

KB842

SQL Server Native Replication (Standard Edition)

Applies to

All versions of PcVue that support the HDS.

Summary

How to use native SQL Server replication (Standard Edition).

Revision Record

Revision	Date	Author	Reason
0.0		ACH	Original article
1.0	11/10/2016	RM	First draft for KB

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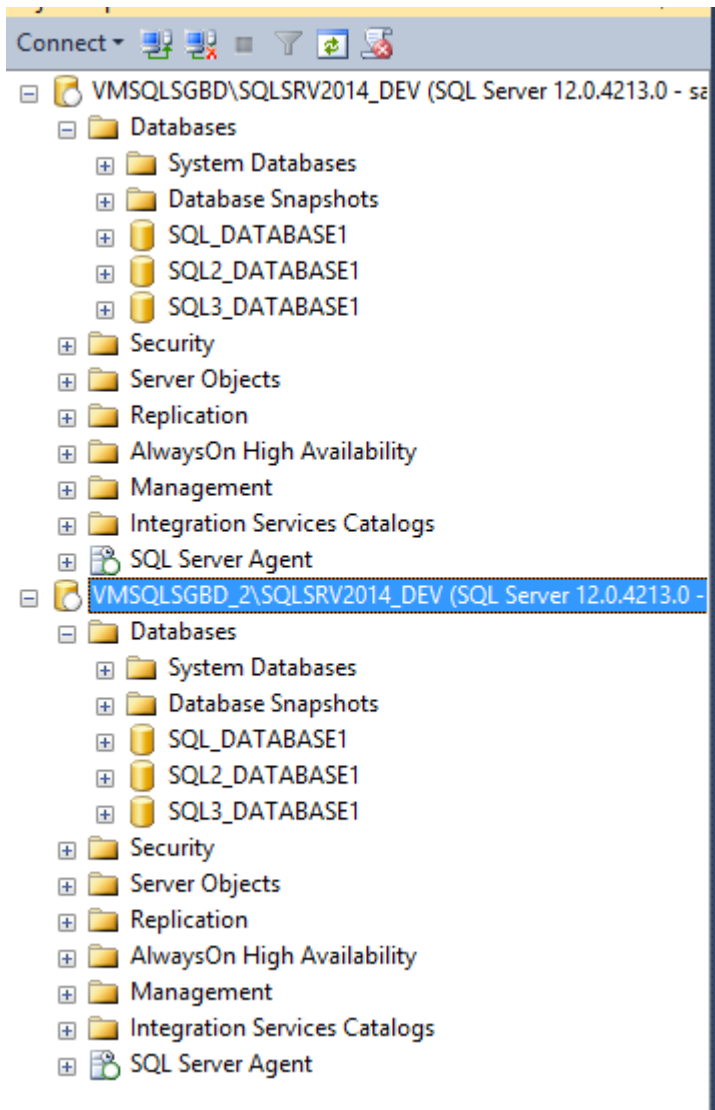
Preamble

For the purpose of explanation this article uses the following configuration.

Two instances of SQL Server 2014 Standard:

- VMSQLSGBD\SQLSRV2014_DEV
- VMSQLSGBD_2\SQLSRV2014_DEV

Two instances of SQL3_DATABASE1 from PcVue each with a LOGTABLE and TRENDTABLE tables.



Before starting, the memory consumption of SQL Server and the Log File size should be minimised.

This procedure uses a script called REPLICATION.sql.

