

# Manitou Core - Installing and Configuring SQL

These install steps were built against SQL Server 2016 SP2, however, the same steps can be followed similarly for SQL Server 2012, 2014 and 2017.

## Planning/Prepping the Install

Before starting the install of SQL please outline the following in your own notes. Verify that the customer is aware of these if needed.

- Note the local or domain users that will be used for the SQL Windows Administration accounts.
  - It is recommended that a local MSSQL user is created on each machine to be used for replication, however, if it is required to be a domain user, we will need to ensure that the domain user is added to the local administrators group, and the password will not expire.<sup>1</sup>
- Verify the drives the installation will include. It is highly recommended we have:
  - 1 OS drive
  - 1 SQL drive
  - 1 DatabaseCollector\Logs drive (Please note this is not for SQL logs, but for the DatabaseCollector logs)
- Determine where the SQL Installation Media is stored and keep a backup on hand for possible future emergency installs.<sup>2</sup>
- Verify Windows Updates have been completed.

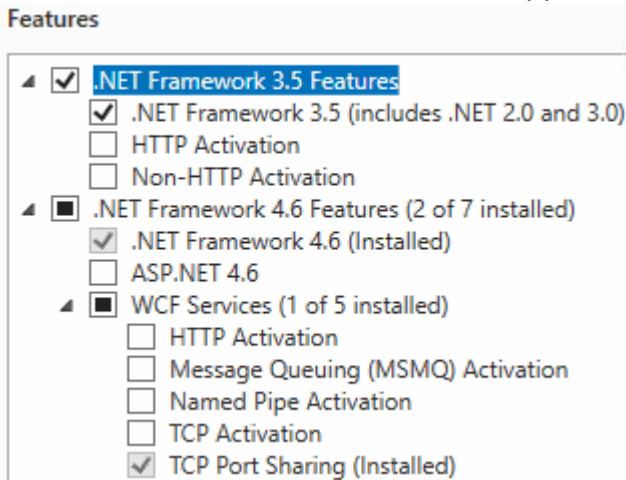
<sup>1</sup> The installation steps will outline adding the local MSSQL steps, if the customer is provisioning their own user to be used, those steps can be ignored.

<sup>2</sup> This step is required for UL. All installation media will need to be on hand for any emergency events requiring re-installation.

## SQL Installation

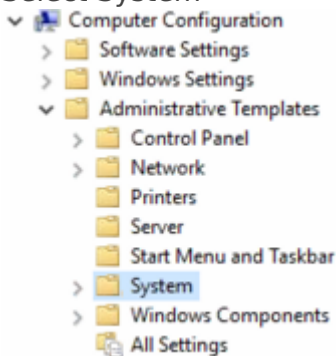
# Install Necessary Roles and Features

- Verify .NET 4.6 and .NET 3.5 Framework Features are installed. .Net 3.5 is only needed on SQL 2012 installations and can be skipped for newer version of SQL.



