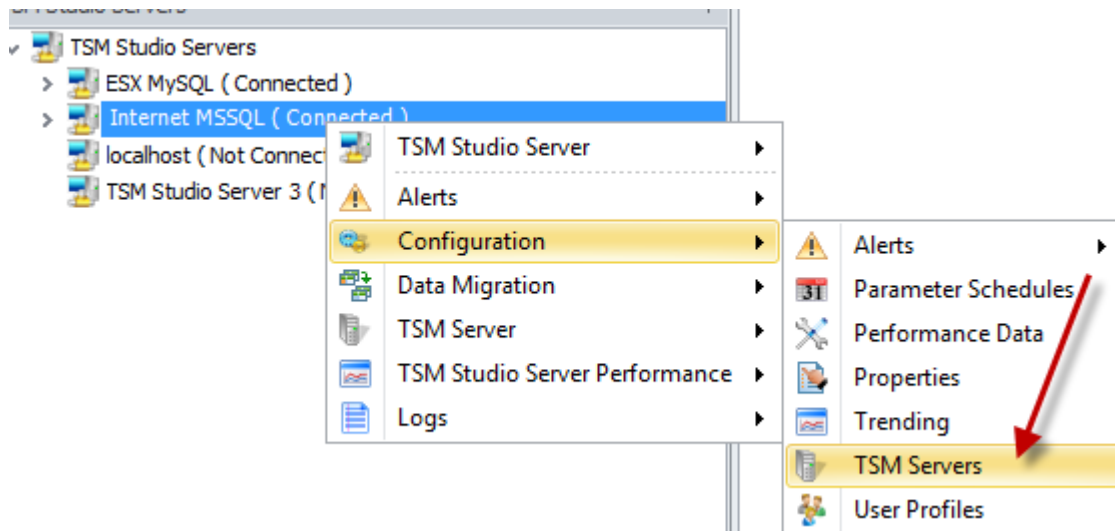


Also the version of TSM Studio Server is displayed, always ensure that the versions of TSM Studio and TSM Studio Server are the same.

Importing TSM Server definitions from TSM Studio into TSM Studio Server

To import the definitions that have already been created in TSM Studio into TSM Studio Server open the TSM Servers configuration dialog.

Configuration → TSM Servers



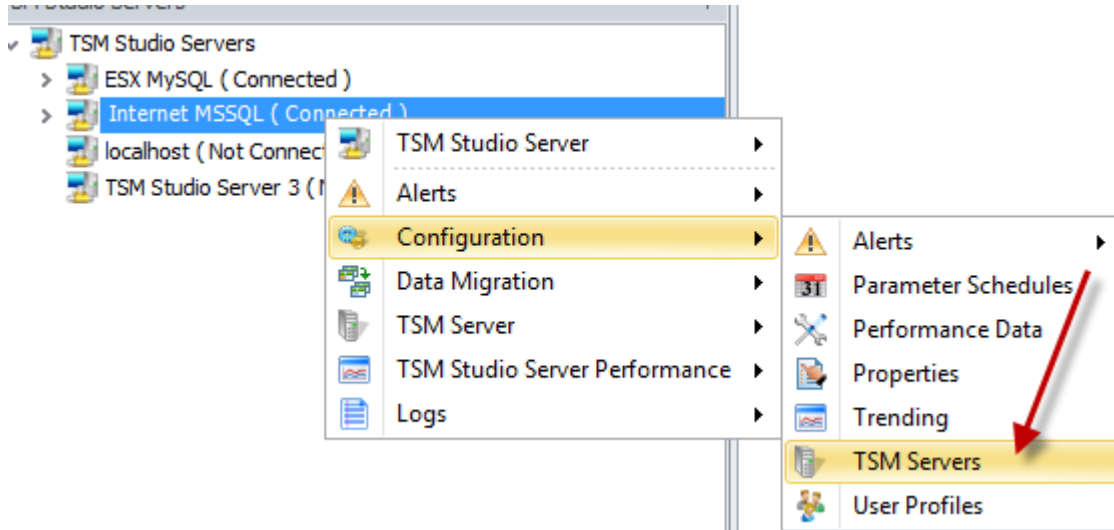
Choose the Import from TSM Studio toolbar option



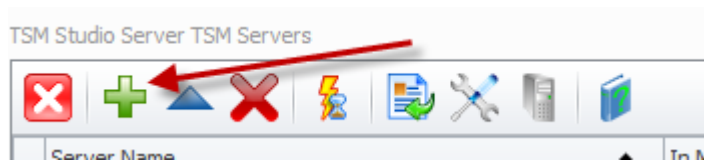
The Definitions from TSM Studio will now be imported in TSM Studio Server.

Adding TSM Servers in TSM Studio Server

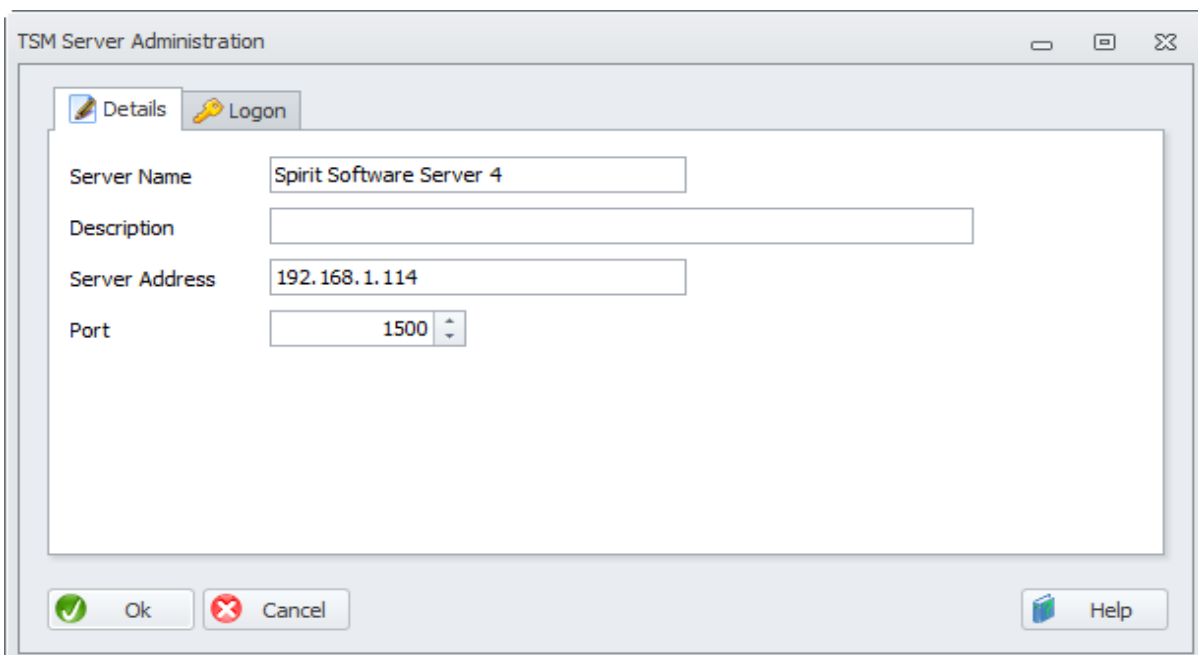
There are two ways to add new TSM Servers to TSM Studio Server. The first option is to start the TSM Servers configuration dialog



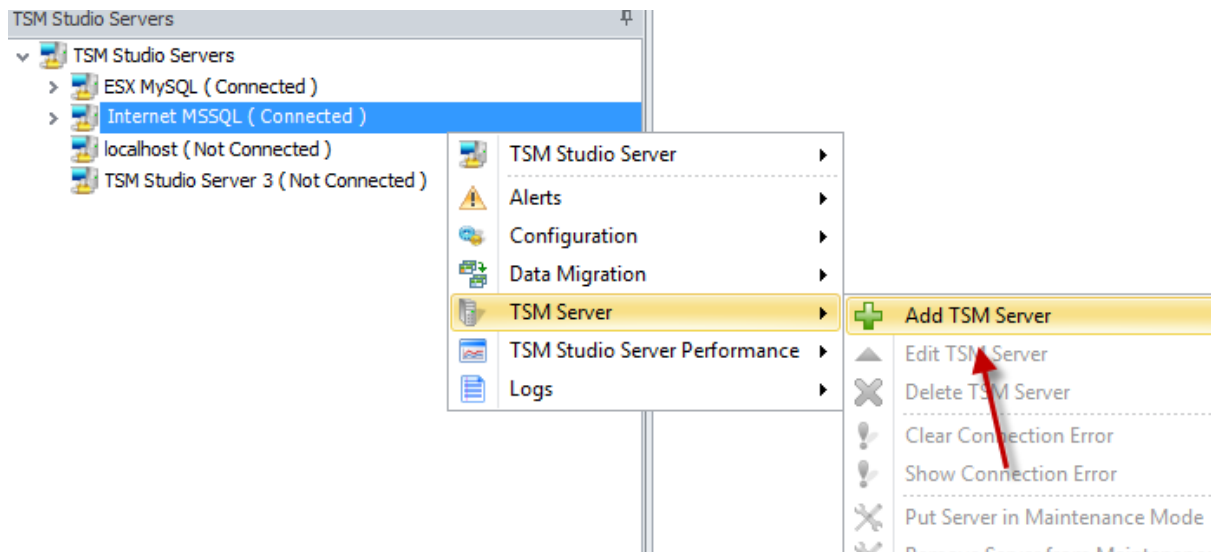
Press the add TSM Server toolbar icon



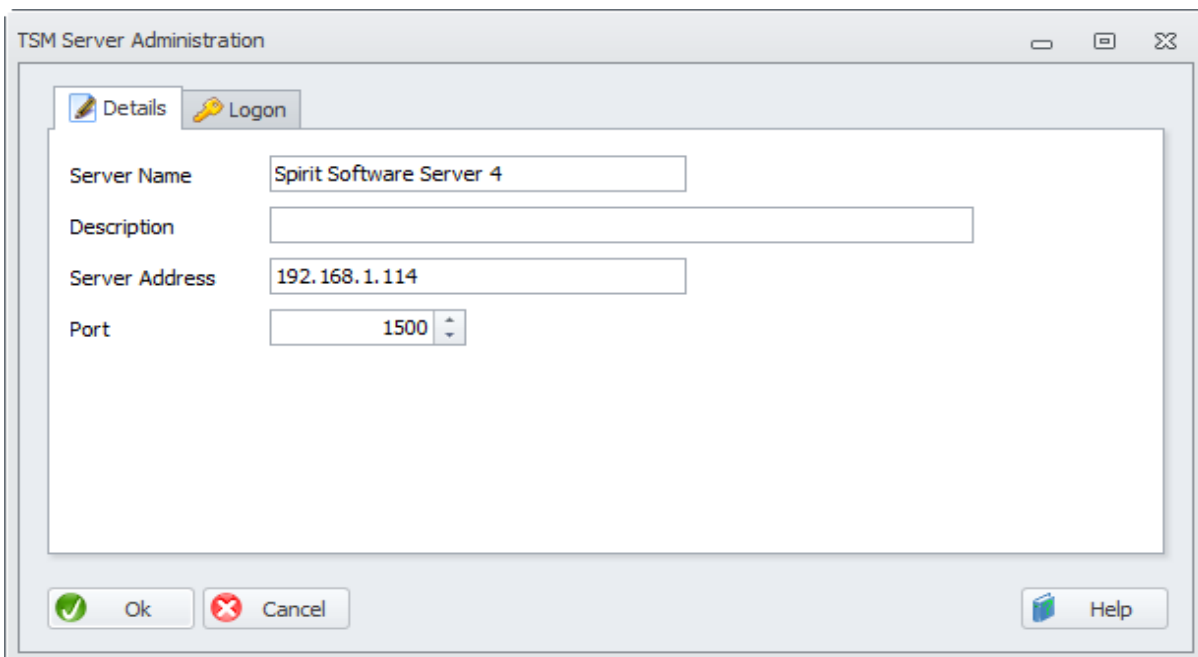
This will start the TSM Server Administration dialog. Just add the definitions like in TSM Studio



The second way to add a TSM Server to TSM Studio Server is to select TSM Servers→Add TSM Server menu option



This will start the TSM Server Administration dialog.