Create a replication using a script

The script, REPLICATION.sql, can be found in Knowledge Base article KB842.

```
REPLICATION.sql -...DATABASE1 (sa (66))* X
-- This script uses sqlcmd scripting variables. They are in the form
-- $(MyVariable). For information about how to use scripting variables
-- on the command line and in SQL Server Management Studio, see the
-- "Executing Replication Scripts" section in the topic
-- "Programming Replication Using System Stored Procedures".

USE master;
GO

-- Create the test databases if they do not exist.

-- Enable the server as a Distributor, if not already done.
DECLARE @distributor AS sysname;
EXEC sp_helpdistributor @distributor = @distributor OUTPUT;
IF @distributor <> @@SERVERNAME
BEGIN
    EXEC master..sp_adddistributor @distributor = @@SERVERNAME;
    EXEC master..sp_adddistributiondb @database= 'distribution';
END
GO

-- Enable the server as a Publisher, if not already done.
-- ARC : Configure the correct directory of SQL repldata folder.
IF NOT EXISTS (SELECT * FROM msdb..MSdistpublishers WHERE name = @@SERVERNAME)
EXEC master..sp_adddistpublisher
    @publisher = @@SERVERNAME,
    @distribution_db = 'distribution',
    @working_directory = 'C:\Program Files\Microsoft SQL Server\MSSQL12.SQLSRV2014DEV\MSSQL\repldata';
GO

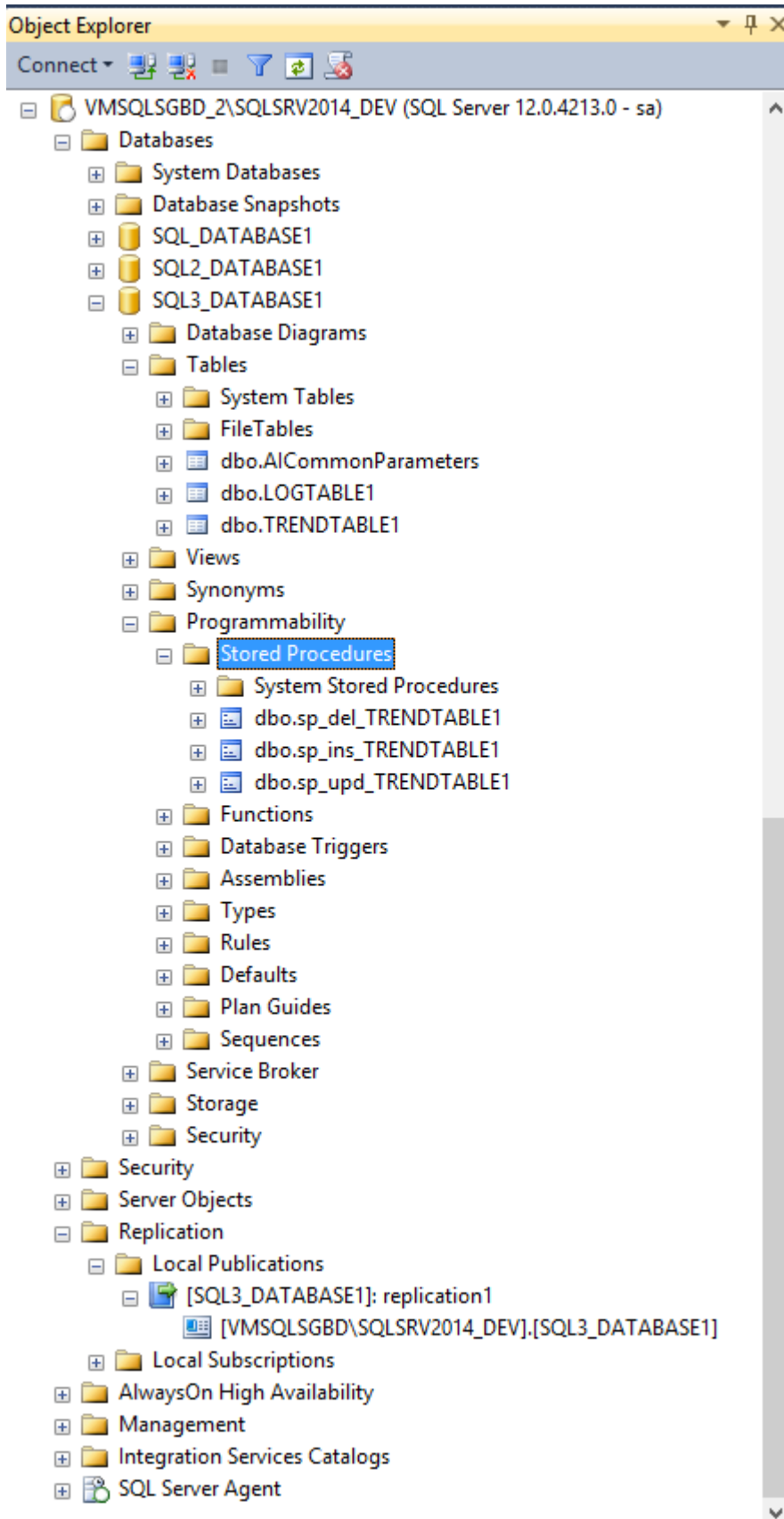
-- Enable the databases for transactional publishing.
-- ARC : Enter your database name
EXEC sp_replicationdboption N'SQL3_DATABASE1', N'publish', true;
GO
```

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Step 1. Open the script on the first SQL instance.

