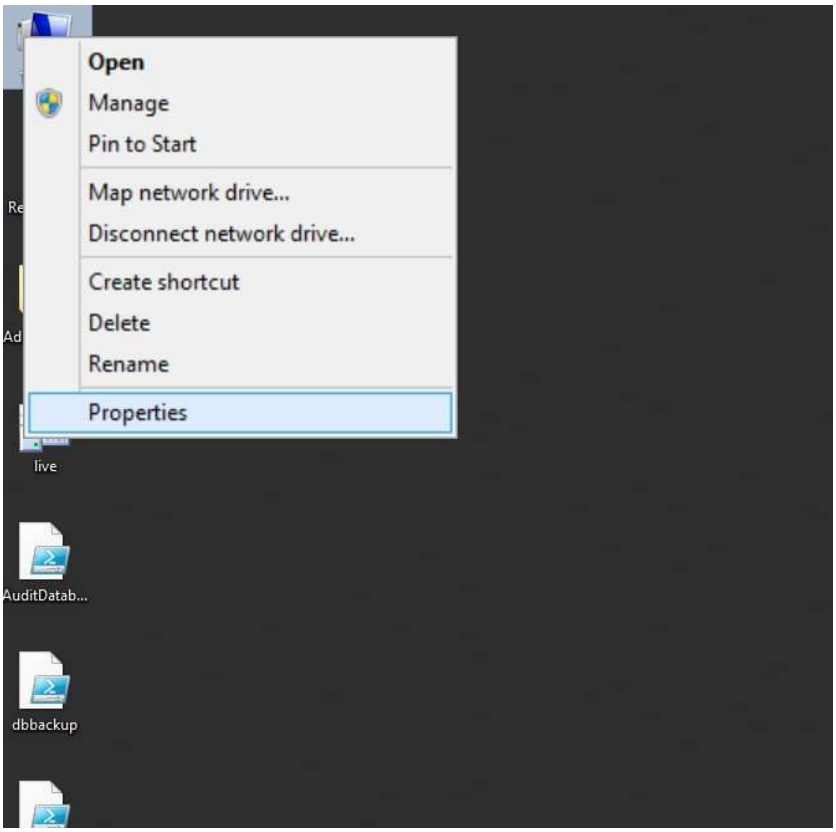
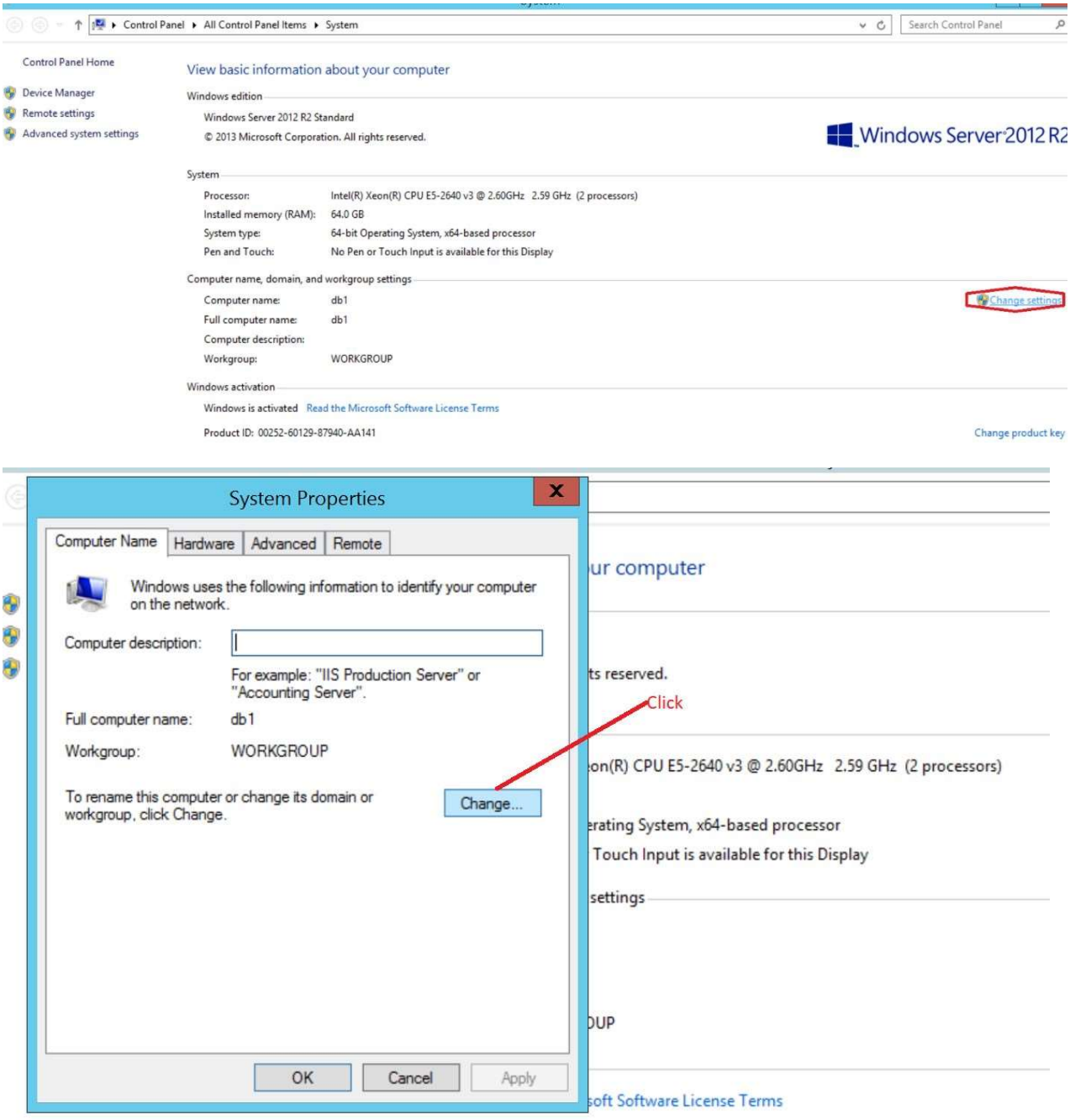
# Procedure of Mirror operation

Database mirroring provides database availability by mirroring the transaction streams from the principal server to a mirror server.

**Steps to be followed in below way:**

**Step -1:** We will set OS Machine to database server (both Principal and Mirroring server) in the following way



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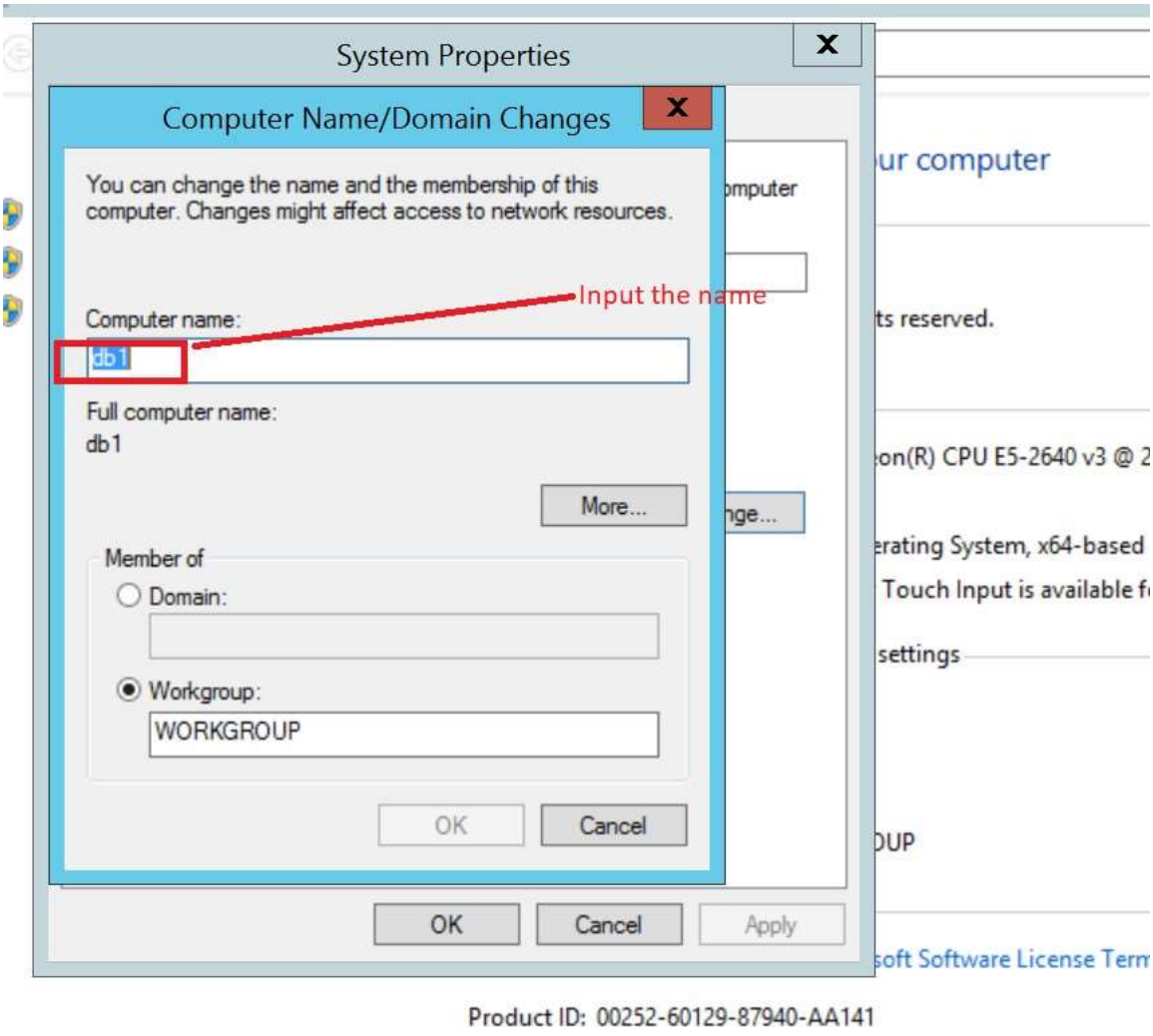
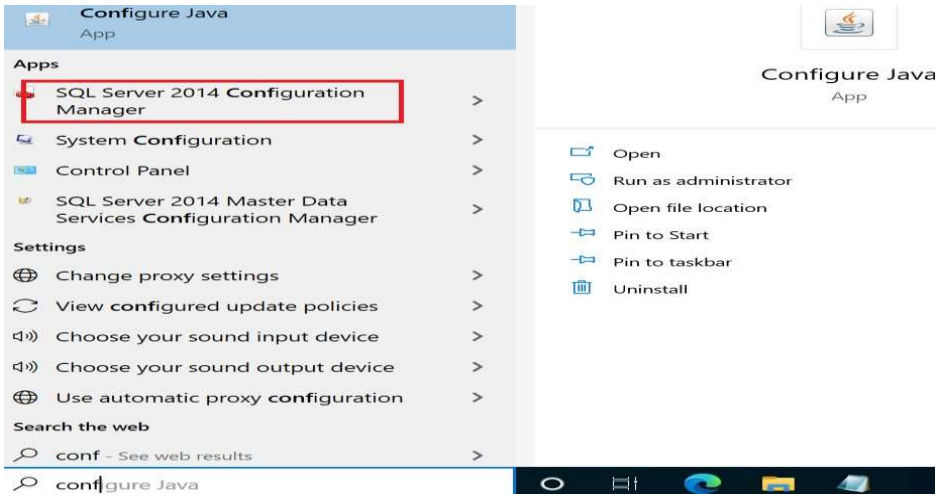
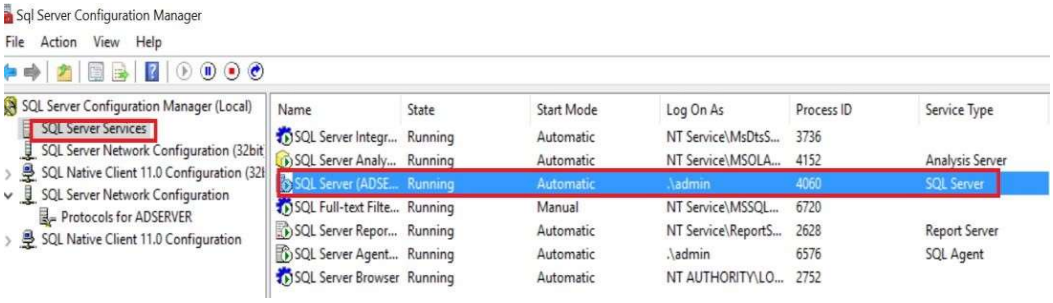


