Installation with Custom Databases

Agiloft can integrate with an external MySQL or MS SQL installation through the standard TCP/IP connection. By default, these custom database installations may not have some of the services/protocols enabled.

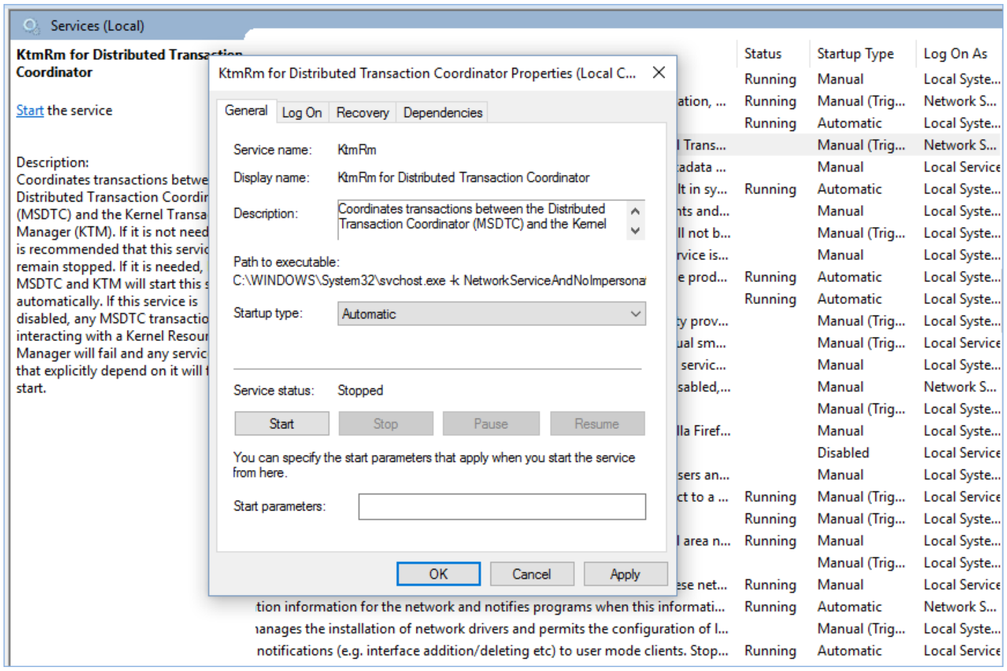
MS SQL Installation

Here are some of the recommendations by our developers to assist the database administrator in setting up the MS SQL server for optimized integration with Agiloft.

If the MS SQL database takes part in mirroring or AlwaysOn Availability Groups, the database administrator must set the READ_COMMITTED_SNAPSHOT or "Is Read Committed Snapshot On" database option to ON or "True" before Agiloft is installed.

Prerequisites

- The TCP/IP connection must be set to a static port. See Microsoft help for more information.
- The Microsoft Distributed Transaction Coordinator (MS DTC) service should be marked Automatic in Service Manager to make sure that it is running when the SQL Server service is started.



KtmRm for Distributed Transaction Coordinator

Start the service

Description:
Coordinates transactions betwe
Distributed Transaction Coordir
(MSDTC) and the Kernel Transa
Manager (KTM). If it is not need
is recommended that this servic
remain stopped. If it is needed,
MSDTC and KTM will start this s
automatically. If this service is
disabled, any MSDTC transactio
interacting with a Kernel Resour
Manager will fail and any servic
that explicitly depend on it will f
start.

KtmRm for Distributed Transaction Coordinator Properties (Local C...

Service name: KtmRm

Display name: KtmRm for Distributed Transaction Coordinator

Description: Coordinates transactions between the Distributed Transaction Coordinator (MSDTC) and the Kernel

Path to executable:
C:\WINDOWS\System32\svchost.exe -k NetworkServiceAndNoImpersona

Startup type: Automatic

Service status: Stopped

You can specify the start parameters that apply when you start the service from here.

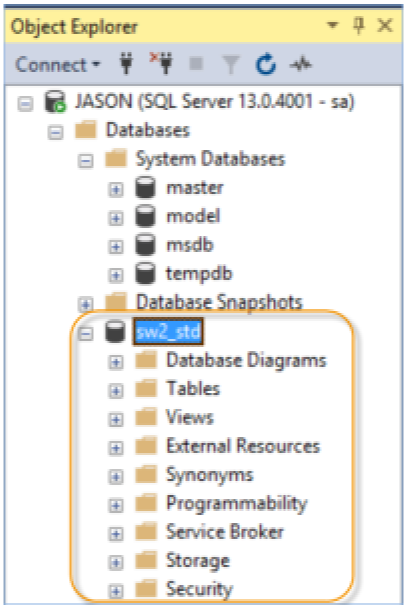
Start parameters:

