

## KB841

# SQL Server Native Replication (Enterprise Edition)

### Applies to

All versions of PcVue that support the HDS.

### Summary

How to use native SQL Server replication (Enterprise 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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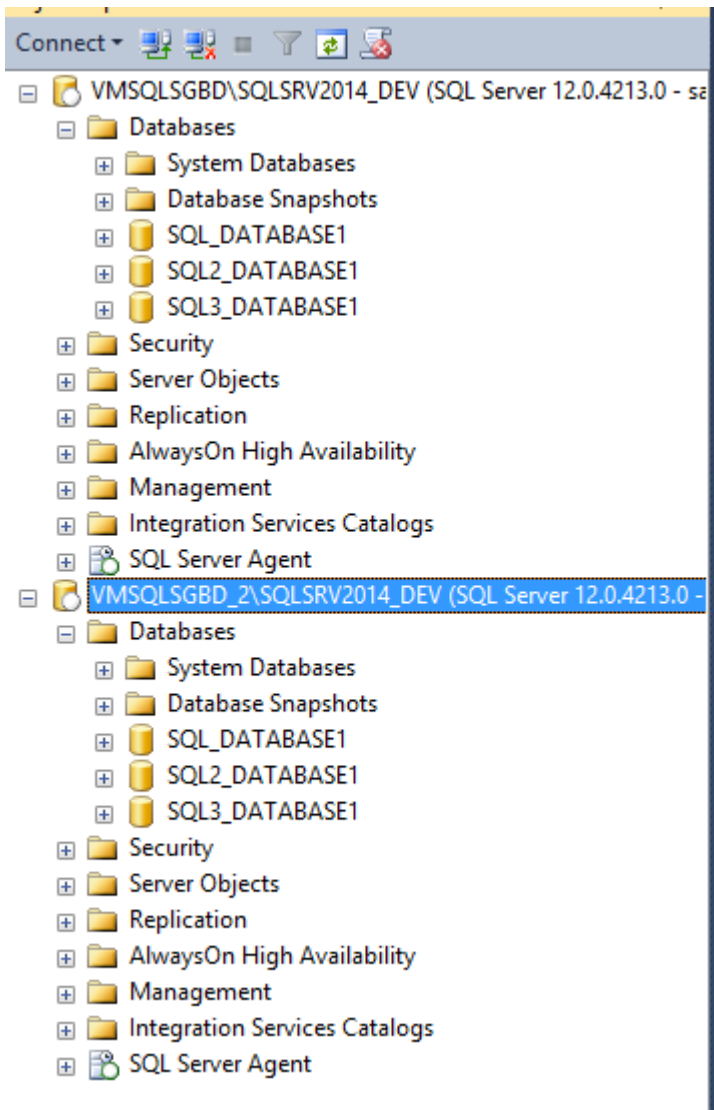
## Preamble

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

Two instances of SQL Server 2014 Enterprise:

- VMSQLSGBD\SQLSRV2014\_DEV
- VMSQLSGBD\_2\SQLSRV2014\_DEV

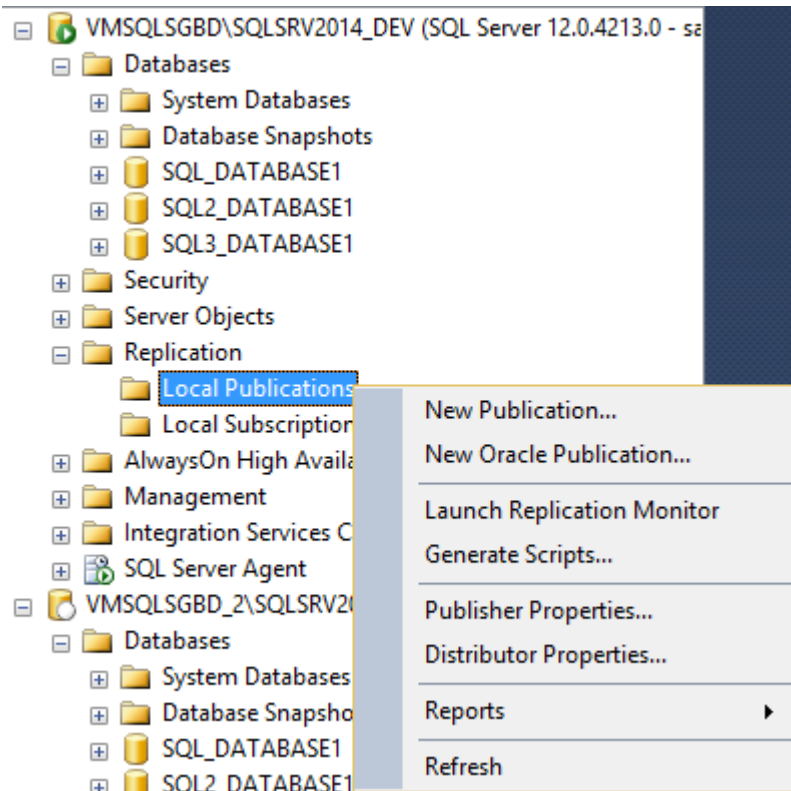
Two instances of SQL3\_DATABASE1 from PcVue each with a LOGTABLE and TRENDTABLE tables.



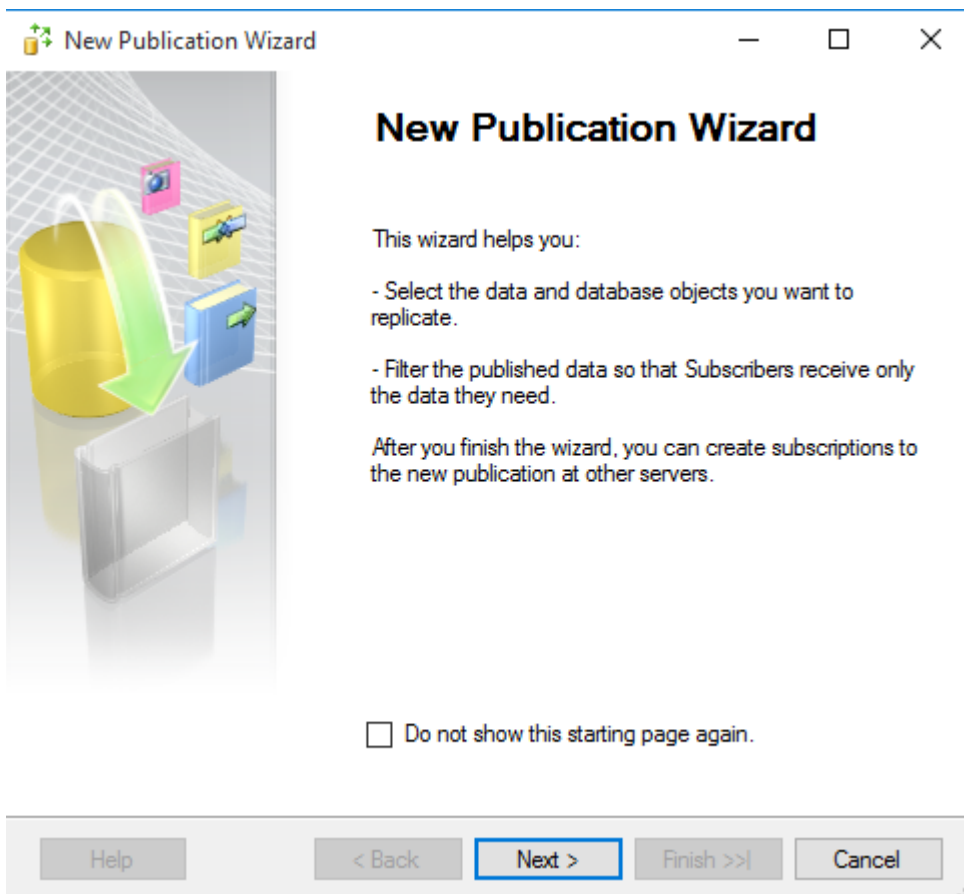
Before starting, the memory consumption of SQL Server and the Log File size should be minimised.