Licensing TSM Studio Server

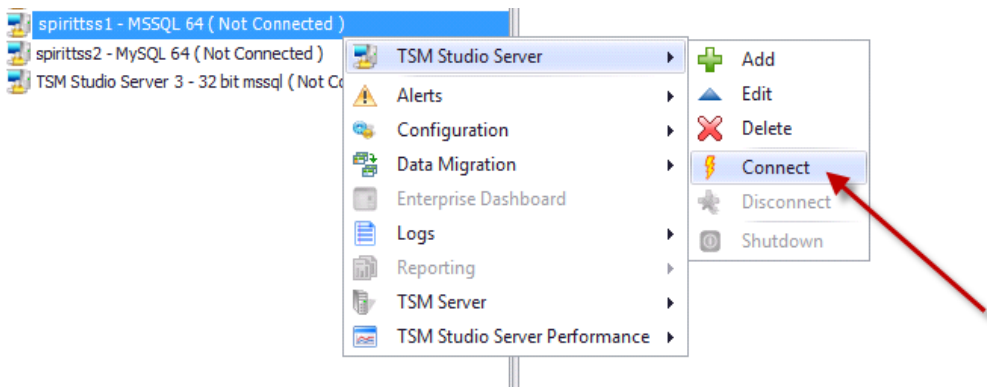
Each Tivoli Storage Manager Server that is to be defined to TSM Studio Server must be licensed. Licenses can be purchased from one any of the Spirit Software product resellers or from the Spirit Software website (<http://www.spiritsoftware.biz>).

TSM Studio Server requires a licensed version of TSM Studio to function

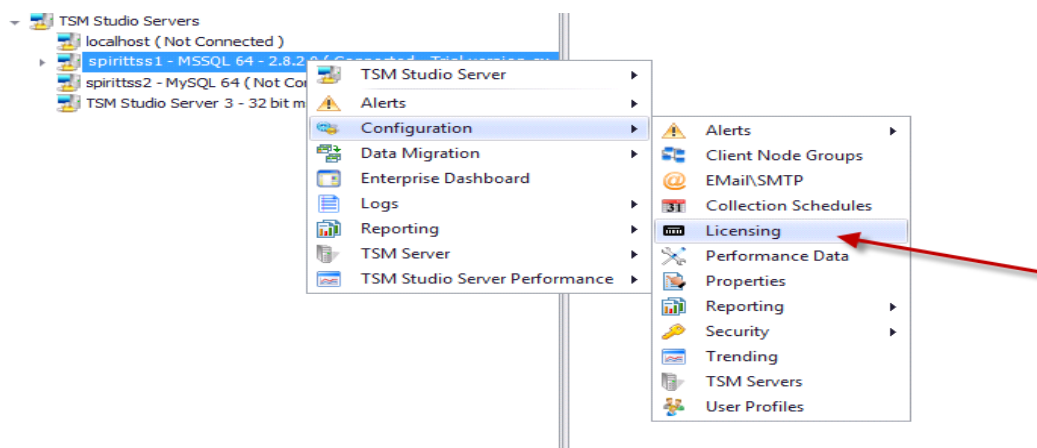
After licensing has been applied, any TSM Server that is not licensed in TSM Studio Server will not collect data and will not be available in any reports, alerting or analysis.

To add new licenses to TSM Studio Server use the following steps.

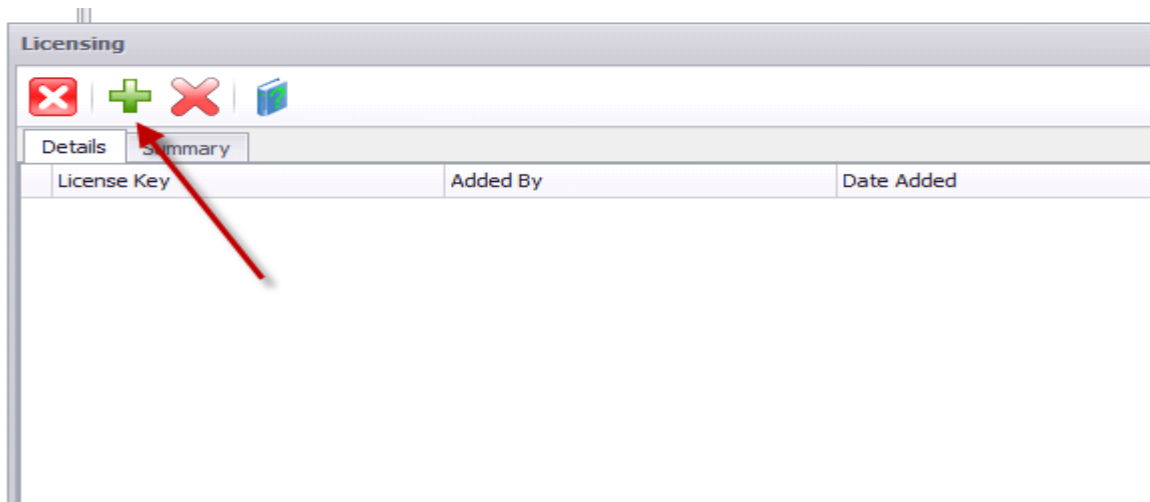
1. Log on to TSM Studio Server using TSM Studio