Modify the script where ARC1 appears in the comment field. ARC1 is appears wherever a modification is required for replication from server 1 to server 2

Execute.

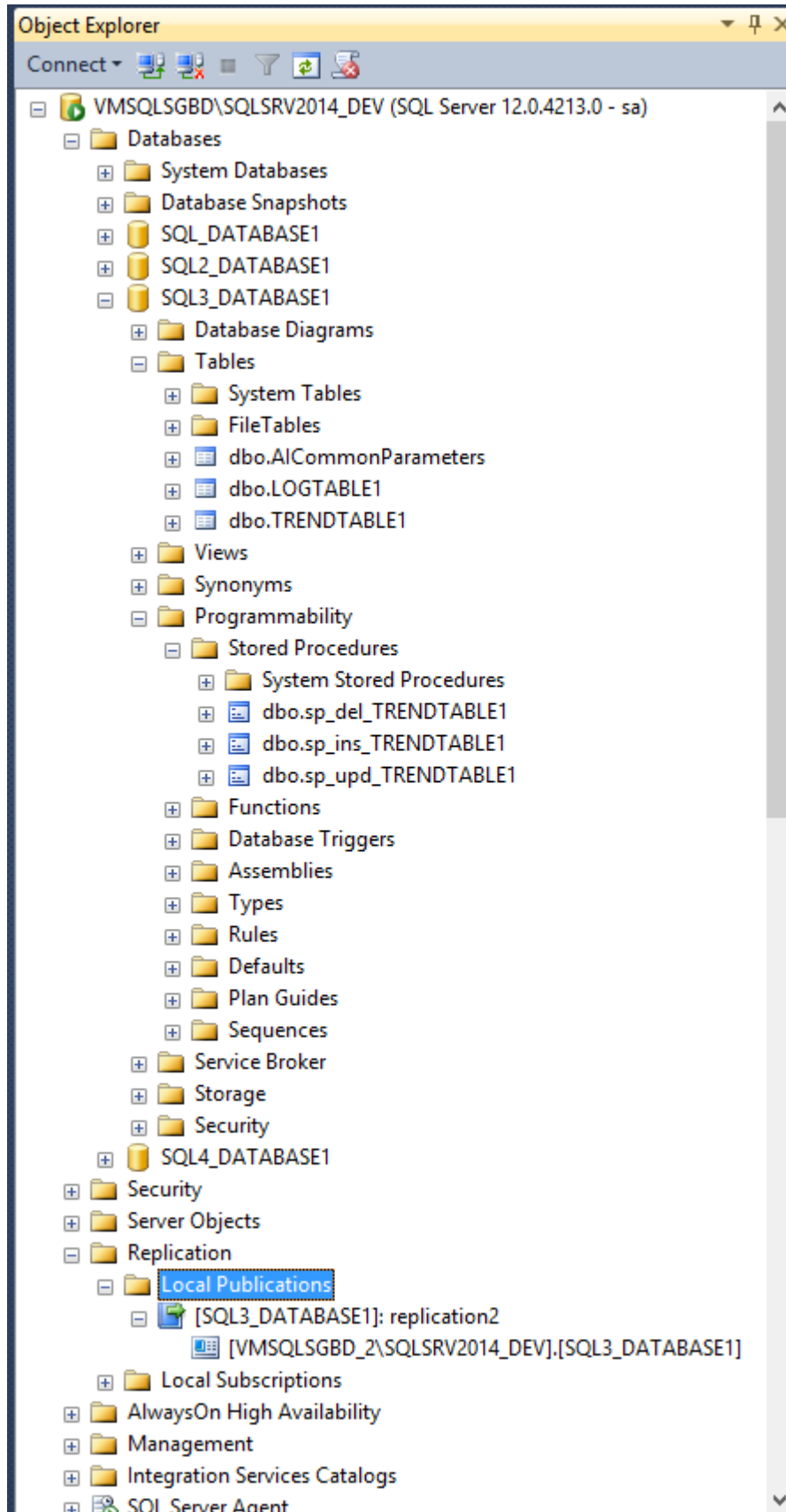


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Step 2. Open the modified REPLICATION script on the second SQL instance.

