



# Click Studios

## Passwordstate

## High Availability Installation Instructions

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## 1 System Requirements - General

The High Availability module of Passwordstate has the same system requirements as the primary install. Please refer to the document 'Installation\_Instructions.pdf' for details.

**Note:** When using the High Availability module of Passwordstate, your distribution and publication databases must reside on SQL Server 2005 or 2008 – SQL Express can only act as a subscriber to SQL Server replication.

**Important:** SQL Server must be configured for mixed-mode authentication, so the Passwordstate web site can connect to SQL Server using an SQL Account

## 2 SQL Server Considerations

For the High Availability instance of Passwordstate, there are a few things to consider relating to SQL Server.

### During the Installation of Passwordstate

Prior to installing Passwordstate, you must have an SQL Account with sufficient permissions to create the database and tables (generally an SQL Server role of 'sysadmin' or 'dbcreator' e.g. sa account). You must not specify a Windows Active Directory account in order to create the Passwordstate database.

### SQL Server Replication Permissions

For SQL Server Replication, Microsoft recommends the use of an Active Directory domain account for replicating data between source and destination databases. **This domain account must be a member of the db\_owner fixed database role in the 'Distribution' and both 'passwordstate5' databases. It must also have write permissions on the snapshot file share area.** You can tell if the permissions are correct by checking the folder where the snapshot data is stored to see if some replication data exists after you finish creating the Publisher. Please speak to your Database Administrator for more information relating to SQL Server Replication permissions.

### SQL Server Port Considerations

If you are running SQL Server on a non-standard port number, you will need to append the port number to the end of the Database Server Name during '5. Configuring Passwordstate for First Time Use' in the following way: ServerHostName,PortNumber i.e. sqlserver1,8484

### 3 Creating an Appropriate DNS Record

During the installation of Passwordstate, there are two options for specifying the URL of the HA instance of Passwordstate, and they are:

#### Option 1 – Use web server host name in URL

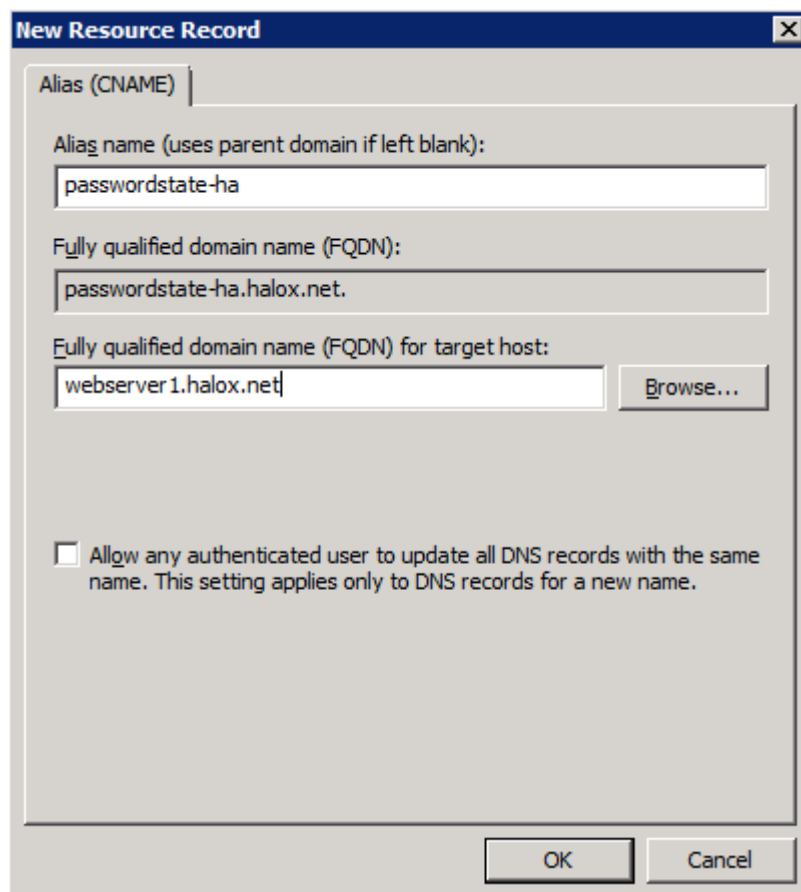
This option does not require you to create a DNS entry to use Passwordstate. You can simply type the following URL format into your browser – <http://MyServerName:PortNumber> i.e. <http://webserver:9119>

#### Option 2 – Specify your own custom URL for Passwordstate

In order to have your own personalised URL for the Passwordstate web site, you will need to create a DNS entry which points back to your web server's host name.

As an example, if you want your URL to be <http://passwordstate-ha>, then you can create the required DNS entry by following these instructions:

1. On your server hosting DNS, start 'DNS Manager'
2. Right click on the appropriate domain, and select 'New Alias (CNAME)'
3. As per the following screenshot, specify the name of your web server host name in the 'Fully qualified domain name (FQDN) for target host' text box, then click on the 'OK' button



**New Resource Record**

Alias (CNAME)

Alias name (uses parent domain if left blank):  
passwordstate-ha

Fully qualified domain name (FQDN):  
passwordstate-ha.halox.net.

Fully qualified domain name (FQDN) for target host:  
webserver1.halox.net Browse...

☐ Allow any authenticated user to update all DNS records with the same name. This setting applies only to DNS records for a new name.

OK Cancel

Once installed, you will be able to access Passwordstate by typing <http://passwordstate-ha> into your browser.

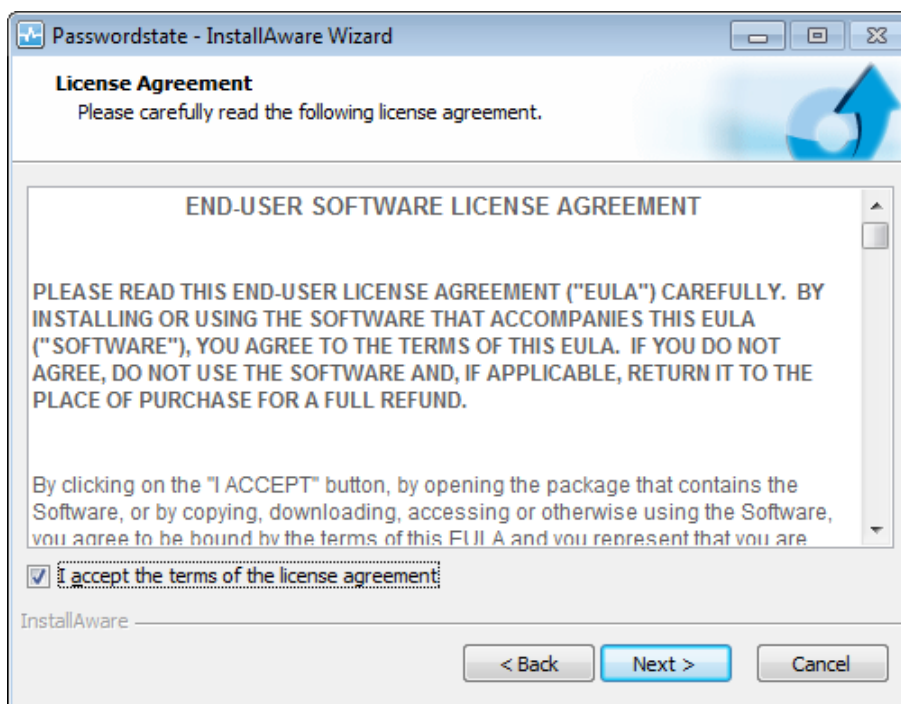
## 4 Installing Passwordstate

To install Passwordstate, run 'Passwordstate.exe' and follow these instructions:

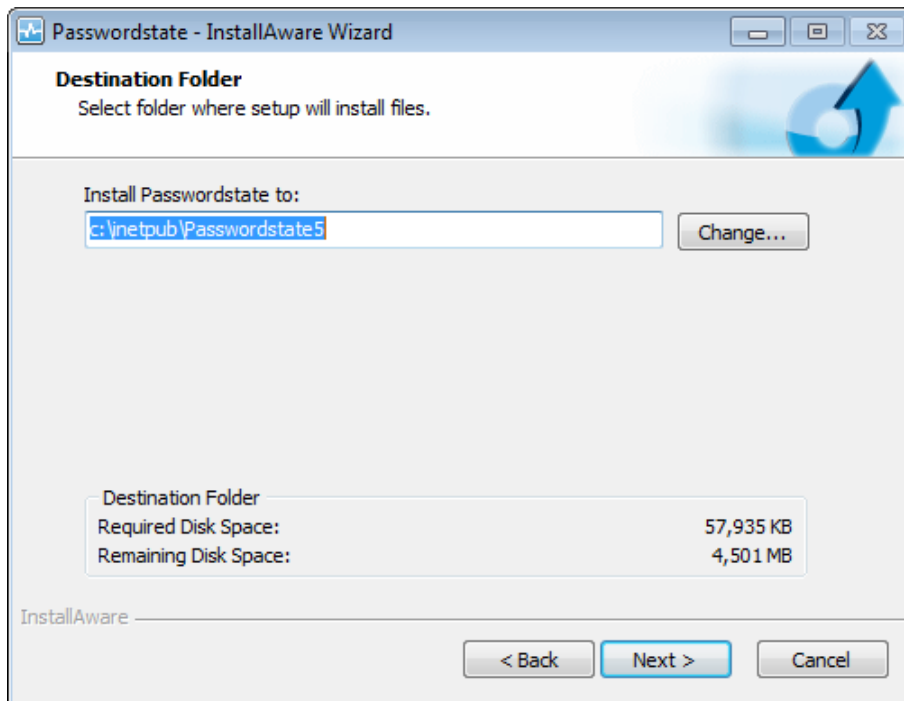
1. At the 'Passwordstate Installation Wizard' screen, click on the 'Next' button