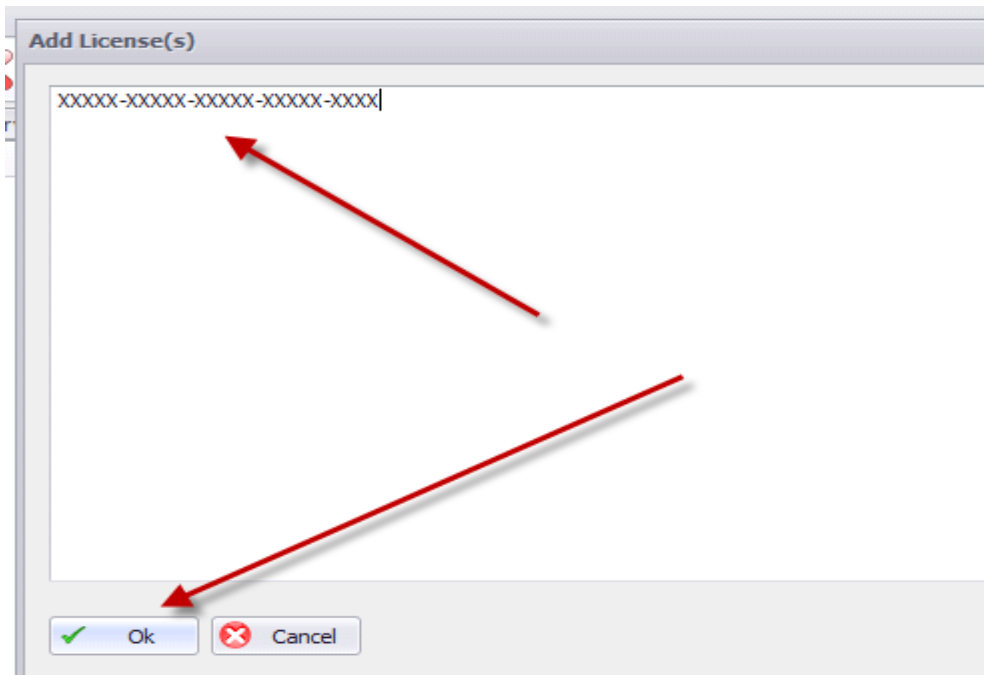
2. Choose Configuration → Licenses



3. Choose Add Licenses from the toolbar

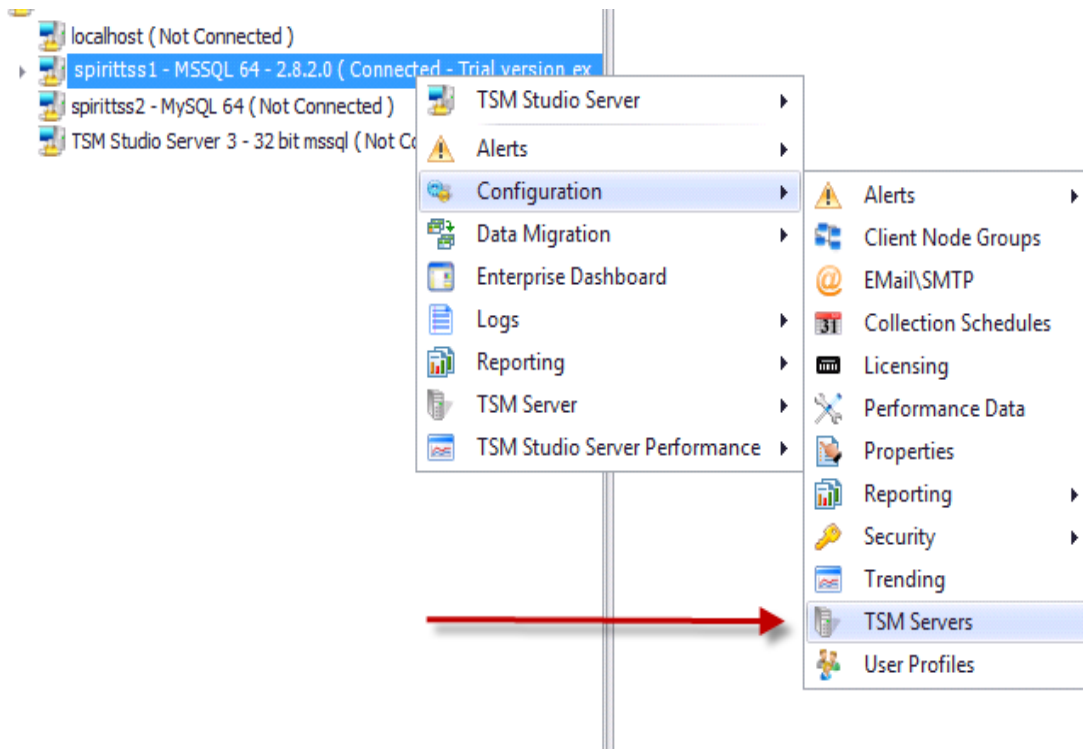


4. Enter the license codes that have been purchased



To view and choose which TSM Servers are licensed

Choose Configuration → TSM Servers



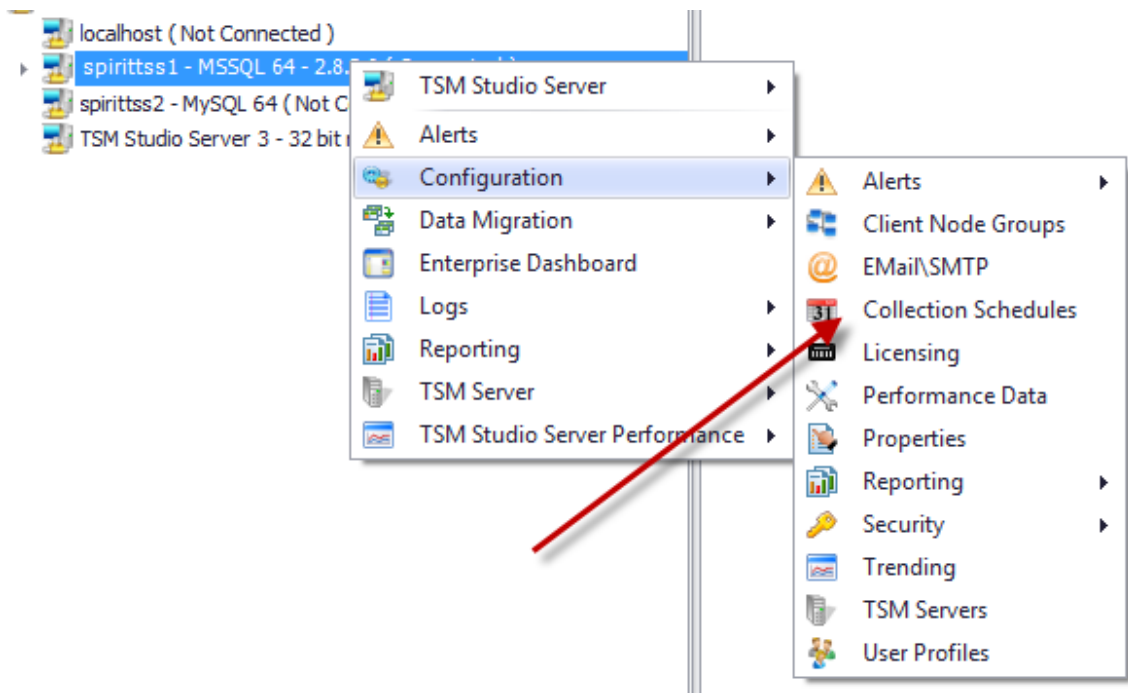
TSM Studio Server TSM Servers

Server Name	Licensed	In Maint Mode	Description	Address	Port
Spirit Software Server 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.111	1500
Spirit Software Server 10	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.120	1500
Spirit Software Server 11	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.121	1500
Spirit Software Server 13	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.123	1500
Spirit Software Server 14	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.124	1500
Spirit Software Server 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.112	1500
Spirit Software Server 3	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.113	1500
Spirit Software Server 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.114	1500
Spirit Software Server 5	<input checked="" type="checkbox"/>	<input type="checkbox"/>		spirittsm5	1500
Spirit Software Server 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>		spirittsm6	1500
Spirit Software Server 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.117	1500
Spirit Software Server 8	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.118	1500
Spirit Software Server 9	<input checked="" type="checkbox"/>	<input type="checkbox"/>		192.168.1.119	1500

Scheduling Parameter Collection

To start collecting data from the TSM Servers in the environment the first step is to schedule the collection of the different TSM objects. This is accomplished from the parameters schedule dialog. By default all parameters are enabled for collection.

Right click on the TSM Studio Server and select Configuration→Collection Schedules



This will open the parameters schedule dialog

Parameter Name	Sub Name	Interval	Interval Type	Start Time	Last Run Date Time	Enabled	Retention
ActivityLog		1 Hours		12:48 AM	8/10/2011 4:48:10 PM	<input type="checkbox"/>	30
ActivityLog	Client Node Backup Statistics	1 Hours		12:48 AM	1/01/0001 12:00:00 AM	<input checked="" type="checkbox"/>	2555
ActivityLog	Missed Files	1 Hours		12:48 AM	31/08/2011 8:06:24 PM	<input type="checkbox"/>	222
AdminSchedule		1 Hours		8:00 AM	17/09/2011 1:57:39 PM	<input type="checkbox"/>	2555
AuditOccupancy		1 Days		12:00 AM	24/08/2011 12:00:02 AM	<input type="checkbox"/>	2555
ClientNodes		1 Days		12:00 AM	29/09/2011 9:59:32 PM	<input type="checkbox"/>	2555
ClientSchedule		1 Hours		8:33 AM	17/09/2011 1:54:04 PM	<input type="checkbox"/>	2555
ClientScheduleAssociations		1 Days		7:45 AM	3/10/2011 7:45:09 AM	<input checked="" type="checkbox"/>	0
Collocation		1 Days		7:55 AM	3/10/2011 7:55:09 AM	<input checked="" type="checkbox"/>	0
Database		15 Minutes		12:00 AM	31/08/2011 10:41:12 PM	<input type="checkbox"/>	2555
Drives		15 Minutes		12:00 AM	31/08/2011 10:41:12 PM	<input type="checkbox"/>	2555
DRMedia		1 Days		8:20 AM	19/09/2011 9:45:23 PM	<input type="checkbox"/>	0
FileSpaces		1 Days		12:00 AM	24/08/2011 12:00:02 AM	<input type="checkbox"/>	2555
> HealthCheckDataview		1 Days		8:00 AM	1/01/0001 12:00:00 AM	<input checked="" type="checkbox"/>	0
HeartBeat		5 Minutes		12:00 AM	31/08/2011 10:39:32 PM	<input type="checkbox"/>	2555
LibraryVolumes		30 Minutes		12:00 AM	31/08/2011 10:37:52 PM	<input type="checkbox"/>	2555
Log		30 Minutes		12:00 AM	31/08/2011 10:37:52 PM	<input type="checkbox"/>	2555
NodeData		1 Days		7:35 AM	26/09/2011 9:30:02 PM	<input type="checkbox"/>	2555
Occupancy		1 Days		12:00 AM	24/08/2011 11:12:02 PM	<input type="checkbox"/>	2555
Process		10 Minutes		12:00 AM	9/10/2011 11:19:46 AM	<input checked="" type="checkbox"/>	2555
Session		15 Minutes		12:00 AM	9/10/2011 11:19:46 AM	<input checked="" type="checkbox"/>	2555
Status		30 Minutes		12:00 AM	31/08/2011 10:37:52 PM	<input type="checkbox"/>	2555
StoragePools		1 Minutes		12:00 AM	31/08/2011 10:41:32 PM	<input type="checkbox"/>	2555
Summary		1 Hours		1:00 AM	4/10/2011 6:19:10 PM	<input type="checkbox"/>	2555
VolumeHistory		1 Days		7:45 AM	3/10/2011 7:45:09 AM	<input checked="" type="checkbox"/>	0
Volumes		1 Days		12:15 AM	24/08/2011 12:15:02 AM	<input type="checkbox"/>	2555
VolumeUsage		1 Days		8:35 AM	28/09/2011 7:56:12 PM	<input type="checkbox"/>	0

Parameter Name: The TSM Data being Collected

Sub Name: Some of the TSM data can be further processed for instance client node statistics can be gathered from the Activity log so whenever the Activity Log Parameter runs it will also gather Node Statistics Data.


Interval and Interval type define how often the collections will run

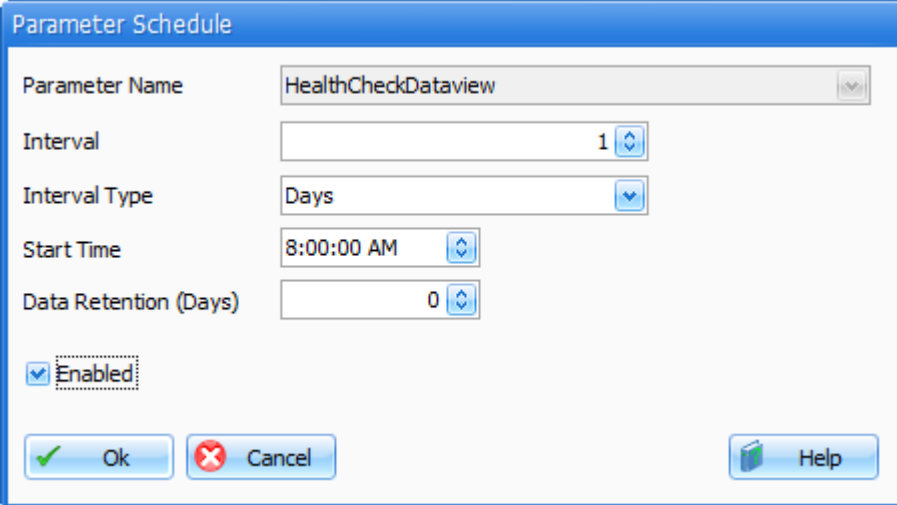
Start Time indicates when the collection will run

Last Run Date is the time of the last collection

Enabled: A collection will only run if enabled

Retention: How long to retain the data in the database, a value of 0 indicates to use the default of 90 days

To modify any of the Schedule click on the Edit  button in the toolbar



The image shows a dialog box titled "Parameter Schedule". It contains the following fields and controls:

- Parameter Name:** A dropdown menu with "HealthCheckDataview" selected.
- Interval:** A numeric input field with "1" and a spinner control.
- Interval Type:** A dropdown menu with "Days" selected.
- Start Time:** A time selection field with "8:00:00 AM" and a spinner control.
- Data Retention (Days):** A numeric input field with "0" and a spinner control.
- Enabled:** A checked checkbox.
- Buttons:** "Ok" (with a green checkmark), "Cancel" (with a red X), and "Help" (with a question mark icon).