Modify the script where ARC2 appears in the comment field. ARC2 is appears wherever a modification is required for replication from server 2 to server 1

Execute



Important point

It is important to change the subscriptions properties to enter login and password on BOTH instances.

The image shows two parts of the SQL Server Enterprise Manager interface. The top part shows a tree view with a context menu open over a subscription. The bottom part shows the 'Subscription Properties' dialog box.

Context Menu:

- New Subscriptions...
- View Synchronization Status
- Reinitialize
- Launch Replication Monitor
- Reports
- Delete
- Refresh
- Properties

Subscription Properties - VMSQLSGBD_2\SQLSRV2014_DEV: SQL3_DATABASE1

Properties:

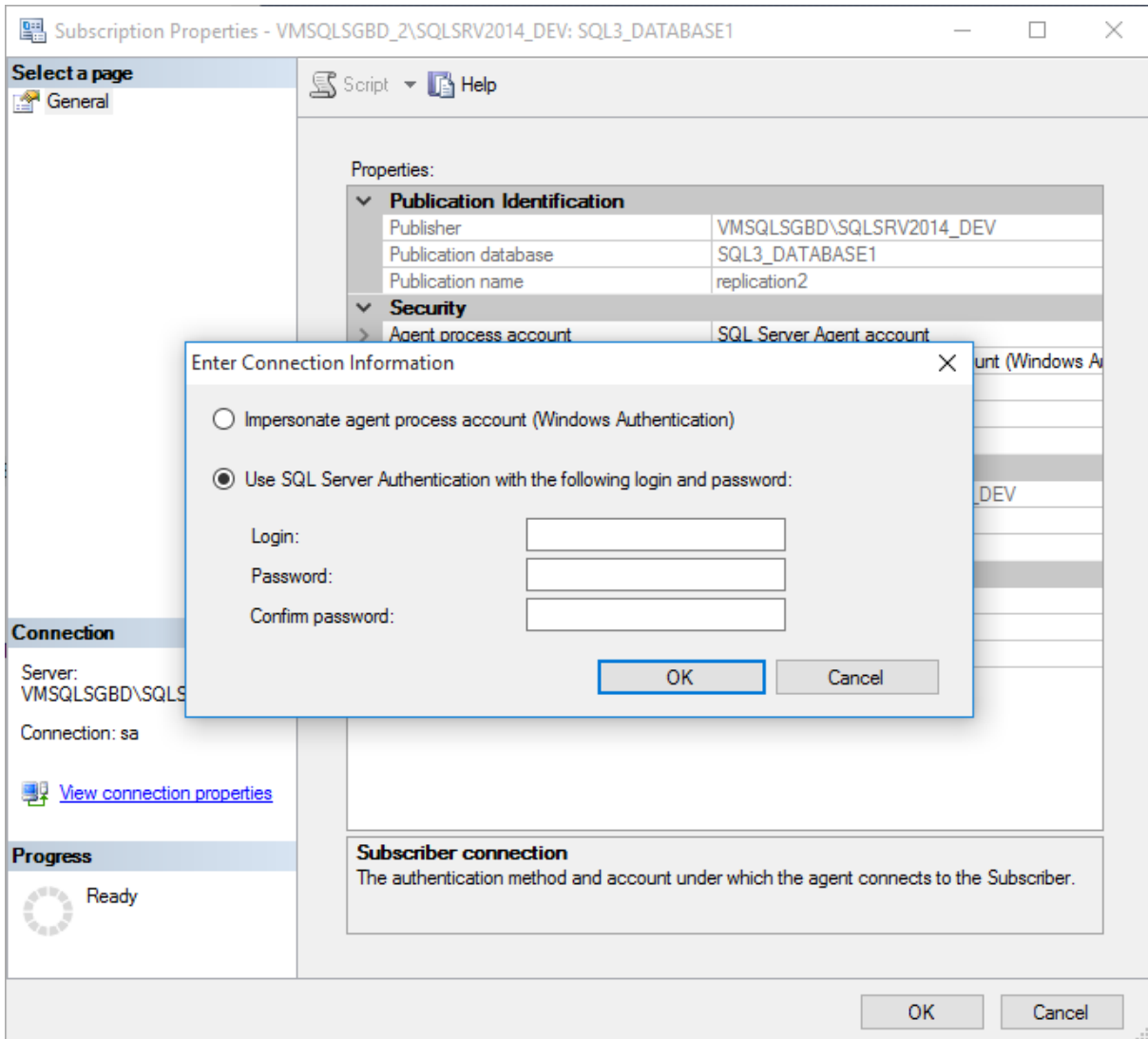
- Publication Identification**
 - Publisher: VMSQLSGBD\SQLSRV2014_DEV
 - Publication database: SQL3_DATABASE1
 - Publication name: replication2
- Security**
 - Agent process account: SQL Server Agent account
 - Subscriber connection: Impersonate agent process account (Window...
 - Security mode: Windows Authentication
 - Account:
 - Password:
- Subscription Identification**
 - Subscriber: VMSQLSGBD_2\SQLSRV2014_DEV
 - Subscription database: SQL3_DATABASE1
 - Distribution Agent location: Distributor (push subscription)
- Subscription Options**
 - Status: Active
 - Updatable subscription: False
 - Prevent transaction looping: True

