



Blog 2 – SQL Server 2008 R2 Installation

Name	Arjan Fraaij
Version	1.0



Index

Contents

Preface..... 3

Installation SQL 2008 R2..... 4

 Domain Service accounts 4

 Domain Security Accounts & Groups 4

 Installation steps 5

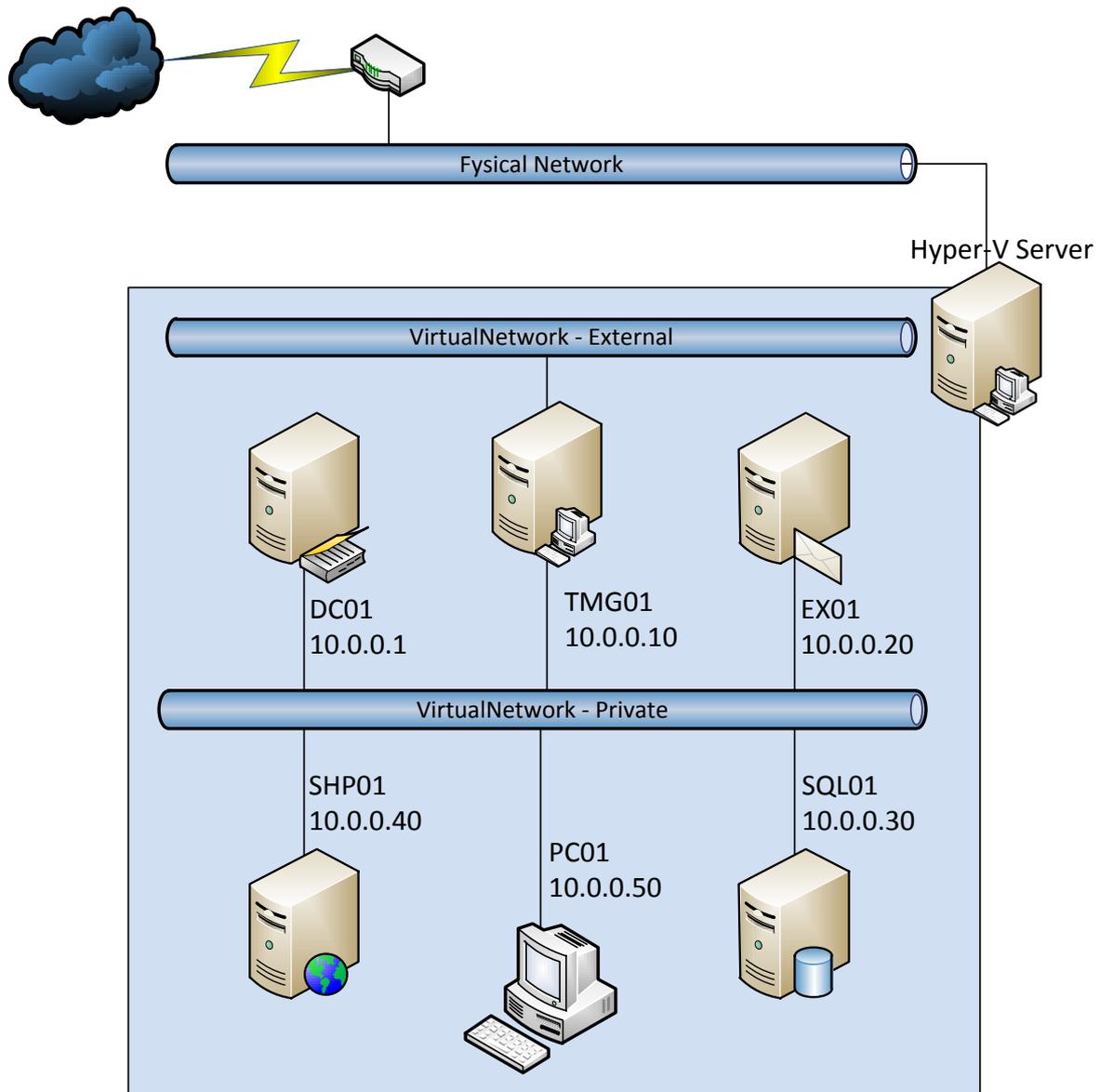
 Enable remote SQL Server Access 8

 Firewall Settings 9

Preface

This document is part of a series of documents describing the installation of a Business Intelligence environment based on the Microsoft BI Suite.