Parameter Name: Choose the parameter to collect

Interval & Interval Type: The interval at which to collect the data

Initial Start Date Time: The start time for the first collection

Start Time: The time to start the collection

Data Retention: How long to keep the data in the database

Enabled: Check this to enable this schedule

Trending

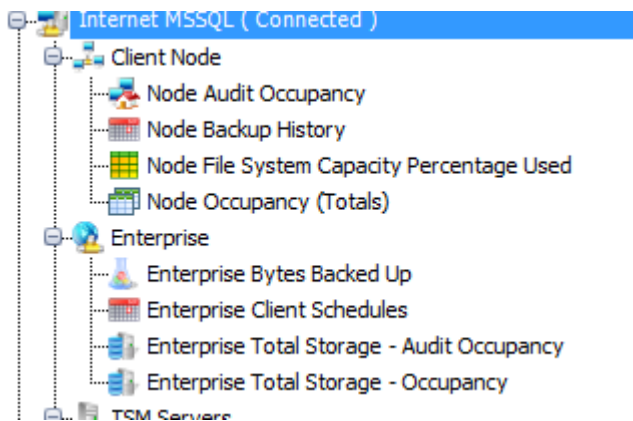
TSM Studio Server will roll up the raw collected data to Daily, Weekly and Monthly tables to provided trended charts.

TSM Studio Server Properties

Total Simultaneously Connections	<input type="text" value="50"/>
Total TSM Server Connections	<input type="text" value="1"/>
Trending Schedule	<input type="text" value="12:00:00 AM"/>
Raw Data Retention (days)	<input type="text" value="90"/>
Daily Trending Retention (days)	<input type="text" value="180"/>
Weekly Trending Retention (weeks)	<input type="text" value="52"/>
Monthly Trending Retention (months)	<input type="text" value="60"/>
Event Log Retention (days)	<input type="text" value="60"/>
TSM Studio Statistics (days)	<input type="text" value="30"/>

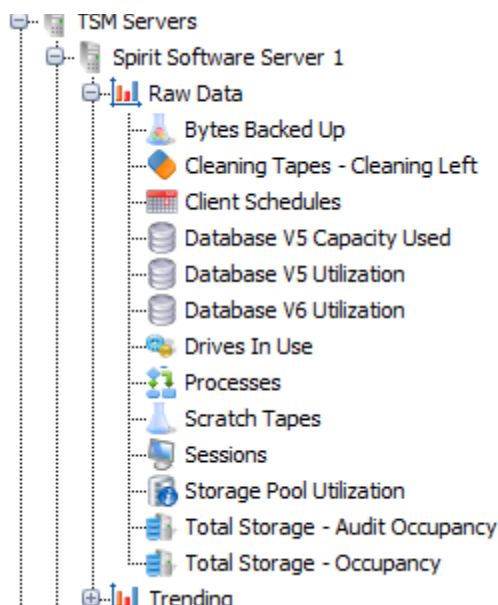
Viewing the TSM Studio Server Charts and Dataviews

Once parameters schedules have been setup it will then be possible to see the data that has been collected. Under the defined TSM Studio Server there are a number of Categories



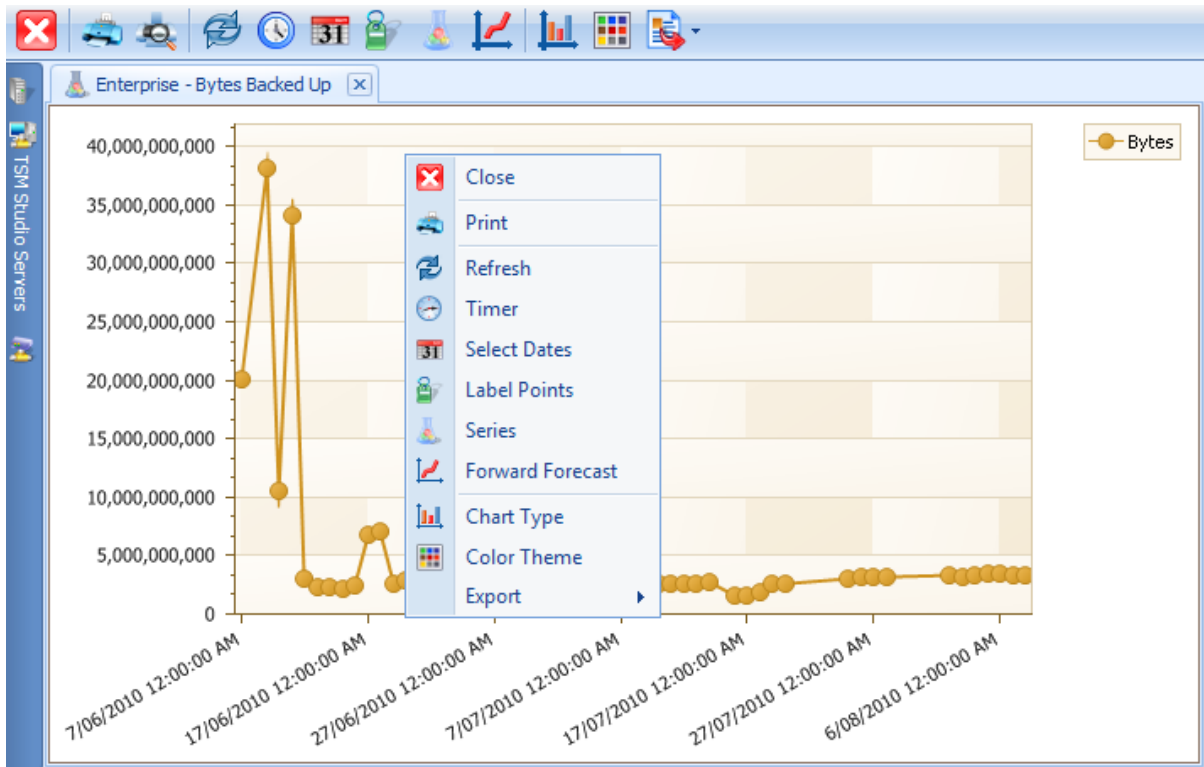
Under the Client Node category are a number of charts that will displayed details for the selected Client Node. Double Click any of the charts under this category and a dialog will be displayed from which a Client Node can be selected.

Under the Enterprise category are rolled up totals for the TSM Servers that have been defined to TSM Studio Server.



Under the TSM Servers category, charts can be viewed for the raw data as is it collected. Also Trended data for each server can also be views under the Trending section

Using Charts



When a chart is double clicked a Chart view is opened as above (this example is also showing the context menu that can be opened by right clicking on the chart)

Print: Print the chart (also offers a number of export to different image types)

Refresh: Refresh the data on the chart

Timer: Automatically refresh the data on the chart

Select Dates: Change the date range of data shown on the chart

Label Points: Displays labels on each point in the chart

Series: Filter the data that is shown on the chart

TSM Servers: (Only available on charts opened from the TSM Server section.) Add data from another TSM Server to the chart

Forward Forecast: Estimate the values for some future date

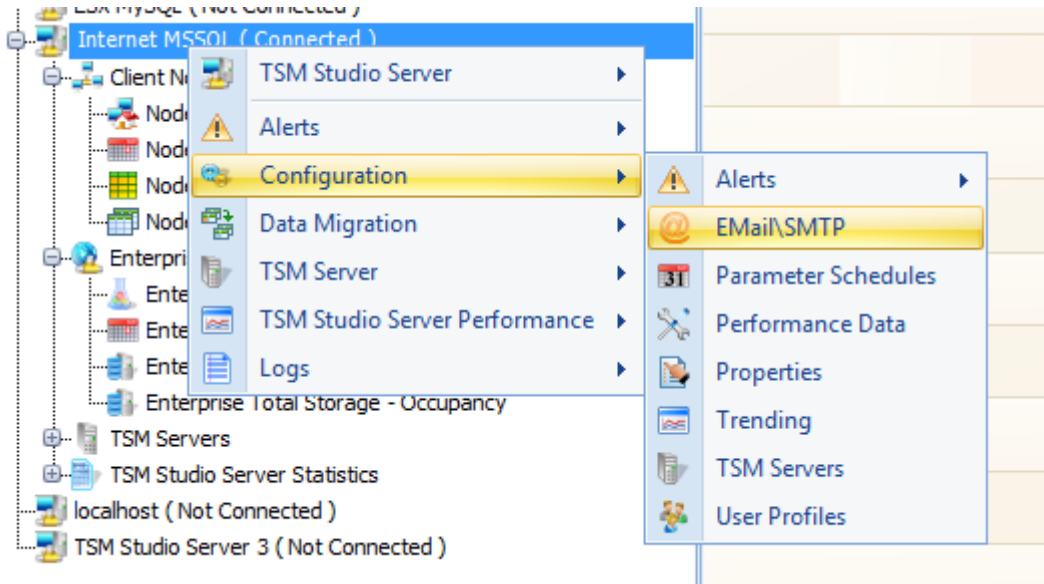
Chart Type: Choose the type of chart for display data (There are a number of 2D and 3D charts)

Color Theme: Choose a color them for the points in the chart

Also for a number of the charts it is possible to double click on a point or bar to open a Dataview displaying the data making up totals and points in the chart.

Setting up SMTP

Goto Configuration→Email\SMTP

A screenshot of the 'Email Configuration' dialog box. The dialog has a title bar with 'Email Configuration' and a close button. It contains the following fields and controls:

- SMTP Host Address: text box containing 'mailhost.com'
- Port: spinner box set to '25'
- From Address: text box containing 'support@spiritsoftware.biz'
- Authentication Required: checkbox (unchecked)
- Userid: text box
- Password: text box
- Verify: text box
- Buttons: 'Ok' (with a green checkmark icon), 'Cancel' (with a red X icon), 'Send Test Email' (with an envelope icon), and 'Help' (with a question mark icon).