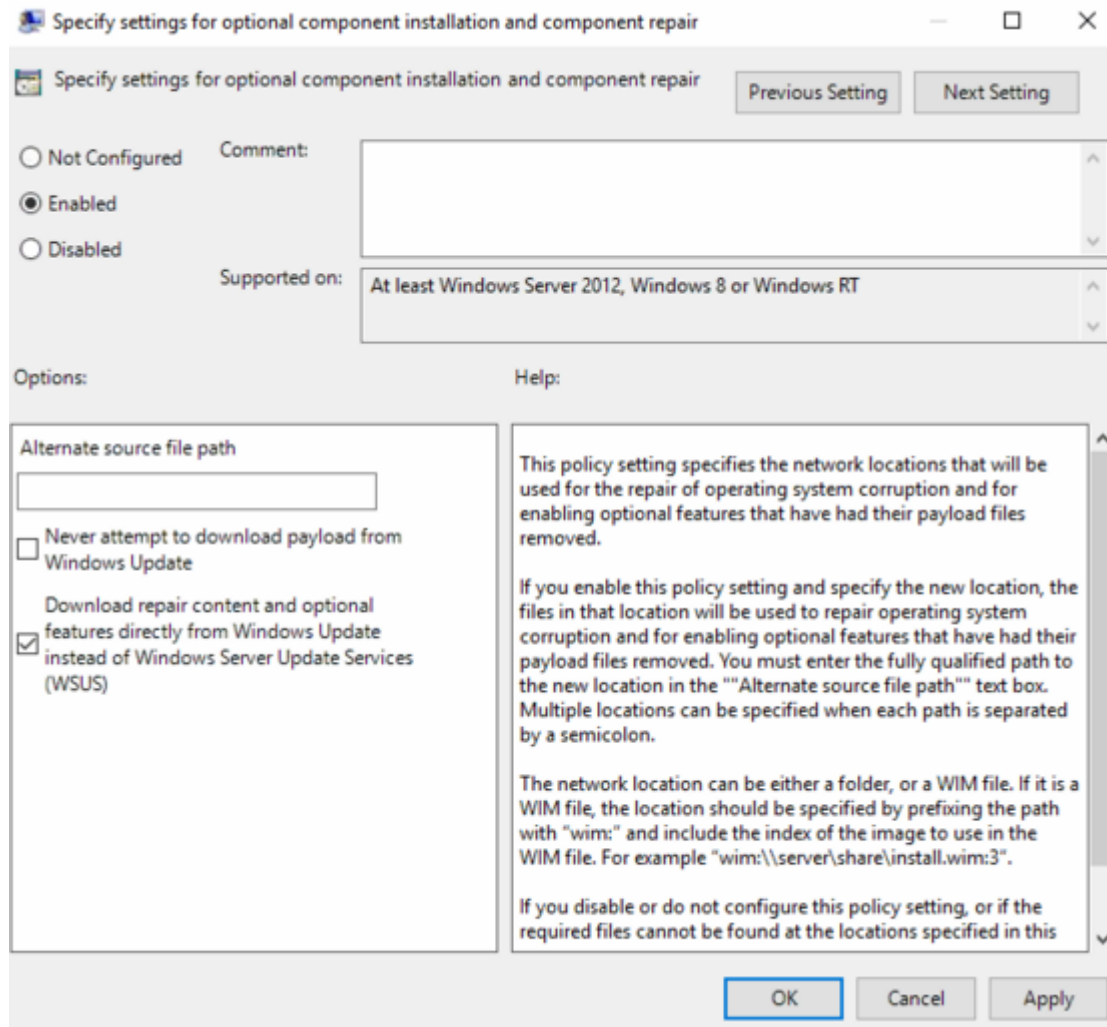
- Please note, when installing 3.5, If the Roles and Features Wizard is requesting an alternate source path, please follow the steps below.

1. Run gpedit.msc
2. expand Computer Configuration → Administrative Templates
3. Select System



4. Right click the setting "Specify settings for optional component installation and component repair" and select Edit.
5. Set the setting to Enabled
6. Check the box that says "Download repair content and optional features directly"

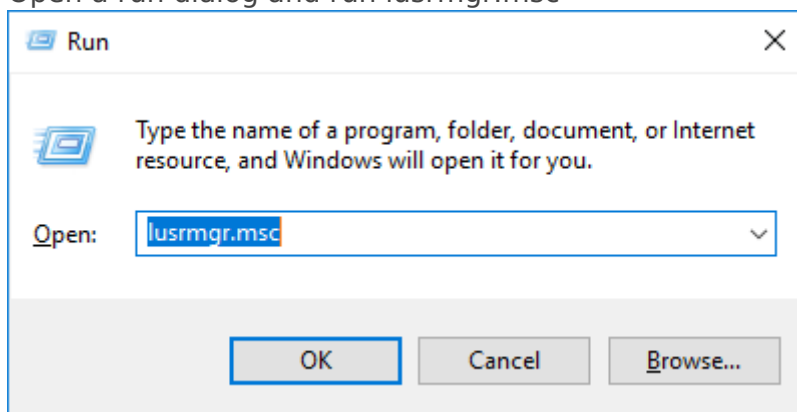
from Windows Update instead of Windows Server Update Services (WSUS)"



7. Select Okay and run a command prompt as administrator
8. Type in and run the following command  
`DISM /enable-feature /featurename:NetFx3 /online /all`
9. Return to install any remaining Roles and Features needed.