## Create a Publication

Step 1 - Create a new publication

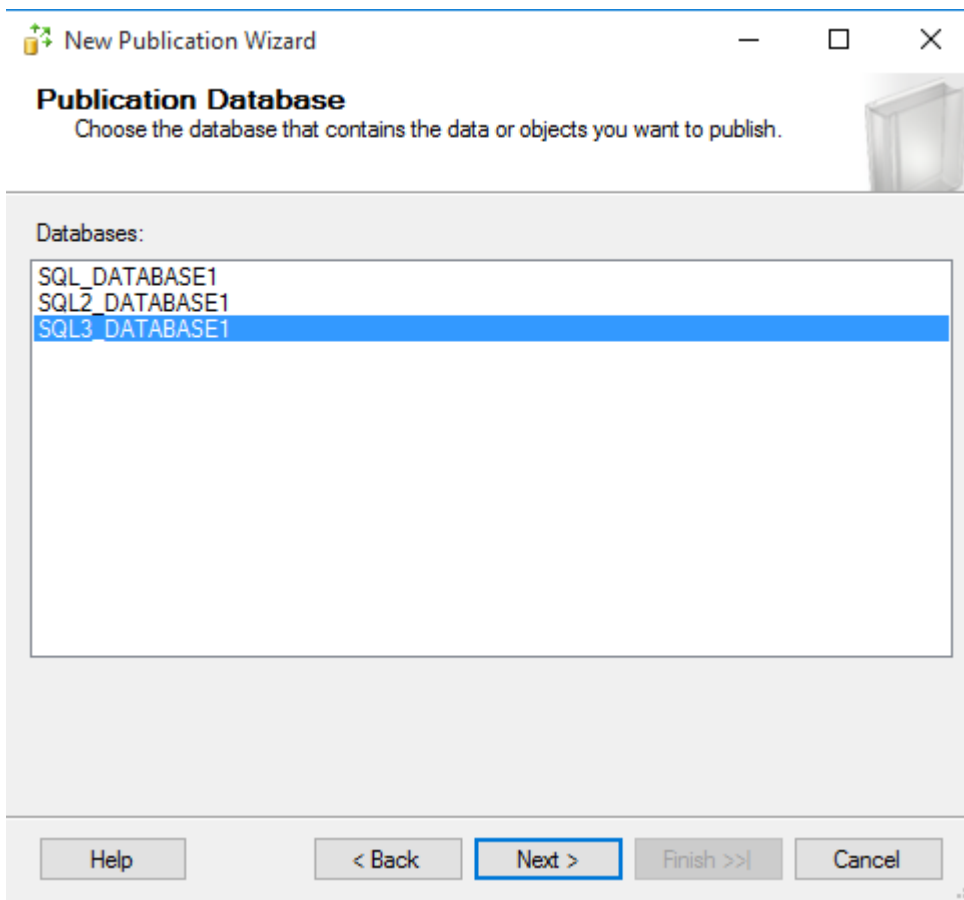


Step 2 – In the New Publication wizard click Next

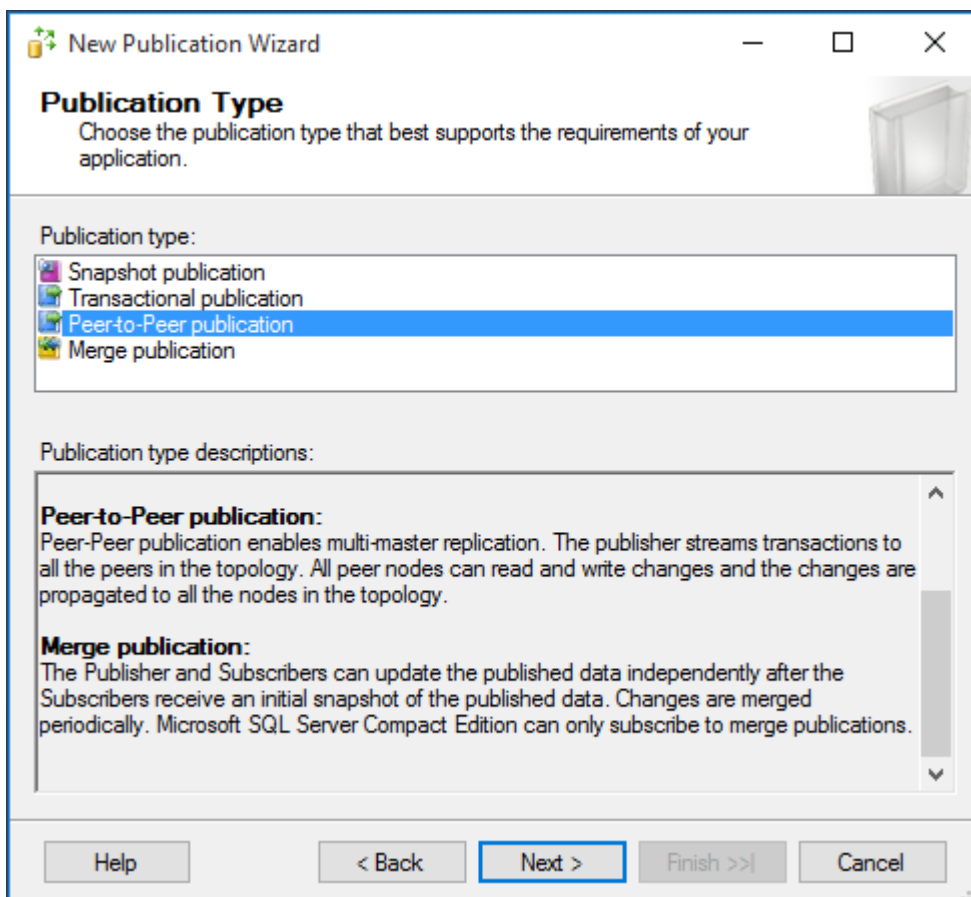


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### Step 3 – Choose the database