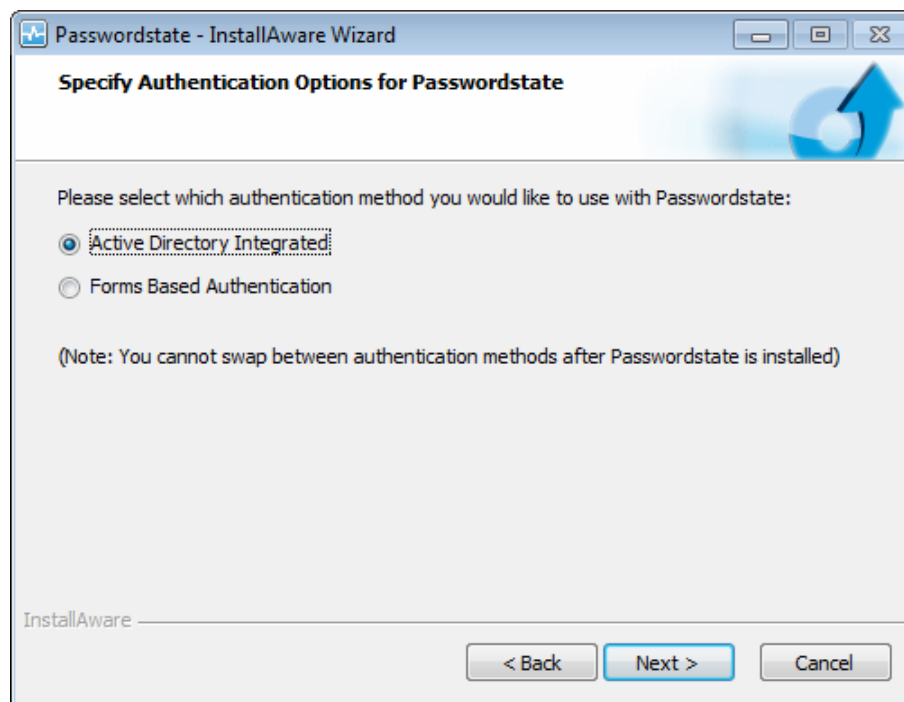
2. At the 'License Agreement' screen, tick the option 'I accept the terms in the License Agreement', then click on the 'Next' button



- At the 'Destination Folder' screen, you can either accept the default path or change to a different location, then click on the 'Next' button

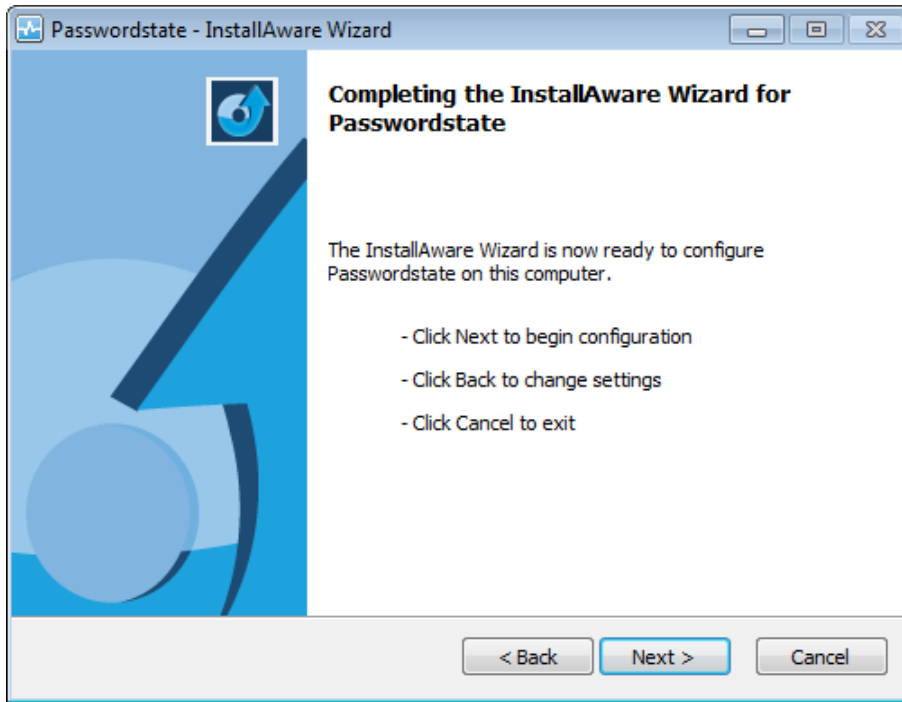


- At the 'Specify Authentication Options for Passwordstate' screen, select your preferred authentication method, and then click on the 'Next' button



- At the 'Specify Web Site URL and Port Number' screen, specify one of two options:

- a. Option 1 – this allows you to use a URL like <http://MyServerName:9119> as the URL
  - b. Option 2 – this allows you to use a URL like <http://passwordstate> (ensure this URL is different than your Primary Passwordstate Instance)
6. At the 'Completing the InstallAware Wizard for Passwordstate' screen, click on the 'Next' button



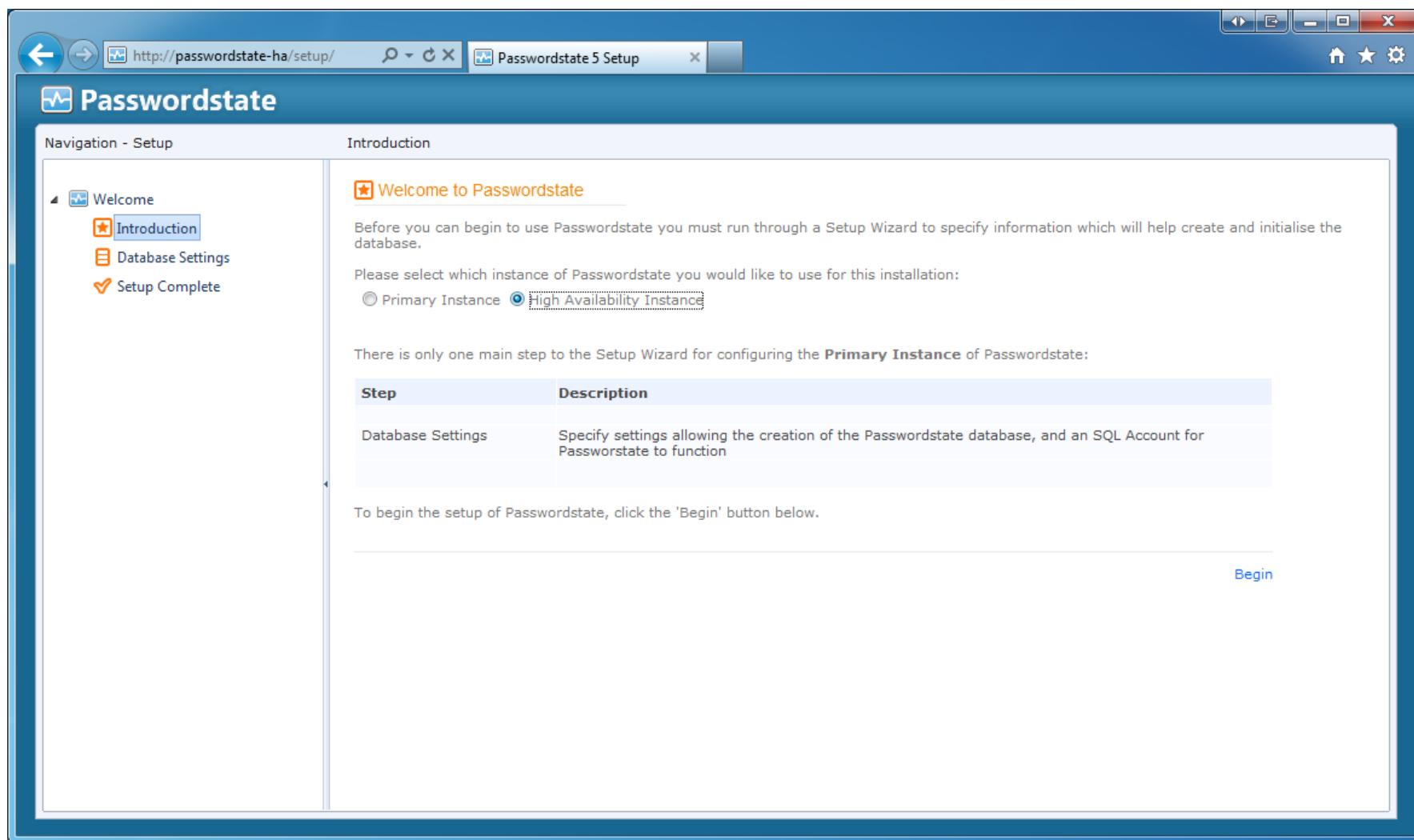
7. Once installed, click on the 'Finish' button



## 5 Configuring Passwordstate for First Time Use

**Introduction** - Now that Passwordstate is installed, you can direct your browser to the DNS entry you specified in Section 3 - Creating an Appropriate DNS Record, and follow the initial Setup Wizard – this wizard will guide you through a series of questions for configuring Passwordstate for use.

Click on the 'High availability Instance' option and you will be presented with the following screen.



**Database Settings** – On this screen you will need to specify database settings for creating the Passwordstate database. Please use the onscreen instructions if you have any issues connecting to the database.

**Please Note:** After the database is created, no tables will be populated with data as SQL Server replication will fulfil this function.

The screenshot shows a web browser window with the URL `http://passwordstate-ha/setup/` and a tab titled "Passwordstate 5 Setup". The application interface has a blue header with the "Passwordstate" logo. A left-hand navigation pane is titled "Navigation - Setup" and contains a tree view with the following items: "Welcome", "Introduction", "Database Settings" (which is highlighted with a blue border), and "Setup Complete" (marked with a checkmark icon). The main content area is titled "Database Settings" and contains the following text:

**Database Settings**

In order to create the Passwordstate database, the following conditions must be met:

**Condition 1:** Your SQL Server must be configured for **mixed-mode authentication**

**Condition 2:** You must supply an SQL Account (below) with sufficient privileges to create the Passwordstate database (use the 'Test Connection' button to validate the accounts credentials).

If you are having problems connecting to the database, click here for help - [Possible Connection Failure Reasons](#).

