

# **Database Management Reference**

## **ZENworks® 11**

October 2013

**Novell.**

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# About This Guide

This *ZENworks 11 Database Management Reference* provides information to help you back up and restore an embedded or external Sybase SQL Anywhere database by using the zman command line utility. To back up and restore Oracle or Microsoft SQL Server databases, refer to their documentation.

The guide also helps you migrate data from a Sybase SQL Anywhere database to an Oracle database or to an MSSQL database. The information in this guide is organized as follows:

- ♦ [Part I, “Embedded Database Maintenance,” on page 9](#)
- ♦ [Part II, “External Database Maintenance,” on page 43](#)
- ♦ [Part III, “Database Management - Best Practices, Tips, Troubleshooting,” on page 83](#)
- ♦ [Appendix A, “Documentation Updates,” on page 99](#)

## Audience

This guide is intended for ZENworks administrators.

## Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation.

## Additional Documentation

ZENworks 11 is supported by other documentation (in both PDF and HTML formats) that you can use to learn about and implement the product. For additional documentation, see the [ZENworks 11 documentation Web site \(http://www.novell.com/documentation/zenworks11\)](http://www.novell.com/documentation/zenworks11).



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# Embedded Database Maintenance

- ♦ Chapter 1, “Retrieving and Storing the Credentials of the Embedded Sybase SQL Anywhere Database,” on page 11
- ♦ Chapter 2, “Changing the Ports Used by the Embedded Sybase SQL Anywhere Database,” on page 13
- ♦ Chapter 3, “Backing Up the Embedded Sybase SQL Anywhere Database,” on page 15
- ♦ Chapter 4, “Restoring the Embedded Sybase SQL Anywhere Database,” on page 23
- ♦ Chapter 5, “Moving the Data from an Embedded Sybase Database to an External Sybase Database,” on page 27
- ♦ Chapter 6, “Migrating the Data from an Internal Sybase Database to an External Oracle Database,” on page 31
- ♦ Chapter 7, “Migrating the Data from an Internal Sybase Database to an MS SQL Database,” on page 37



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# 1 Retrieving and Storing the Credentials of the Embedded Sybase SQL Anywhere Database

If you have installed ZENworks 11 with the embedded Sybase SQL Anywhere database that is bundled with ZENworks, we recommend that you store the credentials of the database for future use.

- 1 Retrieve the credentials of the embedded Sybase SQL Anywhere database by entering one of the following commands at the server prompt:

```
zman database-get-credentials
```

or

```
zman dgc
```

The credentials are displayed on the console.

For more information about zman, view the zman man page (`man zman`) on the server or see “zman(1)” in the *ZENworks 11 Command Line Utilities Reference*.

- 2 Copy the credentials and save them in a file.

To retrieve and store the credentials of Remote Sybase SQL Anywhere, Oracle, or Microsoft SQL Server databases, refer to their documentation.



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# 2 Changing the Ports Used by the Embedded Sybase SQL Anywhere Database

Sybase SQL Anywhere uses port 2638 by default. You can change the port on which the database runs.

- 1 In the `zenworks_database.conf` file, specify the new port number on which the server listens to.

The `zenworks_database.conf` file is located in `%ZENWORKS_HOME%\conf` on Windows and in `/etc/opt/novell/zenworks` on Linux.

- 2 In the `zdm.xml` file on all the Primary Servers, specify the new port number in the following entry:

```
<entry key="Port">2638</entry>
```

By default, the entry lists the default port number, 2638.

The `zdm.xml` file is located in `%ZENWORKS_HOME%\conf\datamodel` on Windows and in `/etc/opt/novell/zenworks/datamodel` on Linux.

- 3 (Conditional) If the ZENworks Reporting Server is installed on the Primary Server, add the new port number to the ODBC data information:

- ♦ **On a Windows server:** Do the following:

1. From the desktop *Start* menu, click *Settings*, click *Control Panel*, then double-click *ODBC Data Source*.

The ODBC Data Source Administrator window is displayed.

2. Click the *System DSN* tab.
3. Double-click *ZENworks Datastore*.

The ODBC Configuration window is displayed.

4. Click the *Networks* tab.

5. In the *Select the Network Protocols and Options* panel, change the value of the TCP/IP port number (by default, it is 2638) to the port number specified in `zenworks_database.conf` (the new number you specified in [Step 1](#)).

- ♦ **On a Linux server:** In the `/opt/novell/zenworks/share/boe/bobje/odbc.ini` file, change the value of TCP/IP to the port number specified in `zenworks_database.conf` (the new number you specified in [Step 1](#)).

- 4 Restart the database service, ZENServer, and ZENLoader services on all Primary servers:

- ♦ **On Windows:** Do the following:

1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.

2. Double-click *Administrative Tools > Services*.
  3. Restart the following services: *Novell ZENworks Embedded Datastore*, *Novell ZENworks Loader Service*, and *Novell ZENworks Server*.
- ◆ **On Linux:** At the console prompt, enter the following commands in the order given:
    - ◆ `/etc/init.d/novell-zenmtr stop`
    - ◆ `/etc/init.d/novell-zenserver stop`
    - ◆ `/etc/init.d/novell-zenloader stop`
    - ◆ `/etc/init.d/sybase-asa restart`
    - ◆ `/etc/init.d/novell-zenserver start`
    - ◆ `/etc/init.d/novell-zenloader start`
    - ◆ `/etc/init.d/novell-zenmtr start`

Even though the TCP and UDP ports are changed from 2638, the database server also listens on UDP port 2638. For more information, see the [Sybase database documentation \(http://www.ianywhere.com/developer/product\\_manuals/sqlanywhere/1001/en/html/dbdaen10/daserverport-network-conparm.html\)](http://www.ianywhere.com/developer/product_manuals/sqlanywhere/1001/en/html/dbdaen10/daserverport-network-conparm.html).

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# 3 Backing Up the Embedded Sybase SQL Anywhere Database

The embedded Sybase SQL Anywhere database can be backed up to a directory on the local machine or to a network location.

- ♦ [Section 3.1, “Backing Up the Embedded Sybase SQL Anywhere Database on a Windows or Linux Server,” on page 15](#)
- ♦ [Section 3.2, “Backing up the Embedded Sybase SQL Anywhere Database Running on a Windows Server to a Network Location on a Remote Windows Machine,” on page 17](#)
- ♦ [Section 3.3, “Backing up the Embedded Sybase SQL Anywhere Database Running on a Linux Server to a Network Location on a Remote Linux Machine,” on page 20](#)

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**IMPORTANT:** If you plan to back up the ZENworks Server that hosts the ZENworks database, you must ensure that the ZENworks database is backed up at least once before backing up the ZENworks Server (which only needs to be done one time). You can also back up the ZENworks database on a regular basis. However, you can back up the server and the database in any order.

When restoring the ZENworks Server and the database, you must first restore the ZENworks Server, then restore the latest backed-up ZENworks database. For more information about backing up and restoring the ZENworks Server, see [“Backing Up and Restoring the ZENworks Server and Certificate Authority”](#) in the *ZENworks 11 Disaster Recovery Reference*.

---

## 3.1 Backing Up the Embedded Sybase SQL Anywhere Database on a Windows or Linux Server

- 1 Store the ZENworks administrator name and password by entering the following command at the command prompt:

```
zman admin-store-credential administrator
```

If you do not store the credentials, you must enter the ZENworks administrator name and password for each zman command.

- 2 You can immediately back up the embedded Sybase SQL Anywhere database or schedule the backup to run at a specific time. To back up the embedded Sybase SQL Anywhere database immediately, continue with this step. To schedule the backup to run at a specific time, skip to [Step 3](#).

To immediately back up the embedded Sybase SQL Anywhere database to a directory on the database server by using the zman command line utility, enter the following command at the database server console prompt:

```
zman database-backup complete_path_of_the_backup_directory_on_database_server
```

For example, to back up the database to the `c:\dbbackup` directory on a Windows database server, execute `zman database-backup c:\dbbackup`. To back up the database to the `/root/dbBackup` directory on a Linux database server, execute `zman database-backup /root/dbBackup`.

To manually back up the embedded Sybase SQL Anywhere database to a directory on the database server:

**2a** Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:  
`novell-zenworks-configure -c Start`
2. Enter the number next to the Stop action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:  
`/opt/novell/zenworks/bin/novell-zenworks-configure -c Start`
2. Enter the number next to the Stop action.

**2b** Manually copy `zenworks_zone_name.db` and `zenworks_zone_name.log` from the database server to the new location where you want to back up the database.

By default, the files are located in

`ZENworks_Installation_directory\Novell\Zenworks\Database` on a Windows Sybase database server, and in `/var/opt/novell/zenworks/database/` on a Linux Sybase database server.

**2c** Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:  
`novell-zenworks-configure -c Start`
2. Enter the number next to the Start action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:  
`/opt/novell/zenworks/bin/novell-zenworks-configure -c Start`
2. Enter the number next to the Start action.

**3** (Conditional) To schedule the backup to run at a specific time every day or on specific days of a month, you need to create a schedule file and run it.

**3a** Create a schedule file with the Create event, `backupschedule.sql`, with the following contents:

```
CREATE EVENT backup_schedule_name
SCHEDULE
specify_the_schedule
```

A sample schedule file to back up the database at a 11 p.m. every day is as follows:

```
CREATE EVENT ZENDBBackup
SCHEDULE
START TIME '11:00 PM' EVERY 24 HOURS
```



A sample schedule file to back up the database at 1:00 a.m. on the first, second, third, and fourth day of the month is as follows:

```
CREATE EVENT ZENDBBackup1
SCHEDULE
START TIME '1:00 AM'
ON (1,2,3,4)
```

Sample schedule files are available in the `ZENworks_Installation_directory:\Novell\Zenworks\share\zman\samples\database` directory on a Windows server, and in the `/opt/novell/zenworks/share/zman/samples/database` directory on a Linux server.

**3b** Enter the following command at the command prompt:

```
zman database-backup complete_path_of_the_backup_directory
complete_path_of_backUpSchedule.sql -d SQL_function_call
```

For example, to back up the database to the `c:\dbbackup\day_of_the_week` directory on a Windows server as per the schedule in the `c:\backupschedule.sql` file, enter the following command:

```
zman database-backup c:\dbbackup c:\backUpSchedule.sql -d "DAYNAME(now())"
```

For more information about this command, view the `zman` man page (`man zman`) on the device, or see [zman\(1\)](#) in the *ZENworks 11 Command Line Utilities Reference*.

**4** Clear the credentials stored in [Step 1](#) by entering the following command at the command prompt:

```
zman admin-clear-credential
```

According to the backup schedule, the `zenworks_zone_name.db` database file and the `zenworks_zone_name.log` transaction log file are created in the database backup directory.

If you want to change the database backup location or the backup schedule at a later time, review the following sections:

- ♦ [“Changing the Backup Location of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup”](#) on page 89
- ♦ [“Changing the Backup Schedule of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup”](#) on page 90

## 3.2 Backing up the Embedded Sybase SQL Anywhere Database Running on a Windows Server to a Network Location on a Remote Windows Machine

To back up an embedded Sybase SQL Anywhere database that is installed and running on a Windows server to a network location on another Windows machine, you need a local machine and a remote machine. The local machine is a Windows server with the ZENworks server components and the embedded Sybase SQL Anywhere database installed. The remote machine is a Windows machine that has the network location to which you want to back up the database.