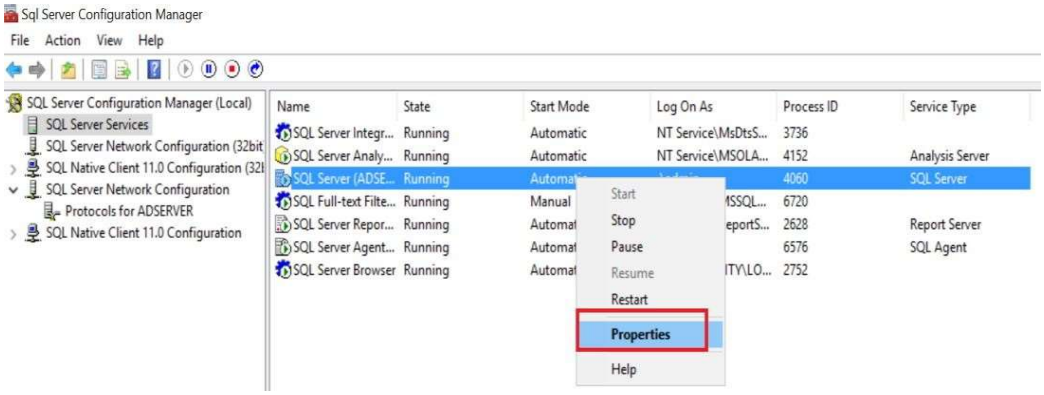

After change the OS machine, OS must be restart for affecting

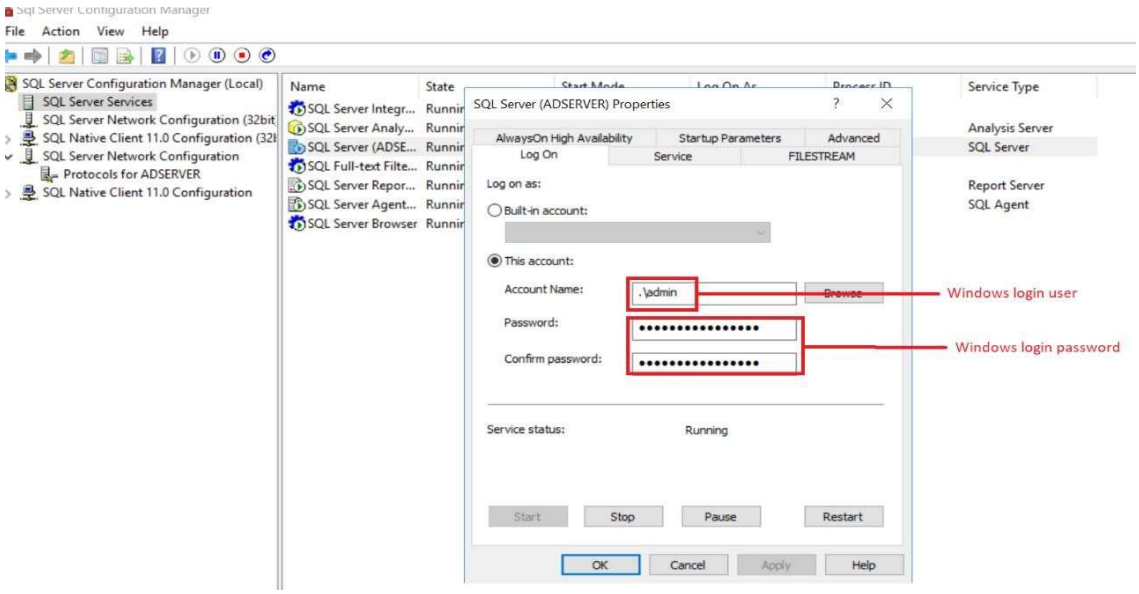
In the same way, we will set OS machine name in Mirroring database server

**Step -2:** As mirroring is occurred between two database servers. Database server run on windows os. It must be keep same windows login user and password of both database windows server. This user and password will be set to database service account by SQL Server 2014 configuration management.

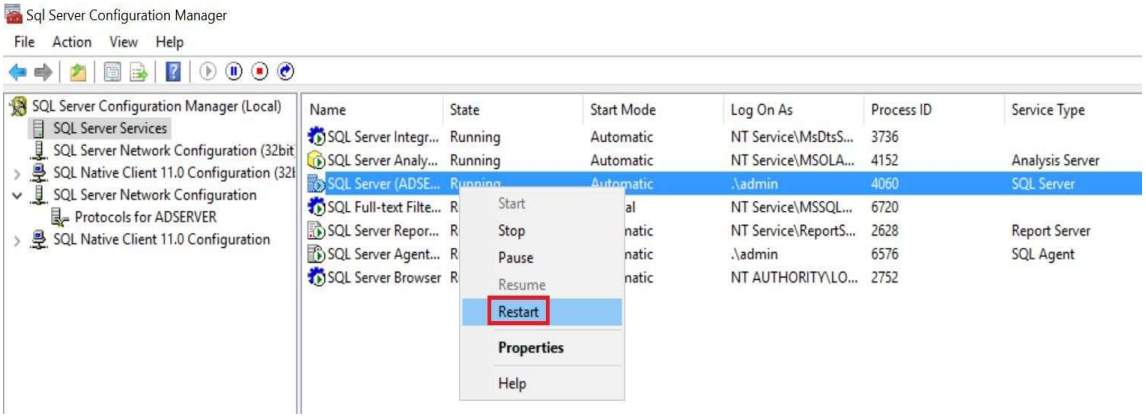

Configure Java
App
Apps
SQL Server 2014 Configuration Manager
System Configuration
Control Panel
SQL Server 2014 Master Data Services Configuration Manager
Settings
Change proxy settings
View configured update policies
Choose your sound input device
Choose your sound output device
Use automatic proxy configuration
Search the web
conf - See web results
configure Java
Configure Java
App
Open
Run as administrator
Open file location
Pin to Start
Pin to taskbar
Uninstall


Sql Server Configuration Manager
File Action View Help
SQL Server Configuration Manager (Local)
SQL Server Services
SQL Server Network Configuration (32bit
SQL Native Client 11.0 Configuration (32
SQL Server Network Configuration
Protocols for ADSERVER
SQL Native Client 11.0 Configuration
Name State Start Mode Log On As Process ID Service Type
SQL Server Integr... Running Automatic NT Service\MsDtsS... 3736
SQL Server Analy... Running Automatic NT Service\MSOLA... 4152 Analysis Server
SQL Server (ADSE... Running Automatic .\admin 4060 SQL Server
SQL Full-text Filte... Running Manual NT Service\MSSQL... 6720
SQL Server Repor... Running Automatic NT Service\ReportS... 2628 Report Server
SQL Server Agent... Running Automatic .\admin 6576 SQL Agent
SQL Server Browser Running Automatic NT AUTHORITY\LO... 2752


Sql Server Configuration Manager
File Action View Help
SQL Server Configuration Manager (Local)
SQL Server Services
SQL Server Network Configuration (32bit
SQL Native Client 11.0 Configuration (32
SQL Server Network Configuration
Protocols for ADSERVER
SQL Native Client 11.0 Configuration
Name State Start Mode Log On As Process ID Service Type
SQL Server Integr... Running Automatic NT Service\MsDtsS... 3736
SQL Server Analy... Running Automatic NT Service\MSOLA... 4152 Analysis Server
SQL Server (ADSE... Running 4060 SQL Server
SQL Full-text Filte... Running 6720
SQL Server Repor... Running 2628 Report Server
SQL Server Agent... Running 6576 SQL Agent
SQL Server Browser Running 2752
Start
Stop
Pause
Resume
Restart
Properties
Help




After setting this, we will restart database service for effect it.




This same task will be perform on both database server (Principal & Mirroring)

**Step -3:** We will configure **IP and OS Machine** name at **hosts** file in **C:\Windows\System32\drivers\etc** directory on both principal and

mirroring database server Principal database server

hosts

```
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#      102.54.94.97     rhino.acme.com          # source server
#       38.25.63.10     x.acme.com              # x client host

# localhost name resolution is handled within DNS itself.
# 127.0.0.1       localhost
# ::1             localhost
192.168.100.108   db1 db1
192.168.200.108   db2 db2
```

