

Knowledge Base Article: Article 218 – Revision 2 How to connect BAI to a Remote SQL Server Database?

Date: January 11th, 2011 Last Update: January 21st, 2013 (see Section 2, C, 4)

Problem:

You want to create a Secured Data Source that will connect to a remote SQL SERVER using Windows Authentication.

Pre-requisites:

SQL Server Management Studio has to be installed on both machines corresponding to the same SQL Server version.

If you are using SQL Server Express, you can download and install Microsoft SQL Server Management StudioExpress (SSMSE) from Microsoft web site:

- SQL Server 2005:<u>http://www.microsoft.com/downloads/details.aspx?FamilyID=5D76230D-580D-4874-8C7D-93491A29DB15&displaylang=en</u>
- SQL Server 2008:<u>http://www.microsoft.com/downloads/details.aspx?FamilyID=08e52ac2-1d62-45f6-9a4a-4b76a8564a2b&displaylang=en</u>

Solution:

Follow the steps below

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Architecture

Net Report uses Windows Authentication to connect to the database. As a consequence you need to provide a Windows User credential that is able to log into your SQL Server Database.







Section 1: Configure the Remote SQL Server Machine

A. Create a Custom User

- 1. Connect to the machine where the remote SQL Server is running
- 2. Create a User that will be used by Click &DECiDE-BAI to connect to your database.

WARNING: You must choose a password that complies with the password policy of both the remote SQL Server machine and the machine that runs Click &DECiDE-BAI.

B. Map this user to the database

1. Connect to the machine where the SQL Server is running and launch the SQL Server Management Studio. (Run As Administrator)

From the Security node, add the user created below as a login



2. Then, right click on the just created login, select Properties and User Mapping to set rights to the login on the database(s) you want to access.





🚪 Login Properties - DCH-W20	08-32\Didie	r		
Select a page	🛒 Script 👻	📑 Help		
😭 General				
🚰 Server Roles	Users map	pe <u>d</u> to this login:		
Securables	Мар	Database	User	Default Schema
Status		aspnetdb	DCH-W2008-32\Didier	
_		CnDWebServices	DCH-W2008-32\Didier	
	V	DataSetReport	DCH-W2008-32\Didier	
		master		
		model		
		msdb		
	V	netreport	DCH-W2008-32\Didier	
		tempdb		
	☐ Guest Database	account enabled for: DataSe role membership for: DataSet	Report Report	
Connection	🗌 db_ac	cessadmin		
Server: DCH-W2008-32\SQLEXPRESS Connection: DCH-W2008-32\Didier ICH-W2008-32\Didier	<pre>db_ba db_da db_da db_da db_da db_dd db_dd db_dd db_de db_de db_de db_ow db_se</pre>	ckupoperator tareader tawriter ladmin nydatareader nydatawriter ner curityadmin		
Progress	🖌 public			
C Ready				
				OK Cancel

3. Click OK.

C. Test the Database Configuration

- 1. Open a Command Prompt: Start>All Programs>Accessories>Command Prompt.
- 2. Go to the following directory (with the CD command):

For SQL Server 2005

"C:\Program Files\Microsoft SQL Server\90\Tools\Binn\VSShell\Common7\IDE"

For SQL Server 2008 32 bits

"C:\Program Files\Microsoft SQL Server\100\Tools\Binn\VSShell\Common7\IDE"

For SQL Server 2008 64 bits



"C:\Program Files (x86)\Microsoft SQLServer\100\Tools\Binn\VSShell\Common7\IDE"

And enter the command:

For SQL Server 2005:
>runas /user:<domain>\<user>ssmsee.exe

Or, if no domain is defined:
>runas /user:<computername>\<user>ssmsee.exe

For SQL Server 2008:
>runas /user:<domain>\<user>ssms.exe

Or, if no domain is defined:
>runas /user:<computername>\<user>ssms.exe

Replace **<domain>** by your domain name, **<user>** by the user name created in step 2. (if no domain is defined, just enter the **<computername>\<user>**.)

- 3. Type <ENTER>.
- 4. Enter the password of the user created in step 2.
- 5. Type **<ENTER>**.
- 6. Enter the Server Name (<machine>\<instance>) of the SQL Server you want to connect to.

🛃 Connect to Server		×		
SQL Serve	Windows Server System 2005	m		
Server <u>t</u> ype:	Database Engine]		
<u>S</u> erver name:	RR0-W2008-32\SQLEXPRESS			
Authentication:	Windows Authentication			
<u>U</u> ser name:	RRO-W2003-32\NETREPORT			
<u>P</u> assword:				
	Remember password			
<u>C</u> onnect	Cancel Help Options >>			

- 7. Click Connect.
- 8. You should be connected to the remote SQL Server and access to the database.
- 9. Note that a Firewall on the remote Server can forbid the connection. Change the Firewall status if needed.