**1** Perform the following steps on the local machine:

**1a** Create an administrative user and specify a password.

For example, you could specify the administrative username as `Administrator` and the password as `novell`.

- 1b** From the desktop *Start* menu, click *Settings*, click *Control Panel*, double-click *Administrative Tools*, then double-click *Services*.
- 1c** Right-click the *Novell ZENworks Datastore* service, then click *Properties*.
- 1d** Click the *Log On* tab.
- 1e** Select *This account*, then specify the name and the password of the administrative user created in [Step 1a](#).  
For example, specify the user as *Administrator* and the password as *novell*.
- 1f** Click *OK*.
- 2** Perform the following steps on the remote machine that has the network location where you want to save the backup:
  - 2a** Create an account with the same credentials as the user you created in [Step 1a](#).  
For example, specify user as *Administrator* and password as *novell*.
  - 2b** Provide Read/Write permission on the network location to the user.
- 3** You can immediately back up the embedded Sybase SQL Anywhere database or schedule the backup to run at a specific time. To immediately back up the database, continue with this step. To schedule the backup to run at a specific time every day or on specific days of a month, skip to [Step 4](#).

To immediately back up the database to the network location on the remote machine by using the *zman* command line utility, enter the following command at the database server console prompt:

```
zman database-backup
\\IP_address_of_the_remote_machine\backup_directory\custom_directory
```

Where *\\IP\_address\_of\_the\_remote\_machine\backup\_directory* is the network location on the remote machine and *custom\_directory\_name* is a name that you specify for a directory to be newly created by *zman* and into which the database files are to be backed up.

To manually back up the database to the network location on the remote machine:

- 3a** Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - 3a1** Execute the following command at the server prompt:  
`novell-zenworks-configure -c Stop`
  - 3a2** Enter the number next to the *Stop* action.
- 3b** Manually copy *zenworks\_zone\_name.db* and *zenworks\_zone\_name.log* from the database server to a desired location on the remote machine.  
By default, the files are located in *ZENworks\_Installation\_directory\Novell\Zenworks\Database* on a Windows Sybase database server.
- 3c** Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - 3c1** Execute the following command at the server prompt:  
`novell-zenworks-configure -c Start`
  - 3c2** Enter the number next to the *Start* action.
- 4** (Conditional) To schedule the backup:
  - 4a** Create a schedule file, *backupschedule.sql*, with the following contents:  

```
CREATE EVENT backup_schedule_name
SCHEDULE
specify_the_schedule
```

A sample schedule file to back up the database at a 11 p.m. every day is as follows:

```
CREATE EVENT ZENDBBackup
SCHEDULE
START TIME '11:00 PM' EVERY 24 HOURS
```

A sample schedule file to back up the database at 1:00 a.m on the first, second, third, and fourth day of the month is as follows:

```
CREATE EVENT ZENDBBackup1
SCHEDULE
START TIME '1:00 AM'
ON (1,2,3,4)
```

Sample schedule files are available in the *ZENworks\_Installation\_directory*\Novell\Zenworks\share\zman\samples\database directory.

**4b** Execute the following command at the command prompt:

```
zman database-backup
\\IP_address_of_the_remote_machine\backup_directory\custom_directory
c:\backUpSchedule.sql -d SQL_function_call
```

Where *\\IP\_address\_of\_the\_remote\_machine\backup\_directory* is the network location on the remote machine and *custom\_directory\_name* is a name that you specify for a directory to be newly created by zman and into which the database files are to be backed up.

For more information about the command, view the zman man page (man zman) on the device, or see [zman\(1\)](#) in the *ZENworks 11 Command Line Utilities Reference*.

According to the backup schedule, *zenworks\_zone\_name.db* and *zenworks\_zone\_name.log* are created in the network location on the remote machine. The backed-up database is stored in *zenworks\_zone\_name.db*. The result of the database backup is logged in *zenworks\_zone\_name.log*.

If you want to change the database backup location or the backup schedule at a later time, review the following sections:

- ♦ [“Changing the Backup Location of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup”](#) on page 89
- ♦ [“Changing the Backup Schedule of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup”](#) on page 90

### 3.3 Backing up the Embedded Sybase SQL Anywhere Database Running on a Linux Server to a Network Location on a Remote Linux Machine

To back up the embedded Sybase SQL Anywhere database that is installed and running on a Linux server to a network location on a Linux machine, you need a local machine and a remote machine. The local machine is a Linux server with the ZENworks server components and the embedded Sybase SQL Anywhere database installed. The remote machine is a Linux machine that has the network location to which you want to back up the database.

You can back up the database on a Linux machine by using any Linux share such as Samba share or NFS share.

To back up the embedded Sybase SQL Anywhere database that is installed and running on a Linux server to a network location on a Linux machine by using Samba share:

**1** Create a Samba share on the remote machine:

**1a** Create a user by entering the `useradd user_name` command at the command prompt.

**1b** Log in to the remote machine with the username created in [Step 1a](#), and set the password by using the `passwd specify_the_password` command.

**1c** Create a directory to save the database backup.

For example, create a directory with the name `backup`.

**1d** Open the Samba server settings by running the `yast2 samba-server` command.

**1e** Click the *Shares* tab, then click *Add* to specify the share name and the path to the backup directory created in [Step 1c](#).

For example, specify the sharename as `dbbackup`.

**1f** Select the `dbbackup` share, click *Edit*, then add the following attributes:

- ◆ `create mask = 0640`
- ◆ `force user = user_name_created_in_Step 1a`
- ◆ `guest ok = yes`
- ◆ `public = yes`
- ◆ `wide links = no`
- ◆ `writable = yes`

**2** Create a directory on the local machine.

For example, create a directory with the name `zenworks_dbbackup` in `/root`.

**3** Mount the Samba share on the `zenworks_dbbackup` directory on the local machine by entering the following command at the command prompt:

```
mount -t smbfs //IP_address_of_the_remote_machine/share_name -o
username=user_name_specified_in_Step1a,password=password_specified_in_Step_1b
local_directory_name_with_complete_path_created_in_Step2
```

For example:

```
mount -t smbfs //IP_address_of_the_remote_machine/dbbackup -o
username=user_name_specified_in_Step1a,password=password_specified_in_Step_1b
/root/zenworks_dbbackup
```

**4** You can immediately back up the database or schedule the backup to run at a specific time. To immediately back up the database, continue with this step. To schedule the backup to run at a specific time every day or on specific days of a month, skip to [Step 5](#).

To immediately back up the database to the network location on the remote machine by using the zman command line utility, enter the following command at the database server console prompt:

```
zman database-backup database_backup_directory
```

For example:

```
zman database-backup /root/zenworks_dbbackup
```

To manually back up the database to the network location on the remote machine:

**4a** Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

**4a1** Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

**4a2** Enter the number next to the Stop action.

**4b** Manually copy `zenworks_zone_name.db` and `zenworks_zone_name.log` from the database server to a desired location on the remote machine.

By default, the files are located in `/var/opt/novell/zenworks/database/` on a Linux Sybase database server.

**4c** Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

**4c1** Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

**4c2** Enter the number next to the Start action.

**5** (Conditional) To schedule the backup:

**5a** Create a schedule file, `backupschedule.sql`, with the following contents:

```
CREATE EVENT backup_schedule_name
SCHEDULE
specify_the_schedule
```

A sample schedule file to back up the database at a 11 p.m. every day is as follows:

```
CREATE EVENT ZENDBBackup
SCHEDULE
START TIME '11:00 PM' EVERY 24 HOURS
```

A sample schedule file to back up the database at 1:00 a.m. on the first, second, third, and fourth days of the month is as follows:

```
CREATE EVENT ZENDBBackup1
SCHEDULE
START TIME '1:00 AM'
ON (1,2,3,4)
```

Sample schedule files are available in the `ZENworks_Installation_directory:\Novell\Zenworks\share\zman\samples\database` directory.

**5b** Enter the following command at the command prompt:

```
zman database-backup database_backup_directory c:\backUpSchedule.sql -d
SQL_function_call
```

For example:

```
zman database-backup /root/zenworks_dbbackup c:\backUpSchedule.sql -d
SQL_function_call
```

For more information about this command, view the zman man page (man zman) on the device, or see [zman\(1\)](#) in the *ZENworks 11 Command Line Utilities Reference*.

According to the backup schedule, `zenworks_zone_name.db` and `zenworks_zone_name.log` are created in the network location on the remote machine (`/root/zenworks_dbbackup`). The backed-up database is stored in `zenworks_zone_name.db`. The result of the database backup is logged in `zenworks_zone_name.log`.

If you want to change the database backup location or the backup schedule at a later time, review the following sections:

- ♦ [“Changing the Backup Location of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup”](#) on page 89
- ♦ [“Changing the Backup Schedule of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup”](#) on page 90

---

# 4 Restoring the Embedded Sybase SQL Anywhere Database

The following sections provide information on restoring the backed-up embedded Sybase SQL Anywhere database:

- ♦ [Section 4.1, “Restoring the Embedded Sybase SQL Anywhere Database on a Windows Server,” on page 23](#)
- ♦ [Section 4.2, “Restoring the Embedded Sybase SQL Anywhere Database on a Linux Server,” on page 24](#)

---

## IMPORTANT

If the database is located on a ZENworks Server, you must first restore the ZENworks Server, then restore the ZENworks database. Ensure that you have backed up the ZENworks Server and the database (at least once). You can also back up the ZENworks database on a regular basis. However, you can back up the server and the database in any order. For more information about backing up and restoring the ZENworks Server, see “[Backing Up and Restoring the ZENworks Server and Certificate Authority](#)” in the *ZENworks 11 Disaster Recovery Reference*.

---

## 4.1 Restoring the Embedded Sybase SQL Anywhere Database on a Windows Server

- 1 Stop all the ZENworks Services on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following:
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the Stop action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the Stop action.
- 2 At the Windows server prompt, go to `ZENworks_Installation_directory:\novell\zenworks\bin`, and enter the following command:

```
ZenworksWindowsDBRestore.bat  
ZENworks_Installation_directory:\Novell\Zenworks\Database  
c:\dbBackup\zenworks_zone_name.db c:\dbBackup\zenworks_zone_name.log
```
- 3 Press any key when the following message is displayed:

Before proceeding, make sure you have backed up any files in:<Installation directory>:\Novell\ZENworks\database Press any key to continue.

**4** Enter *Y* when the following message is displayed:

The following services are dependent on the Novell ZENworks Datastore service. Stopping the Novell ZENworks Datastore service will also stop these services: Novell ZENworks Loader, Novell ZENworks Agent Service, Novell ZENworks Server. Do you want to continue this operation? (Y/N) [N]:

**5** Press any key when the following message is displayed:

The Novell ZENworks Datastore service was stopped successfully. Press any key to continue...