Mirroring Database Server

hosts

```
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
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# lines or following the machine name denoted by a '#' symbol.
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# For example:
#
#      102.54.94.97     rhino.acme.com          # source server
#       38.25.63.10     x.acme.com              # x client host

# localhost name resolution is handled within DNS itself.
# 127.0.0.1       localhost
# ::1             localhost
192.168.200.108   db2 db2
192.168.100.108   db1 db1
192.168.100.167   db3 db3
```
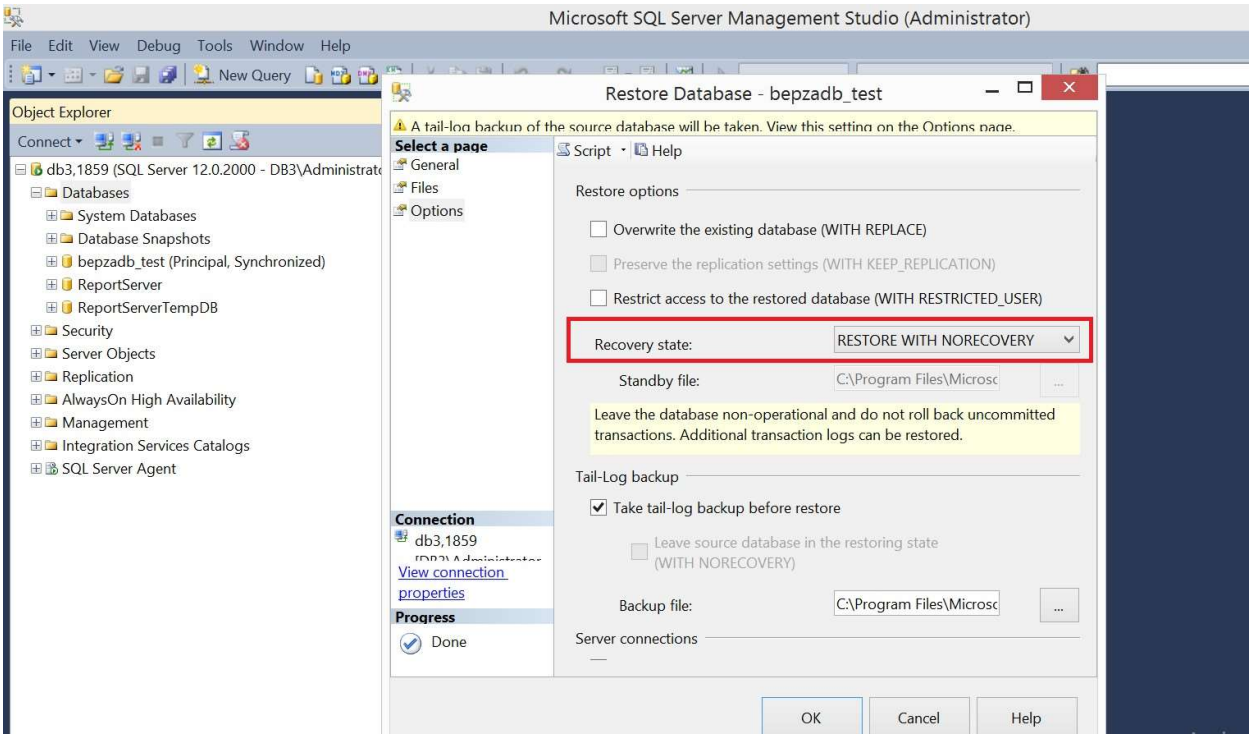
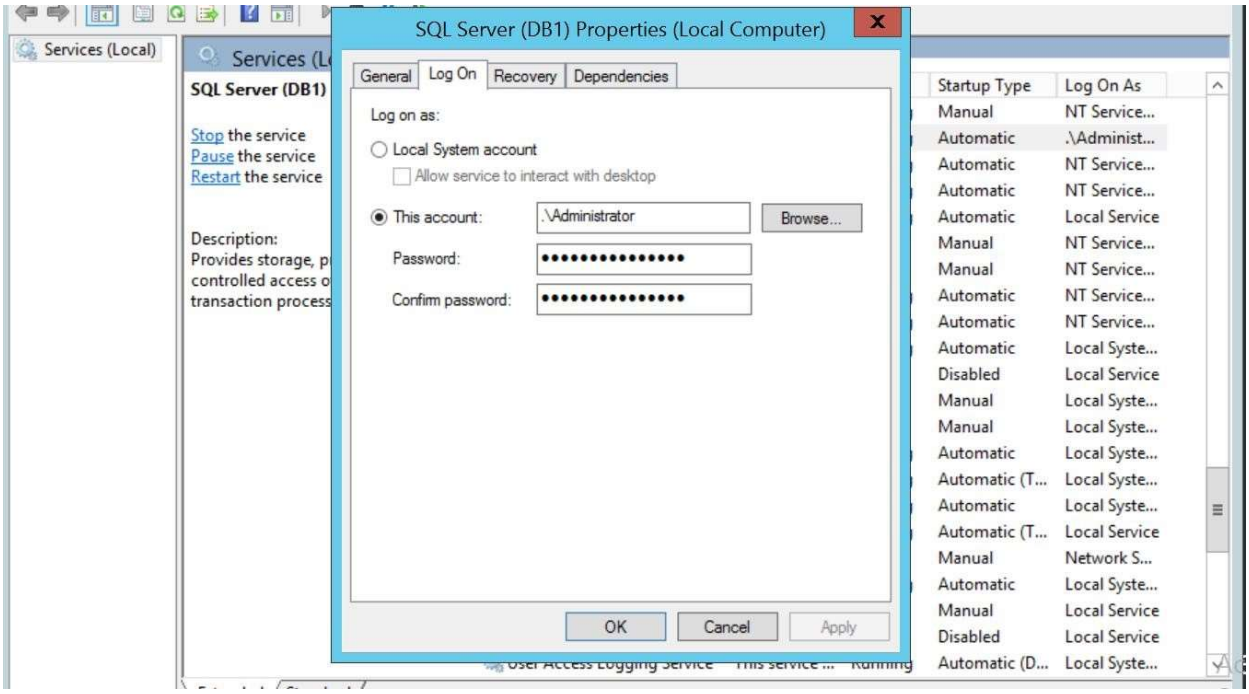

**Step -4**: Take full database backup and transaction log file from principal database and restore it tomirroring database on **no-recovery mode**



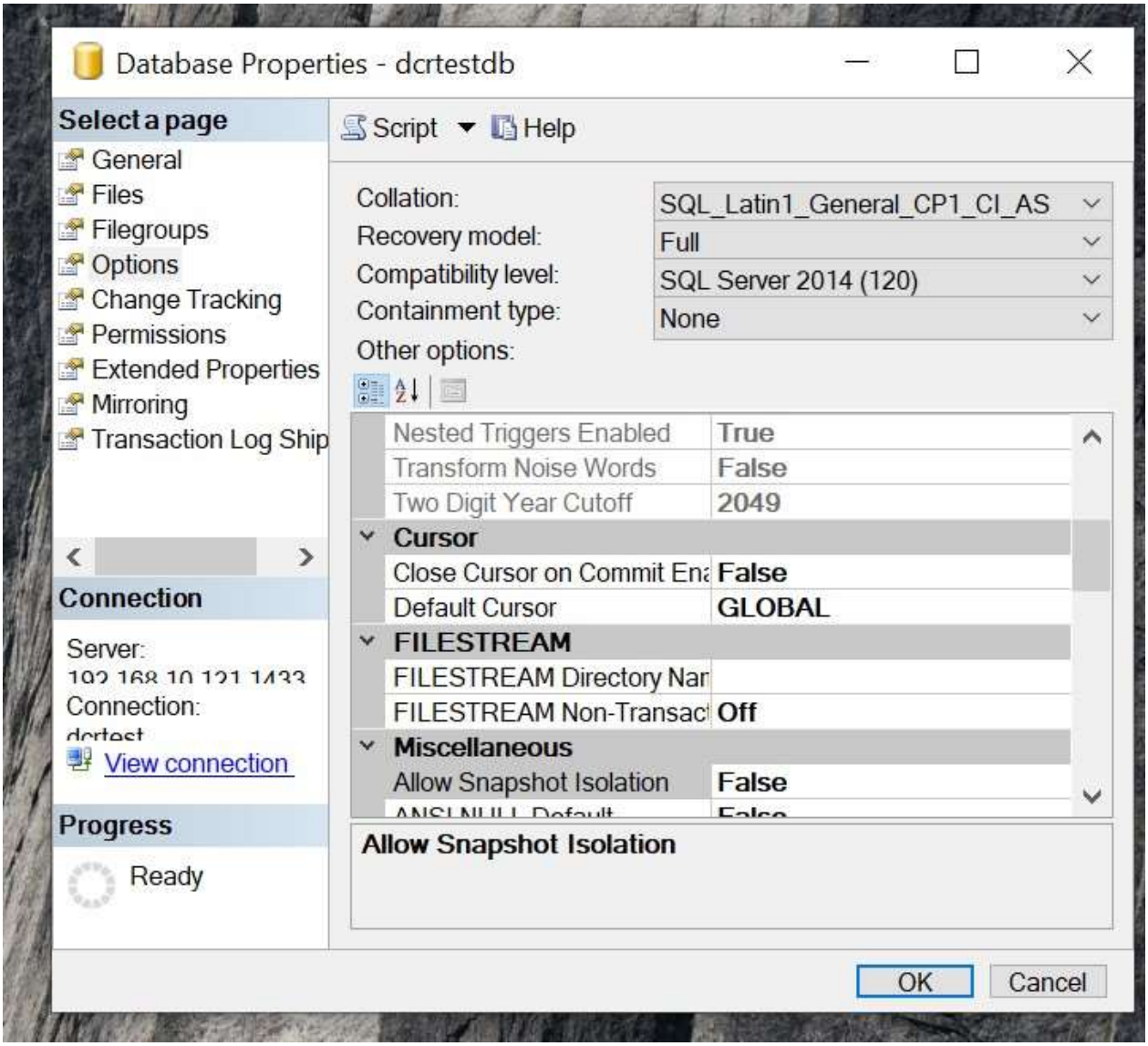

**Step -5:** Setting the administrative password at both primary and standby database.

- Click **Start** | **Settings** | **Control Panel** | **Administrative Tools**.
- From **Administrative Tools** double-click **Service**.
- Right-click **SQL Server (DB1 & DB2)**, select **Properties**, and then select the **Log On** tab.
- Select **This Account** option and provide [DomainName\AdministratorName].
- Type correct password in the **Password** and **Confirm password** and then click **OK**.
- Restart the services on Primary Database, by right-clicking **SQL Server (DB1 & DB2)**, and click **Start**.