The infrastructure used for this environment is described as follows:



Threat Management Gateway TMG01

- Windows 2008R2 Enterprise
- ForeFront Threat Management Gateway 2010 Enterprise

Domain Controller DC01

- Windows 2008 R2 Enterprise



- Domain corp.contoso

Exchange Server EX01

- Windows 2008 R2 Enterprise
- Exchange 2010 Enterprise

SQL Server SQL01

- Windows 2008 R2 Enterprise
- SQL 2008 R2 Enterprise
- Instance SQL01\MSSQL01

SharePoint Server SHP01

- Windows 2008R2 Enterprise
- SharePoint 2010 Enterprise

This document describes the basic installation of SQL Server 2008 R2.

Installation SQL 2008 R2

Domain Service accounts

In the domain create the following accounts to be used for the service accounts.

- CORP\svcSQL01_sqlagent, account is going to be used to run the SQL Agent service when required.
- CORP\svcSQL01_sqlas, account is going to be used to run the SQL Analysis service when required.
- CORP\svcSQL01_sqldb, account is going to be used to run the SQL Database Engine service when required.
- CORP\svcSQL01_sqlis, account is going to be used to run the SQL Integration service when required.
- CORP\svcSQL01_sqlrs, account is going to be used to run the SQL Reporting service when required.

I made a choice to always install all SQL Services during an installation and disable those who are not needed for the requested operation of the SQL Server. This is why I create all service accounts that are required in the way I install SQL Servers. Do you have better ideas please let me know.

Domain Security Accounts & Groups

In the domain create the following accounts & groups to be used for the security settings during installation.



- CORP\SQL01AnalysisAdministrators, Domain local security group used to add to the Analysis Services administrator security during account provisioning.
- CORP\SQL01ServerAdministrators, Domain local security group used to add to the SQL Server administrator security during account provisioning.
- CORP\SQL01Admin, Domain user account to be added to the above member list of the created security groups, account is used as primary SQL Server and Analysis Services Administrator account.

This is all my own base settings; you can use it or leave it and add your own security guidelines. When you have better ideas I like to hear about them.

Installation steps

These steps describe the steps to perform the installation.

1. Mounted is the installation DVD of SQL Sever 2008 R2
2. Login to SQL01 with an account that has administration rights
3. Go to Start > Type <cddrive>:\setup.exe and hit enter
4. The window named **“SQL Server 2008R2 Setup, Requires Microsoft .NET Framework”** **might** appear.
 - a. Click OK to start the installation of the Microsoft .NET Framework. There is no information displayed that the installation is finished or executed. Just wait 5 minutes and start at step 3 again.
5. The window named **“SQL Server Installation Center”** appears.
6. Click Installation
7. Click New Installation or add features to an existing installation, and wait for the next window to appear
8. The window named **“SQL Server 2008R2 Setup, Setup Support Rules”** appears
 - a. There are 7 rules that are checked by the SQL Server installation
 - b. You can click show details to see the rules and description of the rules
 - c. When rules do fail you can hit the Status link to check what needs to be done to fix them. When fixed hit the re-run button to recheck.
 - d. In my case all rules are passed, click OK
9. The window named **“SQL Server 2008R2 Setup, Product Key”** appears
 - a. Enter your product key or select Specify free edition: Evaluation to continue
 - b. In my case I select Evaluation, click Next
10. The window named **“SQL Server 2008R2 Setup, License Terms”** appears
 - a. Select I accept the license terms, click next
11. The window named **“SQL Server 2008R2 Setup, Setup Support Files”** appears
 - a. Click Install and wait
 - b. When finished a list of rules is displayed with the status of the installation.
 - c. In my case I did get 2 warnings
 - i. Microsoft .NET application security, this is caused because I don't have an active internet connection during installation and can safely be ignored. It



might slow down some of startups of applications that do use the .NET framework.