**Please Note:** Creating the database, and populating the tables with data, could take up to a minute to complete.

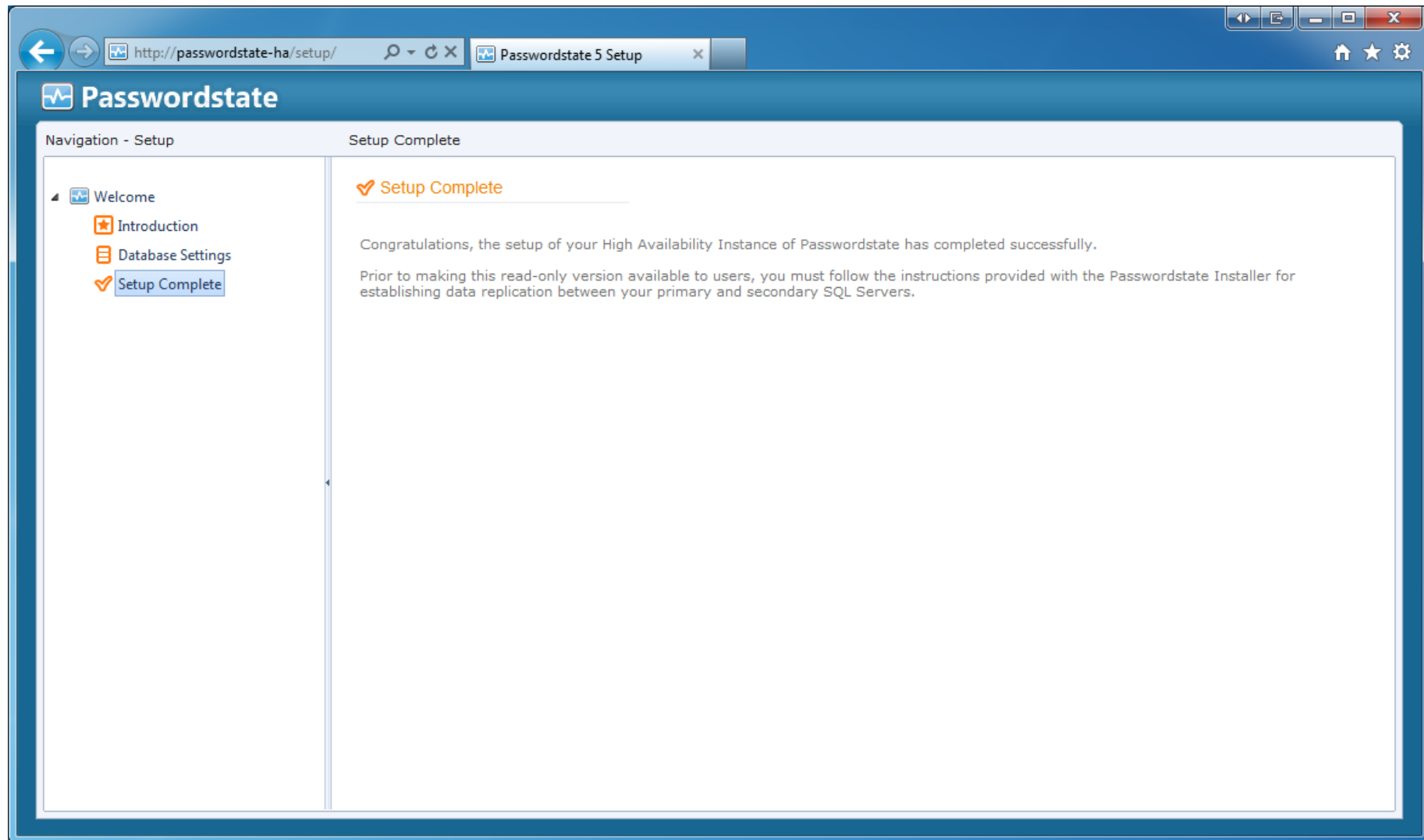
**Database Creation**

SQL Server Version *	SQL Server 2008	
Database Server Name *	<input type="text"/>	
SQL Server Instance Name	<input type="text"/>	
SQL Login Name *	<input type="text"/>	
Password *	<input type="password"/>	

At the bottom of the form, there is a status indicator "Status: Not tested" and two links: "Test Connection" and "Next".

**Setup Complete** – The installation is now complete. To configure SQL Server to replicate data, please continue reading this document.

**Recommendation:** It is highly recommended you also configure the Passwordstate web site with an SSL Certificate so all traffic between the browser and the web site is encrypted.



## 6 Prepare Web.config file

Prior to establishing SQL Server data replication, you need to copy the 'GUID1' key from the web.config file on your Primary Instance of Passwordstate, into the web.config file for this High Availability Instance. The web.config file can be found in the root of the Passwordstate folder, and the 'GUID1' key can be found in the 'appSettings' section. You need to copy and paste the entire key, which is in the format of:

```
<appSettings>  
  <add key="SetupStage" value="Setup Complete" />  
  <add key="PassiveNode" value="True" />  
  <add key="GUID1" value="0aafc8ea-b14e-6719-82f3-3c1e6f0f27e9" />  
</appSettings>
```

## 7 Encrypting the Database Connection String in the Web.config file

Whilst it's not entirely necessary to encrypt the database connection strings within the web.config file, it is recommended so the SQL Account credentials used to access the Passwordstate5 database is encrypted and unreadable from anyone who can read the file system on your web server.

To encrypt the database connections string, please follow these instructions:

### Encrypt Connection String

- Open a command prompt and change to the "v2.0.50727" .Net Framework folder (normally found under C:\Windows\Microsoft.NET\Framework\v2.0.50727)
- Type the following:
  - `aspnet_regiis.exe -pef "connectionStrings" "c:\inetpub\passwordstate5"` (change the path if you've installed Passwordstate to a different location)

### Decrypt Connection String

- Open a command prompt and change to the "v2.0.50727" .Net Framework folder folder (normally found under C:\Windows\Microsoft.NET\Framework\v2.0.50727)
- Type the following:
  - `aspnet_regiis.exe -pdf "connectionStrings" "c:\inetpub\passwordstate5"` (change the path if you've installed Passwordstate to a different location)

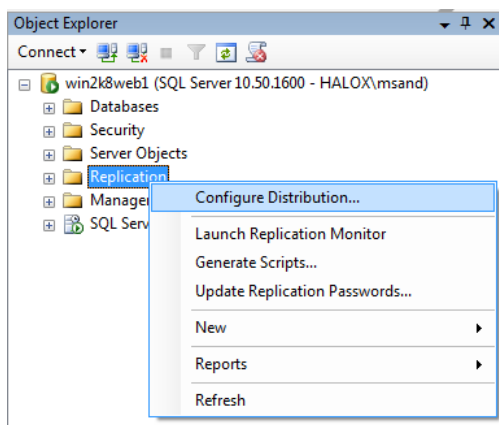
## 8 Configuring the Distribution Database

Prior to starting, ensure SQL Server Replication is installed on the server which will be used as the Publisher, and the server acting as the Subscriber.

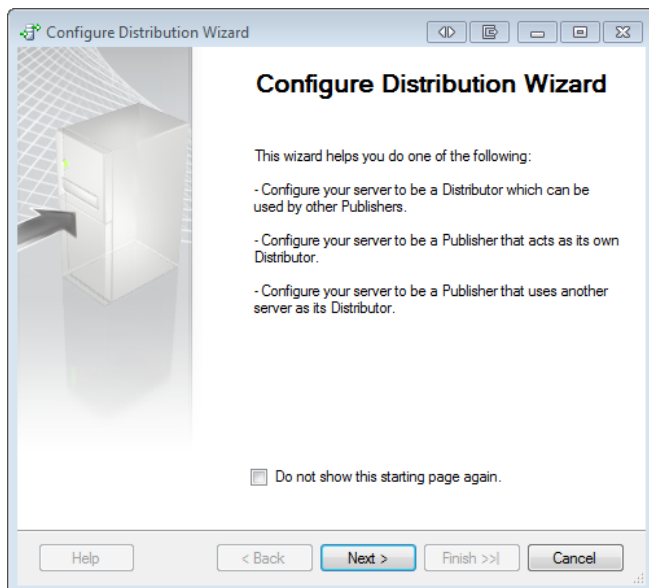
You may not need to setup the Distribution Database if you are already using SQL Server to replicate data. Please speak to your Database Administrator if you are unsure.

**Please Note:** The following instructions are provided using SQL Server 2008 R2 Management Studio. The screenshots and instructions may look different if you are using a different version of SQL Server

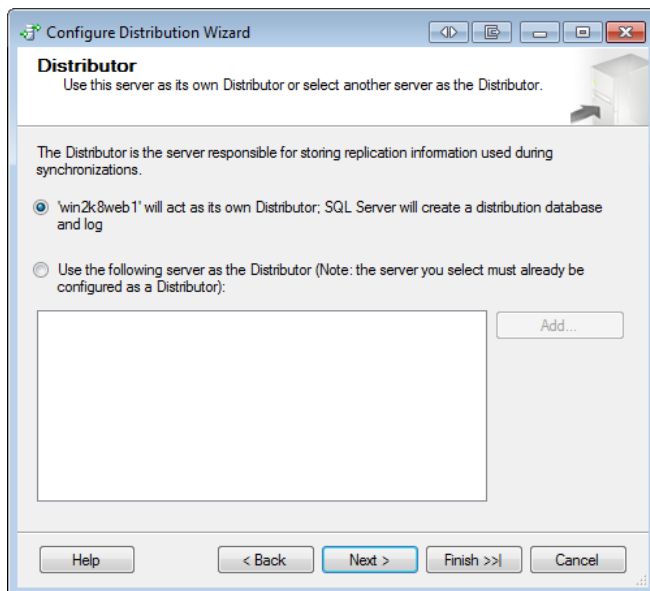
1. Right Click on the Replication node and Select Configure Distribution as shown in the screenshot below:



2. A new window appears on the screen as shown in the screenshot below:

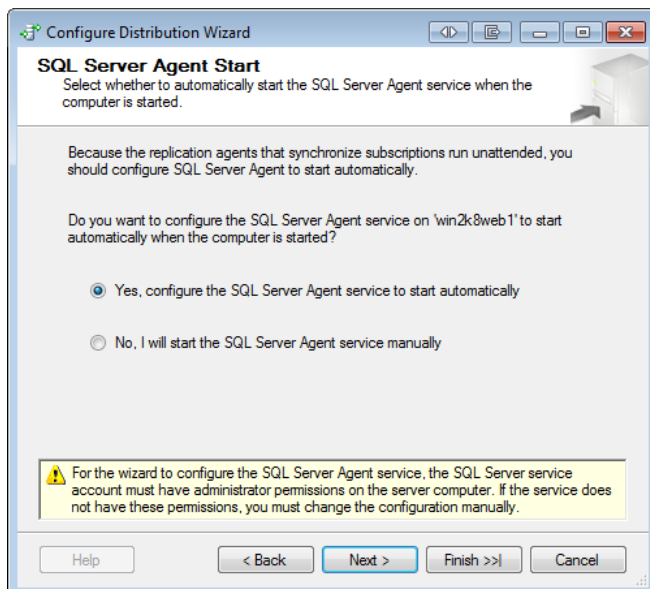


3. Click the 'Next' button and a new window appears on the screen as shown in the screenshot below:

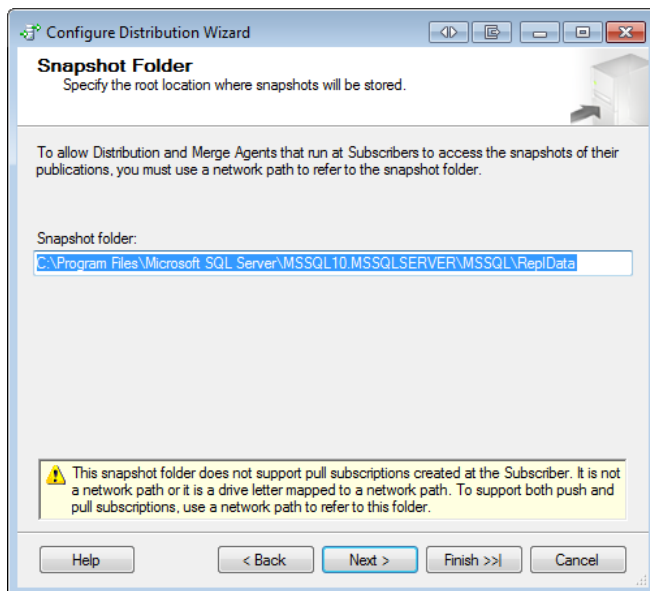


4. As you can see in the above screenshot, you will be provided two choices of where to configure the Distribution database – you can either configure it on the same server which is acting as the Publishing server, or you can configure it on a different server all together. This document describes configuring it on the same server which will be used as the Publishing server, but speak to your SQL Administrator if you are unsure of the best settings for your organisation. Then Click on the 'Next' button as shown in the screenshot above.

5. A new window appears as shown in the screenshot below:

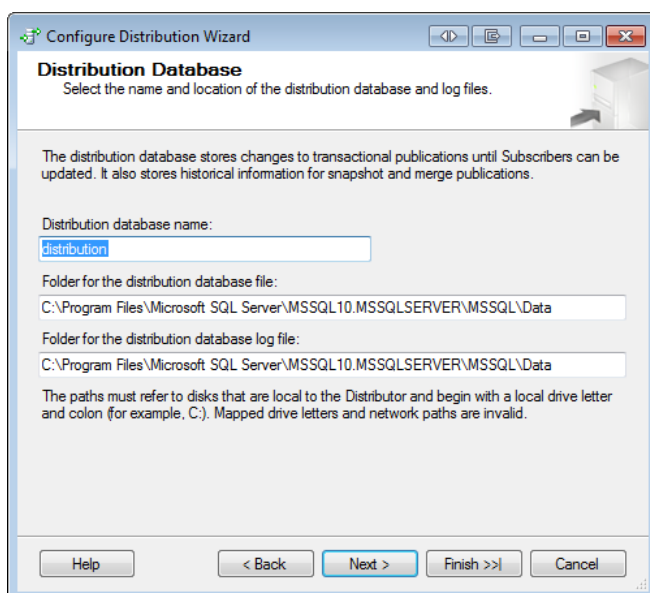


6. Select the first option, i.e. Yes, configure the SQL Server Agent service to start automatically and click on the 'Next' button as shown in the screenshot above.
7. A new window appears on the screen as shown in the screenshot below:



As you can see in the above screenshot, you are asked where the Snapshot folder should reside on the Server. The Snapshot Agent prepares snapshot files containing schema and data of published tables and database objects, stores the files in the snapshot folder. It is advised not to place the replication data on the C drive of the server i.e. the drive which is hosting the Operating System. Create a folder on any other drive to hold the Snapshot folder and Click on the 'Next' button as shown in the screenshot above.

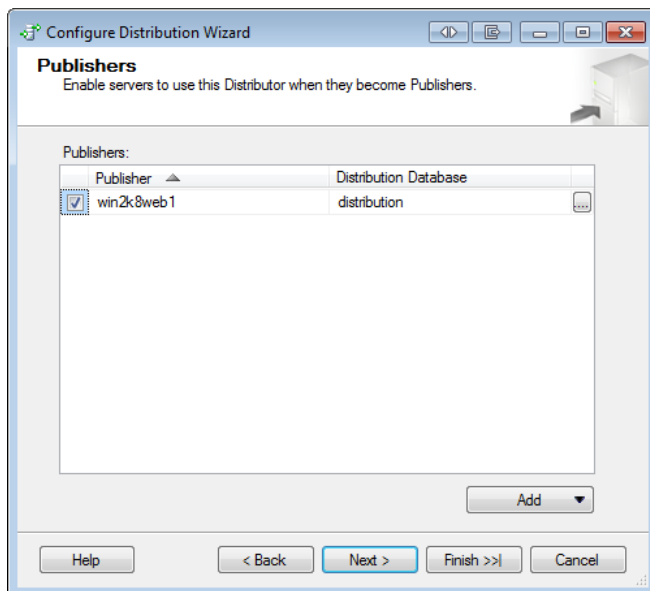
8. A new window appears as shown in the screenshot below:



As you can see, it displays information for the name of the Distribution database, as well as its location on the file system. Click on the 'Next' button as shown in the screenshot above.

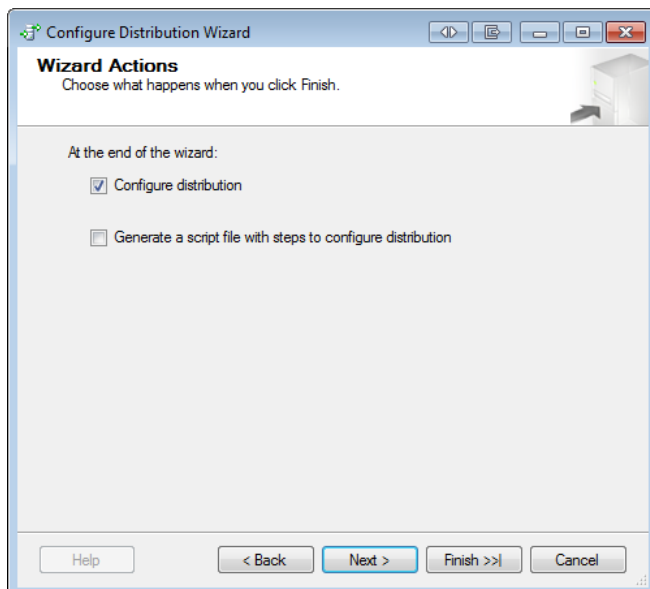
9. A new window appears as shown in the screenshot below:



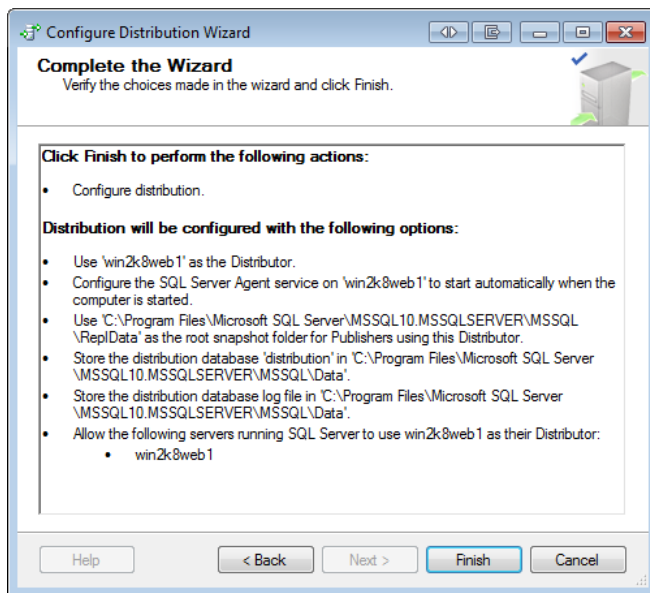


10. Click on the 'Next' button.

11. Click on the 'Next' button as shown in the screenshot below:



12. Click on the Finish button as shown in the screenshot below:

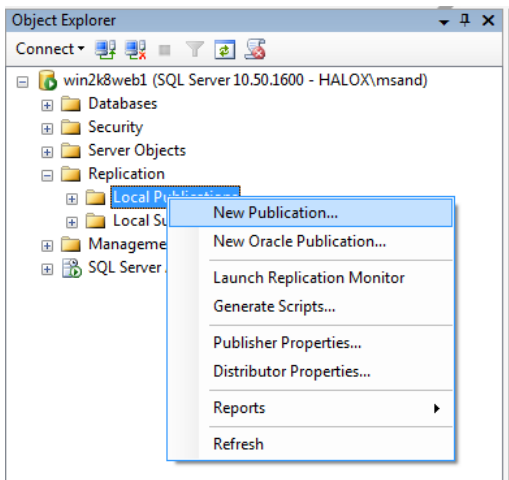


13. Now that the distribution database is created, just confirm it exists under the 'System Databases' node.

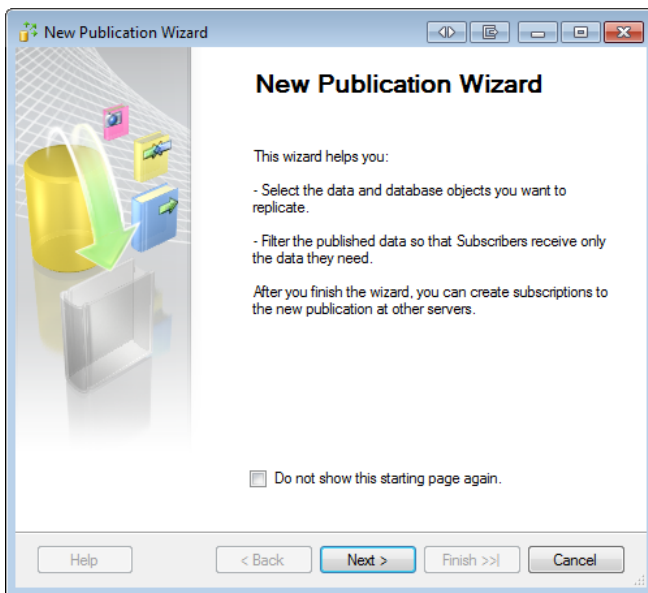
## 9 Creating the Publisher

The following steps need to be followed while creating the publisher.