D. Prepare the SQL Server for Remote Connections

1. Verify that the SQL Server is accepting remote connection.

For SQL Server 2005, start the SQL Server Surface Area Configuration from All Programs / Microsoft SQL Server 2005 / Configuration Tools.

SQL Server 2005 Surface Area Configuration 📃 🖂 🔀
Microsoft SOL Server 2005
Help Protect Your SQL Server
Minimize SQL Server 2005 Surface Area SQL Server 2005 improves manageability and security by giving administrators more control over the surface area of local
 and remote instances of SQL Server 2005. With the SQL Server 2005 Surrace Area Configuration tools, you can easily: Disable unused services and network protocols for remote connections. Disable unused features of SQL Server components.
For new installations, use these tools to enable required features, services, and network protocols that are disabled by default. For upgraded instances, use these tools to identify and disable unused features, services, and protocols.
Users with administrative privileges on Microsoft Windows Vista and later versions will no longer have administrative privileges on this SQL Server installation by default. To explicitly add yourself as a SQL Server administrator, click on the below link:
R Add New Administrator
Read more about configuring the SQL Server surface area.
Configure Surface Area for localhost (change computer)
Surface Area Configuration for Services and Connections
Surface Area Configuration for Features

Then click on Surface Area Configuration for Services and Connections and check that remote connections are allowed as below:





🐗 Surface Area Configuration for Services and Connections - localhost 🛛 🔀						
SQL Server 2005 Surface Area Configuration Help Protect Your SQL Server						
Enable only the services and connection types used by your applications. Disabling unused services and connections helps protect your server by reducing the surface area. For default settings, see <u>Help</u> .						
Select a component and then configure its	services and connections:					
 □ □ □ SQLEXPRESS □ □ □ Database Engine Service → Remote Connections □ □ SQL Server Browser By default, SQL Server 2005 Express, Evaluation, and Developer editions allow local client connections only. Enterprise, Standard, and Workgroup editions also listen for remote client connections over TCP/IP. Use the options below to change the protocols on which SQL Server listens for incoming client connections. TCP/IP is preferred over named pipes because it requires fewer ports to be opened across the firewall.						
	C Local connections only					
	Local and remote connections					
	C Using TCP/IP only					
	O Using named pipes only					
	 Using both TCP/IP and named pipes 					
View by Instance View by Component						
	OK Cancel <u>A</u> pply <u>H</u> elp					

Then start the SQL Server Configuration Manager from All Programs / Microsoft SQL Server 2005 / Configuration Tools and check protocols are enabled as below:

🛐 SQL Server Configuration Manager			
<u>File A</u> ction <u>V</u> iew <u>H</u> elp			
SQL Server Configuration Manager (Local) SQL Server 2005 Services SQL Server 2005 Network Configuration Protocols for SQLEXPRESS SQL Native Client Configuration Client Protocols Aliases	Protocol Name Shared Memory Named Pipes TCP/IP	Status Enabled Enabled Disabled	

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Then right click on TCP/IP properties and set a fixed TCP port for IPAII at 1433 as below:

TCP/IP Properties ? 🗙				
Pro	otocol IP Addresses			
	IP1			
	Active	Yes		
	Enabled	No		
	IP Address	192.168.0.89		
	TCP Dynamic Ports	0		
	TCP Port			
	IP2			
	Active	Yes		
	Enabled	No		
	IP Address	127.0.0.1		
	TCP Dynamic Ports	0		
	TCP Port			
	IPAll			
	TCP Dynamic Ports	1035		
	TCP Port	1433		
]		
TC	IP Port			
TC	IP port			
_				
	OK Cance	l <u>A</u> pply Help		

🛐 SQL Server Configuration Manager				_ 🗆 🗵
Eile Action ⊻iew Help ← → 🗈 🗃 🙆 🗟 😫				
SQL Server Configuration Manager (Local) SQL Server 2005 Services SQL Server 2005 Network Configuration Protocols for SQLEXPRESS SQL Native Client Configuration Client Protocols Aliases	Name Shared Memory TCP/IP Named Pipes	Order 1 2 3	Enabled Enabled Enabled Enabled Disabled	

For SQL Server 2008, start the SQL Server Configuration Manager from All Programs / Microsoft SQL Server 2008 / Configuration Tools and check protocols are enabled as below:





🚟 Sql Server Configuration Manager			
File Action View Help Image: Solution of the second s	Protocol Name Shared Memory Named Pipes TCP/IP	Status Enabled Enabled Enabled Disabled	

Then right click on TCP/IP properties and set a fixed TCP port for IPAII at 1433 as below:

	IP4		
	Active	Yes	
	Enabled	No	
	IP Address	127.0.0.1	
	TCP Dynamic Ports	0	
	TCP Port		
Ξ	IP5		
	Active	Yes	
	Enabled	No	
	IP Address	fe80::5efe:192.168.0.106%12	
	TCP Dynamic Ports	0	
	TCP Port		
Ξ	IPAll		
	TCP Dynamic Ports	49205	
	TCP Port	1433	
TC TC	P Port P port		<u> </u>

The following window will appear only in 64 bits version.