- ii. Windows Firewall, this is caused to remember you to check your firewall settings to enable access to your SQL Server environment and can safely be ignored.
 - d. So I click Next
12. The window named **“SQL Server 2008R2 Setup, Setup Role”** appears
- a. Select SQL Server Feature Installation
 - b. Click next
13. The window named **“SQL Server 2008R2 Setup, Feature Selection”** appears
- a. Select the following features
 - i. Database Engine Services
 - 1. SQL Server Replication
 - 2. Full-Text Search
 - ii. Analysis Services
 - iii. Reporting Services
 - iv. Client Tools Connectivity
 - v. Integration Services
 - vi. Management Tools – Basic
 - 1. Management Tools – Complete
 - vii. Microsoft Sync Framework
14. Click Next
15. The window named **“SQL Server 2008R2 Setup, Installation Rules”** appears
- a. A list of rules is displayed with the status of the installation.
 - b. When rules do fail you can hit the Status link to check what needs to be done to fix them. When fixed hit the re-run button to recheck.
 - c. In my case all rules are passed, Click Next
16. The window named **“SQL Server 2008R2 Setup, Instance Configuration”** appears
- a. Select Named Instance, MSSQL01
 - b. Leave rest as default and click Next
17. The window named **“SQL Server 2008R2 Setup, Disk Space Requirements”** appears
- a. If disk space is low fix-it, else click Next
18. The window named **“SQL Server 2008R2 Setup, Server Configuration”** appears
- a. Fill in the previous created service accounts for the correct service
 - b. I left all Startup Types default for now and clicked the Collation tab
 - c. You could change the collation as desired, I did leave the default and clicked Next
19. The window named **“SQL Server 2008R2 Setup, Database Engine Configuration”** appears
- a. On tab Account Provisioning I selected the following
 - i. Mixed Mode (This is demo, if possible I would choose Windows Authentication mode)
 - ii. Added the local administrator SQL01\Administrator to the SQL Server Administrators



- iii. Added the domain group CORP\SQL01ServerAdministrators
 - b. On tab Data Directories I selected the following
 - i. Data Root Directory: F:\Microsoft SQL Server\
 - ii. User Database Directory: F:\Microsoft SQL Server\MSSQL10_50.MSSQL01\MSSQL\Data
 - iii. User Database Log Directory: H:\Microsoft SQL Server\MSSQL10_50.MSSQL01\MSSQL\Log
 - iv. Temp DB Directory F:\Microsoft SQL Server\MSSQL10_50.MSSQL01\MSSQL\Data
 - v. Temp DB Log Directory H:\Microsoft SQL Server\MSSQL10_50.MSSQL01\MSSQL\Log
 - vi. Backup Directory: H:\Microsoft SQL Server\MSSQL10_50.MSSQL01\MSSQL\Backup
 - c. On tab FILESTREAM I selected the following
 - i. Selected All options
 - ii. Windows Share Name MSSQL01
 - d. Click Next
- 20. The window named **“SQL Server 2008R2 Setup, Analysis Services Configuration”** appears
 - a. On tab Account Provisioning I selected the following
 - i. Added the local SQL01\Administrator to the analysis services administrators
 - ii. Added the domain group CORP\SQL01AnalysisAdministrators
 - b. On tab Data Directories I selected the following
 - i. Data Directory: F:\Microsoft SQL Server\MSAS10_50.MSSQL01\OLAP\Data
 - ii. Log File directory: F:\Microsoft SQL Server\MSAS10_50.MSSQL01\OLAP\Log
 - iii. Temp Directory: F:\Microsoft SQL Server\MSAS10_50.MSSQL01\OLAP\Temp
 - iv. Backup directory: H:\Microsoft SQL Server\MSAS10_50.MSSQL01\OLAP\Backup
 - c. Click Next
- 21. The window named **“SQL Server 2008R2 Setup, Reporting Services Configuration”** appears
 - a. Select Install, but do not configure the report server
 - b. Click Next
- 22. The window named **“SQL Server 2008R2 Setup, Error Reporting”** appears
 - a. Don’t select anything and click Next
- 23. The window named **“SQL Server 2008R2 Setup, Installation Configuration Rules”** appears
 - a. A list of rules is displayed with the status of the installation.
 - b. When rules do fail you can hit the Status link to check what needs to be done to fix them. When fixed hit the re-run button to recheck.
 - c. In my case all rules are passed, Click Next
- 24. The window named **“SQL Server 2008R2 Setup, Ready to Install”** appears
 - a. You can check the installation summary
 - b. When everything is like desired click Install
- 25. The window named **“SQL Server 2008R2 Setup, Install Progress”** appears



- a. Just wait for the installation to finish
26. The window named “**SQL Server 2008R2 Setup, Complete**” appears
 - a. Click Close
27. During writing of this blog SQL Server 2008 R2 service packs are not released. When they are released they need to be installed.