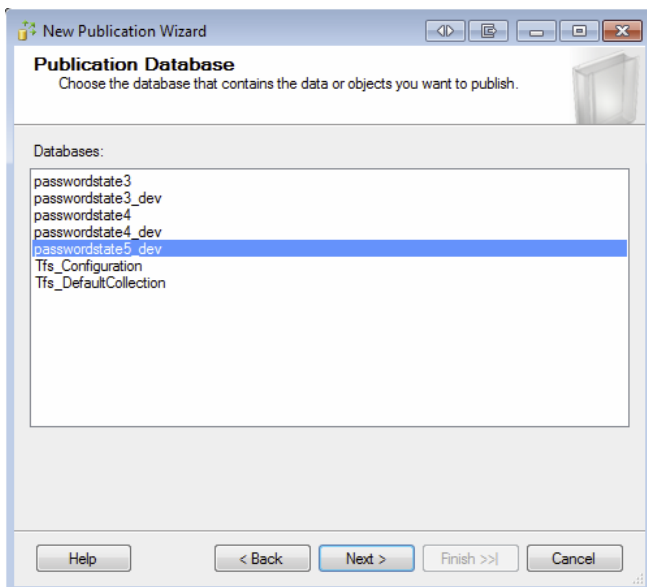
1. Right Click on Local Publications and select New Publications, please refer the screenshot below:



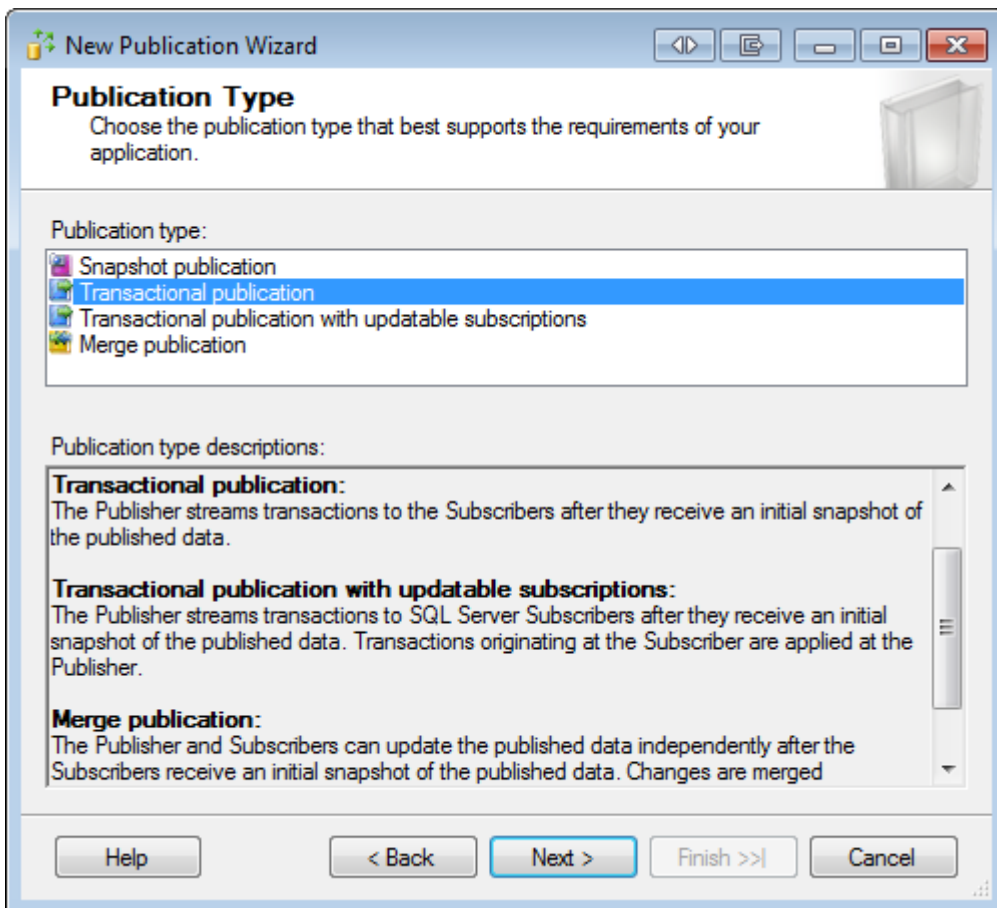
2. Click on the 'Next' button as shown in the screenshot below.



3. Select the database which is going to act as a publisher - in your case it would be passwordstate5. Click on the 'Next' button.

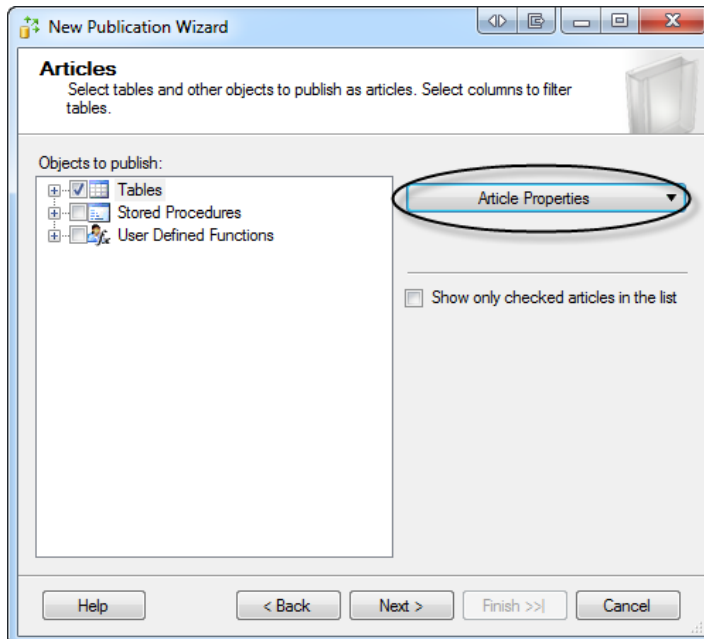


4. Select Transactional Replication from the available publication type and Click on the 'Next' button as shown in the screenshot below:

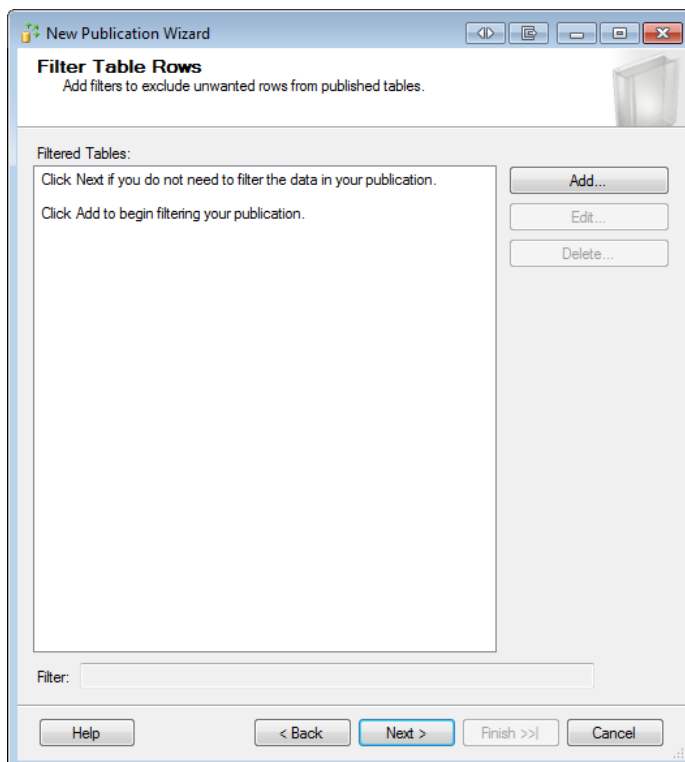


5. Select all the Tables for the Passwordstate database, select 'Set Properties of All Table Articles' from the 'Articles Properties' dropdown list and select the following options:
  - a. Copy foreign key constraints
  - b. Copy check constraints
  - c. Copy clustered index