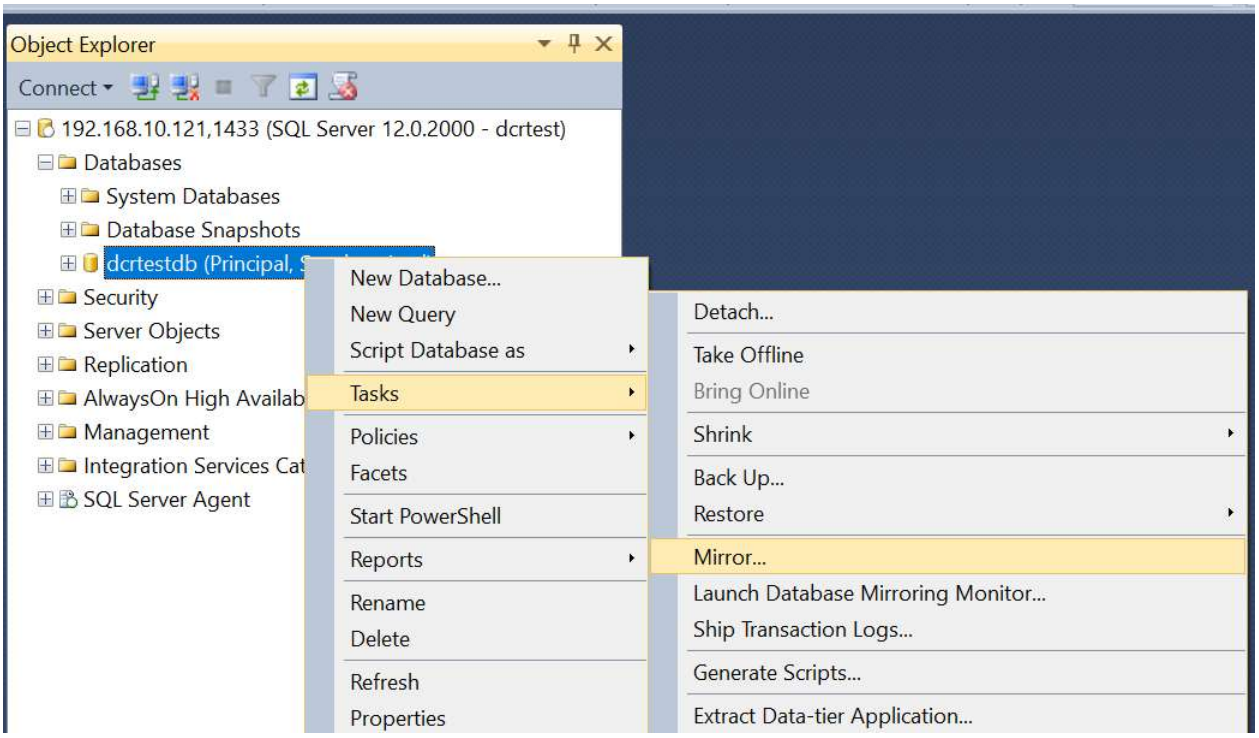

**Step -6:** Verify that the database uses the Full Recovery model. Perform the following steps to modify the recovery model of a database:

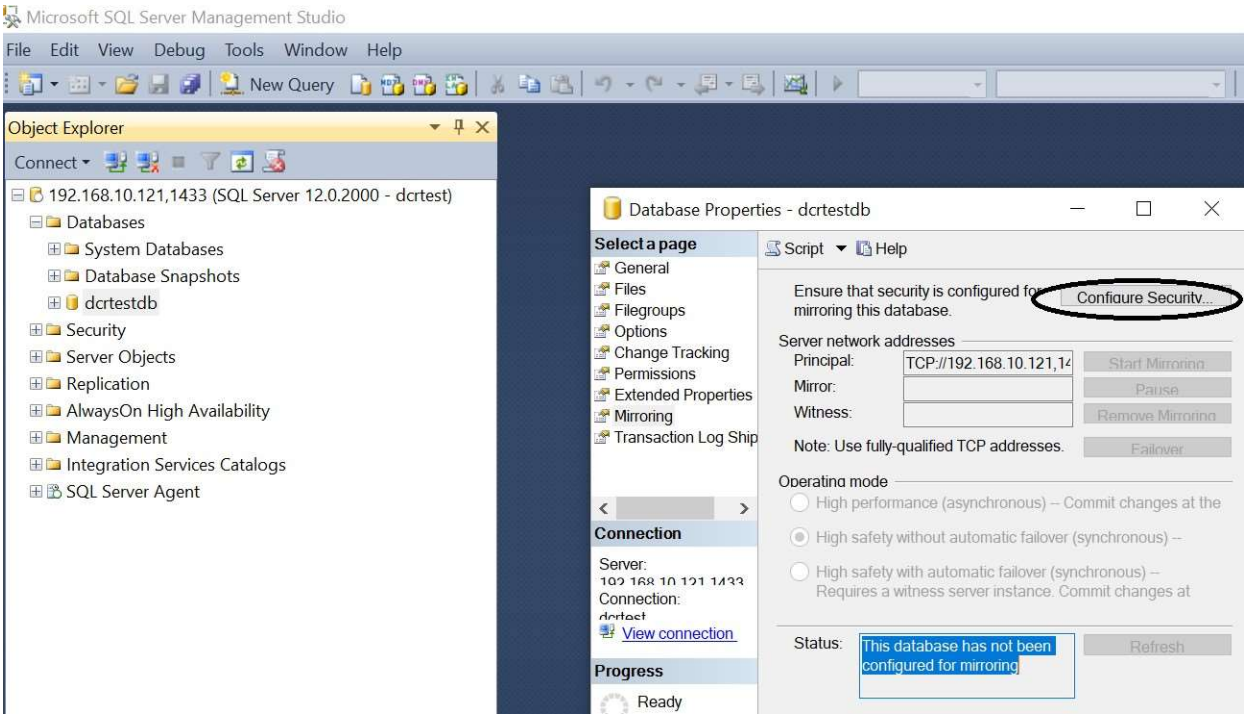
- Open **Microsoft SQL Server Management Studio**.
- Navigate to **SQL Instance** | **Database** | **dcrtestdb**.
- Right-click the **dcrtestdb** database, and then click **Properties**.
- In the **Select a Page** pane, click **Options**.
- In the **Recovery Model**, select **Full**.
- Click **OK**.




**Step -7:** Perform the following steps on Primary dcrtestdb database to setup the database mirroring:

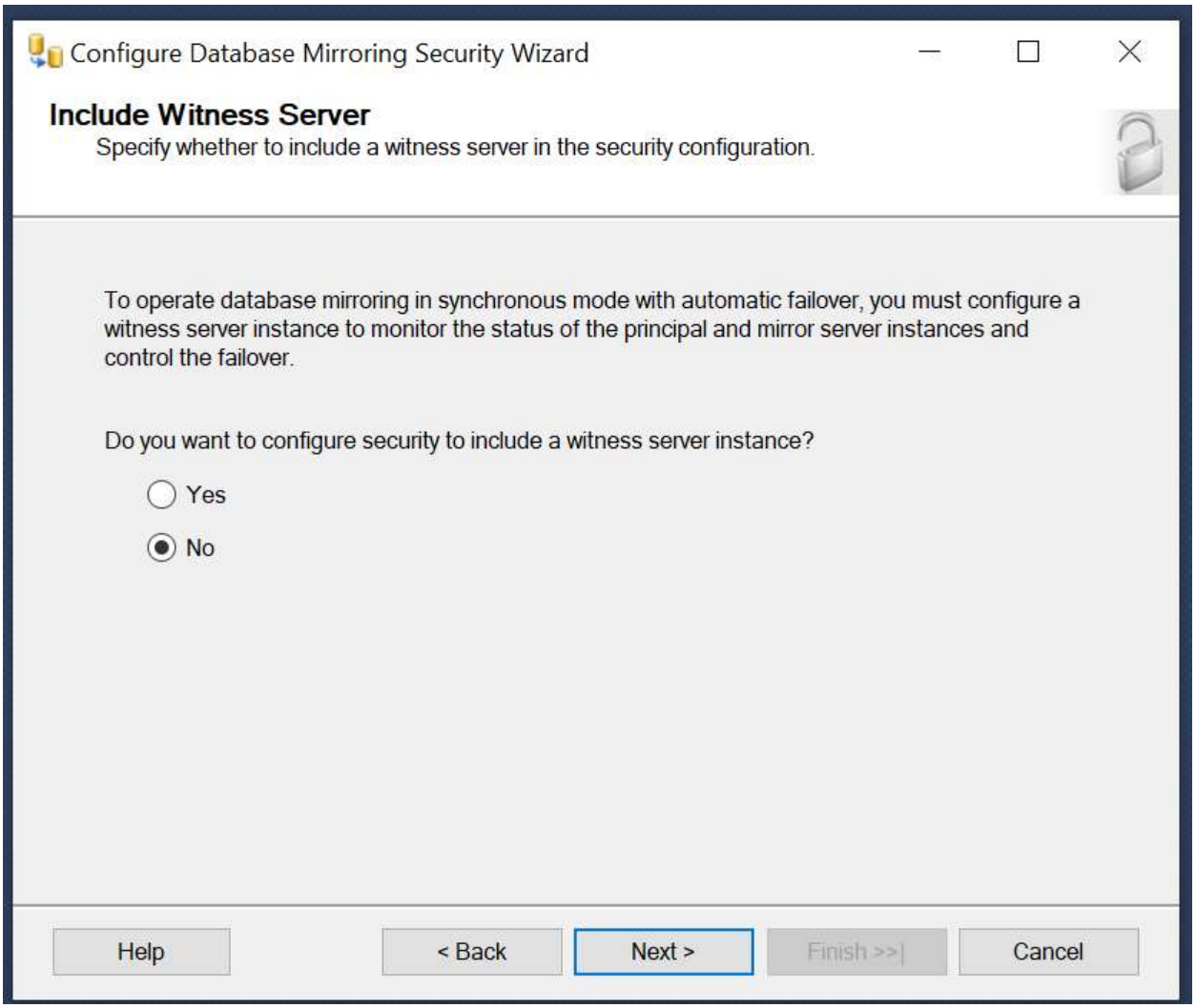
1. Open **Microsoft SQL Server Management Studio**.
2. Navigate to **Server Instance** | **Database** | **dcrtestbd**.
3. Right-click **dcrtestdb** database, select **Tasks** and then click **Mirror**. **Database Properties** dialog box displayed.
4. Click **Configure Security**. **Configure Database Mirroring Security Wizard** will be displayed.