	Status	Startup Type	Log On As
	Running	Manual	Local Syste...
ation, ...	Running	Manual (Trig...	Network S...
	Running	Automatic	Local Syste...
l Trans...		Manual (Trig...	Network S...
adata ...		Manual	Local Service
lt in sy...	Running	Automatic	Local Syste...
nts and...		Manual	Local Syste...
ll not b...		Manual (Trig...	Local Syste...
rvice is...		Manual	Local Syste...
e prod...	Running	Automatic	Local Syste...
	Running	Automatic	Local Syste...
ty prov...		Manual (Trig...	Local Syste...
ual sm...		Manual (Trig...	Local Service
servic...		Manual	Local Syste...
sabled,...		Manual	Network S...
		Manual (Trig...	Local Syste...
lla Firef...		Manual	Local Syste...
		Disabled	Local Service
sers an...		Manual	Local Syste...
ct to a ...	Running	Manual (Trig...	Local Service
	Running	Manual (Trig...	Local Syste...
l area n...	Running	Manual	Local Syste...
		Manual (Trig...	Local Syste...
se net...	Running	Manual	Local Service
tion information for the network and notifies programs when this informati...	Running	Automatic	Network S...
anages the installation of network drivers and permits the configuration of l...		Manual (Trig...	Local Syste...
notifications (e.g. interface addition/deleting etc) to user mode clients. Stop...	Running	Automatic	Local Service

Follow these steps

1. Install MS SQL.

2. During installation, select Mixed Authentication.
3. Create the required databases. Do not use System Databases for the Agiloft installation. See more about SQL databases from Microsoft.



4. Enable MS DTC for XA transactions.
5. Configure the JDBC Distributed Transaction Components.
6. If MS SQL is installed on a different computer than the machine where Agiloft is being installed, the `RegexEvaluator.exe` file must be located on the computer with the MSSQL server. For example, if you were installing Agiloft at C:\Agiloft, `RegexEvaluator.exe` should be installed on the computer with the MS SQL server in the directory with this path: `C:\Agiloft\resources\java\resources\sql\mssql\RegexEvaluator.exe`.

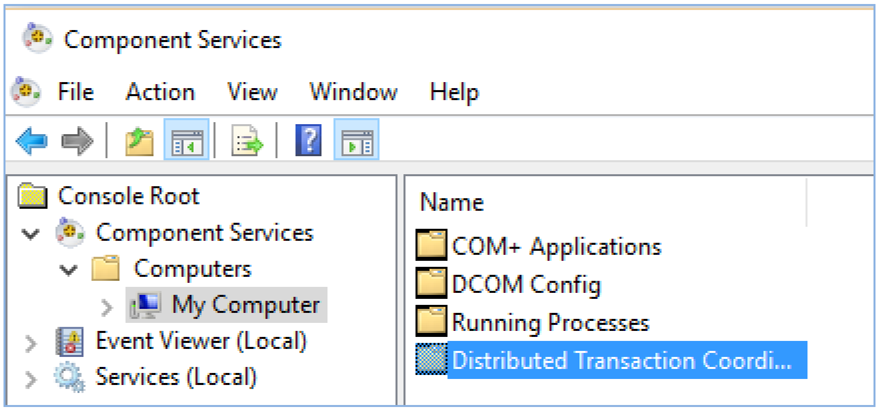
✓ If MS SQL is already installed with a different authentication method, you can follow these steps to change to Mixed authentication.

Enable MS DTC for XA transactions

In Windows 7, Windows 10, Windows Server 2008 R2 or Windows Server 2012 or later:

1. Select **Control Panel > Administrative Tools > Component Services**.

2. In Component Services, double click Computers, double click My Computer and select Distributed Transaction Coordinator .



3. Right-click Local DTC and then select Properties.
4. Click the Security tab in the Local DTC Properties window.
5. Select the Enable XA Transactions check box, click OK. This will restart the MS DTC service.
6. Click OK again to close the Properties window, and then close Component Services.
7. Restart SQL Server to ensure that it syncs up with the MS DTC changes.

Configure the JDBC Distributed Transaction Components

1. While the Agiloft installer is running, and at the stage of asking for the MS SQL credentials, navigate to the `Agiloft\resources\resources.zip\resources\java\lib\mssqlxa` directory and open the files inside your zip viewer.
    a. Copy the `sqljdbc_xa.dll` file from the directory to the Binn directory of the SQL Server computer.

       Note: For a default SQL Server install, the location is `C:\Program Files\Microsoft SQL Server\MSSQL14.MSSQLSERVER\MSSQL\Binn` .
    b. Run the `xa_install.sql` database script from the directory:
    c. In the command prompt, enter `sqlcmd -i xa_install.sql`. This script installs the extended stored procedures that are called by `sqljdbc_xa.dll` . These extended stored procedures implement distributed transaction and XA support for the Microsoft SQL Server JDBC Driver. You will need to run this script as an administrator of the SQL Server instance. You can ignore errors about being unable to drop procedures that don't exist.
2. Change the password and database name (sw2_std) if needed in the `aluser.sql` script and run it the same way as `xa_install.sql`. The script creates an Agiloft user with SysAdmin role and the ability to use XA Transactions. For best results, do not revoke the SysAdmin role for this user.