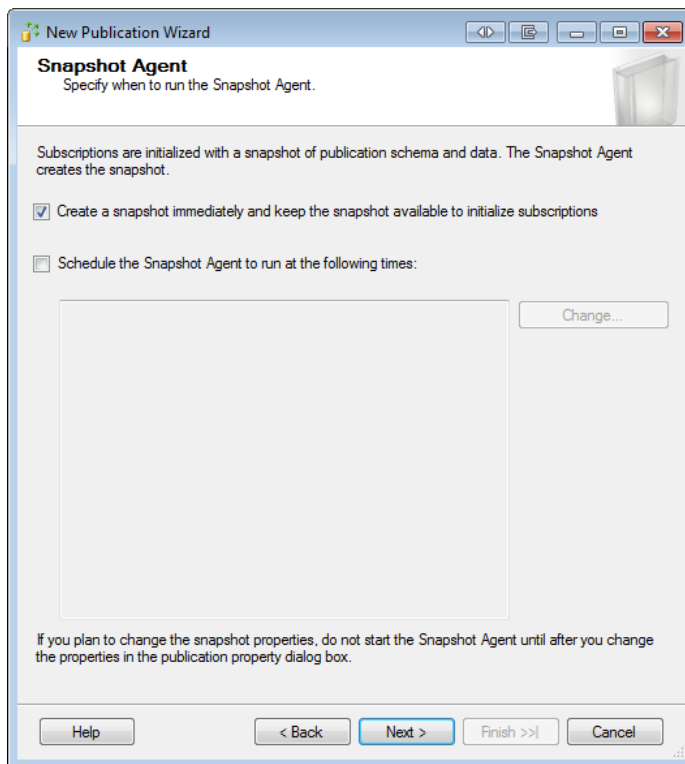
- d. Copy nonclustered indexes
- e. Copy default value specifications
- f. Copy extended properties
- g. Copy unique key constraints



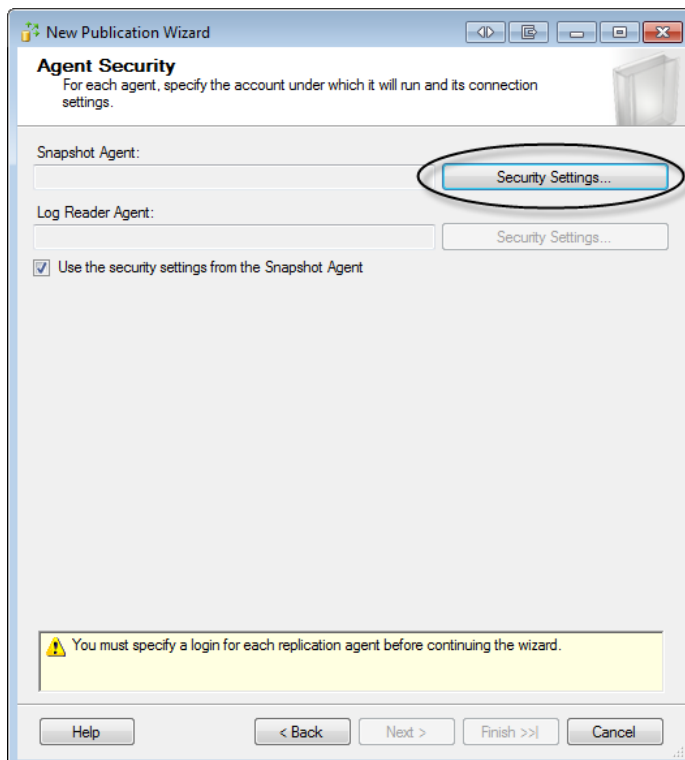
6. Since there are no filtering conditions, Click on the 'Next' button as shown in the screenshot below:



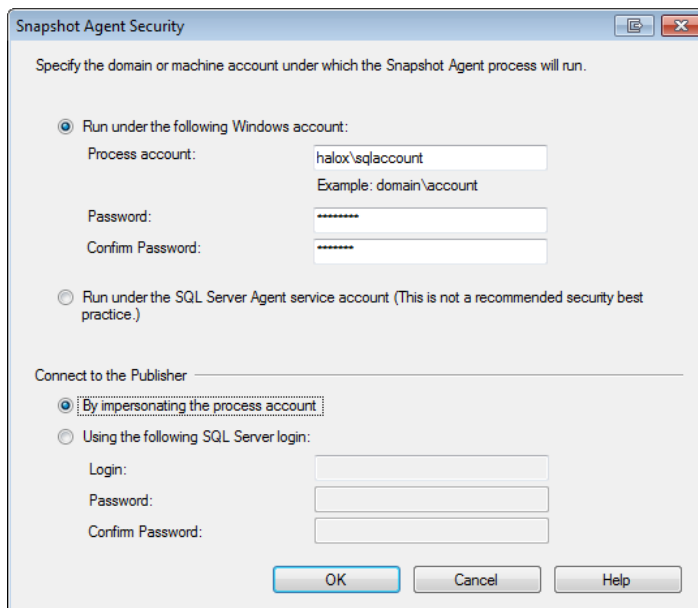
7. Check the first radio button as shown in the screenshot below and Click on the 'Next' button.



8. Click on the Security Settings tab as shown in the screenshot below.

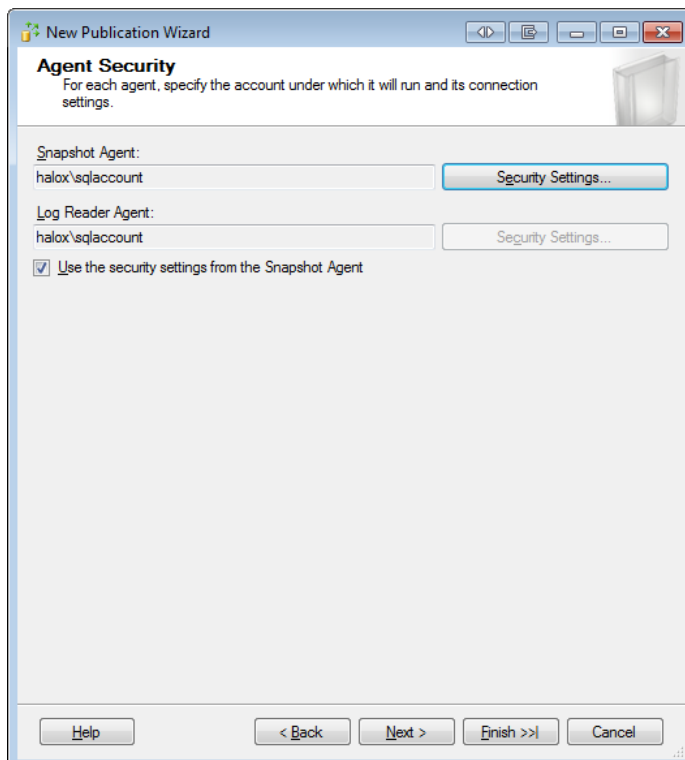


A new window appears as shown in the screenshot below.

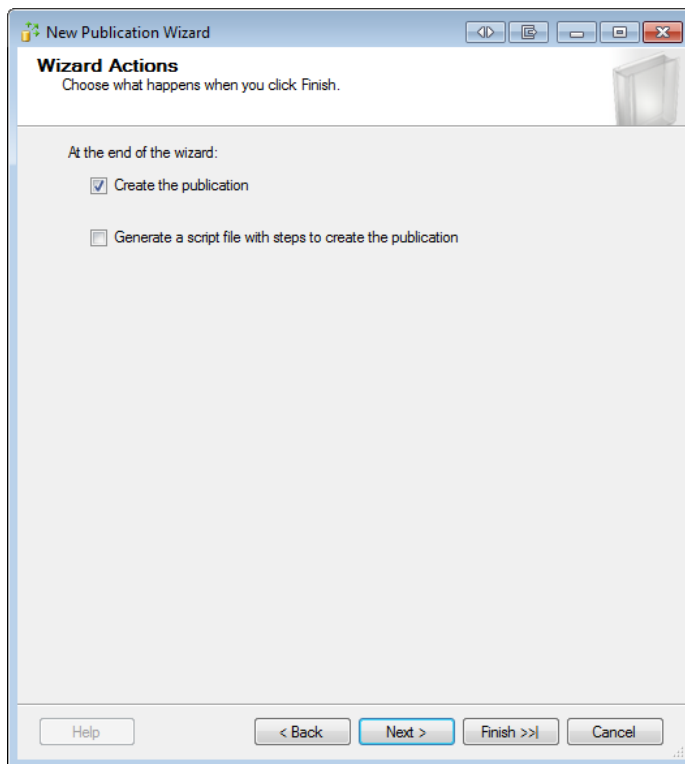


You could leave the default option of 'Run under the SQL Server Agent service account', but it's advised you use a Windows account for this purpose. Click on the OK button, then on the 'Next' button as per the screenshot below.

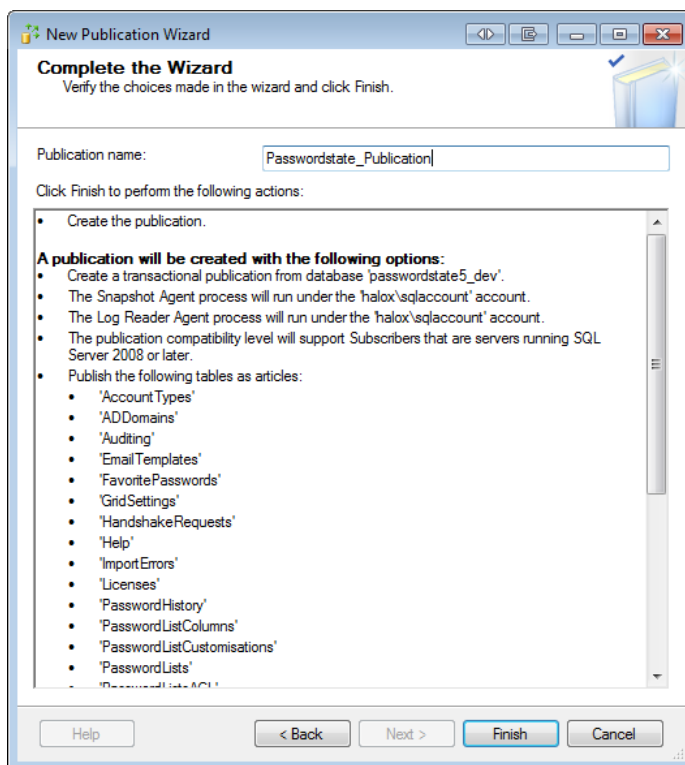
**Please Note:** If you specify a Windows account to use, at minimum it must be a member of the db\_owner fixed database role in the 'Distribution' and both 'passwordstate5' databases. It must also have write permissions on the snapshot share. You can tell if the permissions are correct by checking the folder where the snapshot data is stored to see if some replication data exists after you finish creating the Publisher.