Subscriber connection
The authentication method and account under which the agent connects to the Subscriber.

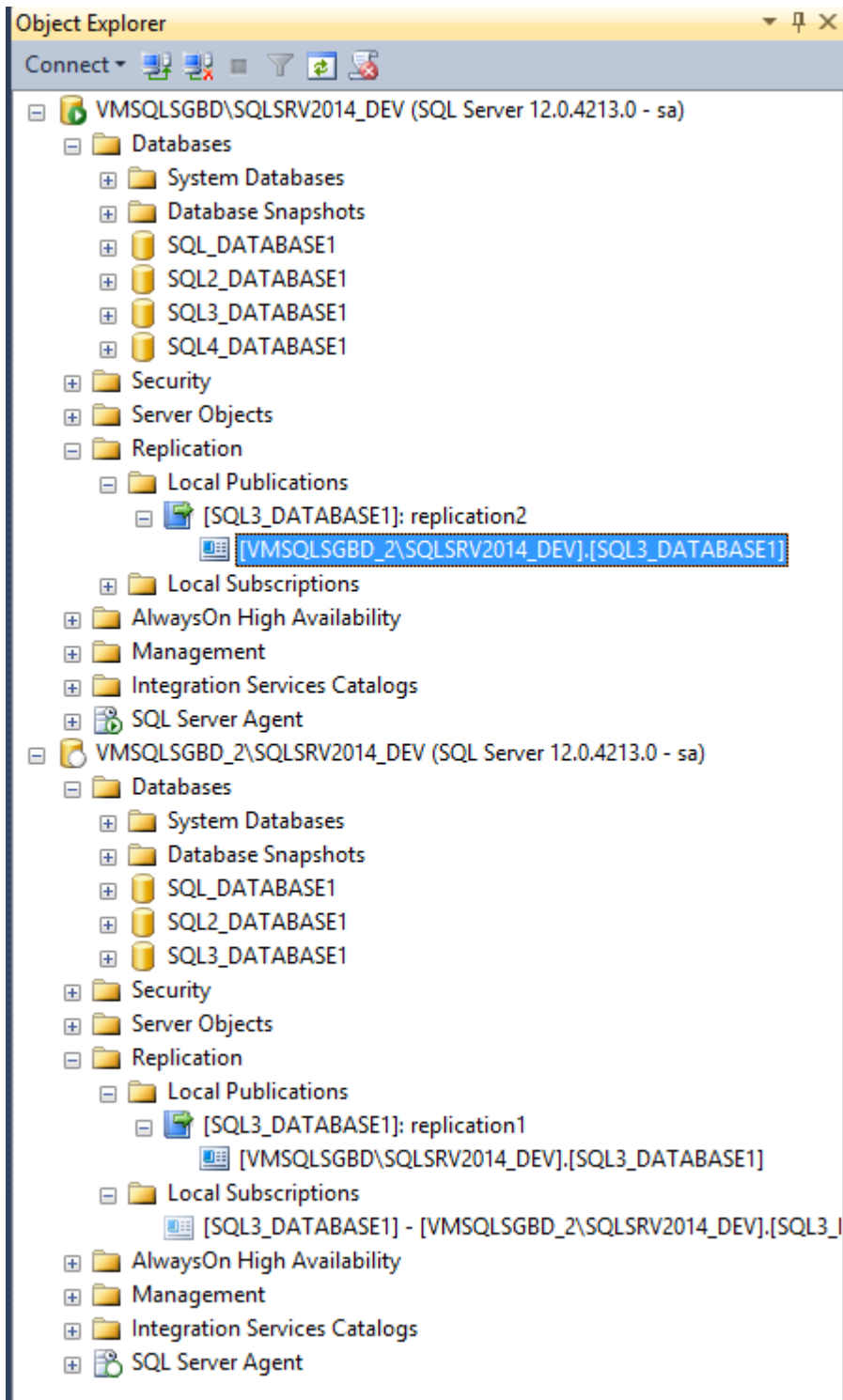
Connection: Server: VMSQLSGBD\SQLSRV2014_DE, Connection: sa