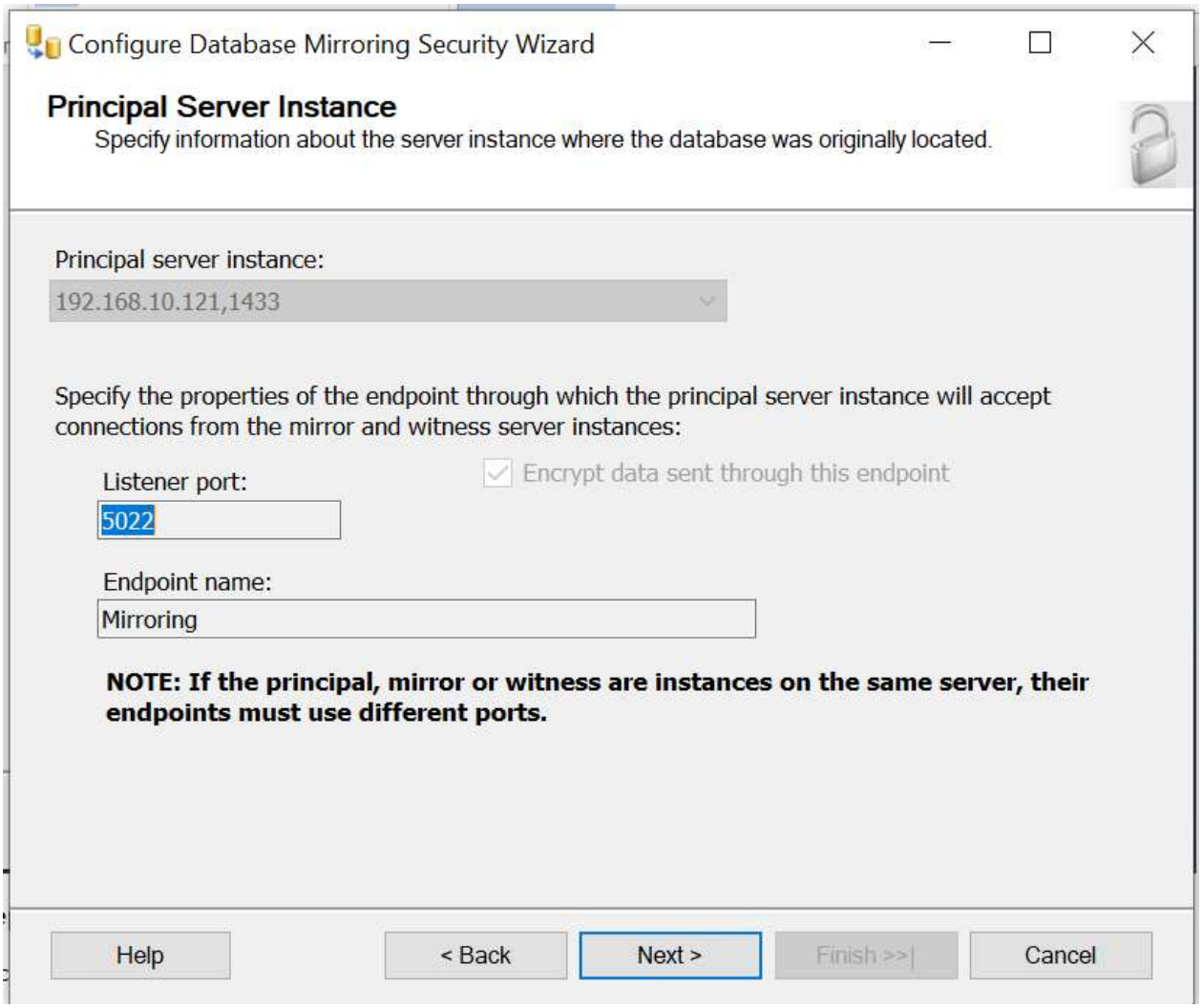




**Step -8:** Click **Next** to configure database mirroring.


**Step -9:** Select **No** to witness server instance. Click **Next** to continue.

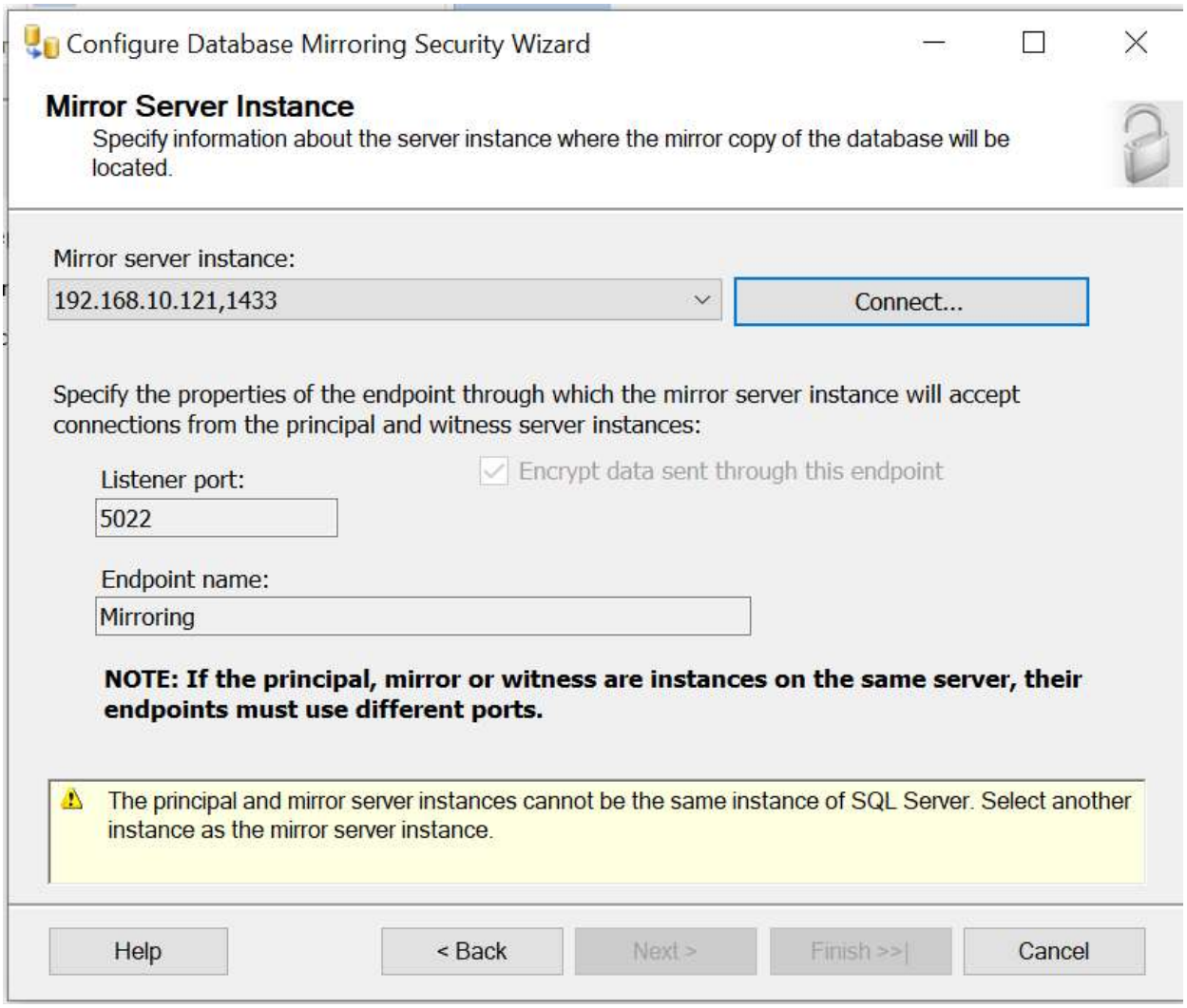


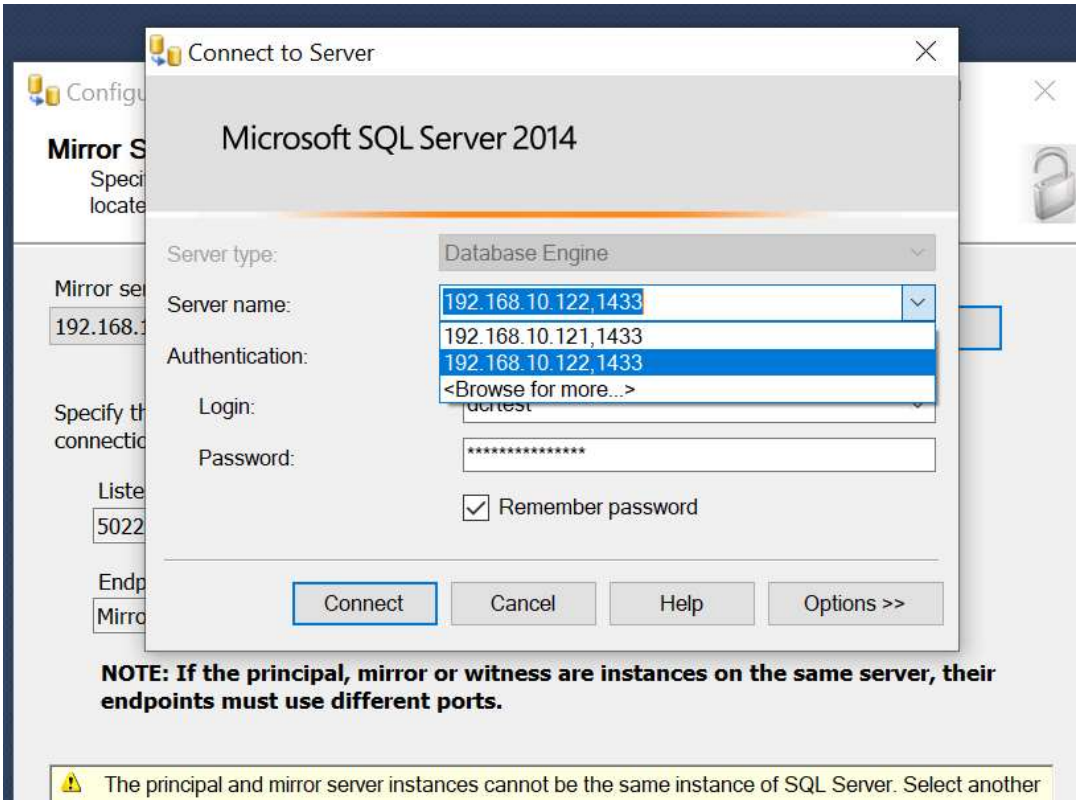

**Step -10:** Ensure that the Principal server instance is primary dcrtestdb name. Click **Next** to continue.

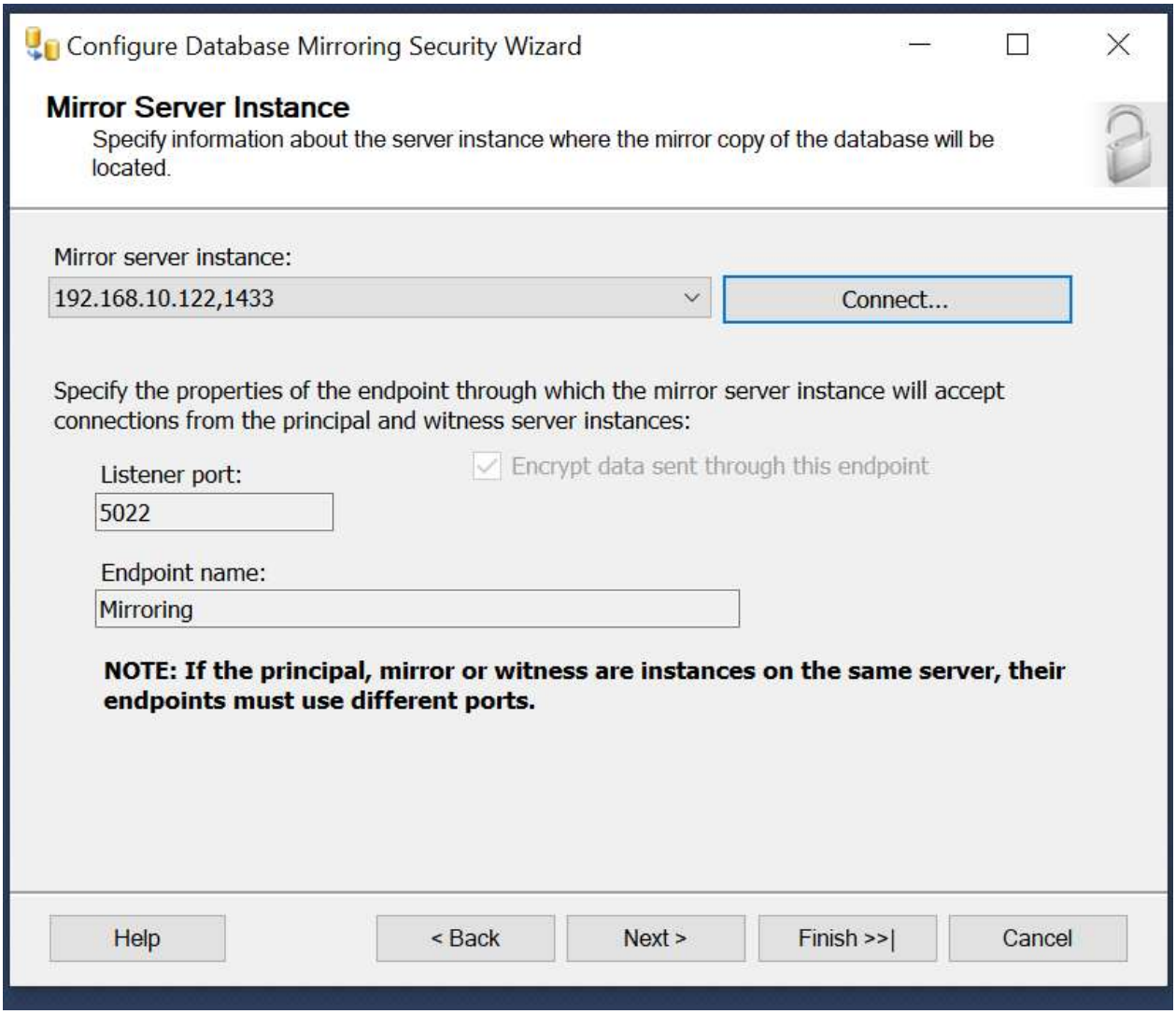



**Step -11:** Click **Connect** on the **Mirror Server Instance.**

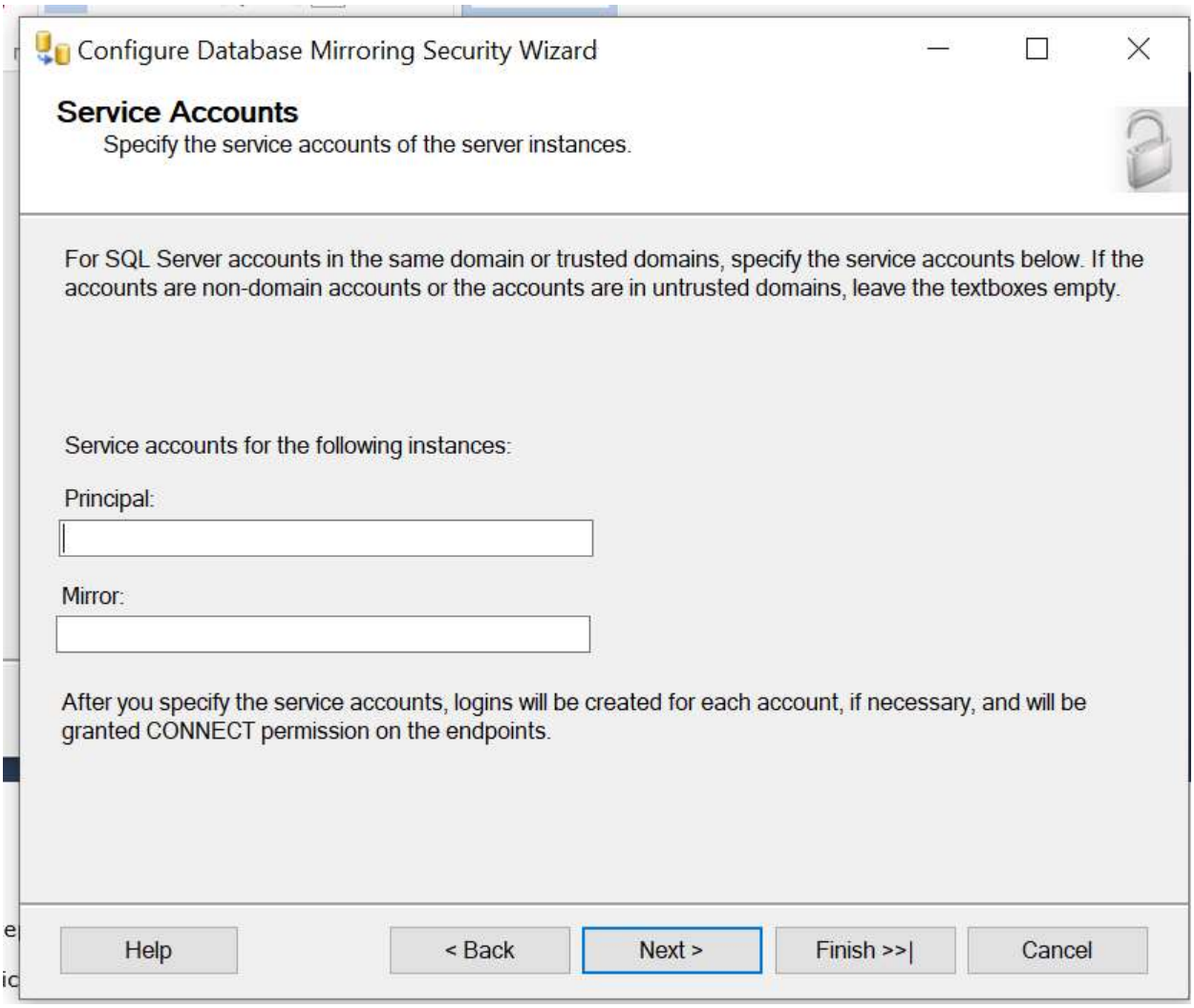
**Connect to Server** window appears, provide the destination server information and click **Connect**. Click **Next** to continue.


Configure Database Mirroring Security Wizard
Mirror Server Instance
Specify information about the server instance where the mirror copy of the database will be located.
Mirror server instance:
192.168.10.121,1433
Connect...