9. Click on the 'Next' button as shown in the screenshot below.



10. Give a suitable name to the publisher and Click on the Finish button as shown in the screenshot below.

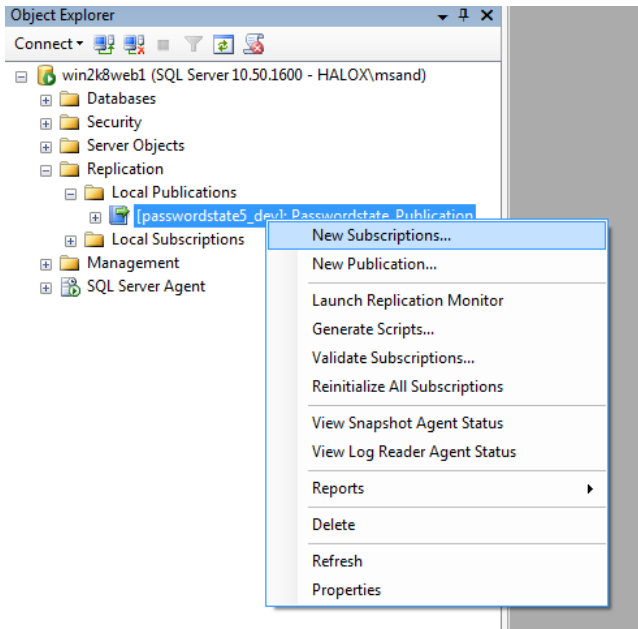




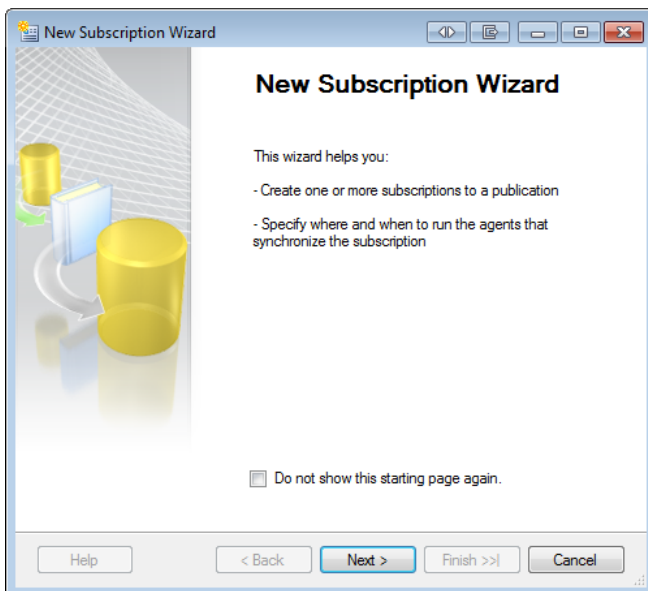
## 10 Creating the Subscriber

Once the publisher is created the next step is to create the subscriber for it.

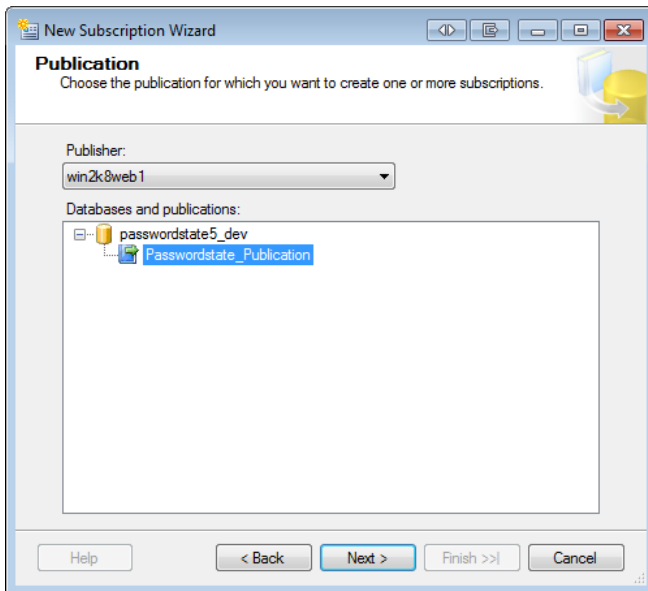
1. Right Click on the publisher created and select New Subscriptions as shown in the screenshot below.



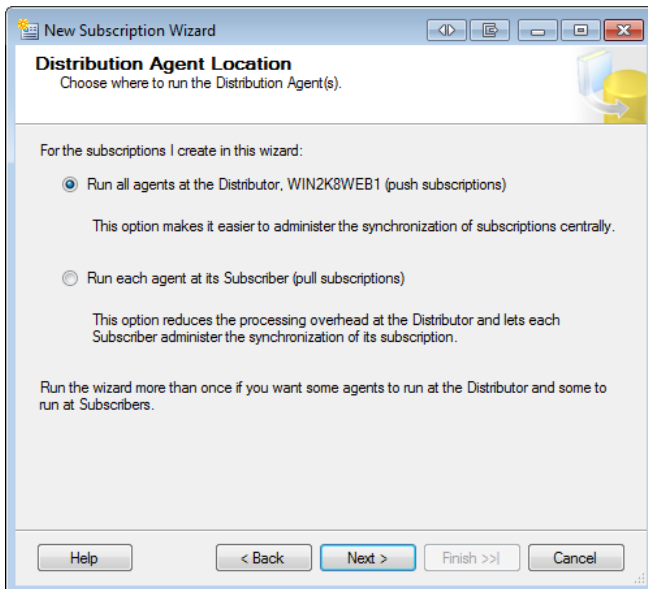
2. Click on the 'Next' button as shown in the screenshot below.



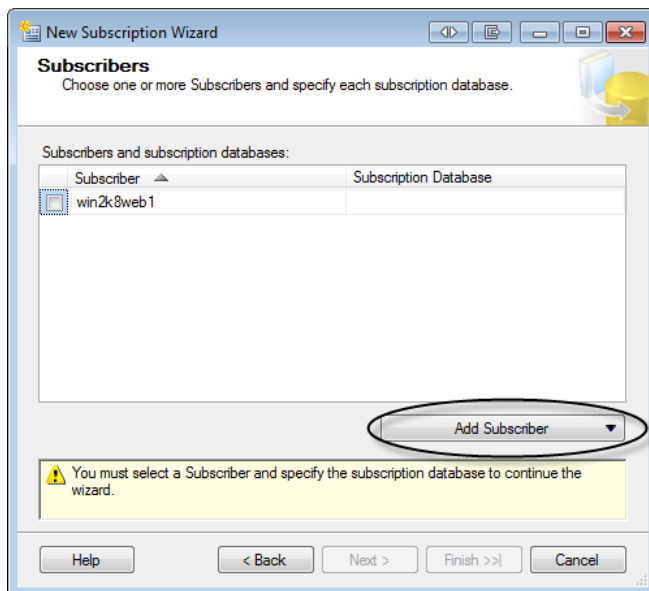
3. Click on the 'Next' button as shown in the screenshot below.



4. Click on the 'Next' button as shown in the screenshot below.



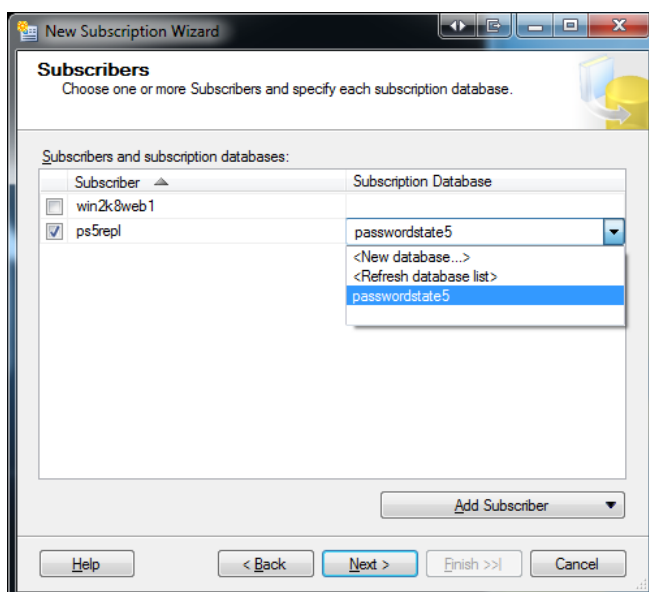
5. As shown in the screenshot below, you will need to click on the 'Add Subscriber' button to select the SQL Server you intend to use as the Subscriber.