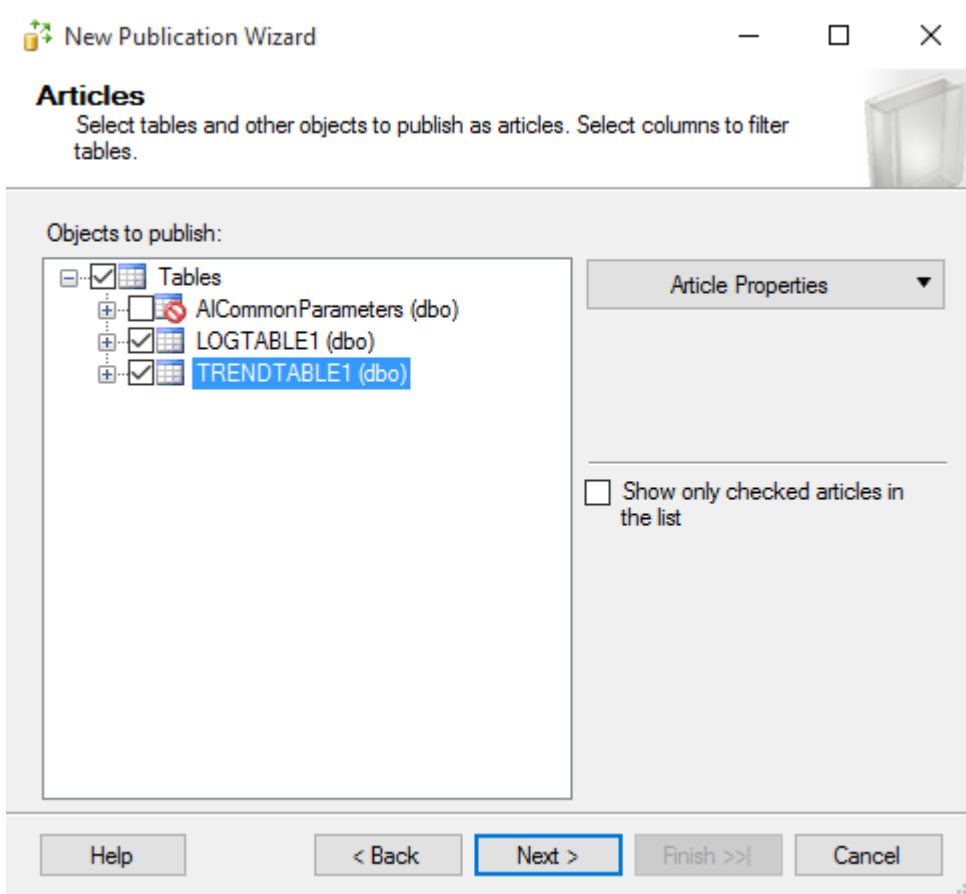


### Step 4 - Choose Peer to Peer publication

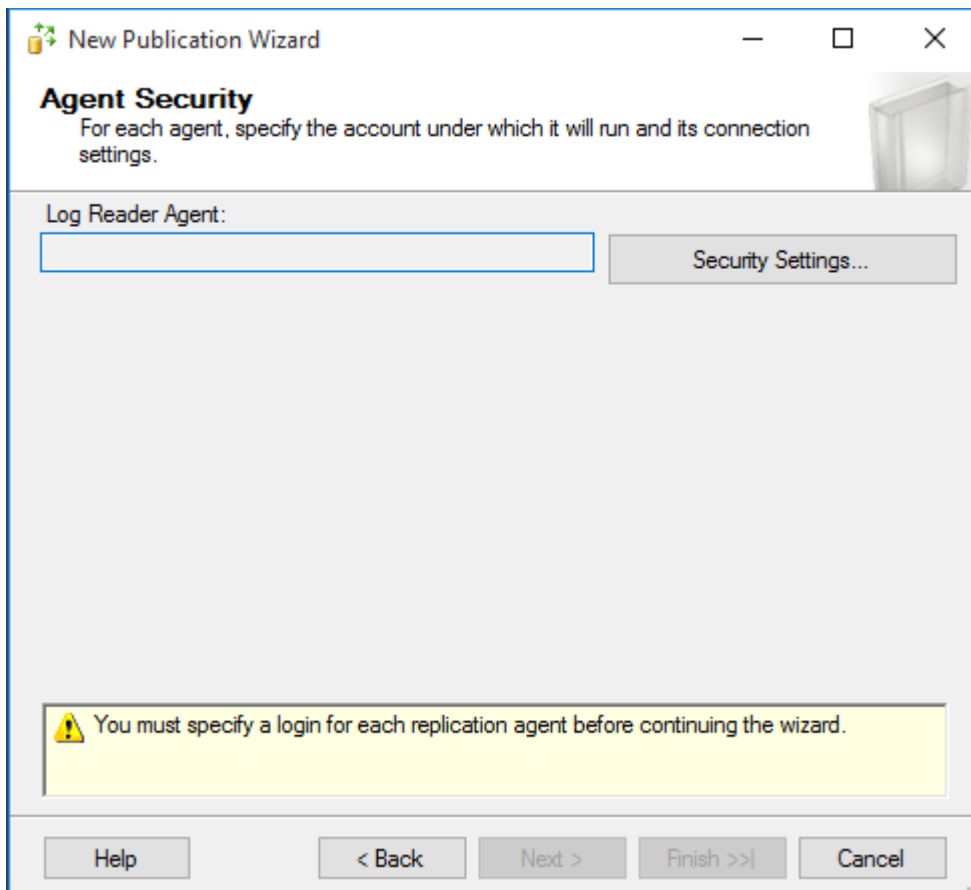


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### Step 5 – Choose tables



### Step 6 – Select Security Settings



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Log Reader Agent Security

Specify the domain or machine account under which the Log Reader Agent process will run.

Run under the following Windows account:

Process account:   
Example: domain\account

Password:   
Confirm Password:

Run under the SQL Server Agent service account (This is not a recommended security best practice.)

---

Connect to the Publisher

By impersonating the process account

Using the following SQL Server login:

Login:   
Password:   
Confirm Password:

OK Cancel Help

### Step 7

New Publication Wizard

**Wizard Actions**  
Choose what happens when you click Finish.

At the end of the wizard:

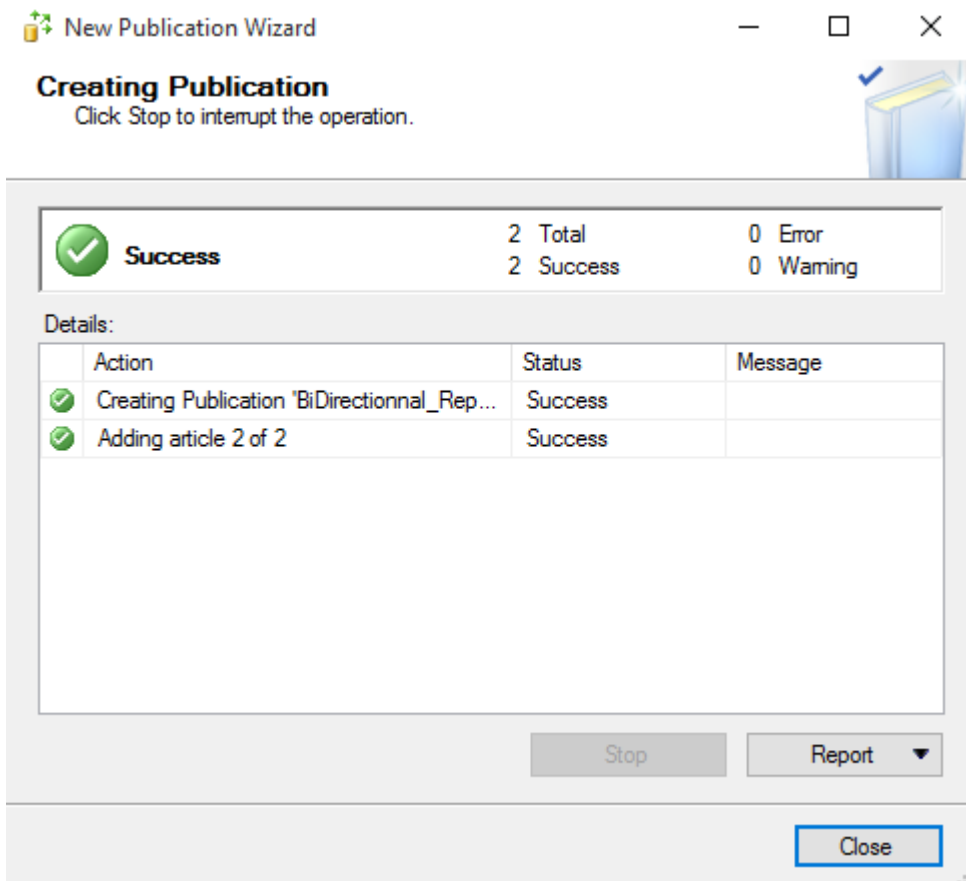
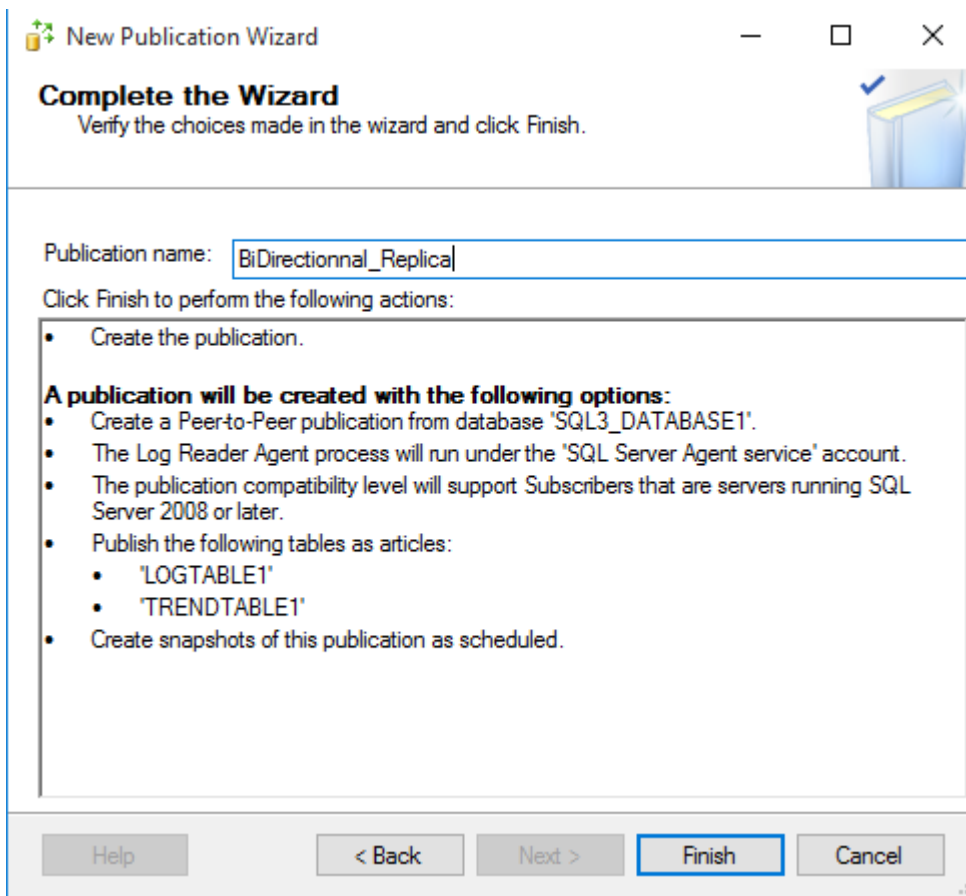
Create the publication