Specify the properties of the endpoint through which the mirror server instance will accept connections from the principal and witness server instances:
Listener port:
5022
Encrypt data sent through this endpoint
Endpoint name:
Mirroring
NOTE: If the principal, mirror or witness are instances on the same server, their endpoints must use different ports.
The principal and mirror server instances cannot be the same instance of SQL Server. Select another instance as the mirror server instance.
Help
< Back
Next >
Finish >>|
Cancel

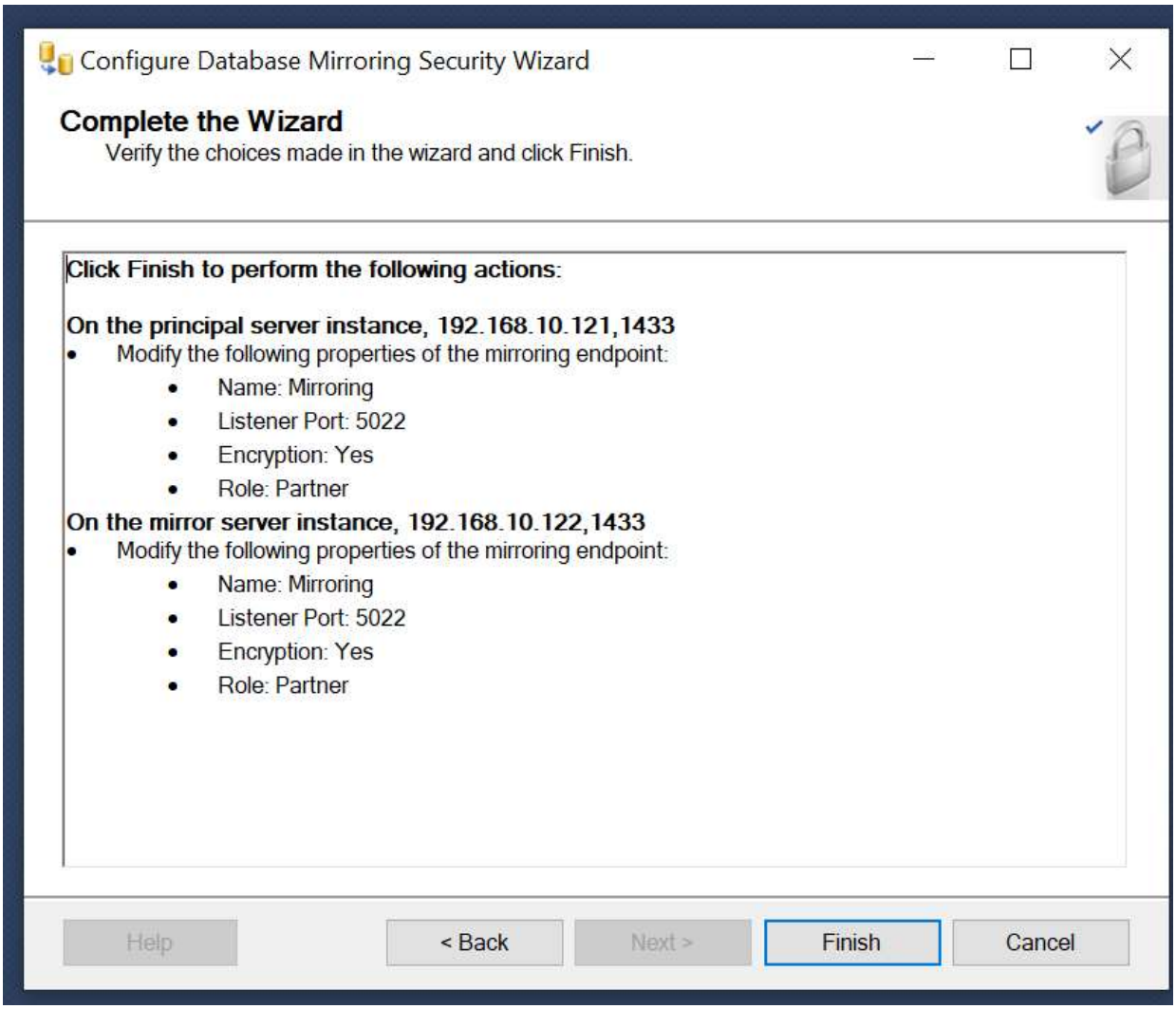

Connect to Server
Microsoft SQL Server 2014
Server type:
Database Engine
Server name:
192.168.10.122,1433
192.168.10.121,1433
192.168.10.122,1433
<Browse for more...>
Authentication:
Login:
Password:
Remember password
Connect
Cancel
Help
Options >>
NOTE: If the principal, mirror or witness are instances on the same server, their endpoints must use different ports.
The principal and mirror server instances cannot be the same instance of SQL Server. Select another