3. Close the SQL Server Management Studio. If this is not closed, the Agiloft installer will not be able to get an exclusive lock to set the database options, and will wait forever.
4. Continue with the Agiloft installation.

MySQL Installation

Here are some of the recommendations by our developers to assist the database administrator in setting up the MySQL server for optimized integration with Agiloft.

Prerequisites

- The MySQL version should be verified to work with Agiloft. See System Requirements for more information.
- The TCP/IP connection must be set to a static port. See the relevant documentation for your distribution.

Follow these steps

1. Download the latest MySQL version, and use the steps at the MySQL Installation Guide to install it to your server.
2. Verify that the database user has sufficient privileges to run custom scripts. The user will need System Administrator privileges at least.
    a. To create a new database user with system administrator privileges to integrate with Agiloft, the following script format can be used:

Create sysadmin user

```
create login aluser with password='Qwerty1';
go
create user aluser for login aluser;
go
exec sp_addsrvrolemember 'aluser', 'sysadmin';
go
```

3. In MySQL, create a custom database named sw2_std, specifying UTF8 character set. You can use the following commands to do this:

   ```
   create      # or alter
   database sw2_std DEFAULT CHARACTER SET utf8;
   mysql> use sw2_std;
   Database changed
   mysql> SHOW VARIABLES LIKE 'character_set%';
   ```

   This will return something like the following:

   ```
   +--------------------------+----------------------------+
   | Variable_name | Value |
   +--------------------------+----------------------------+
   | character_set_client | utf8 |
   | character_set_connection | utf8 |
   | character_set_database | utf8 |
   | character_set_filesystem | binary |
   | character_set_results | utf8 |
   | character_set_server | utf8 |
   | character_set_system | utf8 |
   | character_sets_dir | /usr/share/mysql/charsets/ |
   +--------------------------+----------------------------+
    8 rows in set (0,00 sec)
   ```

4. Configure InnoDB. The following parameters are recommended for the `my.cnf` configuration file. Pay attention to the comments, as some of these values can vary depending on your environment. At a minimum, the **max_allowed_packet** must be set to 16M. For more information, see InnoDB Configuration:

```
[mysqld]
#================mandatory values===============
port = 3306  # This value can be changed. Ask your admin.
bind-address = 0.0.0.0  # This value can be changed. Ask your admin.
character-set-server = utf8
collation-server = utf8_general_ci
explicit_defaults_for_timestamp = 1
innodb_locks_unsafe_for_binlog = 1
innodb_strict_mode = 0
sql-mode = NO_AUTO_VALUE_ON_ZERO
innodb_file_format = Barracuda
innodb_flush_log_at_trx_commit = 0
default-storage-engine = InnoDB
innodb_file_per_table = 1
#================recomended minimum values==============
max_connections = 384
max_allowed_packet = 96M
query_cache_type = 1
slow_query_log = 1
slow_query_log_file = <SLOW_QUERY_LOG>
log_error = <MYSQL_ERROR_LOG>
#================optional values================
tmp_table_size = 64M
key_buffer_size = 48M
query_cache_size = 64M
net_read_timeout = 1000
table_open_cache = 2048
connect_timeout = 20
innodb_lock_wait_timeout = 150
innodb_log_files_in_group = 3
innodb_flush_method = O_DIRECT
net_write_timeout = 1000
user = enterprisewizard
innodb_file_io_threads = 4
innodb_log_buffer_size = 16M
innodb_mirrored_log_groups = 1
innodb_log_file_size=<INNODB_LOG_SIZE>
tmpdir = <AGILOFT_TMPDIR>
innodb_buffer_pool_size = 14000M
innodb_additional_mem_pool_size = 100M
sort_buffer_size = 5M
query_cache_limit = 5M
read_buffer_size = 1M
join_buffer_size = 5M
basedir = <MYSQL_DIR>
innodb_data_home_dir = <MYSQL INNODB DIR>
innodb_log_group_home_dir = <MYSQL_LOG_DIR>
```

5. In Linux, load the MySQL time zone table using the following command on the server where MySQL is installed:

   ```
   mysql_tzinfo_to_sql /usr/share/zoneinfo | mysql --host=127.0.0.1 --port=3306 -u root -p <password> mysql;
   ```

6. Add the default-time-zone entry to the `my.cnf` file. This file is usually located under `/etc/my.cnf`.
7. Set the time zone value to match the server time zone. For example, if the server uses the Pacific time zone, set: `default-time-zone=America/Los_Angeles`,
8. Restart the MySQL service.