Generate a script file with steps to create the publication

Help < Back Next > Finish >>| Cancel

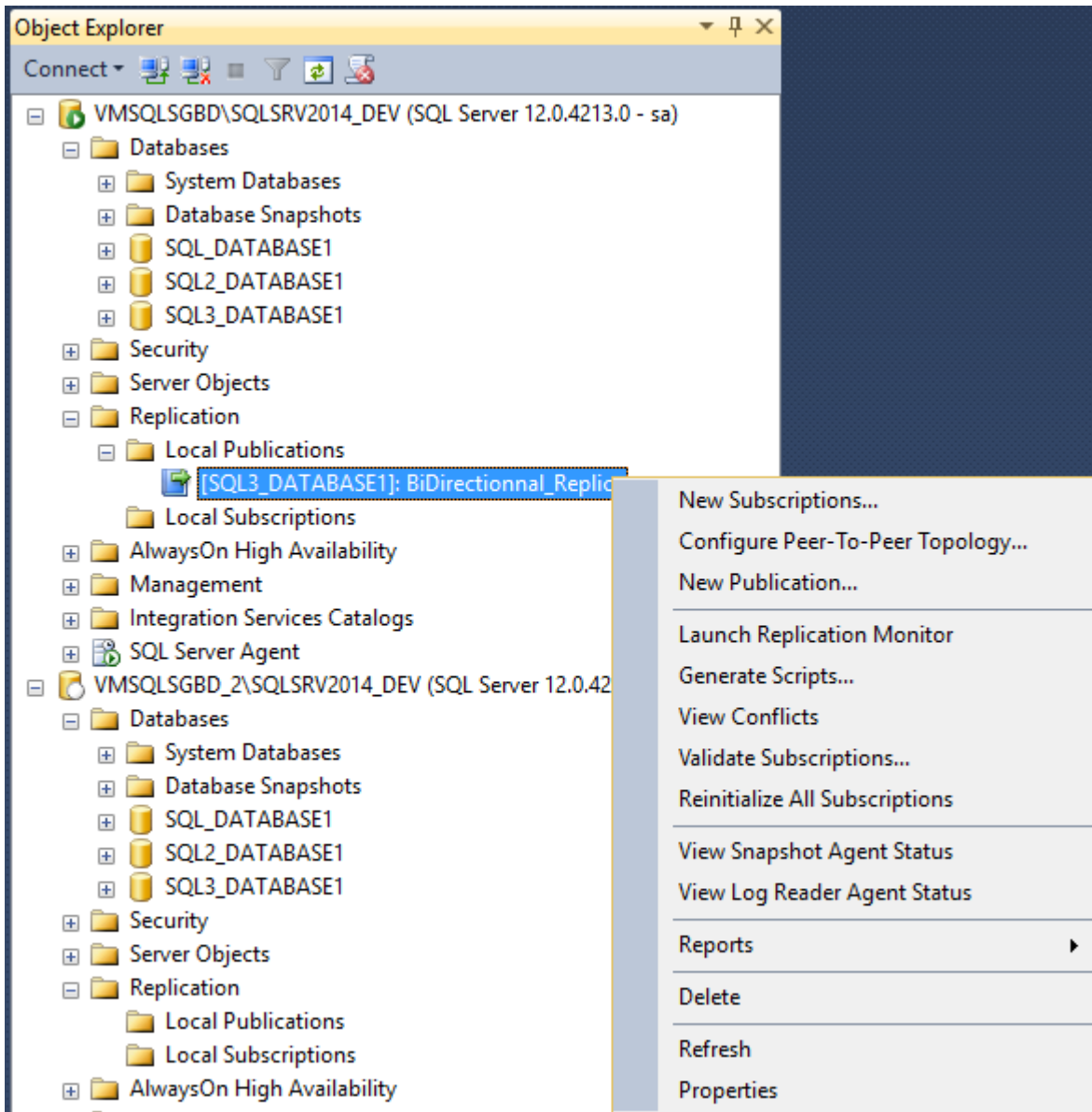
# PcVue Solutions Knowledge Base

## Step 8



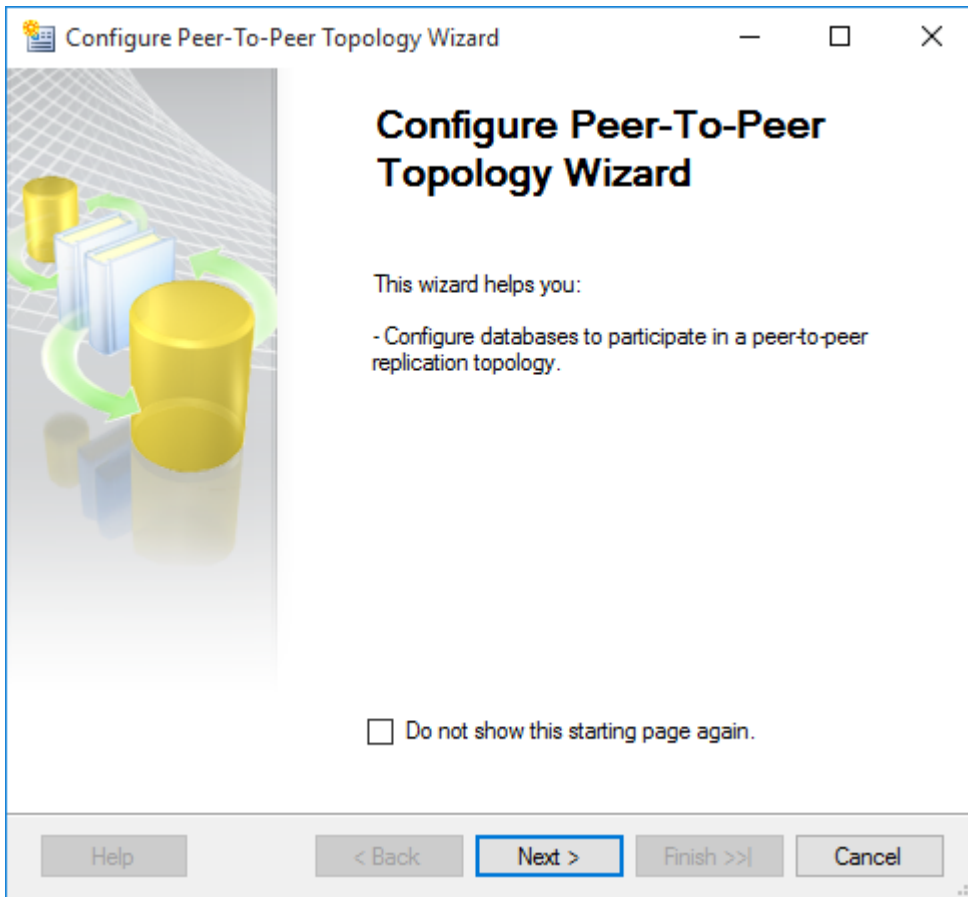
## Create Subscriptions

Step 1 - Click Configure Peer-To-Peer Topology.