SMTP Host Address: Enter the address of the SMTP gateway

Port: Enter the port of the SMTP gateway (25 is default)

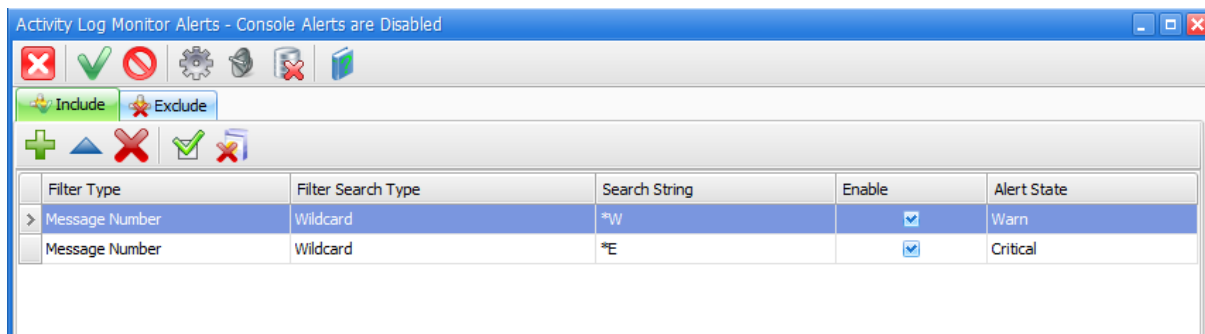
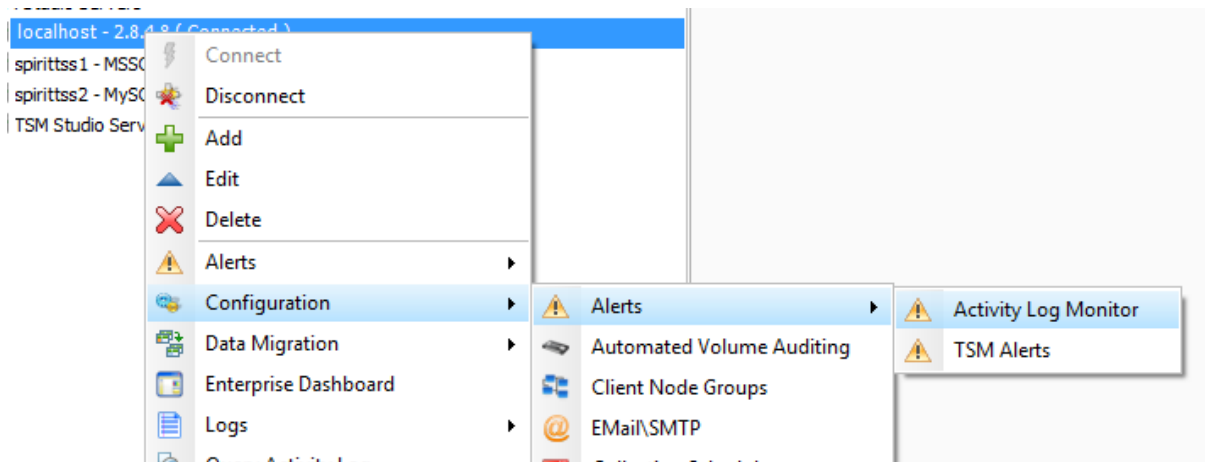
From Address: The email address that will appear the from field

If authentication is required to access the SMTP gateway then enter the authentication details

Alerts: Activity Log Monitor

When Activity Log Monitor Alerts are enabled it is possible to consolidate all the console messages from all TSM Servers defined to TSM Studio Server into a single view. These messages can be filtered to just show messages that are significant to your environment; additionally these messages can be published via a number of methods including email to selected recipients.

To enable Activity Log Monitor Alerts select Configuration→Alerts→Activity Log Monitor



Enable Alerts (Heading will displayed that Activity Log Monitor Alerts are Enabled)



Disable Alerts (Heading will displayed that Activity Log Monitor are Disabled)



Alert Settings



Alert Notification Settings

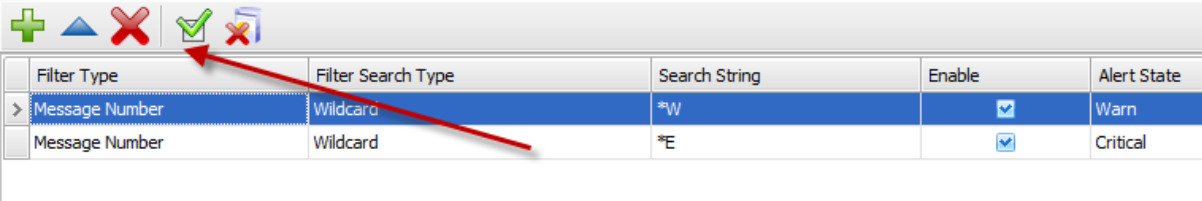


Clear Alerts Database


Activity Log Alert Filters

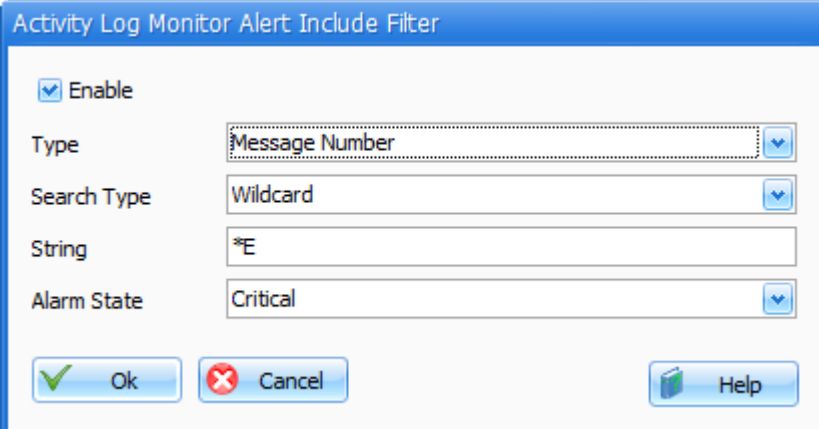
Activity Log Filters can be added to choose which messages will be searched for in the activity log. The Exclude Filter overrides any filter set in the Include Filter.

Use the Toolbar located in each section of the Filters to add\edit\delete\enable\disable filters. Only enabled filters will be applied to Activity Log messages



Filter Type	Filter Search Type	Search String	Enable	Alert State
> Message Number	Wildcard	*W	<input checked="" type="checkbox"/>	Warn
Message Number	Wildcard	*E	<input checked="" type="checkbox"/>	Critical

To Add Alerts to be included use the  button in the Include Tab



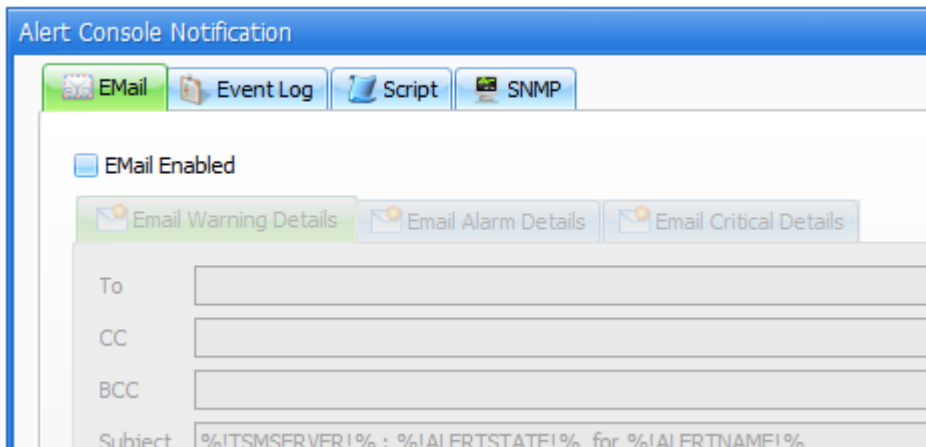
Type: Filter by Message Number or Message Text

Search Type: How the Message Number or Message Text will be filtered

String: The string to filter on

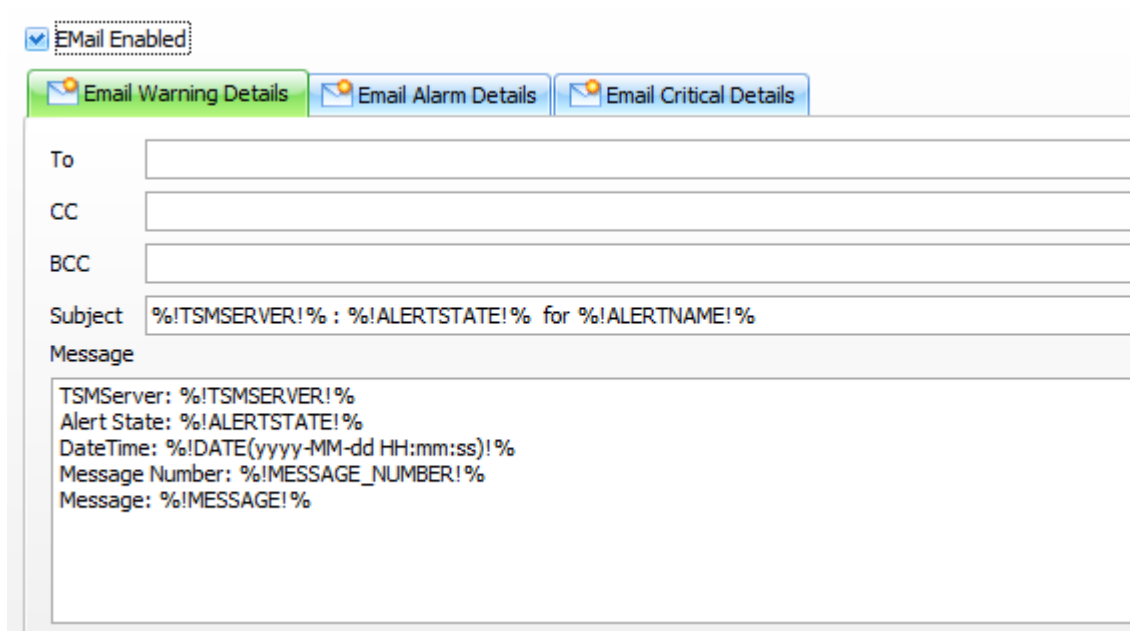
Alarm State: If the filtered string is found this is the Alarm State that will be displayed

Setting up Activity Log Notification



There are four notification methods available in TSM Studio Server. Sending of the Alert via Email, Logging the Alert to the Windows Application Event Log, running of a script when the alert occurs and sending the alert via SNMP to a SNMP destination.