## Add the MSSQL User

1. Open a run dialog and run lusrmgr.msc



2. Open the Users folder and then right click within the user listing to select "New User..."
3. Create a MSSQL Username with the name and description of "Microsoft SQL Server"

4. Create a strong password (note the password within CRM under the name MSSQL)
5. Uncheck "User must change password at next logon"
6. Check "User cannot change password"
7. Check "Password never expires"

The screenshot shows a 'New User' dialog box with the following fields and options:

- User name: MSSQL
- Full name: Microsoft SQL Server
- Description: Microsoft SQL Server
- Password: [Redacted]
- Confirm password: [Redacted]
- User must change password at next logon
- User cannot change password
- Password never expires
- Account is disabled

Buttons: Help, Create, Close

8. Select Create
9. Right-click on the created MSSQL user and select Properties.
10. Select the Member Of tab and then select Add...
11. Type in Administrators and select OK.
12. Select OK to close the MSSQL Properties window and close out of the lusrmgr application.

## Install SQL Server Instance

1. Start the SQL Server Installation Center
2. Under the Installation Tab select "New SQL Server stand-alone installation or add features to an existing installation".
3. Do not check the "Use Microsoft Update to check for updates" and select Next.
4. An Error message may appear saying SQL Server setup could not search for updates, select Next to proceed.
5. The Product Key page will be where the product key can be entered if not already present. Select Next to proceed after entering in a valid SQL Server product key.
6. Accept the license terms and select Next.
7. On the feature selection page, select the following features.
  - Database Engine Services
  - SQL Server Replication
  - Reporting Services - Native (Separate Download)
  - Data Quality Services
  - Data Quality Client

- Client Tools Connectivity
- Integration Services
- Client Tools SDK
- SQL Client Connectivity SDK

8. Change the Instance root, Shared Feature, and Shared feature (x86) directors to match the SQL Data drive desired.

9. Select Next once the Feature Rules and directories are configured.
10. On the Instance Configuration screen, leave the instance as Default Instance. If a named instance is required it is outside of the typical Manitou installation scope and will need to be addressed with the project managers.
11. Select Next to proceed.
12. From the Server Configuration page, set the SQL Server Agent to Automatic startup.
13. Select the Collation tab and verify the Database Engine is set to SQL\_Latin1\_General\_CP1\_CI\_AS and select Next to proceed.
14. From the Database Engine Configuration screen set the Authentication Mode to "Mixed Mode"
15. Enter in a strong password for the sa account (note the password within CRM under the name SA)
16. For the Specify SQL Server administrators select Add Current User
17. Select Add... and type the MSSQL user previously added.
  - When adding the MSSQL user account it may bring a window that says Name Not Found. If it appears change the location from Entire Directory to the machine SQL is being installed on.
18. Select OK and add any addition windows accounts that need administrative access to SQL.
19. Select the Data Directories tab and make sure all directories are set to the Drive intended for SQL.
  - Please note that the log drive (if it exists) is not for the database log, it is intended for the database collector installed at a later time.
20. Select Next and proceed to Reporting Services Configuration.
21. Verify the Install and configure option is active and select Next.
22. There will be a final verification window, review the options selected and select Install to complete the Instance installation.
23. A complete screen will appear showing the feature and its installation status. Verify that all features succeeded in installation.

24. Repeat these steps on all additional Database Servers.

## Install SQL Server Management Tools

1. Open the SQL Server Installation Center if not already open.
2. From the Installation Tab, select "Install SQL Server Management Tools"
3. A website will open presenting links to Download SSMS
4. Download the latest SSMS General Availability version to the desktop
5. Once downloaded run the SSMS setup utility.
6. Select Install to begin.
7. Once the install is complete, a restart of the server is required.
8. Repeat these steps on all additional Database Servers.