🔚 Sql Server Configuration Manager				_ 🗆 🗙		
Eile Action View Help						
SQL Server Configuration Manager (Local) SQL Server Services SQL Server Network Configuration (32bit) SQL Server Network Configuration (32bit) Aliases SQL Server Network Configuration (32bit) Protocols SQL Server Network Configuration Protocols SQL Server Network Configuration Client Protocols SQL Native Client 10.0 Configuration Client Protocols Aliases Aliases	Name Shared Memory TCP/IP Named Pipes	Order 1 2 3	Enabled Enabled Enabled Disabled			

🖀 Sql Server Configuration Manager 📃 🔍						
Eile Action View Help						
 SQL Server Configuration Manager (Local) SQL Server Services SQL Server Network Configuration (32bit) SQL Native Client 10.0 Configuration (32bit) Client Protocols Aliases SQL Server Network Configuration Protocols for SQLEXPRESS SQL Native Client 10.0 Configuration Client Protocols Aliases Aliases 	Name Shared Memory TCP/IP Named Pipes	Order 1 2 3	Enabled Enabled Enabled Enabled Disabled			

- 2. Verify that no FIREWALL setting is blocking the communication between the two machines.
 - SQL Server: TCP 1433
 - SQL Browser: UDP 1434





Section 2: Prepare the Click & DECiDE-BAI Machine

A. Create Custom User

- 1. Connect to the machine where Click &DECiDE-BAI is installed.
- 2. Create a User that will be used by Click &DECiDE-BAI to connect to your database.
 - a. This user must have the same login and password as the one created in section 1.A.
 - b. If the machine is located in a domain, this user must belong to the domain.
- 3. Grant the log on as a batch job and log on as a service rights to this user.

From Administrative Tools, start the Local Security Policy. Then, in Local Policies / User Rights Assignment, add this user to entries below:

- Log on as a batch job
- Log on as a service
- 4. Give full access to this user to the NSI directory located by default at: C:\Program Files\Click and DECiDE\NSI.
- 5. Open a Command Prompt and enter the following command:

```
>C:\WINDOWS\Microsoft.NET\Framework\v2.0.50727\aspnet_regiis.exe -
ga<domain>\<user>
```

Or, if no domain is defined:

```
>C:\WINDOWS\Microsoft.NET\Framework\v2.0.50727\aspnet_regiis.exe -ga<computer
name>\<user>
```

Replace **<domain>** by your domain name, **<user>** by the user name created in step 2(if no domain is defined, just enter the <computer name>\<user>.)

6. Type<ENTER>.

B. Test the Remote Database Connection

Do the same test as you did on the remote machine from this machine. (Section 1, Step C).







C. Configure BAI Services

If you only have the Click&DECiDE BAI software and not the Click&DECiDE NSI software, you need to download a file at: (**applicable only for version 10.02.01**)

http://support.clickndecide.com/downloads/patches/faq218.zip

The unzip the content into a c:\temp directory, then you can run the DVSqlServerConfig.exe program according to the next step:

1. Open a Command Prompt and enter the following command:

DVSqlServerConfig.exe -u <domain>\<user> -p <password> -s "DataSelect Connect Service;d7VEMService;DataSet Web Objects Manager Service;NRFilterEngine" -d "d7LEOService;D7TaskManager;DataSet Server Helpers Service;DataSet Web Objects Manager Service;d7vnrt;NRExecutor"

Or, if no domain is defined:

DVSqlServerConfig.exe -u <computer name>\<user> -p <password> -s "DataSelect Connect Service;d7VEMService;DataSet Web Objects Manager Service;NRFilterEngine" -d "d7LEOService;D7TaskManager;DataSet Server Helpers Service;DataSet Web Objects Manager Service;d7vnrt;NRExecutor"

Replace **<domain>** by your domain name, **<user>** by the user name created in section 2 (if no domain is defined, just enter the **<computer name>\<user>**).

2. Type<ENTER>

3. Stop and Restart the NSI and BAI Services using the stopsvc.bat and startsvc.bat located in:

C:\Program Files\Click and DECiDE\BAI

And

C:\Program Files\Click and DECiDE\NSI

4. When using the Builder project files (*.wfv) through the Web Portal, make sure that the directory containing these project files has the read rights for the specified user created in Section 2. If it is not the case you could get an error message such as "Error when opening the projects -Access denied".