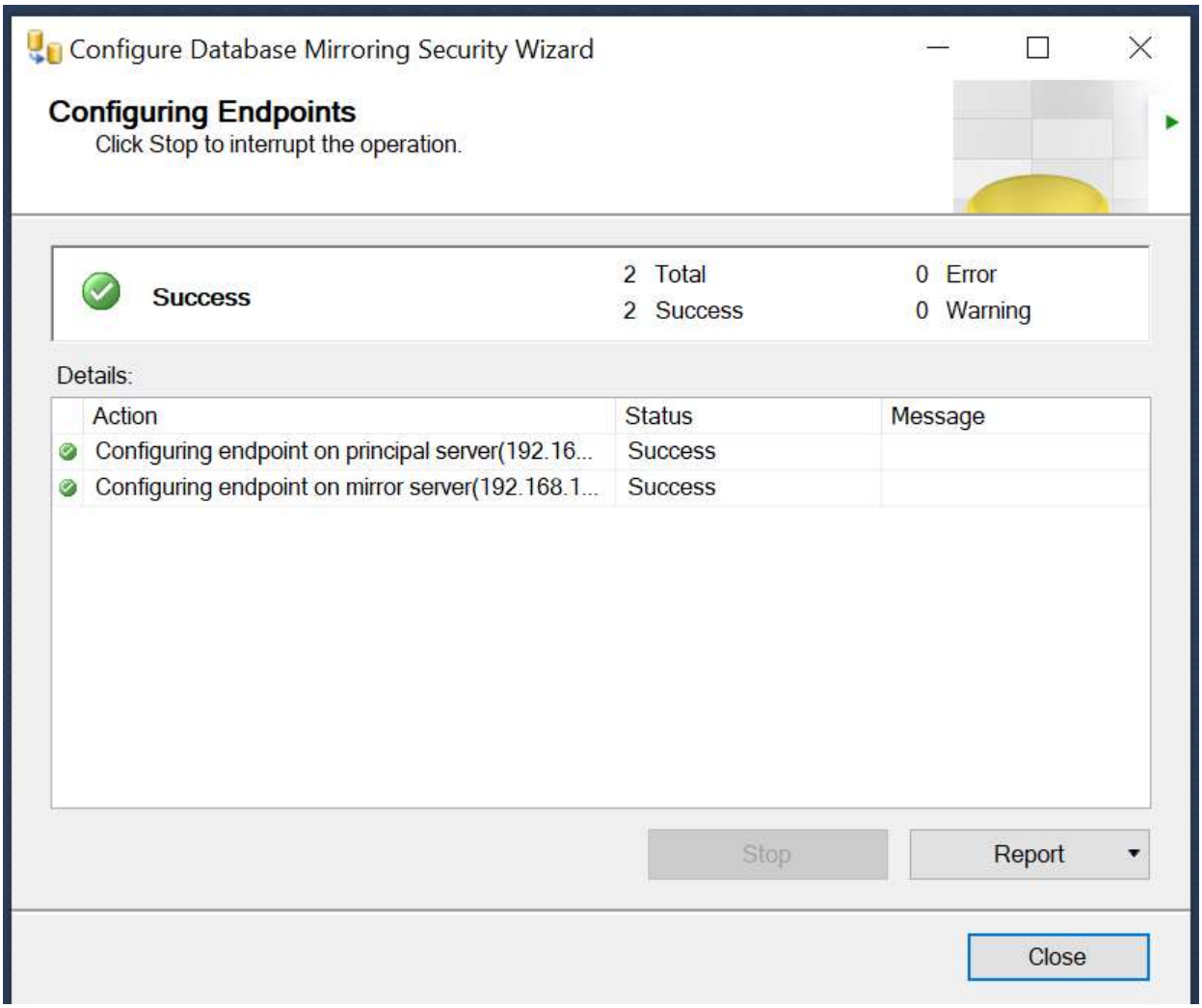



**Step -12**: Ensure that the **Service Accounts** remain empty. Click **Next** to continue.

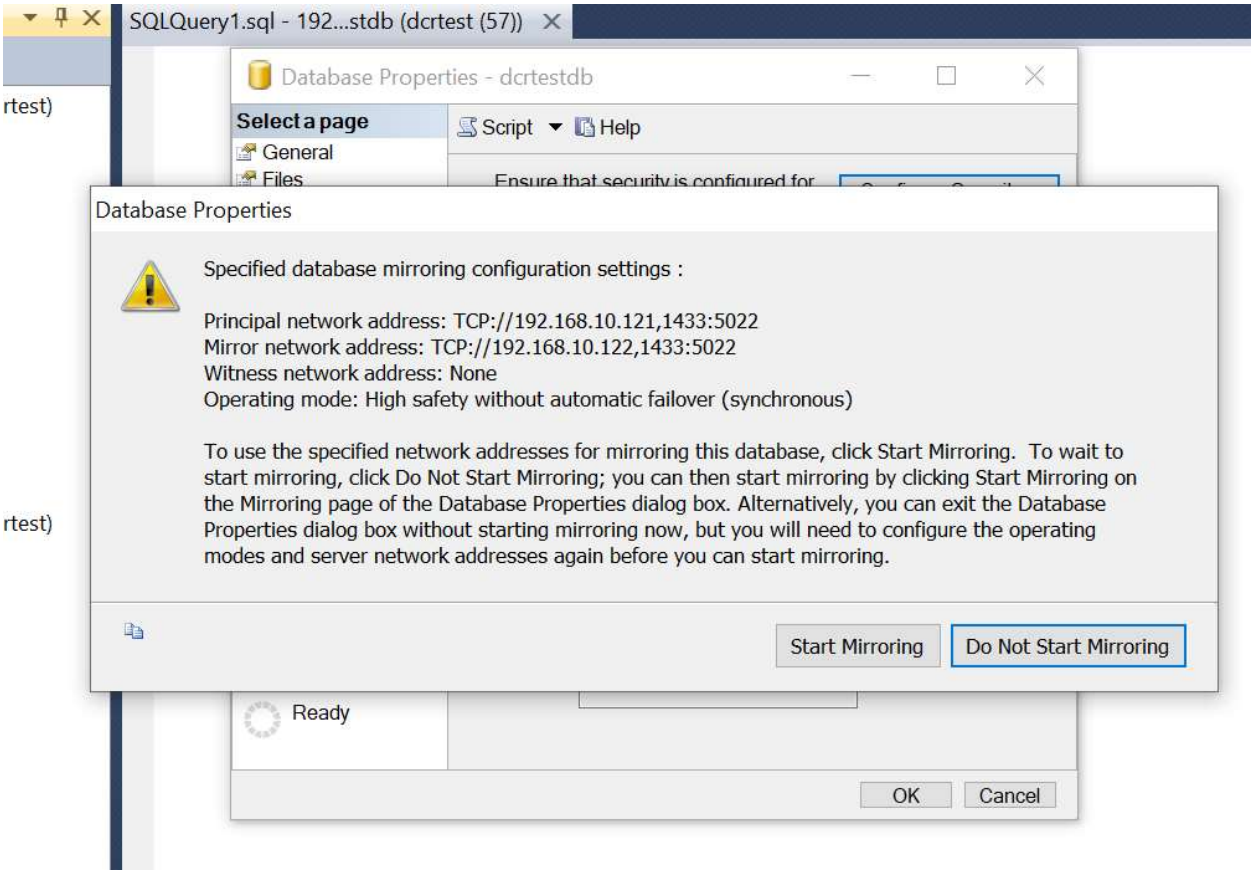



**Step -13**: Click **Finish.**

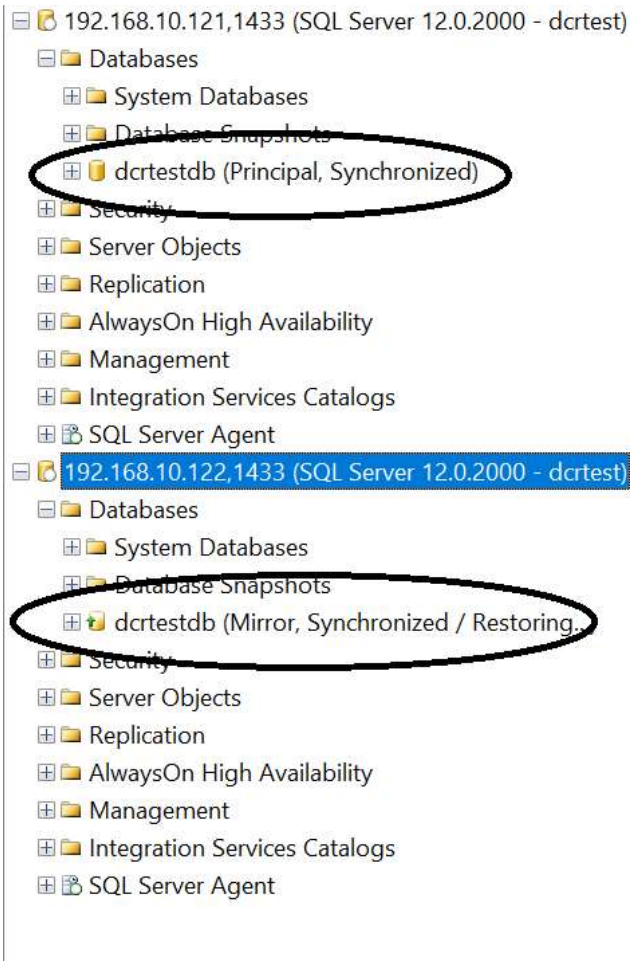

Configure Database Mirroring Security Wizard
Complete the Wizard
Verify the choices made in the wizard and click Finish.
Click Finish to perform the following actions:
On the principal server instance, 192.168.10.121,1433
Modify the following properties of the mirroring endpoint:
Name: Mirroring
Listener Port: 5022
Encryption: Yes
Role: Partner
On the mirror server instance, 192.168.10.122,1433
Modify the following properties of the mirroring endpoint:
Name: Mirroring
Listener Port: 5022
Encryption: Yes
Role: Partner
Help
< Back
Next >
Finish
Cancel