To define Email Alerts select the Email Enabled checkbox

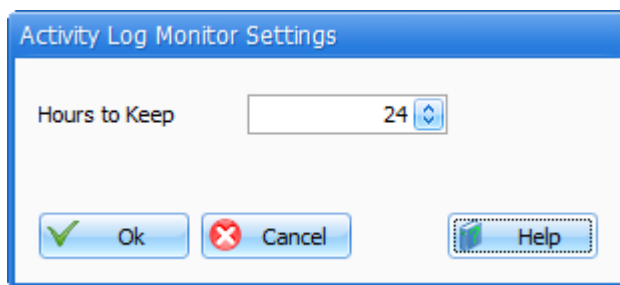


Setup the Email Details for the different Alarm States (Warning, Alarm and Critical). The Message can be left blank and will be auto filled by TSM Studio

Note: Make sure you have configured your Console Alerts Filter correctly or you could receive hundreds of emails

A Number of substitution string are available in the subject and body of the email. See the online help for more details

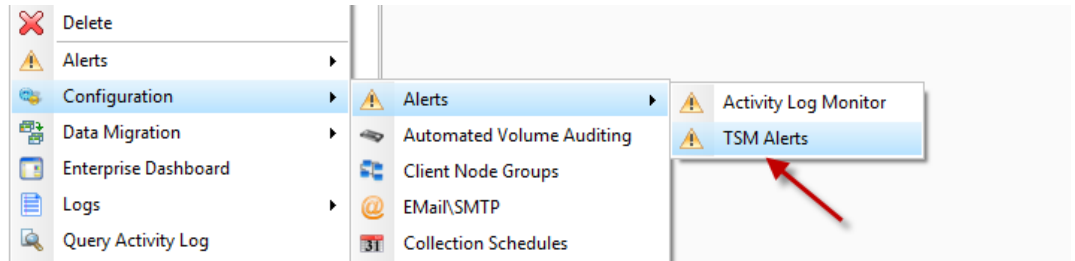
Activity Log Monitor Settings



Activity Log Alerts are stored in the TSM Studio Server database and will remain there until either cleared from the Alerts console or for the time period specified in the Activity Log Settings dialog.

Using TSM Alerts

TSM Alerts provides alerts specifically targeted for known TSM issues. There is currently over 50 targeted alerts. Configuration of these alerts is accomplished from Configuration→Alerts→TSM Alerts



This displays the list of available alerts

A screenshot of the 'TSM Studio Server Alerts' window. The window title is 'TSM Studio Server Alerts'. Below the title bar is a toolbar with icons for delete, up, down, check, and settings. The main area contains a table with the following data:

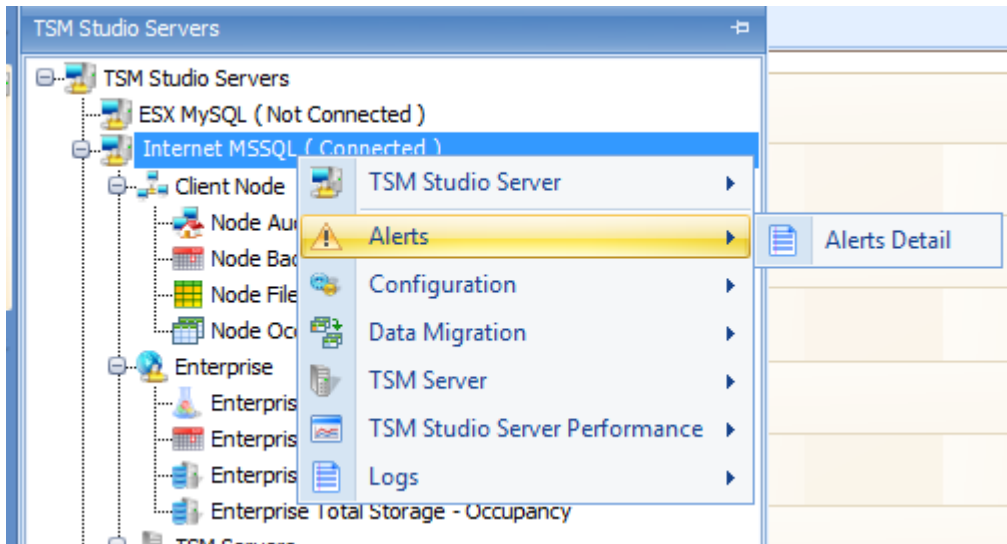
Alert Name	Description	Enabled	Start Time
> ACSAPI - VOLUME NOT IN LIBRARY	ACSAPI - VOLUME NOT IN LIBRARY	<input type="checkbox"/>	12:00
Admin Session Count	Count of Admin Sessions	<input type="checkbox"/>	12:00
Check for Failed Client Schedules - By Domain and Node Name	Check for Failed Client Schedules - By Domain and Node Name	<input type="checkbox"/>	12:00
Check for Failed Client Schedules - By Scheduled Start	Check for Failed Client Schedules - By Scheduled Start	<input type="checkbox"/>	12:00
Check for Library Volumes Checked to Polaris and to the Volume	Check for Library Volumes Checked to Polaris and to the Volume	<input type="checkbox"/>	12:00

By default all alerts are disabled. Each alert can be individually enabled and a polling interval set to determine how often to check if the alert has been triggered.

For more information on these types of Alerts see the TSM Studio Server Alerts documentation on our website.

Using the TSM Studio Alerts Console

To access the Console Alerts view select Alerts→Alerts Detail



This will display the Console Alert View

A screenshot of the Console Alert View. The window title is 'Alerts'. The table below shows a list of alerts with columns for TSM Server Name, Alert State, Logged, Last Updated, Status, and Message. The table has 7 rows of data.

TSM Server Name	Alert State	Logged	Last Updated	Status	Message
Spirit Software Server 1	Warn	1/08/2010 9:23:25 PM	2/08/2010 9:23:25 AM	Logged	ANR2121W ATTENTION: Mor
Spirit Software Server 4	Warn	2/08/2010 6:15:56 PM	2/08/2010 6:15:56 PM	Logged	ANR0568W Session 81 for ad
Spirit Software Server 6	Alarm	3/08/2010 9:05:19 PM	3/08/2010 9:05:19 PM	Logged	ANR0568W Session 1571 for
Spirit Software Server 1	Alarm	7/08/2010 12:08:57 PM	7/08/2010 12:08:57 PM	Logged	ANR3007E QUERY PROFILE:
Spirit Software Server 5	Warn	2/08/2010 7:00:07 PM	2/08/2010 7:00:07 PM	Logged	ANR0568W Session 1 for adn
Spirit Software Server 5	Alarm	3/08/2010 12:09:14 PM	3/08/2010 12:09:14 PM	Logged	ANR2939E The reference 'PR

The Console Alert View will show all the alerts that have been defined in the Include Filter. Using the toolbar options, the colours of the alerts and fonts can be changed. Using the timer option from the toolbar, the frequency that the Console Alert View is updated. The last update time is shown at the bottom of the Console.

Spirit Software Server 6	Alarm	3/08/2010 8:59:22
Spirit Software Server 4	Alarm	2/08/2010 7:41:12
Spirit Software Server 2	Alarm	2/08/2010 6:11:02
Spirit Software Server 5	Alarm	3/08/2010 12:53:3
Spirit Software Server 1	Alarm	1/08/2010 11:04:0
Spirit Software Server 5	Alarm	3/08/2010 8:59:22

Last Update - 8/08/2010 7:23:17 PM

Right click on the context menu to quickly exclude and clear messages from the console.

7/08/2010 12:08:57 PM	Logged	ANR3007E QUERY PROFILE: THE SERVER op
2/08/2010 7:00:07 PM	Logged	ANR0568W Session 1 for admin ADMIN (Win
3/08/2010 12:09:14 PM		
3/08/2010 12:39:02 PM		
3/08/2010 7:24:37 PM		
5/08/2010 7:39:44 PM		

Clear: Clears the selected messages from the console

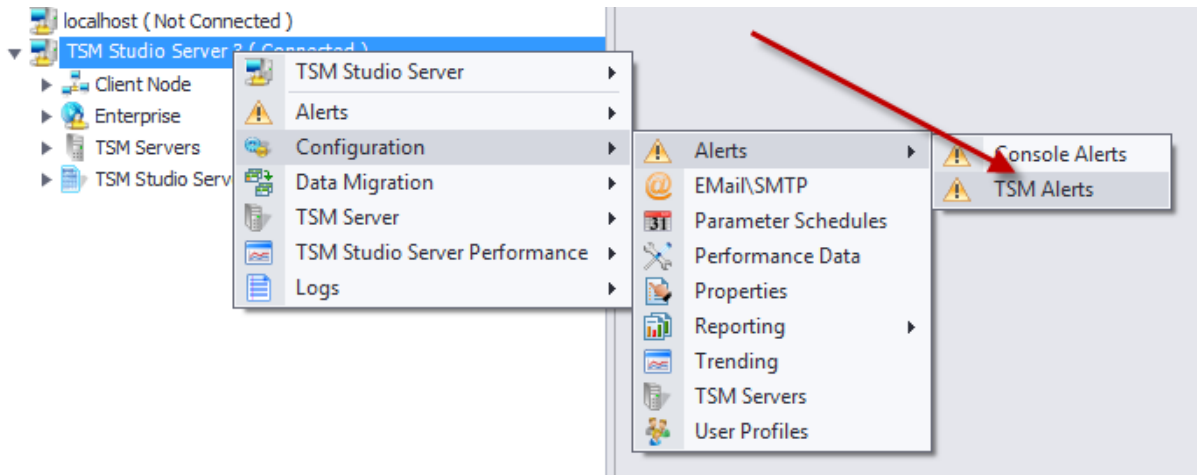
Exclude Console Message Number: Add the selected Message Number to the exclude list

Exclude the Console Message: Add the selected Message Text to the exclude list

Advanced Alerting

Advanced alerting provides alerting for TSM specific conditions. Each individual alert can be enabled\disabled and setup for email.

The Advanced Alerting configuration is accessed via the configuration menu




Alert Name	Description	Enabled	Start...	Inte...	Per...	Warn	Alarm	Critical	E-Mail Enabled
Admin Session Count	Count of Admin Sessions	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Check for Failed Client Schedules	Check for Failed Client Schedules	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Check for Library Volumes Changed to Priv...	Check for Library Volumes Change...	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Check for Missed Client Schedules	Check for Missed Client Schedules	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Client Nodes Not Associated To Schedule	Client Nodes Not Associated To Sc...	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Client Nodes Not Communicating with TSM	Check the last time the client node...	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Client Nodes Not in Collocation Group	Client Nodes Not in Collocation Group	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Database Utilization	Check the Database Utilization	<input type="checkbox"/>	12:00		1 Hours	85	90	95	<input checked="" type="checkbox"/>
Drives Unavailable	Check if there are any drives unav...	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Failed Admin Jobs	Failed Admin Jobs	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Last Database Backup	Check the last time of the last Dat...	<input type="checkbox"/>	12:00		1 Hours	24	36	48	<input checked="" type="checkbox"/>
Library Paths Unavailable	Alert when a Library Path become...	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Long Running Node Sessions	Check for Node Sessions that hav...	<input type="checkbox"/>	12:00		1 Hours	8	12	24	<input checked="" type="checkbox"/>
Long Running Process	Check for Long Running Processes...	<input type="checkbox"/>	12:00		1 Hours	4	8	12	<input checked="" type="checkbox"/>
Node Session Count	Alert when Node Session Count hit...	<input type="checkbox"/>	12:00		1 Hours	25	50	75	<input checked="" type="checkbox"/>
Offline Volumes	Check for Offline Volumes	<input type="checkbox"/>	12:00		1 Hours	1	2	3	<input checked="" type="checkbox"/>
Primary Sequential Storage Pool Utilization	Alert when a Primary Sequential ...	<input type="checkbox"/>	12:00		1 Hours	85	90	95	<input checked="" type="checkbox"/>

The list of available alerts is presented.