## Final Configuration

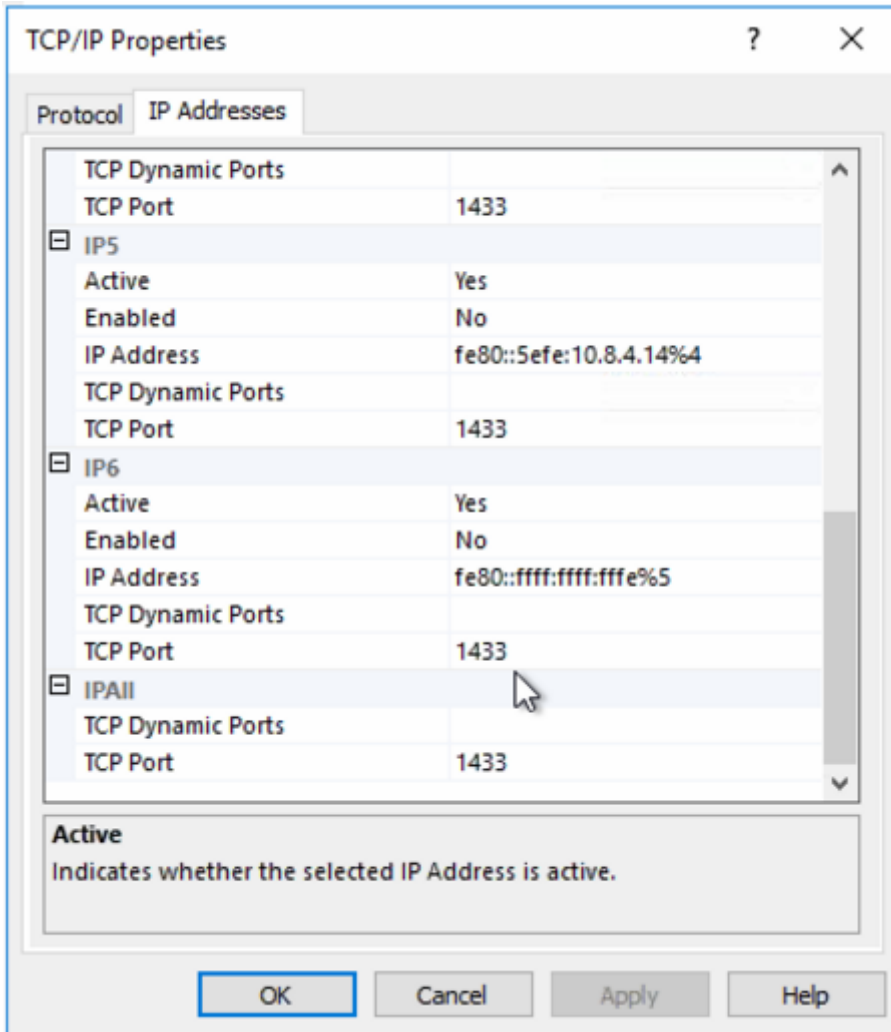
1. Open SQL Server Configuration Manager (Start → Microsoft SQL Server 2016 → Sql Server 2016 Configuration Manager)

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This must be opened in the same version the instance install was.