Progress: Ready

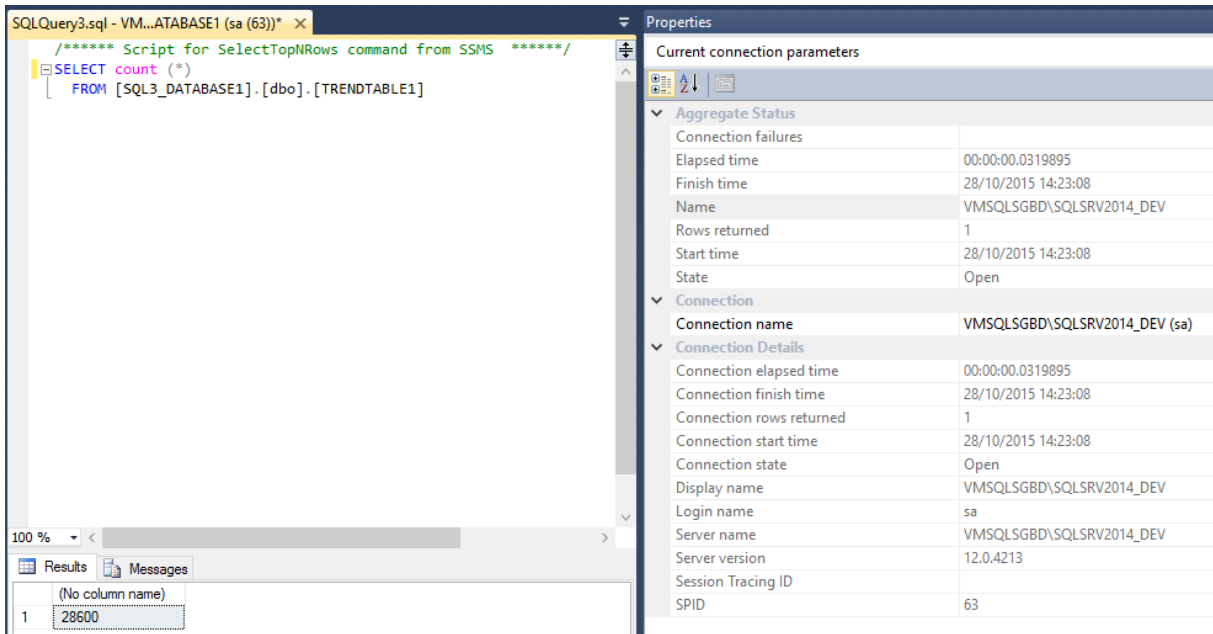
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Result



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SQLQuery3.sql - VM...ATABASE1 (sa (63))*

```
/****** Script for SelectTopNRows command from SSMS *****/  
SELECT count (*)  
FROM [SQL3_DATABASE1].[dbo].[TRENDTABLE1]
```