There are two types of alerts.

Value based alerts (such as storage pool utilization) can be setup to trigger a condition (Warn, Alarm, Critical) when the value hits a given threshold.

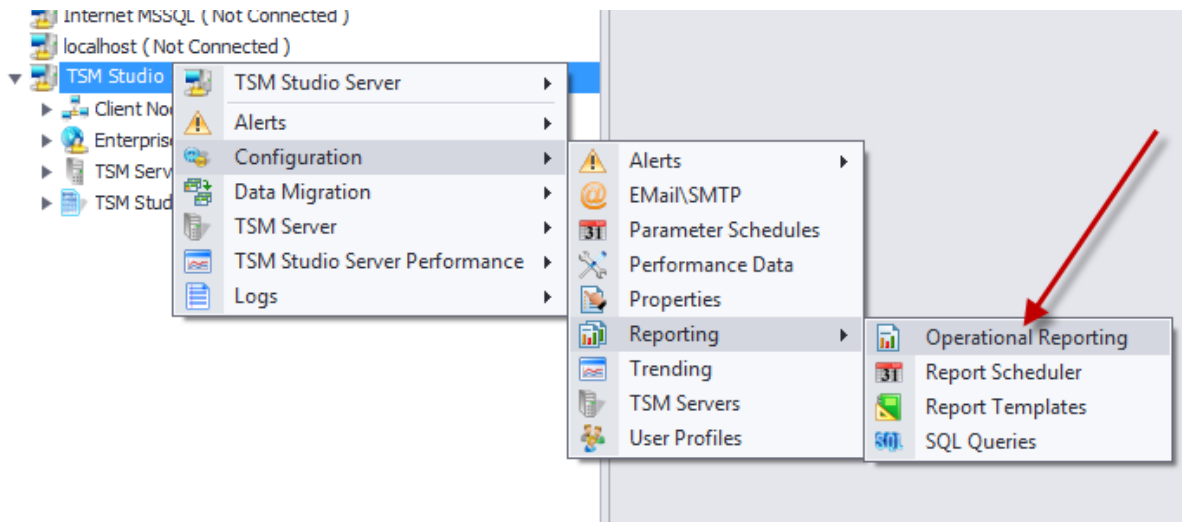
Alerts that have only one value (such as Clients Nodes not in a collocation group) can be trigger a condition after a given time period.

Email recipients are setup using the Email button (), each individual alert can be setup to email when a trigger is fired.

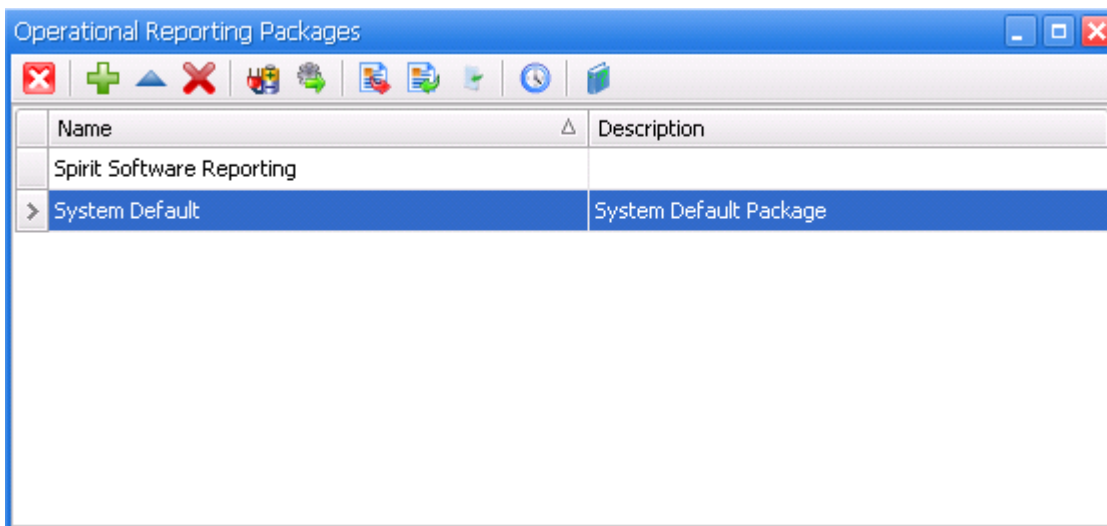
A value of -1 in the Alarm, Warning and Alert field will cause that level to be ignored

Operational Reporting

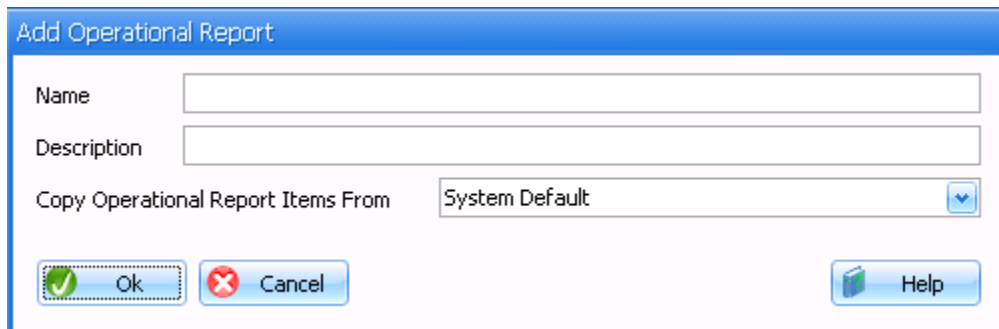
The Operational Reporting configuration dialog is accessed via the configuration menu



Operational Reporting is broken down into Packages. A Package contains a number of sections that make up an operational report. Each section can be disabled or enabled as required. Each package can be individually scheduled and emailed to different destinations as required.



To create a new package click the add button in the toolbar. A dialog will then be opened for the details of the new package.



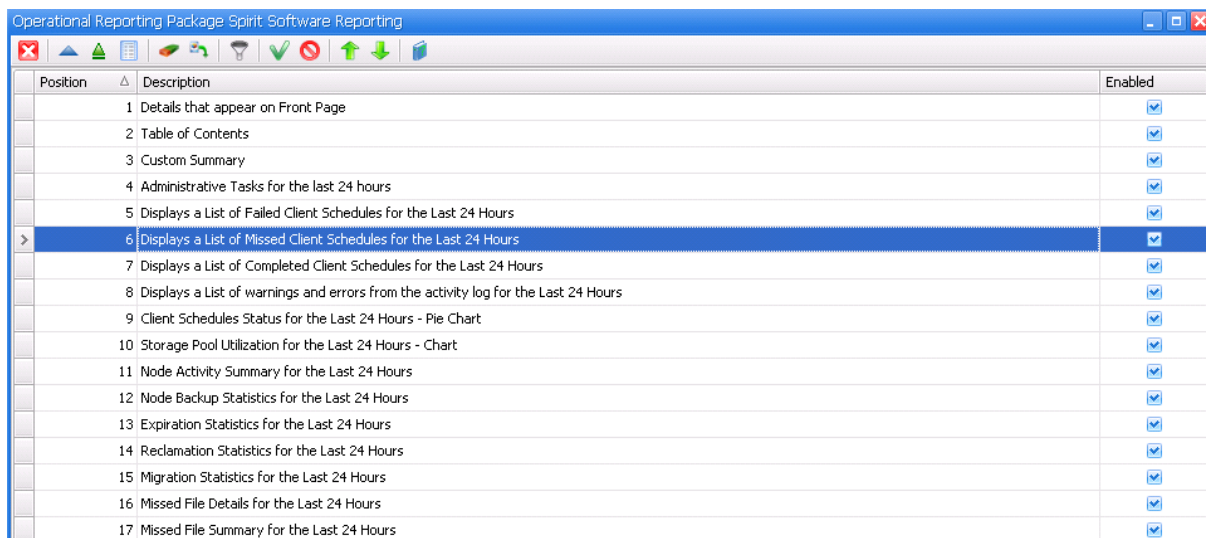
The dialog box titled "Add Operational Report" has a blue header. It contains three text input fields: "Name", "Description", and "Copy Operational Report Items From" (which is currently set to "System Default" and has a dropdown arrow). At the bottom, there are three buttons: "Ok" (with a green checkmark icon), "Cancel" (with a red X icon), and "Help" (with a blue question mark icon).

Name: The Name of the new Package

Description: A description for this package



Copy Operational Report Items From: Select a package that will be used as the template for the new package.


To edit the package, select the package and choose edit



Position	Description	Enabled
1	Details that appear on Front Page	<input checked="" type="checkbox"/>
2	Table of Contents	<input checked="" type="checkbox"/>
3	Custom Summary	<input checked="" type="checkbox"/>
4	Administrative Tasks for the last 24 hours	<input checked="" type="checkbox"/>
5	Displays a List of Failed Client Schedules for the Last 24 Hours	<input checked="" type="checkbox"/>
6	Displays a List of Missed Client Schedules for the Last 24 Hours	<input checked="" type="checkbox"/>
7	Displays a List of Completed Client Schedules for the Last 24 Hours	<input checked="" type="checkbox"/>
8	Displays a List of warnings and errors from the activity log for the Last 24 Hours	<input checked="" type="checkbox"/>
9	Client Schedules Status for the Last 24 Hours - Pie Chart	<input checked="" type="checkbox"/>
10	Storage Pool Utilization for the Last 24 Hours - Chart	<input checked="" type="checkbox"/>
11	Node Activity Summary for the Last 24 Hours	<input checked="" type="checkbox"/>
12	Node Backup Statistics for the Last 24 Hours	<input checked="" type="checkbox"/>
13	Expiration Statistics for the Last 24 Hours	<input checked="" type="checkbox"/>
14	Reclamation Statistics for the Last 24 Hours	<input checked="" type="checkbox"/>
15	Migration Statistics for the Last 24 Hours	<input checked="" type="checkbox"/>
16	Missed File Details for the Last 24 Hours	<input checked="" type="checkbox"/>
17	Missed File Summary for the Last 24 Hours	<input checked="" type="checkbox"/>

Each section of the Operational Report can be edited in the Report Designer allowing for full modification of the layout of the section. In addition the custom summary section can be further customized to include\exclude items from displaying in the Operational Report. Editing of each section can be done with sample data

using the edit button () or without data using the (). Each section can be either enabled\disabled or have its position changed using the up and down arrow keys.

The Operational Reporting Scheduler is accessed using the () button, a default schedule can be setup to run against all defined TSM Servers or alternatively individual schedules can be setup for each defined TSM Server. Edit the Schedule to define the Days of the week to run on and the recipients to receive the report.