**6** Enter *Yes* when the following message is displayed:

Overwrite <installation directory>:\Novell\ZENworks\database\zenworks\_<zone\_name>.db? (Yes/No/All)

**7** Enter *Yes* when the following message is displayed:

Overwrite <installation directory>:\Novell\ZENworks\database\zenworks\_<zone\_name>.log? (Yes/No/All):

The backupFile and the backupLogFile are copied to *ZENworks\_Installation\_directory*:\Novell\ZENworks\database, and the database is restored.

**8** (Conditional) If you restore the database to a location other than the one mentioned in the *zenworks\_installation\_directory*\novell\zenworks\database\conf\zenworks\_database.conf file, manually edit *zenworks\_database.conf* to specify the new location of the database.

**9** Start all the ZENworks Services on all the ZENworks Servers in the Management Zone.

♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:  
`novell-zenworks-configure -c Start`
2. Enter the number next to the *Start* action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:  
`/opt/novell/zenworks/bin/novell-zenworks-configure -c Start`
2. Enter the number next to the *Start* action.

## 4.2 Restoring the Embedded Sybase SQL Anywhere Database on a Linux Server

**1** Stop all the ZENworks Services on all the ZENworks Servers in the Management Zone.

♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:  
`novell-zenworks-configure -c Start`
2. Enter the number next to the *Stop* action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:



```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

2. Enter the number next to the Stop action.

2 Log in to the ZENworks server as root.

3 Change to /opt/novell/zenworks/bin, and enter the following command:

```
./ZenworksLinuxDBRestore.sh -F "/root/dbBackup/zenworks_zone_name.db"
```

4 Enter Y when the following message is displayed:

```
The backup database file will OVERWRITE the existing database. Is that OK? [y/n]
```

5 Enter Y when the following message is displayed:

```
The novell-zenloader needs to be stopped for the database restore to be performed. Would you like to proceed [y/n]?
```

```
The backup file is copied to /var/opt/novell/zenworks/database, and the restore log file to /var/opt/novell/log/zenworks/dbrestore.log. The database is restored.
```

6 Start all the ZENworks Services on all the ZENworks Servers in the Management Zone.

♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```

2. Enter the number next to the Start action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

2. Enter the number next to the Start action.



---

# 5 Moving the Data from an Embedded Sybase Database to an External Sybase Database

ZENworks 11 allows you move the data from a Sybase SQL Anywhere database (embedded Sybase database) to an OEM Sybase database (external Sybase database).


- ♦ [Section 5.1, “Preparing to Move the Data,” on page 27](#)
- ♦ [Section 5.2, “Moving the Data from the Internal Sybase to the External Sybase,” on page 27](#)

## 5.1 Preparing to Move the Data

Before moving the data from an internal Sybase database to an external Sybase database, do the following:

- ♦ Make sure that ZENworks 11 is installed with an internal Sybase database on a Windows or Linux device.
- ♦ Install the external Sybase database. For more information on how to install an external Sybase database, see [“Installing an External ZENworks Database”](#) in the *ZENworks 11 Server Installation Guide*.

## 5.2 Moving the Data from the Internal Sybase to the External Sybase

- 1 On the device that has the external Sybase database installed, stop the Novell ZENworks Embedded Datastore service.
  - ♦ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
    2. Double-click *Administrative Tools > Services*.
    3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Stop*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.
  - ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa stop`.
- 2 Stop all the ZENworks Services on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the *Stop* action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

2. Enter the number next to the Stop action.

- 3 From the device that has the internal Sybase database installed, copy `zenworks_database.conf` and all files within the database directory to the appropriate directories on the device that has the external Sybase database.

The `zenworks_database.conf` is located in the `ZENworks_installation_path\conf\` directory on Windows and in the `/etc/opt/novell/zenworks/` directory on Linux.

The database directory is located in `ZENworks_installation_path` on Windows and in the `/var/opt/novell/zenworks/` directory on Linux.


- 4 On the device that has the external Sybase database installed, open `zenworks_database.conf` and make sure that it contains the correct path of the database file.

- 5 On the device that has the internal Sybase database installed, edit `zdm.xml` (located in `ZENworks_installation_path\conf\datamodel` on Windows and in `/etc/opt/novell/zenworks/datamodel` on Linux):

- ♦ Change the value of the `Embedded` entry key to `false`. By default, it is `true`.
- ♦ Set the value of the `Server` entry key to the IP address of the device that has the external Sybase database installed.
- ♦ Make sure that the value of the `Port` entry key is the port number on which the external Sybase database is running.

- 6 On the device that has the external Sybase database installed, start the Novell ZENworks Embedded Datastore service.

♦ **On Windows:** Do the following:

1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
2. Double-click *Administrative Tools > Services*.
3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Start*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.

♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa start`.

- 7 Delete the database role for the device that has the internal Sybase database installed by running the following command in the DBISQL utility on the external database server:

```
delete from zZenServerRoles where Roles = 'Database';  
commit;
```

- 8 Remove the Novell ZENworks Embedded Datastore service from the device that has the internal Sybase database installed:

**On the Windows device:** Perform the following tasks:

1. At the server prompt, execute the following command:

```
sc delete SQLANYs_ZENDatastore
```

2. Edit the `%ZENWORKS_HOME%\conf\monitor.conf` to remove `dbsrv10` from the line `highpriority=zenserver,casaserver,dbsrv10`.

**On the Linux device:** Perform the following tasks:

1. Stop the Novell ZENworks Embedded Datastore service by executing the following command at the console prompt:

```
/etc/init.d/sybase-asa stop
```

2. Rename `sybase-asa` to `sybase-asa1` by executing the following command:  

```
mv sybase-asa sybase-asa1
```
  3. Edit the `/etc/opt/novell/zenworks/monitor.conf` to remove `sybase-asa` from the line `services=novell-zenserver novell-zenload sybase-asa`.
- 9** Start all the ZENworks Services on all the ZENworks Servers in the Management Zone.
- ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:  

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the `Start` action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:  

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the `Start` action.

The ZENworks Server now points to new database.



---

# 6 Migrating the Data from an Internal Sybase Database to an External Oracle Database

ZENworks 11 allows you migrate the data from an internal Sybase database running on a ZENworks Primary Server to an Oracle database installed on a device that does not have the ZENworks 11 installed.

---

**IMPORTANT:** If the ZENworks Reporting Server is installed on the device, the Reporting Server does not work after migrating the database. For the Reporting Server to work, you must again install the ZENworks Reporting Server on a Primary Server on which you have installed the Oracle client after migrating the database. For more information, see [Section 6.3, “Post-Migration Tasks,”](#) on page 35.

---

Review the following to migrate the database:

- ♦ [Section 6.1, “Preparing to Move the Data,”](#) on page 31
- ♦ [Section 6.2, “Migrating the Data from the Internal Sybase Database to an Oracle Database,”](#) on page 33
- ♦ [Section 6.3, “Post-Migration Tasks,”](#) on page 35

## 6.1 Preparing to Move the Data

Before migrating the data from the Sybase database to Oracle database, do the following:

- ♦ Make sure that the license state of ZENworks 11 is Active. The product must be installed and running either in the licensed version or the evaluation version.
- ♦ Save all the reports, `rights.xml`, and `ownership.xml` by using the `report-save (rpsv) (destination folder)` command. The XML files contain rights and ownership details of all the reports.
- ♦ Make sure that the Primary Server to which the Sybase database is configured has been upgraded to ZENworks 11.
- ♦ Make sure that the ZENworks Primary Server has an internal Sybase database installed.
- ♦ Make sure that the Oracle database is installed on a device that does not have ZENworks 11 installed.
- ♦ Make sure that the USERS tablespace has sufficient space to create and store the ZENworks database schema. The tablespace requires a minimum of 100 MB to create ZENworks database schema without any data in it and an appropriate additional space depending upon the size of the database to be migrated. The database migration utility uses only the USERS tablespace by default. You cannot manually specify any other tablespace during the migration.

- ◆ Make sure that the NLS\_CHARACTERSET parameter is set to AL32UTF8 and the NLS\_NCHAR\_CHARACTERSET parameter to AL16UTF16 by running the following query at the database prompt:

```
select parameter, value from nls_database_parameters where parameter like
'%CHARACTERSET%';
```

- ◆ (Conditional) If you want to migrate the database by creating a new user schema, ensure that the following additional requirements are met:
  - ◆ You must be aware of the database administrator credentials.
  - ◆ A tablespace must already exist for associating to the Oracle access user
- ◆ You can choose to migrate the database by using an existing user schema that resides on a server in your network in the following scenarios:
  - ◆ The database administrator creates a user schema with the necessary rights and you get the credentials for that user schema from the database administrator. In this case, the database administrator credentials are not required to migrate the database.
  - ◆ You create a user schema in the Oracle database and choose to use it during the database migration.

If you want to migrate the database by using an existing user schema, ensure that the following additional requirements are met:

- ◆ Make sure that the user schema has the following rights to create the database.

```
CREATE SESSION
CREATE_TABLE
CREATE_VIEW
CREATE_PROCEDURE
CREATE_SEQUENCE
CREATE_TRIGGER
```

- ◆ Make sure that the quota for the user schema is set to Unlimited on the USERS tablespace.
- ◆ Manually stop the ZENworks services running on all the ZENworks Servers in the Management Zone.
  - ◆ **On Windows:** Do the following:
    1. Execute the following command at the server prompt:
 

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
  - ◆ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.

---

**NOTE:** If external Sybase database is installed by using Sybase installer instead of OEM installer from ZCM iso, then “Novell ZENworks Embedded Datastore Service” does not exist in database server. The external database service should be running before initiating the database migration.

---

- ◆ Make sure that the Novell ZENworks Embedded Datastore service on the Primary Server is running.
  - ◆ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.



2. Double-click *Administrative Tools > Services*.
  3. Ensure that the status of the *Novell ZENworks Embedded Datastore* service is *Started*.
- ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa status`.
- ♦ (Optional) The status of database migration is logged into the `novell-zenworks-configure.log` file. By default, only the messages of the type *Info* and *Severe* are logged. If you want other message types (such as *Finer*, *Finest*, and *Warning*) to also be logged into the file, do the following in the `novell-zenworks-configure.properties` file:

1. Set the value of `Logger.logLevel` to the appropriate message type.  
For example, if you want messages of the type *Finest* to be logged:

```
#Logger.logLevel = FINEST
```

2. Uncomment the line by removing the “#” as follows:

```
Logger.logLevel = FINEST
```

The `novell-zenworks-configure.properties` file is located in `%ZENWORKS_HOME%\conf\` on Windows and in `/etc/opt/novell/zenworks/` on Linux.

## 6.2 Migrating the Data from the Internal Sybase Database to an Oracle Database

- ♦ [Section 6.2.1, “Migrating the Data from the Internal Sybase Database to an Oracle Database,” on page 33](#)
- ♦ [Section 6.2.2, “Resuming the Database Migration,” on page 34](#)

### 6.2.1 Migrating the Data from the Internal Sybase Database to an Oracle Database

- 1 Make sure that all the tasks listed in [Section 6.1, “Preparing to Move the Data,” on page 31](#) are completed.
- 2 Run the database migration utility.
  - ♦ **On the Windows Primary Server:** At the command prompt, go to `ZENworks_installation_path\bin\`, then enter the following command:  
`novell-zenworks-configure.bat -c DBMigrateConfigureAction`
  - ♦ **On the Linux Primary Server:** At the console prompt, go to `/opt/novell/zenworks/bin`, then enter the following command:

```
novell-zenworks-configure -c DBMigrateConfigureAction
```

---

**NOTE:** Database migration to Oracle might fail, if the Primary Server and database installation is non-English Platform Locale Server or Database Server.

---

- 3 Enter the target database type as *Oracle*.
- 4 Enter the IP address or host name of the Oracle database server.
- 5 Enter the port used by the Oracle database server.
- 6 Enter the fully qualified net service name for the Oracle database.
- 7 You can choose to create a new user schema or use an existing user schema.  
If you choose to create a new schema, continue with [Step 8](#).

If you choose to use an existing user schema, skip to [Step 9](#).

- 8 Enter the database server administrator's username and password.
- 9 Enter the schema name when prompted for the database username.
- 10 Enter the database schema password when prompted for the database user's password.

The database migration starts.

- 11 When the database migration is complete, you can check the `novell-zenworks-configure.log` file to see if the migration was successful. The log file is located in `%ZENWORKS_HOME%\log\` on Windows and in `/var/opt/novell/log/zenworks/` on Linux.
- 12 Remove the Novell ZENworks Embedded Datastore service from the device that has the internal Sybase database installed:

**On the Windows device:** Perform the following tasks:

1. At the server prompt, execute the following command:

```
sc delete SQLANYS_ZENDatastore
```

2. Edit the `%ZENWORKS_HOME%\conf\monitor.conf` to remove `dbsrv10` from the line `highpriority=zserver,casaserver,dbsrv10`.

**On the Linux device:** Perform the following tasks:

1. Stop the Novell ZENworks Embedded Datastore service by executing the following command at the console prompt:

```
/etc/init.d/sybase-asa stop
```

2. Rename `sybase-asa` to `sybase-asa1` by executing the following command:

```
mv sybase-asa sybase-asa1
```

3. Edit the `/etc/opt/novell/zenworks/monitor.conf` to remove `sybase-asa` from the line `services=novell-zenserver novell-zenload sybase-asa`.

- 13 After the database is successfully migrated, continue with [Section 6.3, "Post-Migration Tasks,"](#) on page 35.

## 6.2.2 Resuming the Database Migration

If the migration of the database is stopped for any reason, the ZENworks migration utility allows you to resume the migration if the `dbmigration.xml` file has been created. The file is located in the `%ZENWORKS_HOME%\bin` directory on Windows, and in the `/opt/novell/zenworks/bin` directory on Linux.

- 1 Run the database migration utility.
  - ♦ **On the Windows Primary Server:** At the command prompt, go to `ZENworks_installation_path\bin\`, then enter the following command:

```
novell-zenworks-configure.bat -c DBMigrateConfigureAction
```
  - ♦ **On the Linux Primary Server:** At the console prompt, go to `/opt/novell/zenworks/bin`, then enter the following command:

```
novell-zenworks-configure -c DBMigrateConfigureAction
```
- 2 Enter the target database type as Oracle.
- 3 Enter the IP address or host name of the Oracle database server.

You must specify the IP address or host name of the Oracle database server used while migrating the database. For example, if you had specified the IP address of the database server while migrating the database, then you must specify the same IP address while resuming the database migration. You cannot specify the host name of the database server.

- 4 Enter the port used by the Oracle database server.
- 5 Enter the fully qualified net service name for the Oracle database.
- 6 Choose to use an existing schema.
- 7 Enter the schema name when prompted for the database username specified before stopping the database migration.
- 8 Enter the database schema password when prompted for the database user's password specified before stopping the database migration.
- 9 Choose to resume the database migration.  
The database migration starts.
- 10 After the database is successfully migrated, continue with [Section 6.3, "Post-Migration Tasks,"](#) on page 35.

## 6.3 Post-Migration Tasks

If there is only one server in the Management Zone, all ZENworks services are automatically started after the data is successfully migrated to an Oracle database.

If there are multiple servers in the Management Zone:

- 1 On the device where you ran the migration utility, copy the following files to the appropriate directory on all the servers:

```
zdm.xml
dmaccounts.properties
dmmappings.properties
```

The files are located in the `ZENworks_installation_path\conf\datamodel` directory on Windows and in the `/etc/opt/novell/zenworks/datamodel` directory on Linux.

- 2 Start all the ZENworks Services on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:
 

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the Start action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the Start action.
- 3 Migrate the ZENworks Reports from the Sybase SQL Anywhere database to an Oracle database:
  - 3a Install the Oracle client on a Primary Server that does not have an instance of the ZENworks Reporting Server.
  - 3b Install a new instance of the ZENworks Reporting Server on the device on which you have installed the Oracle client.
  - 3c Copy the reports to the device where the new instance of the Reporting Server is running. These are the ZENworks Reports that you saved before migrating them. For more information, see [Section 6.1, "Preparing to Move the Data,"](#) on page 31.
  - 3d Publish the reports and restore the reporting rights and the ownership details of the reports by using the following command:

```
zman rpld path_of_directory_containing_rights.xml_and_ownership.xml
```

- 3e** Uninstall the ZENworks Reporting Server instance that was installed prior to migrating the database.

The ZENworks Server now points to the new database.

For the Oracle 10g database, any administrator name is case sensitive, including login names from user sources. The default ZENworks administrator account automatically created during installation uses an initial capital, so in order to log in to ZENworks Control Center, you must enter Administrator.

---

**NOTE:** Ensure not to delete the ZENworks Sybase database files if you want to revert to using ZENworks Sybase database at a later time.

---

---

# 7 Migrating the Data from an Internal Sybase Database to an MS SQL Database

ZENworks 11 allows you migrate the data from an internal Sybase database running on a ZENworks Primary Server to an MS SQL database installed on a device that does not have the ZENworks 11 installed.

---

**IMPORTANT:** Do not perform this scenario on a device that has ZENworks Reporting Server installed.

---

Review the following to migrate the database:

- ♦ [Section 7.1, “Preparing to Move the Data,” on page 37](#)
- ♦ [Section 7.2, “Migrating the Data from the Internal Sybase Database to an MS SQL Database,” on page 38](#)
- ♦ [Section 7.3, “Post-Migration Tasks,” on page 41](#)

## 7.1 Preparing to Move the Data

Before migrating the data from the Sybase database to the MS SQL database, do the following:

- ♦ Make sure that the license state of ZENworks 11 is Active. The product must be installed and running either in the licensed version or the evaluation version.
- ♦ Save all the reports, `rights.xml`, and `ownership.xml` by using the `zman report-save (rpsv) (destination folder)` command. The XML files contain rights and ownership details of all the reports.
- ♦ Make sure that the Primary Server to which the Sybase database is configured has been upgraded to ZENworks 11.
- ♦ Make sure that the ZENworks Primary Server has an internal Sybase database installed.
- ♦ Make sure that the MS SQL database is installed on a device that does not have ZENworks 11 installed.
- ♦ (Conditional) If you want to create a new database on MS SQL Server, and migrate the Sybase data into the new database, you must be aware of the database administrator credentials.
- ♦ (Conditional) If you want to migrate the data to an existing database that resides on the MS SQL server in your network, the newly created user must be assigned the `db_owner` database role and you must procure the database credentials of the newly created user from the database administrator.

- ♦ Manually stop the ZENworks services running on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following:
    1. Execute the following command at the server prompt:
 

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
- ♦ Make sure that the Novell ZENworks Embedded Datastore service on the Primary Server is running.
  - ♦ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
    2. Double-click *Administrative Tools > Services*.
    3. Ensure that the status of the *Novell ZENworks Embedded Datastore* service is *Started*.
  - ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa status`.
- ♦ (Optional) The status of database migration is logged into the `novell-zenworks-configure.log` file. By default, only the messages of the type *Info* and *Severe* are logged. If you want other message types (such as *Finer*, *Finest*, and *Warning*) to also be logged into the file, do the following in the `novell-zenworks-configure.properties` file:
  1. Set the value of `Logger.logLevel` to the appropriate message type.  
For example, if you want messages of the type *Finest* to be logged:
 

```
#Logger.logLevel = FINEST
```
  2. Uncomment the line by removing the “#” as follows:
 

```
Logger.logLevel = FINEST
```

The `novell-zenworks-configure.properties` file is located in `%ZENWORKS_HOME%\conf\` on Windows and in `/etc/opt/novell/zenworks/` on Linux.

## 7.2 Migrating the Data from the Internal Sybase Database to an MS SQL Database

- ♦ [Section 7.2.1, “Migrating the Data from the Internal Sybase Database to an MS SQL Database,” on page 39](#)
- ♦ [Section 7.2.2, “Resuming the Database Migration,” on page 40](#)

## 7.2.1 Migrating the Data from the Internal Sybase Database to an MS SQL Database

- 1 Make sure that all the tasks listed in [Section 7.1, “Preparing to Move the Data,”](#) on page 37 are completed.
- 2 Run the database migration utility.
  - ♦ **On the Windows Primary Server:** At the command prompt, go to `ZENworks_installation_path\bin\`, then enter the following command:  

```
novell-zenworks-configure.bat -c DBMigrateConfigureAction
```
  - ♦ **On the Linux Primary Server:** At the console prompt, go to `/opt/novell/zenworks/bin`, then enter the following command:  

```
novell-zenworks-configure -c DBMigrateConfigureAction
```
- 3 Select the target database type as sql-server.
- 4 Enter the IP address or host name of the MS SQL database server.
- 5 Enter the port used by the MS SQL database server.
- 6 (Optional) Enter the named instance for the MS SQL Server engine.
- 7 Choose to create a new database or use an existing database on the MS SQL server.

If you choose to create a new database, continue with [Step 8](#).  
If you choose to use an existing database, skip to [Step 9](#).
- 8 (Conditional) If you choose to create a new database in [Step 7](#), perform the following tasks:
  - 8a Select the authentication type (Windows or SQL Server) to be used for the database administrator user.
  - 8b Enter the database server administrator username.
  - 8c Enter the database server administrator password.
  - 8d (Conditional) If you choose Windows authentication in [Step 8a](#), enter the database administrator’s domain name.
- 9 Select the authentication type (Windows or SQL Server) to be used for the database access user.
- 10 Enter the database access username.
- 11 Enter the database access user password.
- 12 (Conditional) If you choose Windows authentication in [Step 9](#), enter the database access user’s domain name.
- 13 Enter the name of the database on the MS SQL server to which you want to migrate the data. If you choose to create a new database in [Step 7](#), the database is created on the MS SQL server with the name that you specify in this step.
- 14 (Conditional) If you choose to create a new database in [Step 7](#), enter the complete path where you want the database to be created. You must select the existed folder.

The database migration starts.
- 15 When the database migration is complete, you can verify the `novell-zenworks-configure.log` file to see if the migration was successful. The log file is located in `%ZENWORKS_HOME%\log\` on the Windows Primary Server and in `/var/opt/novell/log/zenworks/` on the Linux Primary Server.
- 16 Remove the Novell ZENworks Embedded Datastore service from the device that has the internal Sybase database installed:

**On the Windows device:** Perform the following tasks:

1. At the server prompt, execute the following command:

```
sc delete SQLANYS_ZENDatastore
```

2. Edit the %ZENWORKS\_HOME%\conf\monitor.conf to remove dbsrv10 from the line `highpriority=zenserver,casaserver,dbsrv10`.

**On the Linux device:** Perform the following tasks:

1. Stop the Novell ZENworks Embedded Datastore service by executing the following command at the console prompt:

```
/etc/init.d/sybase-asa stop
```

2. Rename sybase-asa to sybase-asa1 by executing the following command:

```
mv sybase-asa sybase-asa1
```

3. Edit the /etc/opt/novell/zenworks/monitor.conf to remove sybase-asa from the line `services=novell-zenserver novell-zenload sybase-asa`.

- 17 After the database is successfully migrated, continue with [Section 7.3, "Post-Migration Tasks,"](#) on page 41.

## 7.2.2 Resuming the Database Migration

If the migration of the database is stopped for any reason, the ZENworks migration utility allows you to resume the migration if the `dbmigration.xml` file has been created. The file is located in the %ZENWORKS\_HOME%\bin directory on the Windows Primary Server, and in the /opt/novell/zenworks/bin directory on the Linux Primary Server.

- 1 Run the database migration utility.

- ♦ **On the Windows Primary Server:** At the command prompt, go to `ZENworks_installation_path\bin\`, then enter the following command:

```
novell-zenworks-configure.bat -c DBMigrateConfigureAction
```

- ♦ **On the Linux Primary Server:** At the console prompt, go to /opt/novell/zenworks/bin and enter the following command:

```
novell-zenworks-configure -c DBMigrateConfigureAction
```

- 2 Enter the target database type as sql database server.

- 3 Enter the IP address or host name of the MS SQL database server.

You must specify the IP address or host name of the MS SQL database server used while migrating the database. For example, if you had specified the IP address of the database server while migrating the database, then you must specify the same IP address while resuming the database migration. You cannot specify the host name of the database server.

- 4 (Optional) Enter the named instance of the MS SQL Server engine.

- 5 Choose to use an existing database.

- 6 Enter the credentials of the database user depending on the authentication mode selected.

- 7 Enter the database name.

- 8 Choose to resume the database migration.

The database migration starts.

- 9 After the database is successfully migrated, continue with [Section 7.3, "Post-Migration Tasks,"](#) on page 41.



## 7.3 Post-Migration Tasks

If there is only one server in the Management Zone, all ZENworks services are automatically started after the data is successfully migrated to an MS SQL Server database.

If there are multiple servers in the Management Zone:

- 1 On the device where you ran the migration utility, copy the following files to the appropriate directory on all the servers:

```
zdm.xml
dmaccounts.properties
dmmappings.properties
```

The files are located in the `%ZENWORKS_HOME%\conf\datamodel` directory on Windows and in the `/etc/opt/novell/zenworks/datamodel` directory on Linux.

- 2 Start all the ZENworks Services on all the ZENworks Servers in the Management Zone.

- ♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:  
`novell-zenworks-configure -c Start`
2. Enter the number next to the `Start` action.

- ♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:  
`/opt/novell/zenworks/bin/novell-zenworks-configure -c Start`
2. Enter the number next to the `Start` action.

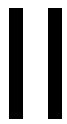
The ZENworks Server now points to the new database.

---

**NOTE:** Ensure not to delete the ZENworks Sybase database files if you want to revert to using ZENworks Sybase database at a later time.

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# External Database Maintenance

- ♦ Chapter 8, “Backing Up the External Sybase Database,” on page 45
- ♦ Chapter 9, “Restoring the External Sybase Database,” on page 57
- ♦ Chapter 10, “Moving the Data from One External Sybase Database to another External Sybase Database,” on page 59
- ♦ Chapter 11, “Moving the Data from an External OEM Sybase Database to an Embedded Sybase Database,” on page 61
- ♦ Chapter 12, “Migrating the Data from the External Sybase Database to an External Oracle Database,” on page 65
- ♦ Chapter 13, “Configuring the ZENworks Server to Point to the New MS SQL Database Containing Data Moved from Another MS SQL Database,” on page 71
- ♦ Chapter 14, “Configuring the ZENworks Server to Point to the New Oracle Database Containing Data Moved from Another Oracle Database,” on page 73
- ♦ Chapter 15, “Migrating the Data from an External Sybase SQL Anywhere to an MS SQL Database,” on page 75
- ♦ Chapter 16, “Migrating an OEM Sybase database from a 32-bit machine to a 64-bit machine,” on page 81



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# 8 Backing Up the External Sybase Database

When an external Sybase database (Remote OEM Sybase or Remote Sybase SQL Anywhere) has been installed by using the ZENworks 11 installation media, you can back it up to a directory on the local machine or to a network location.

This documentation provides instructions to back up the external Sybase database by using the DBISQL utility. You can choose to back up the database by using any other utility that is recommended in the Sybase SQL Anywhere documentation.

- ♦ [Section 8.1, “Backing Up the External Sybase Database on a Windows or Linux Server,” on page 45](#)
- ♦ [Section 8.2, “Backing up the External Sybase Database Running on a Windows Server to a Network Location on a Remote Windows Machine,” on page 48](#)
- ♦ [Section 8.3, “Backing up the External Sybase Database Running on a Linux Server to a Network Location on a Remote Linux Machine,” on page 52](#)

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## IMPORTANT

If the database is located on a ZENworks Server, you must first restore the ZENworks Server, then restore the ZENworks database. Ensure that you have backed up the ZENworks Server and the database (at least once). You can also back up the ZENworks database on a regular basis. However, you can back up the server and the database in any order. For more information about backing up and restoring the ZENworks Server, see [“Backing Up and Restoring the ZENworks Server and Certificate Authority”](#) in the *ZENworks 11 Disaster Recovery Reference*.

---

## 8.1 Backing Up the External Sybase Database on a Windows or Linux Server

- 1 On the Windows or Linux server that has the external Sybase database installed and running, launch the DBISQL utility:
  - 1a At the command prompt, go to the %ZENWORKS\_HOME%\sybase\ASA\BIN32 directory on Windows or to the /opt/novell/zenworks/share/sybase/bin32s directory on Linux.
  - 1b Enter the dbisql command.
  - 1c In the *Identification* tab, specify the database credentials.
  - 1d Click the *Database* tab, then specify the name of database service that is currently running.
  - 1e Click *OK*.

- 2 Decide whether you want to immediately back up the external Sybase database or to schedule the backup to run at a specific time. To immediately back up the database, continue with [Step 2a](#). To schedule the backup to run at a specific time, skip to [Step 3](#).

**2a** Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

- ♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Stop
```

2. Enter the number next to the Stop action.

- ♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```

2. Enter the number next to the Stop action.

**2b** To immediately back up the embedded Sybase SQL Anywhere database to a directory on the database server, do one of the following:

- ♦ Specify the following query in the *SQL Statements* section of the DBISQL utility:

```
BACKUP DATABASE DIRECTORY  
'complete_path_of_the_backup_directory_on_database_server' TRANSACTION  
LOG TRUNCATE
```

If you want to back up the database to a directory on Windows, you must use `\\` (double backslash) as the delimiter while specifying the database backup directory path.

Examples:

- ♦ **On Windows:** To back up the database to the `c:\dbbackup` directory, execute the following query:

```
BACKUP DATABASE DIRECTORY 'c:\\dbbackup' TRANSACTION LOG TRUNCATE
```

- ♦ **On Linux:** To back up the database to the `/root/dbBackup` directory, execute the following query:

```
BACKUP DATABASE DIRECTORY '/root/dbBackup' TRANSACTION LOG TRUNCATE
```

You must manually archive the complete path of the database backup location that you specify in the query because you need to specify it when you want to change the database backup location at a later time.

- ♦ Manually copy `zenworks_zone_name.db` and `zenworks_zone_name.log` from the database server to the new location where you want to back up the database.

By default, the files are located in

`ZENworks_Installation_directory\Novell\Zenworks\Database` on a Windows Sybase database server, and in `/var/opt/novell/zenworks/database/` on a Linux Sybase database server.

**2c** Click *Execute SQL Statement(s)*.

**2d** Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

- ♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```

2. Enter the number next to the Start action.

- ♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:  
`/opt/novell/zenworks/bin/novell-zenworks-configure -c Start`
2. Enter the number next to the Start action.

**3** To schedule the backup to run at a specific time every day or on specific days of a month:

1. Execute the following query by specifying it in the *SQL Statements* section

```
CREATE EVENT backup_schedule_name
SCHEDULE
START TIME specify_the_schedule
HANDLER
BEGIN
BACKUP DATABASE DIRECTORY
'complete_path_of_the_backup_directory_on_database_server'
TRANSACTION LOG TRUNCATE
END;
```

2. Click *Execute SQL Statement(s)*.

While creating a database backup event, use the following guidelines:

- ♦ The backup schedule name must be unique.
- ♦ If you want to back up the database to a directory on Windows, you must use `\\` (double backslash) as the delimiter while specifying the database backup directory path. For example, `c:\\dbbackup`.
- ♦ You must manually archive the backup schedule that you specify in the query because you need to specify it when you want to change the database schedule at a later time.

Examples:

- ♦ To back up the database at a 1:00 a.m. every day to the `/var/` directory on Linux, execute the following query:

```
CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS
HANDLER
BEGIN
BACKUP DATABASE DIRECTORY '/var/'
TRANSACTION LOG TRUNCATE
END;
```

- ♦ To back up the database at a 1:00 a.m. on the first, second, third, and fourth day of the month to the `c:\\dbbackup` directory on Windows, execute the following query:

```
CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS ON (1,2,3,4)
HANDLER
```

```

BEGIN
BACKUP DATABASE DIRECTORY 'c:\\dbbackup'
TRANSACTION LOG TRUNCATE
END;

```

- ♦ To back up the database to the `/var/day_of_the_week` directory on Linux, execute the following query:

```

CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS
HANDLER
BEGIN
DECLARE backupDir varchar(256);
DECLARE backup_stmt varchar(512);
SET backupDir = DAYNAME(now());
SET backup_stmt = 'BACKUP DATABASE DIRECTORY ' || '/var/' || backupDir ||
'''' || ' TRANSACTION LOG TRUNCATE';
EXECUTE IMMEDIATE backup_stmt;
END;

```

According to the backup schedule, the `zenworks_zone_name.db` database file and the `zenworks_zone_name.log` transaction log file are created in the database backup directory.

If you want to change the database backup location or the backup schedule at a later time, see [Section 18.2, “Changing the Backup Schedule and Location of the External Sybase Database Subsequent to the Initial Backup,”](#) on page 91.

## 8.2 Backing up the External Sybase Database Running on a Windows Server to a Network Location on a Remote Windows Machine

To back up an external Sybase database that is installed and running on a Windows server to a network location on another Windows machine, you need a local machine and a remote machine. The local machine is a Windows server with the external Sybase database installed. The remote machine is a Windows machine that has the network location to which you want to back up the database.