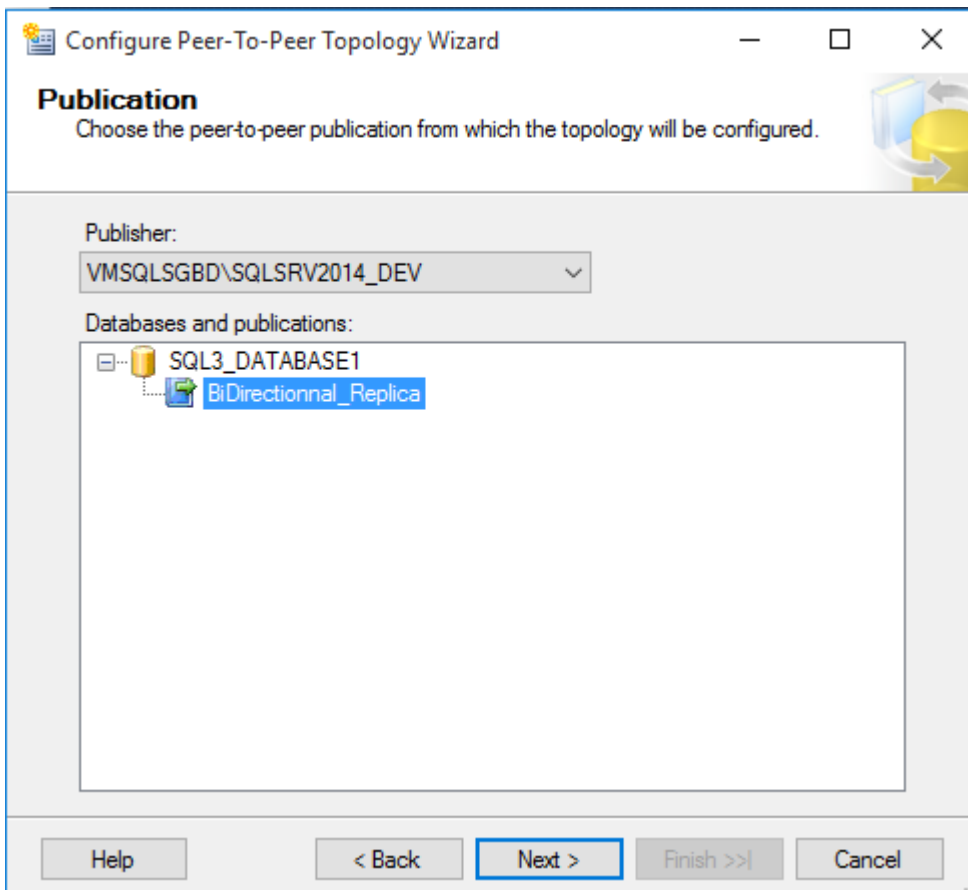


## PcVue Solutions Knowledge Base

### Step 2

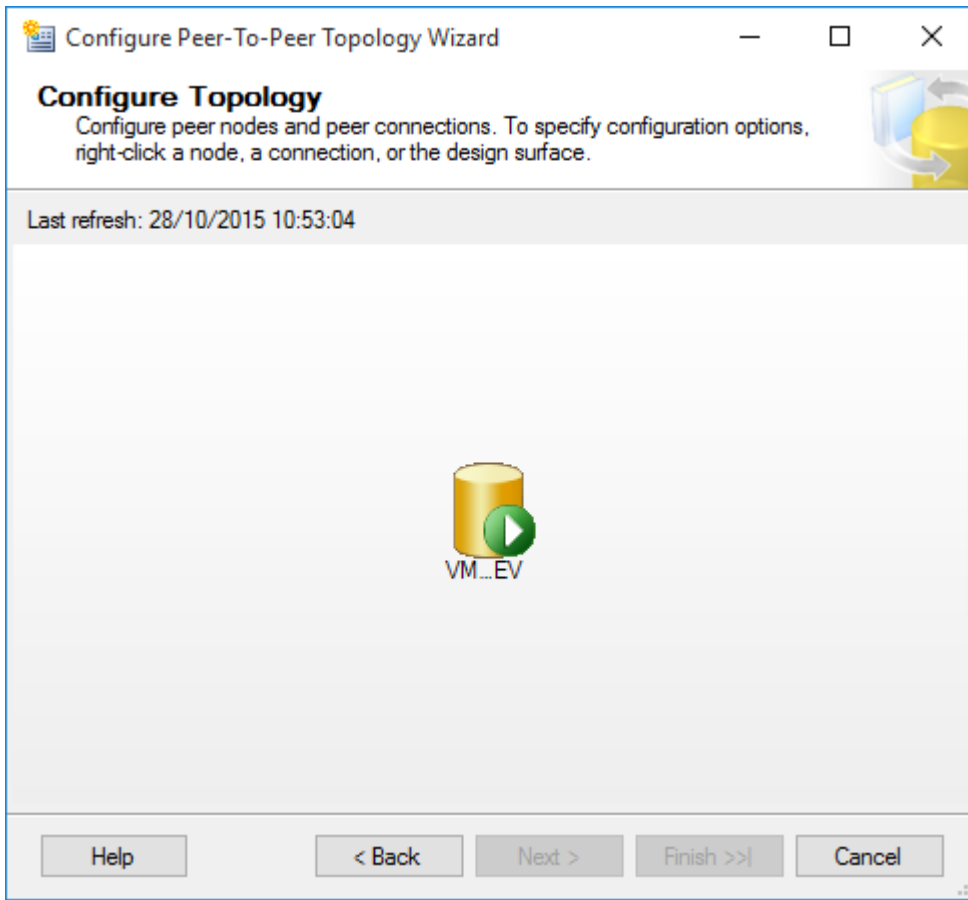


### Step 3

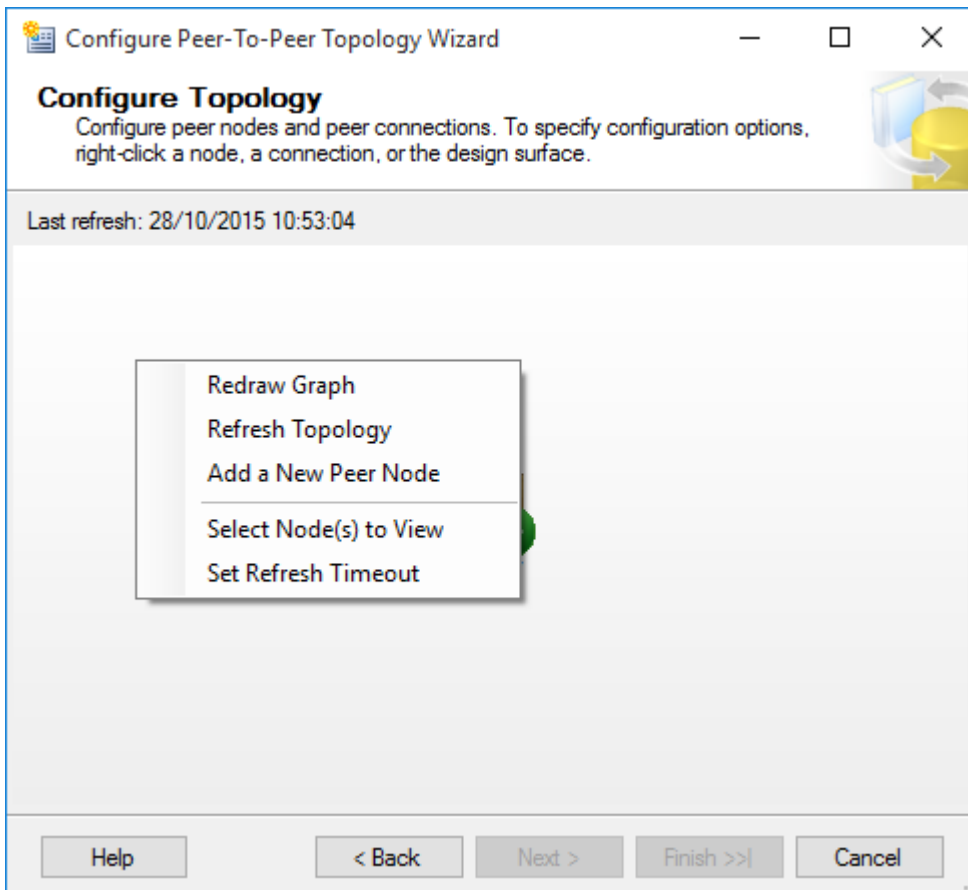


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**Step 4** : Right click in the empty space