Enable remote SQL Server Access

After installation it is not possible by default to access the SQL Server remotely. When you try to connect to the SQL server with SQL Server Management Studio from a remote client the following error might occur:

```
TITLE: Connect to Server
-----
Cannot connect to SQL01\MSSQL01.
-----
ADDITIONAL INFORMATION:
A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: SQL Network Interfaces, error: 26 - Error Locating Server/Instance Specified) (Microsoft SQL Server, Error: -1)
```

1. Logon with the SQL01 local administrator account to the SQL01 server
2. Start the SQL Server Configuration Manager
3. Open the SQL Server Network Configuration node
4. Select the Protocols for MSSQL01
5. I only am going to enable TCP/IP and leave the others as default
 - a. Double click TCP/IP
 - b. On the Protocol tab set Enabled to Yes
 - c. Select tab IP Addresses
 - d. Because we installed a Named Instance the TCP Dynamic Ports is enabled, we are going to configure a fixed port
 - e. Remove the 0 at every TCP Dynamic Ports option
 - f. Enter port 1433 at every TCP port option, 1433 is the SQL server default port number. It might be better to configure a different port number to make your environment more secure.
 - g. Click OK
 - h. A Warning appears to say to restart the SQL Services
 - i. Click OK
6. Select the SQL Server Services node
 - a. Right click the SQL Server (MSSQL01) services and click Restart

We now enabled the TCP/IP protocol for SQL Server remote access; we now need to change the Windows Firewall settings to make sure we can access the SQL server.

Before we do this, we also take a look at the dynamic port setting of Analysis services.

1. Logon with the SQL01 local administrator account to the SQL01 server



2. The default port number for Analysis Services is port 2383, we used a named instance so dynamic port mapping is enabled. We will configure Analysis Services to use the default port.
3. Start SQL Server Management Studio
4. Connect to the Analysis Services Named Instance SQL01\MSSQL01
5. Right click the instance and select properties
 - a. Select General
 - b. In the option pane look for Name : Port
 - c. Change the value column 0 (zeros) on the Port option to 2383
 - d. Click OK
 - e. A restart warning is displayed, click OK
6. Right click the Analysis Named Instance SQL01\MSSQL01 and select Restart

Let's now configure Windows FireWall!

Firewall Settings

During installation we are warned about the changes to the firewall that are needed to make the SQL Server externally accessible. This part describes the settings for the firewall configuration based on the given installation.

1. Logon with the SQL01 local administrator account to the SQL01 server
2. Click Start and type FireWall in the search box
3. With Windows FireWall with advanced configuration selected hit ENTER
4. Click Inbound rules in the Left pane
5. Click New rule in the most right (action) pane
6. The "**New inbound Rule Wizard**" window appears
 - a. Select Port at rule type and click Next
 - b. Select TCP, Specific Local Ports and type: 1433,2383,2382
 - i. 1433 is the defined SQL Database Engine port
 - ii. 2383 is the defined Analysis Services port
 - iii. 2382 is the SQL Analysis Browser port
 - c. Click Next
 - d. On Action, Select Allow Access and click Next
 - e. On Profile, I did deselect Private and Public because I only want to enable access to the SQL Services from the CORP domain. And clicked Next
 - f. Give it a Name, I used: SQL DBE and SSAS Access 1433,2383,2382
 - g. Click Finish
7. Click New rule again to create the SQL Browser rule
8. The "**New inbound Rule Wizard**" window appears
 - a. Select Port at rule type and click Next
 - b. Select UDP, specific Local Ports and type: 1434
 - i. 1434 is the SQL Database Engine browser port
 - c. Click Next
 - d. On Action, Select Allow Access and click Next



- e. On Profile, I did deselect Private and Public because I only want to enable access to the SQL Services from the CORP domain. And clicked Next
- f. Give it a Name, I used: SQL Server Browser 1434
- g. Click Finish

I do not configure all other possible needed ports, for example Reporting Services, Service Broker, Integration Services and others. If you like to see what might be needed in your environment take a look at the below given website. For now we just leave it to be.

[http://msdn.microsoft.com/en-us/library/cc646023\(v=SQL.105\).aspx](http://msdn.microsoft.com/en-us/library/cc646023(v=SQL.105).aspx)

If we did everything the right way we now should be able to connect to the SQL Server Database Engine and Analysis Services engine. Let's test:

1. Logon to a computer that is a member of the CORP domain and has SQL Server Management Studio installed with the CORP\SQL01Admin account.
2. Start SQL Server Management Studio
3. In the connection pane select the following for testing Database Engine connection
 - a. Server Type: Database Engine
 - b. Server Name: SQL01\MSSQL01
 - c. Authentication: Windows Authentication
 - d. Click OK
 - e. I do get an error: Login failed for user CORP\SQL01Admin
 - f. I did forget to add it to the created security groups we made before, I did this now, let's repeat steps a to d
 - g. We now can connect
4. In the connection pane select the following for testing Analysis Services connection
 - a. Server Type: Analysis Services
 - b. Server Name: SQL01\MSSQL01
 - c. Authentication: Windows Authentication
 - d. Click OK
 - e. We now can connect

PS. Because the Browser Service is active it should also be possible to connect to SQL01 without giving the named instance.