- 1 Perform the following steps on the local machine:
  - 1a Create an administrative user and specify a password.  
For example, you could specify the administrative username as `Administrator` and the password as `novell`.
  - 1b From the desktop *Start* menu, click *Settings*, click *Control Panel*, double-click *Administrative Tools*, then double-click *Services*.
  - 1c Right-click the *Novell ZENworks Datastore* service, then click *Properties*.
  - 1d Click the *Log On* tab.



- 1e Select *This account*, then specify the name and the password of the administrative user you created in [Step 1a](#).  
For example, specify the user as Administrator and the password as novell.
- 1f Click OK.
- 2 Perform the following steps on the remote machine that has the network location where you want to save the backup:
  - 2a Create an account with the same credentials as the user you created in [Step 1a](#).  
For example, specify user as Administrator and password as novell.
  - 2b Provide Read/Write permission on the network location to the user.
- 3 Launch the DBISQL utility on the local machine:
  - 3a At the command prompt, go to the %ZENWORKS\_HOME%\share\ASA\BIN32 directory on Windows or to the /opt/novell/zenworks/share/sybase/bin32s directory on Linux.
  - 3b Enter the dbisql command.
  - 3c In the *Identification* tab, specify the database credentials.
  - 3d Click the *Database* tab, then specify the name of database service that is currently running.
  - 3e Click OK.
- 4 Decide whether you want to immediately back up the external Sybase database or to schedule the backup to run at a specific time. To back up the database immediately, continue with [Step 4a](#). To schedule the backup to run at a specific time, skip to [Step 5](#).
  - 4a Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
    - 4a1 Execute the following command at the server prompt:  

```
novell-zenworks-configure -c Stop
```
    - 4a2 Enter the number next to the Stop action.
  - 4b To immediately back up the embedded Sybase SQL Anywhere database to the network location on the remote machine, do one of the following:
    - ♦ Specify the following query in the *SQL Statements* section of the DBISQL utility:  

```
BACKUP DATABASE DIRECTORY  
'\\\\\\IP_address_of_remote_machine\backup_directory\custom_directory'  
TRANSACTION LOG TRUNCATE
```

  
In the query, `\\\\\\IP_address_of_the_remote_machine\backup_directory\` is the shared network location on the remote machine and `custom_directory_name` is a name that you specify for a directory to be newly created and into which the database files are to be backed up.  
  
For example, execute the following query to back up the database to the `dbbackup` directory:  

```
BACKUP DATABASE DIRECTORY  
'\\\\\\shared_network_location_on_remote_machine\dbbackup' TRANSACTION  
LOG TRUNCATE
```

  
You must manually archive the complete path of the database backup location that you specify in the query because you need to specify it if you want to change the database backup location at a later time.

- ♦ Manually copy `zenworks_zone_name.db` and `zenworks_zone_name.log` from the database server to a desired location on the remote machine.

By default, the files are located in

`ZENworks_Installation_directory\Novell\Zenworks\Database` on a Windows Sybase database server.

**4c** Click *Execute SQL Statement(s)*.

**4d** Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

**4d1** Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```

**4d2** Enter the number next to the *Start* action.

**5** To schedule the backup to run at a specific time every day or on specific days of a month:

1. Execute the following query by specifying it in the *SQL Statements* section:

```
CREATE EVENT backup_schedule_name
SCHEDULE
START TIME specify_the_schedule
HANDLER
BEGIN
BACKUP DATABASE DIRECTORY
'\\\\IP_address_of_remote_machine\backup_directory\custom_directory'
TRANSACTION LOG TRUNCATE
END;
```

In the query, `\\\\IP_address_of_the_remote_machine\backup_directory\\` is the shared network location on the remote machine and `custom_directory_name` is a name that you specify for a directory to be newly created and into which the database files are to be backed up.

While creating a database backup event, use the following guidelines:

- ♦ The backup schedule name must be unique.
- ♦ You must manually archive the backup schedule that you specify in the query because you need to specify it if you want to change the database schedule at a later time.

2. Click *Execute SQL Statement(s)*.

Examples:

- ♦ To back up the database at a 1:00 a.m. every day to the `dbbackup` directory on Windows, execute the following query:

```
CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS
HANDLER
BEGIN
BACKUP DATABASE DIRECTORY
'\\\\shared_network_location_on_remote_machine\dbbackup'
TRANSACTION LOG TRUNCATE
```

```
END;
```

- ◆ To back up the database at a 1:00 a.m. on the first, second, third, and fourth day of the month to the `dbbackup` directory on a Windows server, execute the following query:

```
CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS ON (1,2,3,4)
HANDLER
BEGIN
BACKUP DATABASE DIRECTORY
'\\shared_network_location_on_remote_machine\dbbackup'
TRANSACTION LOG TRUNCATE
END;
```

- ◆ To back up the database to the `\dbbackup\day_of_the_week` directory on a Windows server, execute the following query:

```
CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS
HANDLER
BEGIN
DECLARE backupDir varchar(256);
DECLARE backup_stmt varchar(512);
SET backupDir = DAYNAME(now());
SET backup_stmt = 'BACKUP DATABASE DIRECTORY ' ||
'\\shared_network_location_on_remote_machine\dbbackup/' || backupDir
|| ' ' || 'TRANSACTION LOG TRUNCATE';
EXECUTE IMMEDIATE backup_stmt;
END;
```

According to the backup schedule, `zenworks_zone_name.db` and `zenworks_zone_name.log` are created in the network location on the remote machine. The backed-up database is stored in `zenworks_zone_name.db`. The result of the database backup is logged in `zenworks_zone_name.log`.

If you want to change the database backup location or the backup schedule at a later time, see [Section 18.2, “Changing the Backup Schedule and Location of the External Sybase Database Subsequent to the Initial Backup,”](#) on page 91.

## 8.3 Backing up the External Sybase Database Running on a Linux Server to a Network Location on a Remote Linux Machine

To back up the external Sybase database that is installed and running on a Linux server to a network location on a Linux machine, you need a local machine and a remote machine. The local machine is a Linux server with the external Sybase database installed. The remote machine is a Linux machine that has the network location to which you want to back up the database.

You can back up the database on a Linux machine by using any Linux share such as Samba share or an NFS share.

To back up the external Sybase database that is installed and running on a Linux server to a network location on a Linux machine by using Samba share:

### 1 Create a Samba share on the remote machine:

**1a** Create a user by entering the `useradd user_name` command at the command prompt.

**1b** Log in to the remote machine with the username you created in [Step 1a](#), and set the password by using the `passwd specify_the_password` command.

**1c** Create a directory to save the database backup.

For example, create a directory with the name `backup`.

**1d** Open the Samba server settings by running the `yast2 samba-server` command.

**1e** Click the *Shares* tab, then click *Add* to specify the share name and the path to the backup directory you created in [Step 1c](#).

For example, specify the share name as `dbbackup`.

**1f** Select the `dbbackup` share, click *Edit*, then add the following attributes:

- ♦ `create mask = 0640`
- ♦ `force user = user_name_created_in_Step 1a`
- ♦ `guest ok = yes`
- ♦ `public = yes`
- ♦ `wide links = no`
- ♦ `writable = yes`

### 2 Create a directory on the local machine.

For example, create a directory with the name `zenworks_dbbackup` in `/root`.

### 3 Mount the Samba share on the `zenworks_dbbackup` directory on the local machine by entering the following command at the command prompt:

```
mount -t smbfs //IP_address_of_the_remote_machine/share_name -o
username=user_name_specified_in_Step1a,password=password_specified_in_Step_1b
local_directory_name_with_complete_path_created_in_Step2
```

For example:

```
mount -t smbfs //IP_address_of_the_remote_machine/dbbackup -o
username=user_name_specified_in_Step1a,password=password_specified_in_Step_1b
/root/zenworks_dbbackup
```

- 4 Launch the DBISQL utility on the local machine:
  - 4a At the command prompt, go to the %ZENWORKS\_HOME%\share\ASA\BIN32 directory on Windows or to the /opt/novell/zenworks/share/sybase/bin32s directory on Linux.
  - 4b Enter the dbisql command.
  - 4c In the *Identification* tab, specify the database credentials.
  - 4d Click the *Database* tab, then specify the name of database service that is currently running.
  - 4e Click *OK*.
- 5 Decide whether you want to immediately back up the external Sybase database or to schedule the backup to run at a specific time. To back up the database immediately, continue with [Step 5a](#). To schedule the backup to run at a specific time, skip to [Step 6](#).
  - 5a Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
    - 5a1 Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    - 5a2 Enter the number next to the Stop action.
  - 5b To immediately back up the external Sybase database to the network location on the remote machine, do one of the following:
    - ♦ Specify the following query in the *SQL Statements* section of the DBISQL utility:
 

```
BACKUP DATABASE DIRECTORY
'complete_path_of_the_backup_directory_on_database_server' TRANSACTION
LOG TRUNCATE
```

For example, execute the following query to back up the database to the /root/zenworks\_dbbackup directory:

```
BACKUP DATABASE DIRECTORY '/root/zenworks_dbbackup/' TRANSACTION LOG
TRUNCATE
```

You must manually archive the complete path of the database backup location that you specify in the query because you need to specify it if you want to change the database backup location at a later time.
    - ♦ Manually copy zenworks\_zone\_name.db and zenworks\_zone\_name.log from the database server to a desired location on the remote machine.
 

By default, the files are located in /var/opt/novell/zenworks/database/ on a Linux Sybase database server.
  - 5c Click *Execute SQL Statement(s)*.
  - 5d Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
    - 5d1 Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    - 5d2 Enter the number next to the Start action.
- 6 To schedule the backup to run at a specific time every day or on specific days of a month:
  1. Execute the following query by specifying it in the *SQL Statements* section:
 

```
CREATE EVENT backup_schedule_name
SCHEDULE

START TIME specify_the_schedule

HANDLER

BEGIN
```

```

BACKUP DATABASE DIRECTORY
`complete_path_of_the_backup_directory_on_database_server`

TRANSACTION LOG TRUNCATE

END;

```

While creating a database backup event, use the following guidelines:

- ◆ The backup schedule name that you specify must be unique.
- ◆ You must manually archive the backup schedule that you specify in the query because you need to specify it if you want to change the database schedule at a later time.