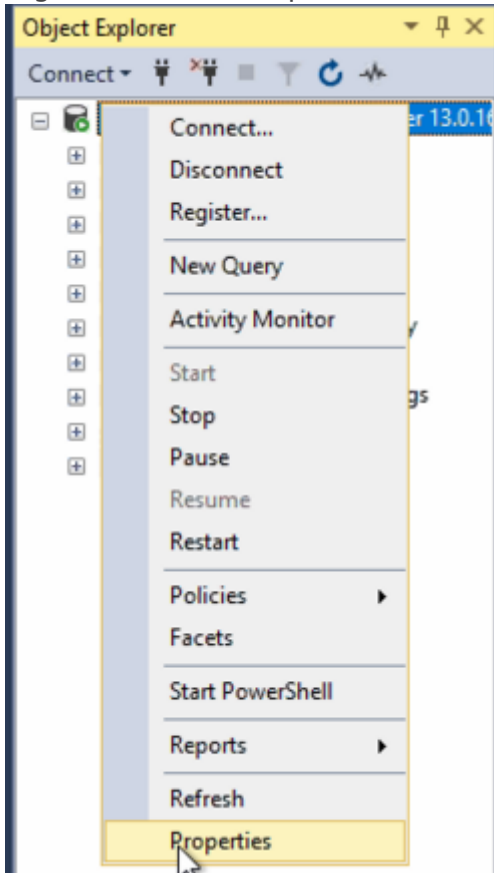
2. From the SQL Server Configuration Manager, expand SQL Server Network Configuration and select Protocols for MSSQLSERVER
3. Right click on the TCP/IP protocol and select properties.
4. Verify Enabled is set to "Yes", and select the IP Addresses tab.
5. Verify every IP entry that is active has TCP Port set to 1433.
6. Scroll to the bottom of the IP Addresses table and verify IPAll has nothing in the TCP

Dynamic Ports field and 1433 for the TCP Port field.

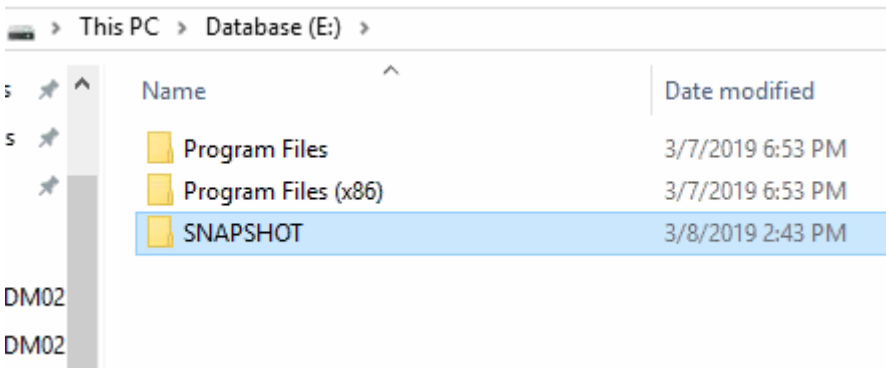


7. Select OK to apply any changes made.
8. Open SSMS (Start → Microsoft SQL Server Tools 17 → Microsoft SQL Server Management Studio 17)
9. Login with the SA user and password previously setup
- 10.

Right-click on the top servernode and select "Properties"

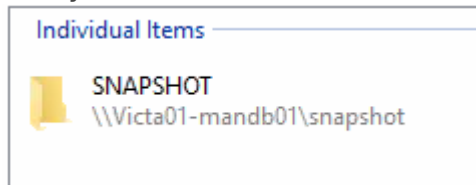


11. From the Server Properties windows select the Memory tab.
12. Specify the Maximum server memory (in MB) to be 65% of the total memory available on the server leaving at minimum 4 GB for the OS and 2 GB for Manitou Processes.
13. Select the Connections tab and verify the "Allow remote connections to this server" check box is checked.
14. Select the Advanced tab and set the Max Text Replication Size to 2147483647.
15. Select OK to apply all changes.
16. Close SSMS.
17. Open File explorer and open the data drive
18. Create a folder called "SNAPSHOT"



19. Share the SNAPSHOT folder with the MSSQL user previously created.
  1. Right-click on the SNAPSHOT folder.
  2. Select Share with → Specific people...
  3. Enter in MSSQL in the Text field and select the Add button
  4. Change the Permission Level drop down for MSSQL to Read/Write.

5. Select the Share button.
6. Verify the share is created correctly.



7. Select the Done button.
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20. Repeat all steps on additional servers.

It is recommended to complete a full server restart upon completion of the SQL Server install and features to avoid any possible issues from SQL Agent feature visibility.

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**Revision #18**

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