Advanced Reporting

The advanced reporting features of TSM Studio Server are broken into a number of parts.

The **Report Scheduler** is used to schedule Report Templates to run. The output from these objects (usually in PDF or Excel format) can be emailed to recipients.

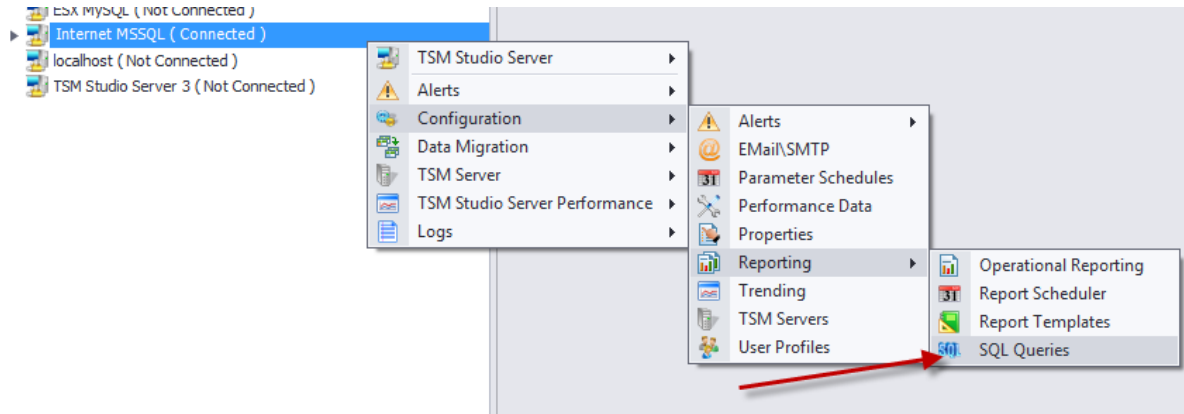
A **Report Template** is a report design based on one or more data sources, these data sources can either be TSM Studio Server internal data schemas or pre defined TSM SQL Queries. Report Templates can be manually created using the in-built report designer or you can download one of the Templates that has been created by Spirit Software Solutions.

A **TSM SQL Query** can be created manually or "Spirit Software" created Queries can be downloaded from the Spirit Software Repository. Additional


The **TSM SQL Scheduler** is used to schedule SQL Queries. The output from these objects in csv format can be emailed to recipients.


TSM SQL Queries

TSM SQL Queries are accessed via the configuration menu



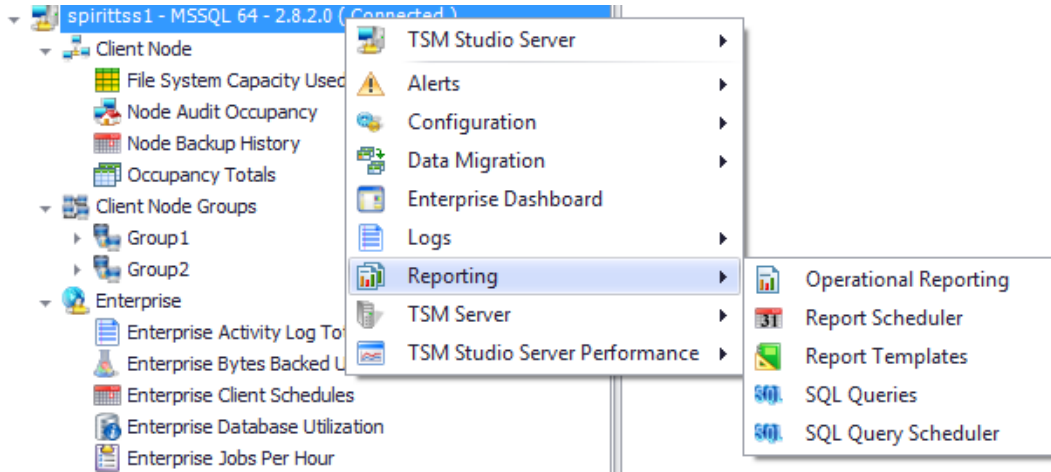
This will start the SQL Queries dialog from which SQL Queries can be created, modified or deleted. Additionally SQL Queries can be download from the Spirit

Software Repository using the download button ().


The Clone button  can be used to make copies of existing SQL Queries.

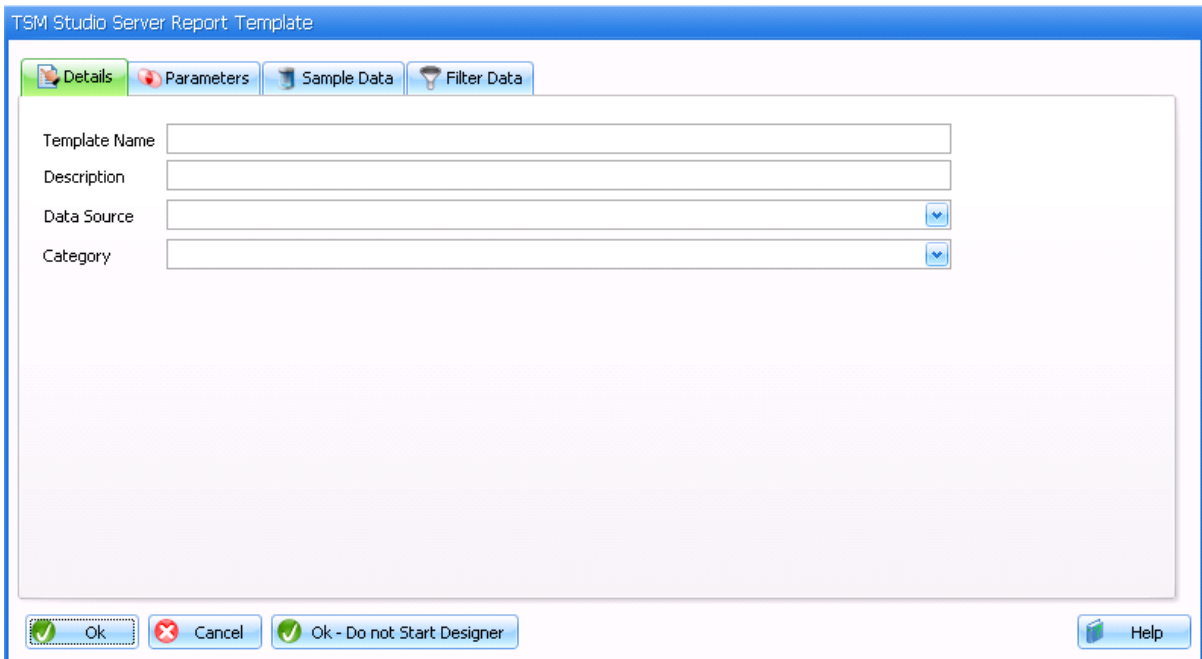
Report Templates

Report Templates are access from the TSM Studio Server reporting menu



A Report Template is a report design that can be run against one or more data sources to provide a pdf formatted report that can be emailed to selected individuals.

After clicking the Add Template button  from the Report Templates dialog the following dialog will appear



The data sources drop down contains the list of available data source (internal TSM Studio Schemas) and all available SQL Queries. After pressing the okay button the

Use the Category field to define this template to a category. For a new category just enter its name in this field.

Use the Parameter Tab to define variables that can be used with the scheduler when running this template.

Use the Sample Data Tab to select the parameters for the sample data that will be used when creating the report template.

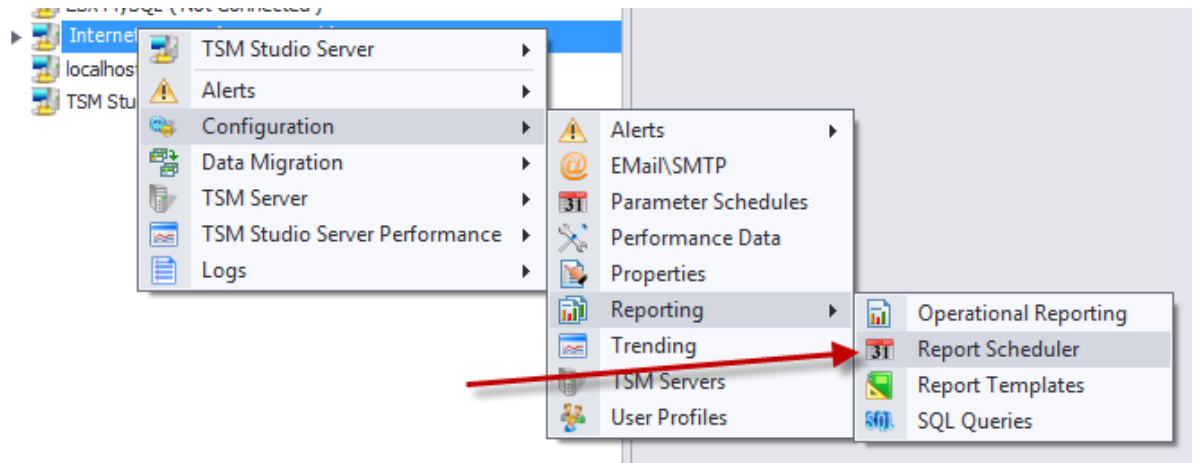
Use the Filter Data Tab to filter the data at the Database before being passed back to the report.


Report Designer will load with appropriate data for testing. If any of the data sources are an SQL Query then a reference TSM Server will need to be selected to provide sample data to the Report Designer.

Report Scheduler

The Report Scheduler is used to define when SQL Queries or Report Templates are run, against which TSM Servers they are run and which recipients receive the output.

The Report Scheduler is accessed via the configuration menu



This brings up the Report Scheduler dialog which displays the list of schedules that are already defined. Use the Add button  to add a new schedule which displays the following dialog

A screenshot of the 'Report Schedule' dialog box. The 'General' tab is selected. The dialog contains the following fields and options:

- Enabled
- Name:
- Description:
- Category: (dropdown arrow)
- Output Type: PDF (dropdown arrow)
- All TSM Servers

At the bottom, there are 'Ok', 'Cancel', and 'Help' buttons.

The **Schedule Type** selects whether this schedule is for a Report Template or a SQL Query. The **Schedule Type Name** will list all the available Report Templates or SQL Queries available depending on the option selected for the Schedule Type.

Use the General Tab to define the details for this report and the output type. If the Report is run against TSM Servers there is an option on this dialog to select all TSM Servers or use the TSM Servers tab to report against individual TSM Servers.

Use the Templates Tab to define which Report Templates will make up the report for this schedule, multiple templates can be added to create one large report.

Use the Parameters Tab to define values for any parameters in the templates.

Use the Schedule Tab to define when the Report is run

Use the Email Tab to select destinations for the report

Use the Repository Tab to store the report to disk or in the Spirit Software Reporting Warehouse.