2. Click *Execute SQL Statement(s)*.

Examples:

- ◆ To back up the database at a 1:00 a.m. every day to the `/root/zenworks_dbbackup` directory on Linux, execute the following query:

```

CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS
HANDLER
BEGIN
BACKUP DATABASE DIRECTORY '/root/zenworks_dbbackup/'
TRANSACTION LOG TRUNCATE
END;

```

- ◆ To back up the database at a 1:00 a.m. on the first, second, third, and fourth day of the month to the `/root/zenworks_dbbackup` directory on Linux, execute the following query:

```

CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS ON (1,2,3,4)
HANDLER
BEGIN
BACKUP DATABASE DIRECTORY '/root/zenworks_dbbackup/'
TRANSACTION LOG TRUNCATE
END;

```

- ◆ To back up the database to the `/root/zenworks_dbbackup/day_of_the_week` directory on Linux, execute the following query:

```

CREATE EVENT ZENDBbackup
SCHEDULE
START TIME '1:00 AM' EVERY 24 HOURS
HANDLER
BEGIN
DECLARE backupDir varchar(256);
DECLARE backup_stmt varchar(512);

```

```
SET backupDir = DAYNAME(now());  
  
SET backup_stmt = 'BACKUP DATABASE DIRECTORY ' || '''/root/  
zenworks_dbbackup/' || backupDir || '''' || ' TRANSACTION LOG TRUNCATE';  
  
EXECUTE IMMEDIATE backup_stmt;  
  
END;
```

According to the backup schedule, `zenworks_zone_name.db` and `zenworks_zone_name.log` are created in the network location on the remote machine (`/root/zenworks_dbbackup`). The backed-up database is stored in `zenworks_zone_name.db`. The result of the database backup is logged in `zenworks_zone_name.log`.

If you want to change the database backup location or the backup schedule at a later time, see [Section 18.2, “Changing the Backup Schedule and Location of the External Sybase Database Subsequent to the Initial Backup,”](#) on page 91.





---

# 9 Restoring the External Sybase Database

---


## IMPORTANT

If the database is located on a ZENworks Server, you must first restore the ZENworks Server, then restore the ZENworks database. Ensure that you have backed up the ZENworks Server and the database (at least once). You can also back up the ZENworks database on a regular basis. However, you can back up the server and the database in any order. For more information about backing up and restoring the ZENworks Server, see “[Backing Up and Restoring the ZENworks Server and Certificate Authority](#)” in the *ZENworks 11 Disaster Recovery Reference*.

---

You can choose to restore the backed-up external Sybase database (Remote OEM Sybase or Remote Sybase SQL Anywhere) on the same device that has database server installed or to a different device.

To restore the backed-up external Sybase database:


- 1 Stop the Novell ZENworks Embedded Datastore service on the database server on which you want to restore the backed-up database. If you choose to restore the backed-up database on a different device, you must stop the service on that device as well as on the database server.
  - ♦ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
    2. Double-click *Administrative Tools > Services*.
    3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Stop*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.
  - ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa stop`.
- 2 Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the *Stop* action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    2. Enter the number next to the *Stop* action.
- 3 Copy the following files from the device where the external Sybase database is backed up to the device on which you want to restore the external Sybase database:
  - ♦ `zenworks_zone_name.db`
  - ♦ `zenworks_zone_name.log`

By default, the files must be copied to the

*ZENworks\_Installation\_directory*: \Novell\Zenworks\Database on a Windows Sybase database server, and to /var/opt/novell/zenworks/database/ on a Linux Sybase database server.

- 4 Start the Novell ZENworks Embedded Datastore service on the database server on which you restored the backed-up database. If you have restored the backed-up database to a different device, you must start the service on that device as well as on the database server.
  - ♦ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
    2. Double-click *Administrative Tools > Services*.
    3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Start*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.
  - ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa start`.
- 5 (Conditional) If you restore the database to a location other than the one given in the `zenworks_database.conf` file, you must manually edit the file to specify the new location of the database. The `zenworks_database.conf` file is located by default in the `zenworks_installation_directory\novell\zenworks\database\conf\` directory on Windows and in the `/etc/opt/novell/zenworks/` directory on Linux.
- 6 Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the *Start* action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the *Start* action.

---

# 10 Moving the Data from One External Sybase Database to another External Sybase Database

ZENworks 11 allows you move the data from one OEM Sybase database (external Sybase database) to another external Sybase database.

- ♦ [Section 10.1, “Preparing to Move the Data,” on page 59](#)
- ♦ [Section 10.2, “Moving the Data from One External Sybase to Another External Sybase,” on page 59](#)

## 10.1 Preparing to Move the Data

Before moving the data from one external Sybase database to another external Sybase database, do the following:

- ♦ Make sure that the ZENworks Server is configured to an external Sybase database. The database can be installed on the ZENworks Server, or on a different Windows or Linux device. The data is moved from this database to another external database. Assume that the device that hosts the database is EDB1.
- ♦ Make sure that you have another Windows or Linux device with an external Sybase database installed. Assume that this device to which you are moving the data to is EDB2.


For more information on how to install an external Sybase database, see [“Installing an External ZENworks Database”](#) in the *ZENworks 11 Server Installation Guide*.

## 10.2 Moving the Data from One External Sybase to Another External Sybase


- 1 Stop all the ZENworks Services on all the ZENworks Servers that are connected to EDB1.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.

- 2 On EDB1 and EDB2 devices, stop the Novell ZENworks Embedded Datastore service.
  - ♦ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
    2. Double-click *Administrative Tools > Services*.
    3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Stop*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.
  - ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa stop`.
- 3 From the EDB1 device, copy `zenworks_database.conf` and all files within the database directory to the appropriate directories on the EDB2 device.
 

The `zenworks_database.conf` is located in the `ZENworks_installation_path\conf\` directory on Windows and in the `/etc/opt/novell/zenworks/` directory on Linux.

The database directory is located in `ZENworks_installation_path` by default on Windows and in the `/var/opt/novell/zenworks/` directory on Linux.
- 4 On the EDB2 device, open `zenworks_database.conf` and make sure that it contains the correct path of the database file.
- 5 On each ZENworks Server that is connected to EDB1, edit `zdm.xml` (located in `ZENworks_installation_path\conf\datamodel` on Windows and in `/etc/opt/novell/zenworks/datamodel` on Linux):
  - ♦ Set the value of the `Server` entry key to the IP address of the EDB2 device.
  - ♦ Make sure that the value of the `Port` entry key is the port number on which the EDB2 device is running.
- 6 On the EDB2 device, start the Novell ZENworks Embedded Datastore service:
  - ♦ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
    2. Double-click *Administrative Tools > Services*.
    3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Start*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.
  - ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa start`.
- 7 Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:
 

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the `Start` action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the `Start` action.

The ZENworks Server now points to new database (EDB2).

---

# 11 Moving the Data from an External OEM Sybase Database to an Embedded Sybase Database

ZENworks 11 allows you move the data from an OEM Sybase database (external Sybase database) to a Embedded OEM Sybase SQL Anywhere database (embedded Sybase database) that is installed on the ZENworks Server.

- ♦ [Section 11.1, “Preparing to Move the Data,”](#) on page 61
- ♦ [Section 11.2, “Moving the Data from the External Sybase to the Embedded Sybase,”](#) on page 61

## 11.1 Preparing to Move the Data

Before moving the data from an external Sybase database to an embedded Sybase database, do the following:

- ♦ Make sure that ZENworks 11 is configured to an external OEM Sybase database. The database can be installed on a Windows or Linux device.
- ♦ Install the Embedded OEM Sybase database on the ZENworks Server.

For more information on how to install the database, see [“Installing an External ZENworks Database”](#) in the *ZENworks 11 Server Installation Guide*.

During the installation of the embedded Sybase database, you must consider the following points while the Sybase Access Configuration page:

- ♦ The database name can be same as that of the external Sybase database or can be a unique name.
- ♦ Make sure that the username and password are same as that of the external Sybase database.
- ♦ Make sure that the database server name is unique.


## 11.2 Moving the Data from the External Sybase to the Embedded Sybase

- 1 Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.

- ♦ **On Linux:** Do the following:
  1. Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
  2. Enter the number next to the `Stop` action.
- 2** On the ZENworks Server that has the embedded Sybase database installed, delete the contents of the database directory.
 

The database directory is located in `ZENworks_installation_path` on Windows and in the `/opt/novell/zenworks/` directory on Linux.
- 3** On the device that has the external Sybase database installed, stop the Novell ZENworks Embedded Datastore service.
  - ♦ **On Windows:** Do the following:
    1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
    2. Double-click *Administrative Tools > Services*.
    3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Stop*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.
  - ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa stop`.
- 4** From the device that has the external Sybase database installed, copy all files within the database directory to the appropriate directories on the ZENworks Server that has the embedded Sybase database.
 

The database directory is located in `ZENworks_installation_path` on Windows and in the `/opt/novell/zenworks/` directory on Linux.
- 5** On the ZENworks Server that has the embedded Sybase database installed, open `zenworks_database.conf` and make sure that it contains the correct path of the database file.
- 6** On the ZENworks Server that has the embedded Sybase database installed, edit `zdm.xml` (located in `ZENworks_installation_path\conf\datamodel` on Windows and in `/etc/opt/novell/zenworks/datamodel` on Linux):
  - ♦ Add the following entry:
 

```
<entry key="Embedded">true</entry>
```
  - ♦ Set the value of the `Server` entry key to 127.0.0.1 (the IP address of the ZENworks Server that has the embedded Sybase database installed).
  - ♦ Make sure that the value of the `Port` entry key is the port number on which the embedded Sybase database is running.
  - ♦ Set the value of the `Engine` entry key to the database server name specified during the installation of the embedded Sybase database.
  - ♦ (Optional) If you've specified a unique database name during the installation of the embedded Sybase database, set the value of the `Database` entry key to the unique database name.
- 7** Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:
 

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the `Start` action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

2. Enter the number next to the Start action.

The ZENworks Server now points to new database.





---

# 12 Migrating the Data from the External Sybase Database to an External Oracle Database

ZENworks 11 allows you migrate the data from the external Sybase database to an Oracle database installed on a device that does not have ZENworks 11 installed.

---

**IMPORTANT:** If the ZENworks Reporting Server is installed on the device, the Reporting Server does not work after migrating the database. For the Reporting Server to work, you must again install the ZENworks Reporting Server on a Primary Server on which you have installed the Oracle client after migrating the database. For more information, see [Section 12.3, “Post-Migration Tasks,” on page 68](#).

---

Review the following to migrate the database:

- ♦ [Section 12.1, “Preparing to Move the Data,” on page 65](#)
- ♦ [Section 12.2, “Migrating the Data from the External Sybase Database to an Oracle Database,” on page 67](#)
- ♦ [Section 12.3, “Post-Migration Tasks,” on page 68](#)

## 12.1 Preparing to Move the Data

Before migrating the data from the Sybase database to Oracle database, do the following:

- ♦ Make sure that the license state of ZENworks 11 is Active. The product must be installed and running either in the licensed version or the evaluation version.
- ♦ Save all the reports, `rights.xml`, and `ownership.xml` by using the `zman report-save (rpsv) (destination folder)` command. The XML files contain rights and ownership details of all the reports.
- ♦ Make sure that the Oracle database is installed on a device that does not have ZENworks 11 installed.
- ♦ Make sure that the USERS tablespace has sufficient space to create and store the ZENworks database schema. The tablespace requires a minimum of 100 MB to create ZENworks database schema without any data in it and an appropriate additional space depending upon the size of the database to be migrated. The database migration utility uses only the USERS tablespace by default. You cannot manually specify any other tablespace during the migration.
- ♦ Make sure that the NLS\_CHARACTERSET parameter is set to AL32UTF8 and the NLS\_NCHAR\_CHARACTERSET parameter to AL16UTF16 by running the following query at the database prompt:

```
select parameter, value from nls_database_parameters where parameter like '%CHARACTERSET%';
```

- ♦ (Conditional) If you want to migrate the database by creating a new user schema, ensure that the following additional requirements are met:
  - ♦ You must be aware of the database administrator credentials.
  - ♦ A tablespace must already exist for associating to the Oracle access user
- ♦ You can choose to migrate the database by using an existing user schema that resides on a server in your network in the following scenarios:
  - ♦ The database administrator creates a user schema with the necessary rights and you get the credentials for that user schema from the database administrator. In this case, the database administrator credentials are not required to migrate the database.
  - ♦ You create a user schema in the Oracle database and choose to use it during the database migration.