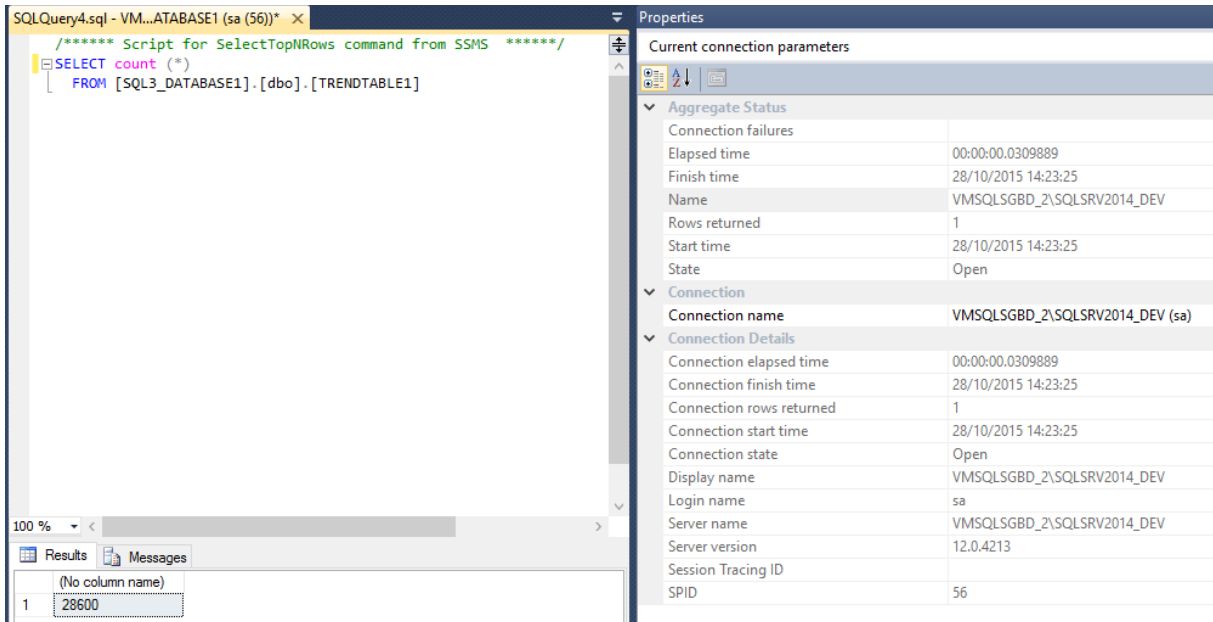
100 %

(No column name)
1 28600

Properties

Current connection parameters

- Aggregate Status
 - Connection failures
 - Elapsed time: 00:00:00.0319895
 - Finish time: 28/10/2015 14:23:08
 - Name: VMSQLSGBD\SQLSRV2014_DEV
 - Rows returned: 1
 - Start time: 28/10/2015 14:23:08
 - State: Open
- Connection
 - Connection name: VMSQLSGBD\SQLSRV2014_DEV (sa)
- Connection Details
 - Connection elapsed time: 00:00:00.0319895
 - Connection finish time: 28/10/2015 14:23:08
 - Connection rows returned: 1
 - Connection start time: 28/10/2015 14:23:08
 - Connection state: Open
 - Display name: VMSQLSGBD\SQLSRV2014_DEV
 - Login name: sa
 - Server name: VMSQLSGBD\SQLSRV2014_DEV
 - Server version: 12.0.4213
 - Session Tracing ID
 - SPID: 63



SQLQuery4.sql - VM...ATABASE1 (sa (56))*

```
/****** Script for SelectTopNRows command from SSMS *****/  
SELECT count (*)  
FROM [SQL3_DATABASE1].[dbo].[TRENDTABLE1]
```

100 %

(No column name)
1 28600

Properties

Current connection parameters

- Aggregate Status
 - Connection failures
 - Elapsed time: 00:00:00.0309889
 - Finish time: 28/10/2015 14:23:25
 - Name: VMSQLSGBD_2\SQLSRV2014_DEV
 - Rows returned: 1
 - Start time: 28/10/2015 14:23:25
 - State: Open
- Connection
 - Connection name: VMSQLSGBD_2\SQLSRV2014_DEV (sa)
- Connection Details
 - Connection elapsed time: 00:00:00.0309889
 - Connection finish time: 28/10/2015 14:23:25
 - Connection rows returned: 1
 - Connection start time: 28/10/2015 14:23:25
 - Connection state: Open
 - Display name: VMSQLSGBD_2\SQLSRV2014_DEV
 - Login name: sa
 - Server name: VMSQLSGBD_2\SQLSRV2014_DEV
 - Server version: 12.0.4213
 - Session Tracing ID
 - SPID: 56

Diagnostics

You can run the Replication Monitor to see the last synchronization.