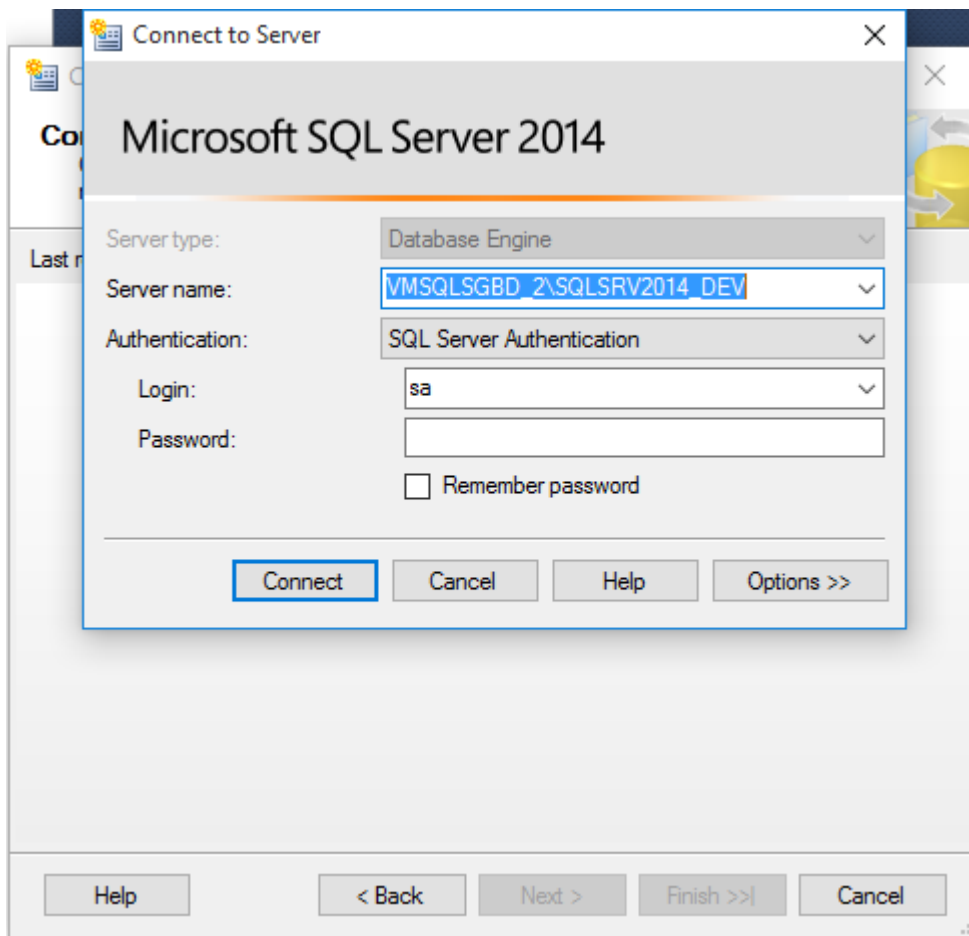


Click on Add a New Peer Node



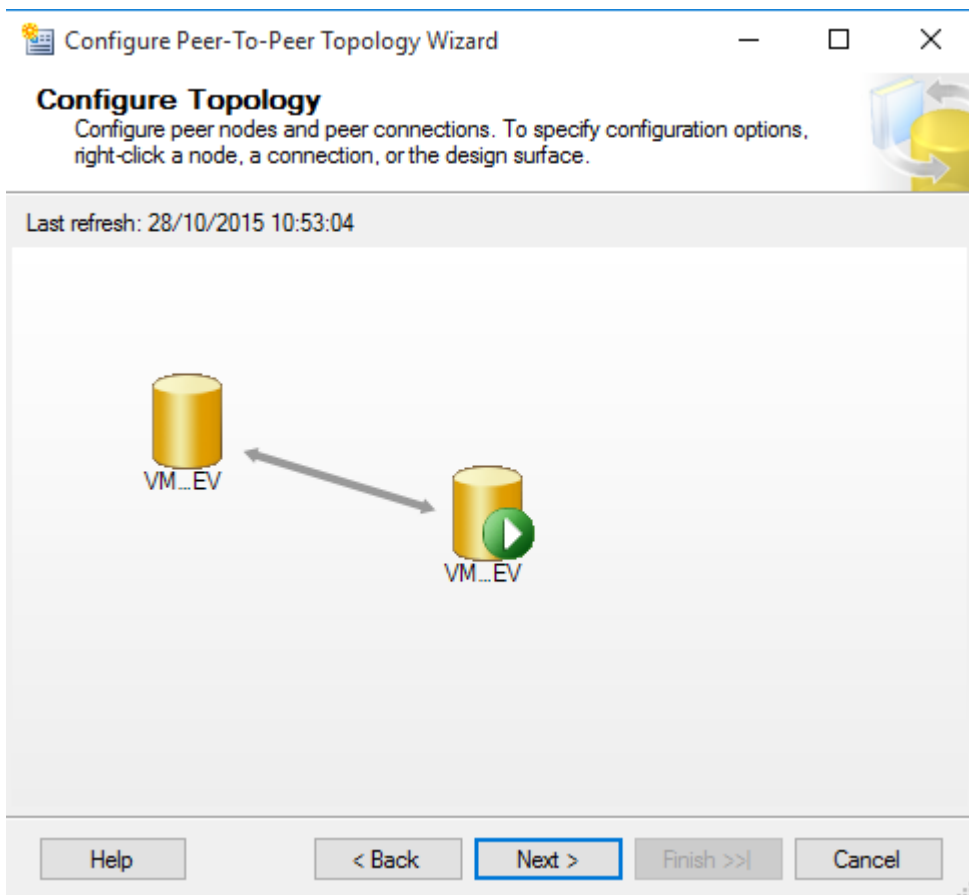
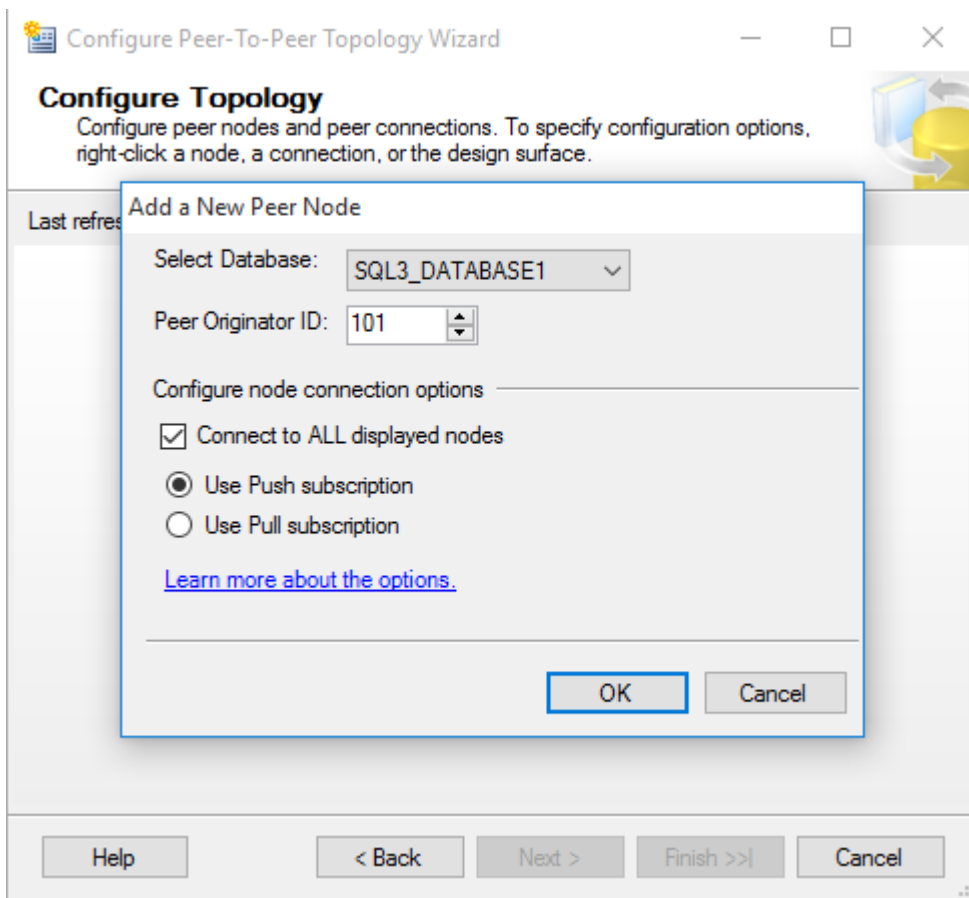
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Connect to the second instance



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Choose the database, change the ID and select Connect to ALL displayed nodes



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## Step 5

**Configure Peer-To-Peer Topology Wizard**

### Log Reader Agent Security

Specify the process account and connection options for each Log Reader Agent that will be created.