**Step -14**: Click the start Mirror

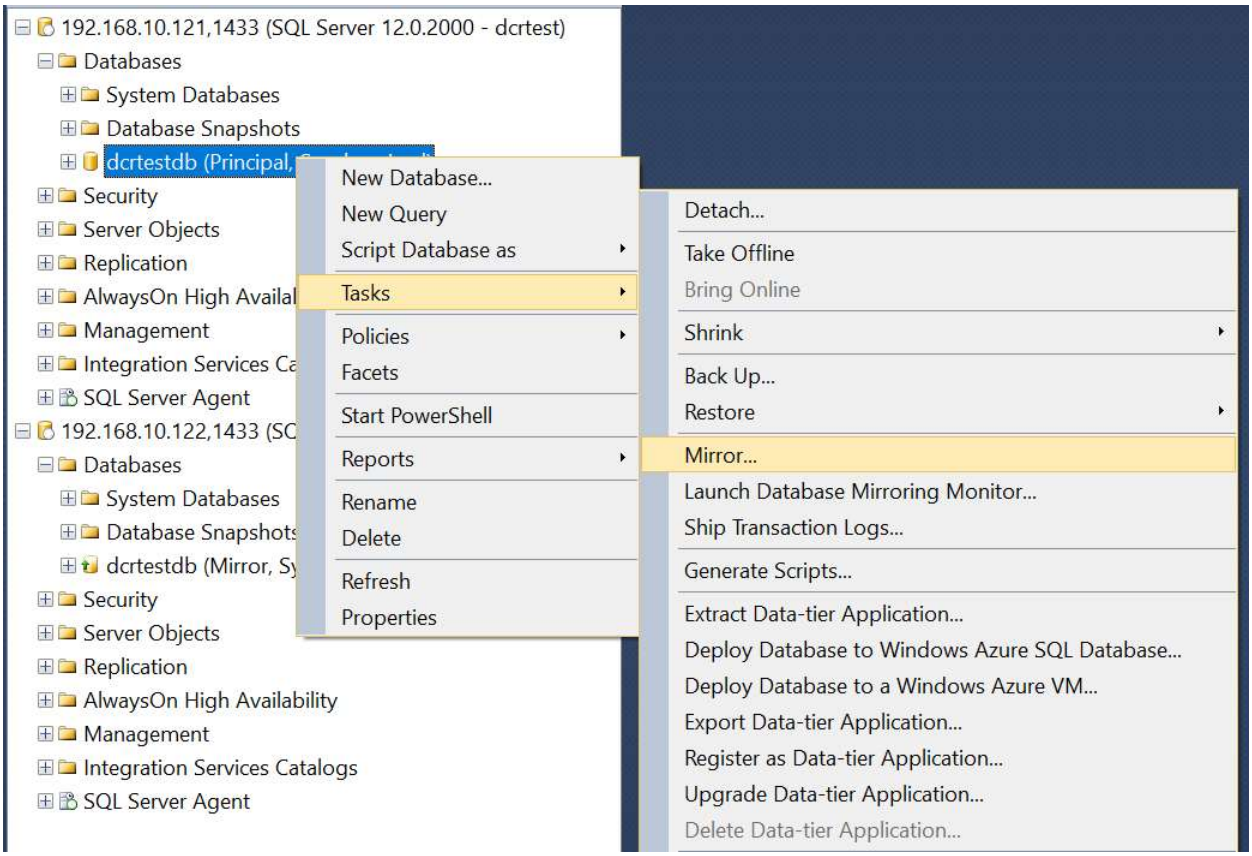


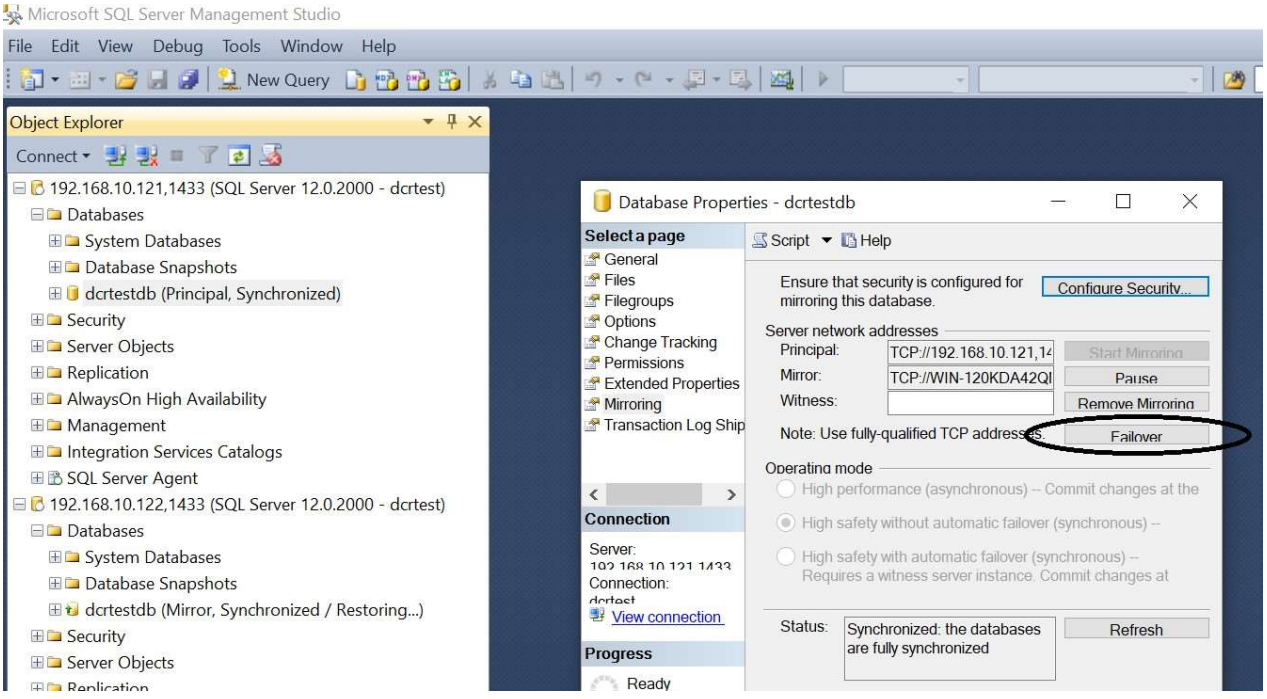

**Step -15**: Check whether mirroring operation is ok.



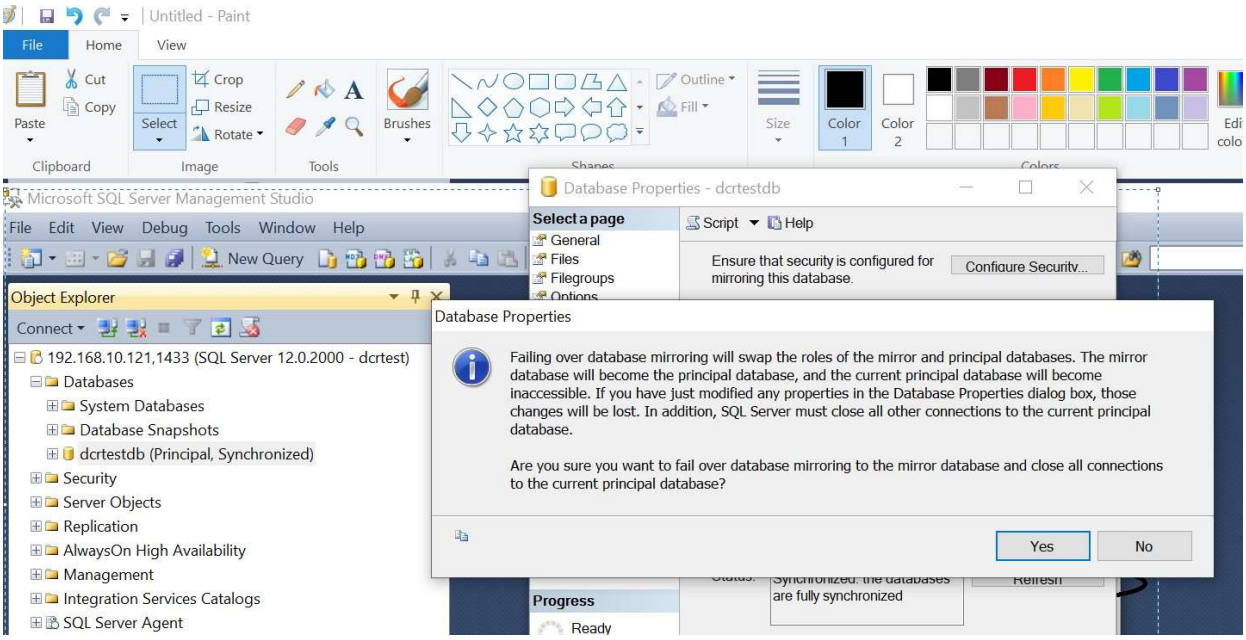

## Failover operation

**Step -1**: Click the failover option at Principal database.

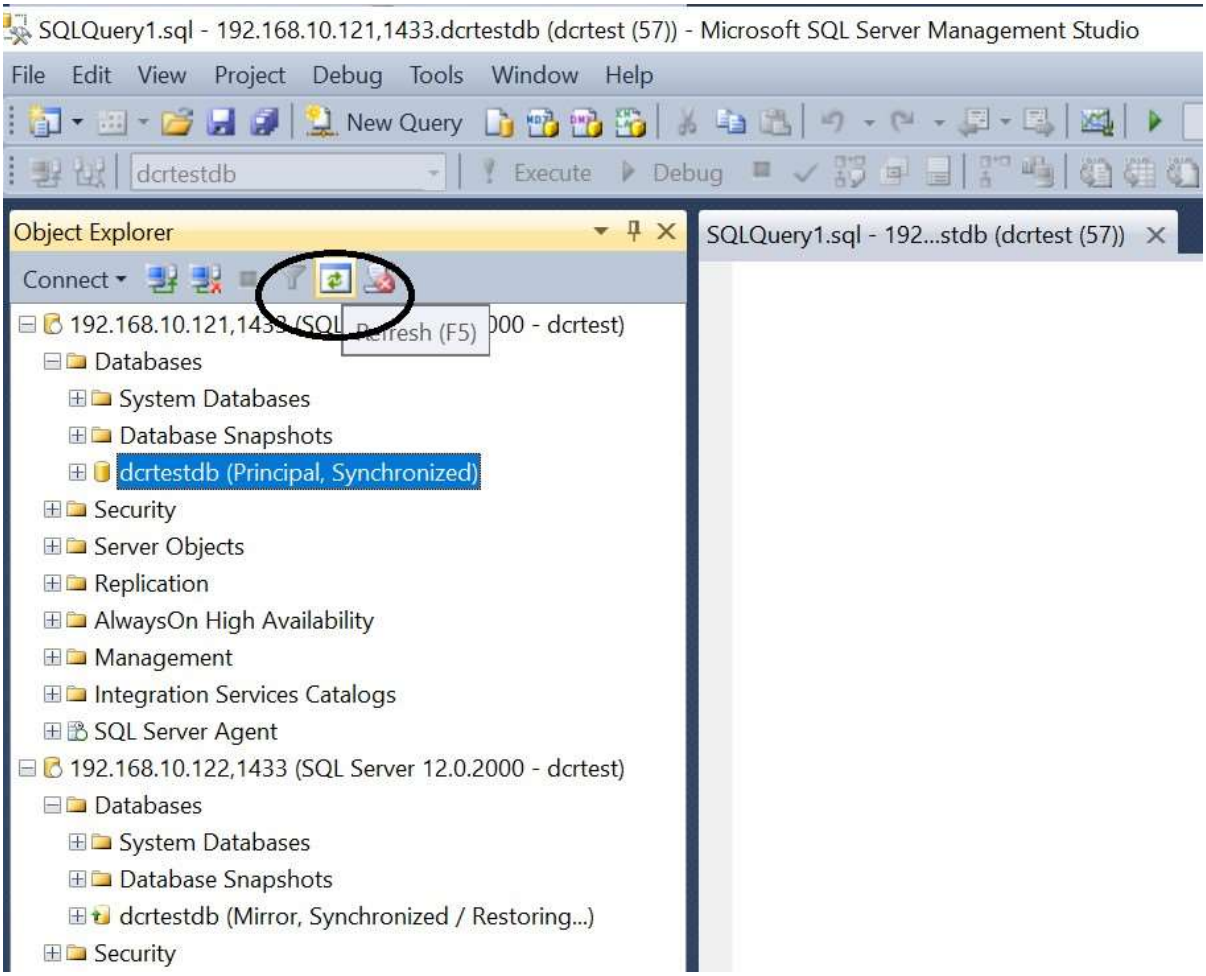



**Step -2**: after click the failover option, click yes




**Step -3**: After click yes option, click the refresh option



**Step -4**: after click refresh option, check whether it is ok.