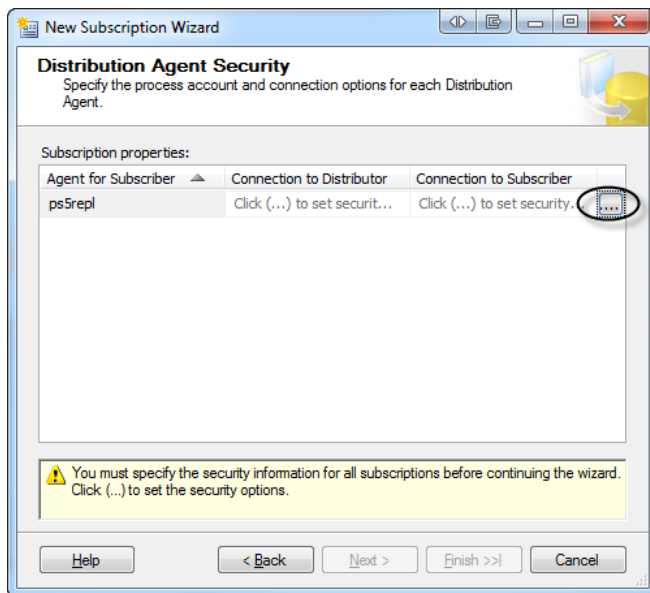
Type in the name of the Subscriber SQL Server, then click on the 'Connect' button



Select the 'passwordstate5' database from the dropdown list, and then click on the 'Next' button

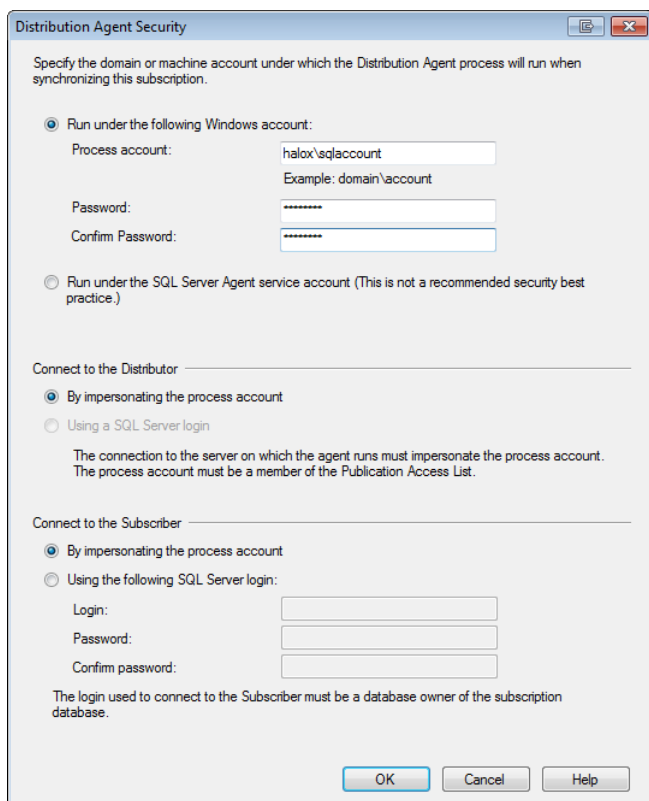


- Click on the button as shown in the screenshot below. Here we need to specify process account as well as the connection options for the distribution agent.

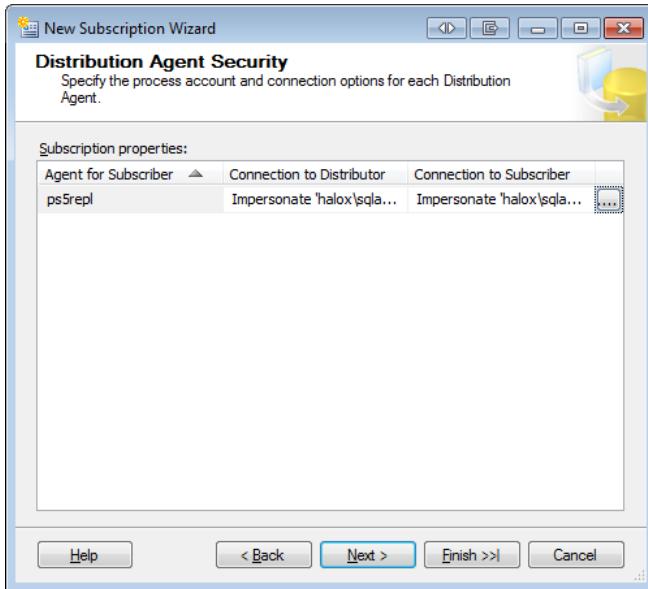


- Specify the distribution agent to run under the SQL Server Agent Service Account. Also connect to the distributor as well as the subscriber by impersonating the process account. Please refer the screenshot below. Once done, click on the 'OK' button

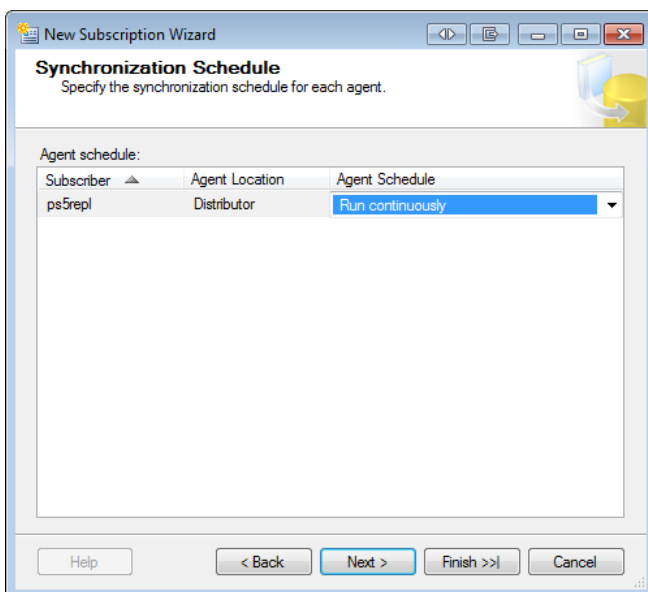
**Please Note:** If you specify a Windows Account to use, at minimum it must be a member of the db\_owner fixed database role in the passwordstate5 database. It is advised you apply these permissions before click on the 'OK' button in the screenshot below.



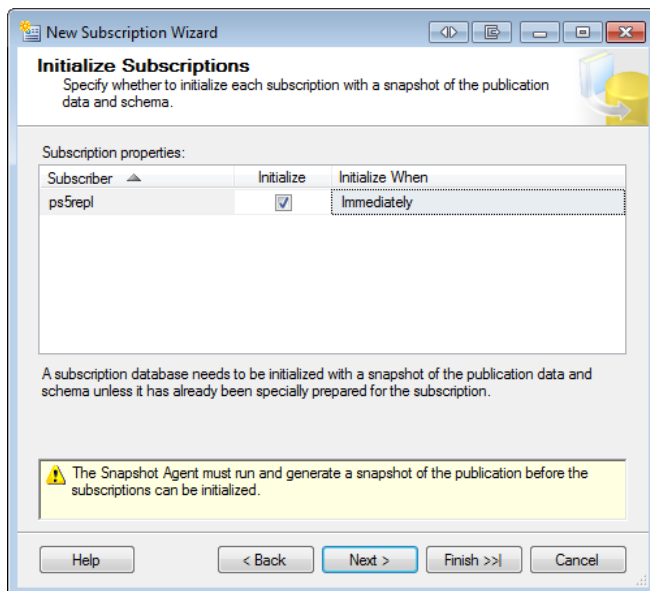
8. Click on the 'Next' button as shown in the screenshot below.



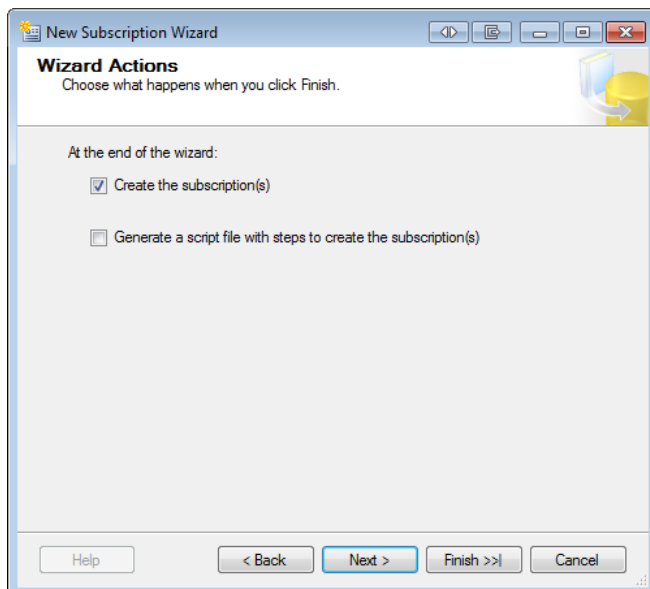
9. Ensure that the Agent is scheduled to Run Continuously and then click on the 'Next' button as shown in the screenshot below.



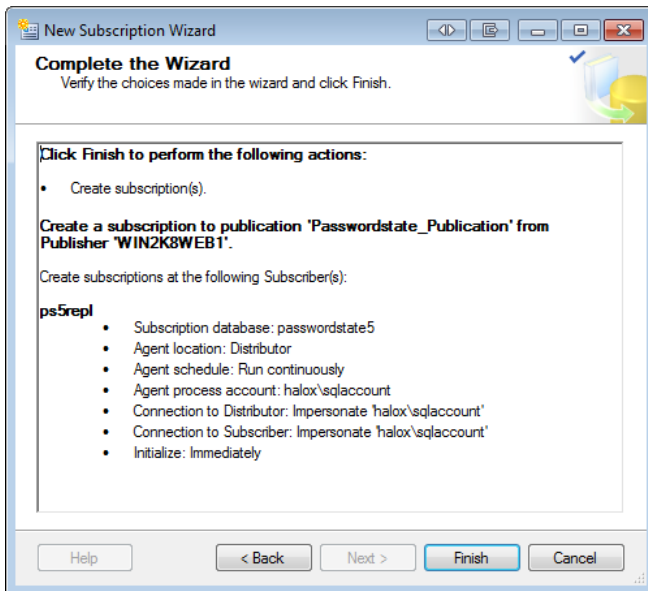
10. Ensure that the Subscriber is initialized immediately and then click on the 'Next' button as shown in the screenshot below.



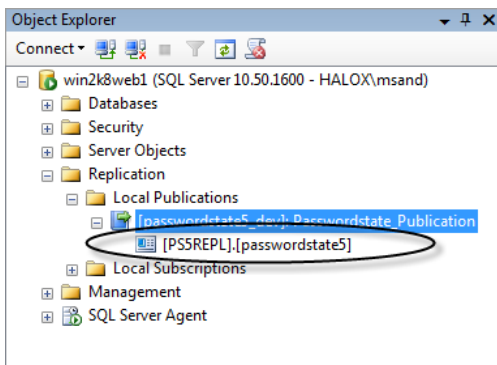
11. Click on the 'Next' button as shown in the screenshot below.



12. Click on the Finish button as shown in the screenshot below.



13. Expand the publisher node and you shall be able to view the subscriber as shown in the screenshot



You have now finished successfully setting up SQL Replication for your High Availability instance of Passwordstate.

You can now direct your browser the web address you created in 'Step 5 – Create an Appropriate DNS Record' above.