Agent security properties:

Agents for Publis...	Peer Database	Connection to Di...	Connection to Pu...	
VMSQLSGBD_2\...	SQL3_DATABASE1	Click (...) to set ...	Click (...) to set ...	...

Use the first peer's security settings for all other peers.

**Warning:** You must specify the security information for all subscriptions before continuing the wizard. Click (...) to set the security options.

Buttons: Help, < Back, Next >, Finish >>, Cancel

### Log Reader Agent Security

Specify the domain or machine account under which the Log Reader Agent process will run.

Run under the following Windows account:

Process account:   
Example: domain\account

Password:   
Confirm Password:

Run under the SQL Server Agent service account (This is not a recommended security best practice.)

Connect to the Publisher

By impersonating the process account

Using the following SQL Server login:

Login:   
Password:   
Confirm Password:

Buttons: OK, Cancel, Help

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## Step 6

**Distribution Agent Security**  
Specify the process account and connection options for each Distribution Agent.

Agent security properties:

Agent for Subscr...	Peer Database	Connection to Di...	Connection to Su...	
VMSQLSGBD\SQL...	SQL3_DATABASE1	Click (...) to set ...	Click (...) to set ...	...
VMSQLSGBD_2\...	SQL3_DATABASE1	Click (...) to set ...	Click (...) to set ...	...

Use the first peer's security settings for all other peers.

**!** You must specify the security information for all subscriptions before continuing the wizard. Click (...) to set the security options.

Help   < Back   Next >   Finish >>   Cancel

## PcVue Solutions Knowledge Base

### Distribution Agent Security



Specify the domain or machine account under which the Distribution Agent process will run when synchronizing this subscription.

Run under the following Windows account:

Process account:

Example: domain\account

Password:

Confirm Password:

Run under the SQL Server Agent service account (This is not a recommended security best practice.)

#### Connect to the Distributor

By impersonating the process account

Using a SQL Server login

The connection to the server on which the agent runs must impersonate the process account. The process account must be a member of the Publication Access List.

#### Connect to the Subscriber

By impersonating the process account

Using the following SQL Server login:

Login:

Password:

Confirm password:

The login used to connect to the Subscriber must be a database owner of the subscription database.

OK

Cancel

Help

## PcVue Solutions Knowledge Base

**Configure Peer-To-Peer Topology Wizard**

### Distribution Agent Security

Specify the process account and connection options for each Distribution Agent.

Agent security properties:

Agent for Subscr...	Peer Database	Connection to Di...	Connection to Su...	
VMSQLSGBD\SQ...	SQL3_DATABASE1	Impersonate pr...	Use login 'sa'	...
VMSQLSGBD_2\...	SQL3_DATABASE1	Impersonate pr...	Use login 'sa'	...

Use the first peer's security settings for all other peers.

Help < Back **Next >** Finish >>| Cancel

### Step 7

**Configure Peer-To-Peer Topology Wizard**

### New Peer Initialization

Specify how you want the new peer(s) to be initialized.

Specify how the new peer database(s) was initialized:

I created the peer database manually, or I restored a backup of the original publication database which has not been changed since the backup was taken

I restored a backup of the original publication database, and the publication database was changed after the backup was taken

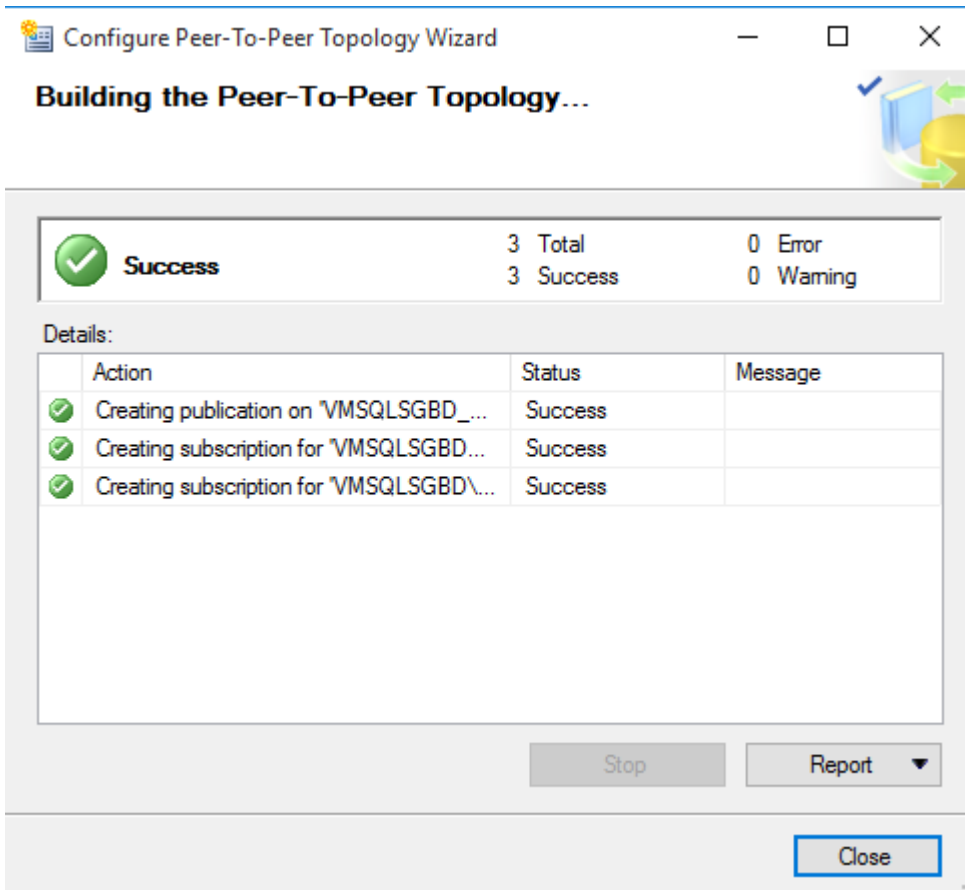
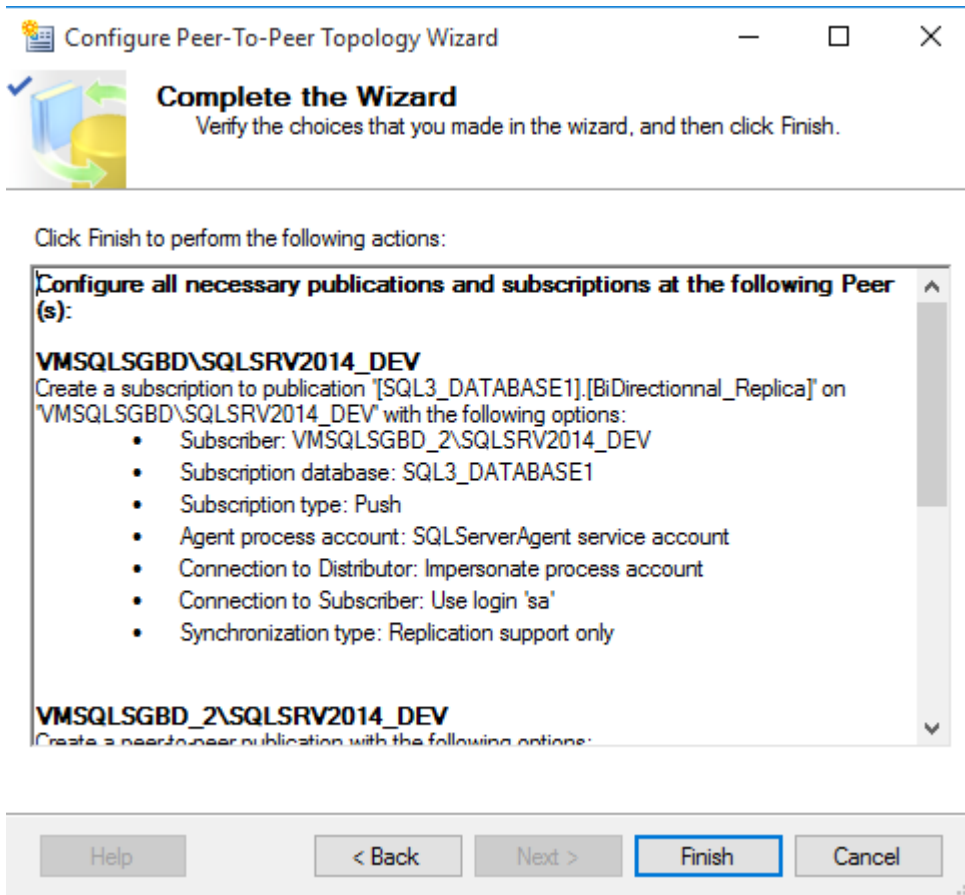
Specify the backup file used:

Browse

**Warning:** You must ensure that no changes are made to any database in the topology until after the topology has been completely configured.

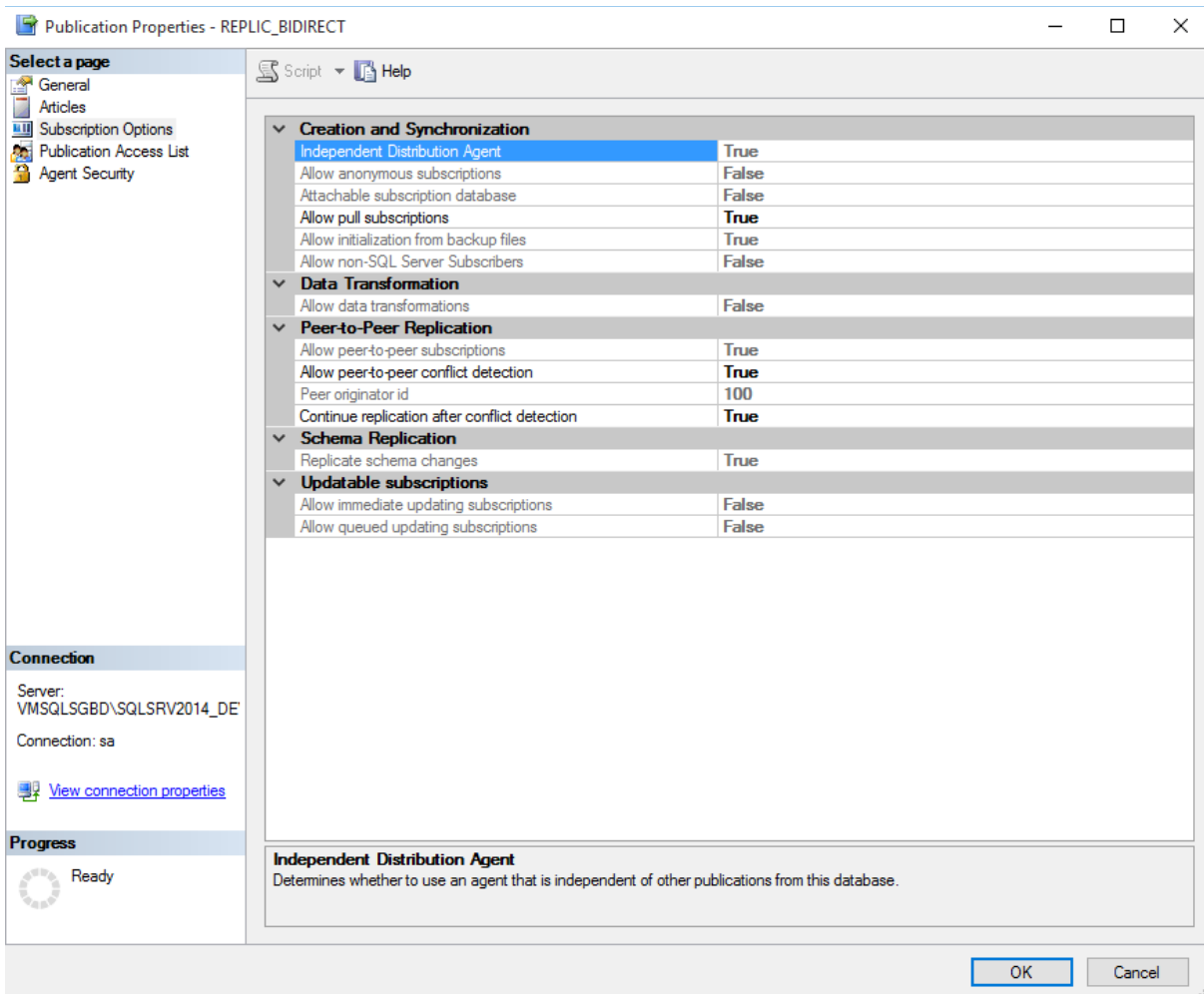
Help < Back **Next >** Finish >>| Cancel

Step 8

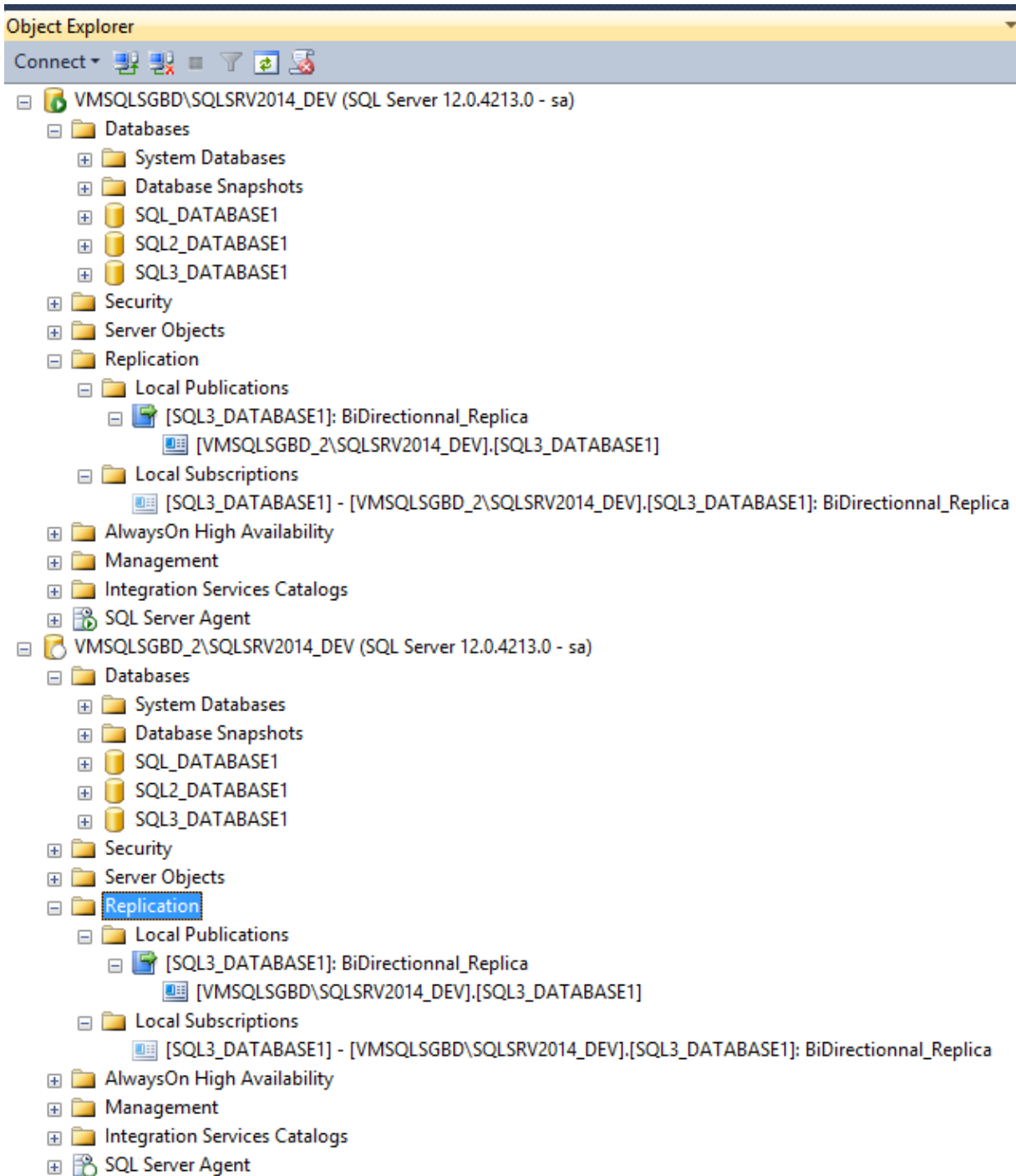


## Important point

It is important to change the peer to peer conflict detection to false in the Publication properties into the two instances



## 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 %

Results Messages

(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 %

Results Messages

(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.