If you want to migrate the database by using an existing user schema, ensure that the following additional requirements are met:

- ♦ Make sure that the user schema has the following rights to create the database.

```
CREATE SESSION
CREATE_TABLE
CREATE_VIEW
CREATE_PROCEDURE
CREATE_SEQUENCE
CREATE_TRIGGER
```

- ♦ Make sure that the quota for the user schema is set to Unlimited on the USERS tablespace.
- ♦ Manually stop the ZENworks services running on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following:
    1. Execute the following command at the server prompt:
 

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
- ♦ [!\[\[Prema:ZENworks 11 SP2 RC1: Bug 744761: Ramnish Kumar: Inputs provided by Beena\]](#) Make sure that your external Sybase database service is running.
- ♦ (Optional) The status of database migration is logged into the `novell-zenworks-configure.log` file. By default, only the messages of the type Info and Severe are logged. If you want other message types (such as Finer, Finest, and Warning) to also be logged into the file, do the following in the `novell-zenworks-configure.properties` file:
  1. Set the value of `Logger.logLevel` to the appropriate message type.
 

For example, if you want messages of the type Finest to be logged:

```
#Logger.logLevel = FINEST
```

2. Uncomment the line by removing the “#” as follows:

```
Logger.logLevel = FINEST
```

The `novell-zenworks-configure.properties` file is located in `%ZENWORKS_HOME%\conf\` on Windows and in `/etc/opt/novell/zenworks/` on Linux.

## 12.2 Migrating the Data from the External Sybase Database to an Oracle Database

- ♦ [Section 12.2.1, “Migrating the Data from the External Sybase Database to an Oracle Database,”](#) on page 67
- ♦ [Section 12.2.2, “Resuming the Database Migration,”](#) on page 68

### 12.2.1 Migrating the Data from the External Sybase Database to an Oracle Database

- 1 Make sure that all the tasks listed in [Section 12.1, “Preparing to Move the Data,”](#) on page 65 are completed.
- 2 Run the database migration utility.
  - ♦ **On the Windows Primary Server:** At the command prompt, go to `ZENworks_installation_path\bin\`, then enter the following command:  

```
novell-zenworks-configure.bat -c DBMigrateConfigureAction
```
  - ♦ **On the Linux Primary Server:** At the console prompt, go to `/opt/novell/zenworks/bin`, then enter the following command:  

```
novell-zenworks-configure -c DBMigrateConfigureAction
```
- 3 Enter the target database type as Oracle.
- 4 Enter the IP address or host name of the Oracle database server.
- 5 Enter the port used by the Oracle database server.
- 6 Enter the fully qualified net service name for the Oracle database.
- 7 You can choose to create a new user schema or use an existing user schema.
  - If you choose to create a new schema, continue with [Step 8](#).
  - If you choose to use an existing user schema, skip to [Step 9](#).
- 8 Enter the database server administrator's username and password.
- 9 Enter the schema name when prompted for the database username.
- 10 Enter the database schema password when prompted for the database user's password.

The database migration starts.
- 11 When the database migration is complete, you can check the `novell-zenworks-configure.log` file to see if the migration was successful. The log file is located in `%ZENWORKS_HOME%\log\` on Windows and in `/var/opt/novell/log/zenworks/` on Linux.
- 12 After the database is successfully migrated, continue with [Section 12.3, “Post-Migration Tasks,”](#) on page 68.

## 12.2.2 Resuming the Database Migration

If the migration of the database is stopped for any reason, the ZENworks migration utility allows you to resume the migration if the `dbmigration.xml` file has been created. The file is located in the `ZENworks_installation_path\bin` directory on Windows, and in the `/opt/novell/zenworks/bin` directory on Linux.

1 Run the database migration utility.

- ♦ **On the Windows Primary Server:** At the command prompt, go to `ZENworks_installation_path\bin\`, then enter the following command:

```
novell-zenworks-configure.bat -c DBMigrateConfigureAction
```

- ♦ **On the Linux Primary Server:** At the console prompt, go to `/opt/novell/zenworks/bin`, then enter the following command:

```
novell-zenworks-configure -c DBMigrateConfigureAction
```

2 Enter the target database type as Oracle.

3 Enter the IP address or host name of the Oracle database server.

You must specify the IP address or host name of the Oracle database server used while migrating the database. For example, if you had specified the IP address of the database server while migrating the database, then you must specify the same IP address while resuming the database migration. You cannot specify the host name of the database server.

4 Enter the port used by the Oracle database server.

5 Enter the fully qualified net service name for the Oracle database.

6 Choose to use an existing schema.

7 Enter the schema name when prompted for the database username specified before stopping the database migration.

8 Enter the database schema password when prompted for the database user's password specified before stopping the database migration.

9 Choose to resume the database migration.

The database migration starts.

10 After the database is successfully migrated, continue with [Section 12.3, "Post-Migration Tasks,"](#) on page 68.

## 12.3 Post-Migration Tasks

If there is only one server in the Management Zone, all ZENworks services are automatically started after the data is successfully migrated to an Oracle database.

If there are multiple servers in the Management Zone:

1 From the device where you ran the migration utility, copy the following files and paste them in the appropriate directory, on all other Primary Servers:

```
zdm.xml
dmaccounts.properties
dmmappings.properties
```

Ensure that these files have appropriate rights. The files are located at the following path:

- ♦ **Windows:** `ZENworks_installation_path\conf\datamodel`
- ♦ **Linux:** `/etc/opt/novell/zenworks/datamodel`

- 2 Start all the ZENworks Services on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:
 

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the Start action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:
 

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the Start action.
- 3 Migrate the ZENworks Reports from the Sybase SQL Anywhere database to an Oracle database:
  - 3a Install the Oracle client on a Primary Server that does not have an instance of the ZENworks Reporting Server.
  - 3b Install a new instance of the ZENworks Reporting Server on the device on which you have installed the Oracle client.
  - 3c Copy the reports to the device where the new instance of the Reporting Server is running. These are the ZENworks Reports that you saved before migrating them. For more information, see [Section 12.1, "Preparing to Move the Data," on page 65](#).
  - 3d Publish the reports and restore the reporting rights and the ownership details of the reports by using the following command:
 

```
zman rpld path_of_directory_containing_rights.xml_and_ownership.xml
```
  - 3e Uninstall the ZENworks Reporting Server instance that was installed prior to migrating the database.

The ZENworks Server now points to the new database.

For the Oracle 10g database, any administrator name is case sensitive, including login names from user sources. The default ZENworks administrator account automatically created during installation uses an initial capital, so in order to log in to ZENworks Control Center, you must enter Administrator.

---

**NOTE:** Ensure not to delete the ZENworks Sybase database files if you want to revert to using ZENworks Sybase database at a later time.

---

## 12.3.1 Configuring a migrated Oracle database on a device that has ZENworks Reporting Server installed

- 1 Open the jdbc.sbo file from the following location:
  - ♦ **On Windows:** <zenwork\_home>\share\boe\BusinessObjects Enterprise 12.0\win32\_x86\dataAccess\connectionServer\jdbc
  - ♦ **On Linux:** /opt/novell/zenworks/share/boe/bobje/enterprise120/linux\_x86/dataAccess/RDBMS/connectionServer/jdbc

**2** Locate the Oracle 11 database tag and add the following content below the JDBCdriver tag:

♦ **On Windows**

```
<ClassPath>  
<Path[zenworks_home]\share\boe-publish\drivers\jdbc\ojdbc5-11gR1.jar</  
Path>  
</ClassPath>
```

♦ **On Linux**

```
<ClassPath>  
<Path>/opt/novell/zenworks/share/boe-publish/drivers/jdbc/ojdbc5-  
11gR1.jar</Path>  
</ClassPath>
```

**3** After you modify the jdbc.sbo file, restart the BusinessObjects Enterprise services.

**4** After the BusinessObjects Enterprise services have been restarted, run the following command:

```
novell-zenworks-configure -c UpdateBOE.
```

**5** Update BusinessObjects Enterprise from the <Zenworks\_home>\bin folder.

---

# 13 Configuring the ZENworks Server to Point to the New MS SQL Database Containing Data Moved from Another MS SQL Database

If you move the data from one MS SQL database to another MS SQL database, the Windows or Linux ZENworks Server must be configured to point to the new MS SQL database.

The following sections provide detailed information:

- ♦ [Section 13.1, “Preparing to Move the Data,” on page 71](#)
- ♦ [Section 13.2, “Configuring the ZENworks Server to Point to the New MS SQL Database,” on page 72](#)

## 13.1 Preparing to Move the Data

Before configuring the server to point the new MS SQL database, do the following:

- ♦ Make sure that the ZENworks Server is configured to an MS SQL database. The database can be installed on the ZENworks Server or on a different device. Assume that the device that currently host the MS SQL database is called MSDB1.
- ♦ Make sure that you have another Windows device with an MS SQL database installed. Assume that this device is called MSDB2. For more information on how to install an MS SQL database, see [“Installing an External ZENworks Database”](#) in the *ZENworks 11 Server Installation Guide*.
- ♦ Stop all the ZENworks Services on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
- ♦ Move the data from MSDB1 to MSDB2. For more information about moving the data, see the MS SQL database documentation.

## 13.2 Configuring the ZENworks Server to Point to the New MS SQL Database

To configure the ZENworks Server to point to the new database (MSDB2), perform the following tasks on the ZENworks Server:

- 1 Edit `zdm.xml` (located in `ZENworks_installation_path\conf\datamodel` on Windows and in `/etc/opt/novell/zenworks/datamodel` on Linux) to do the following:

- ♦ Make sure that the value of the `Port` entry key is the port number on which the MS SQL database is running.
- ♦ Set the value of the `Server` entry key to the IP address of the MSDB2 device.
- ♦ Set the value of the `Database` entry key to path of the database directory of the MSDB2 device.
- ♦ If user password of the database is changed, then you must change the password in the `dmaccounts.properties` and `zenaudit_dmaccounts.properties` files. (located in `ZENworks_installation_path\conf\datamodel` on Windows and in `/etc/opt/novell/zenworks/datamodel` on Linux). It is recommended that do not use the SA user for ZENworks database access.

```
username=password
```

The password will be encrypted automatically when you restart the ZENworks services.

- 2 Restart the ZENworks services.

- ♦ **On Windows:** Do the following:

1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
2. Double-click *Administrative Tools > Services*.
3. Start the following services: *Novell ZENworks Server*, *Novell ZENworks Services Monitor*, and *Novell ZENworks Agent Service*.

- ♦ **On Linux:** At the console prompt, enter the following commands:

- ♦ `/etc/init.d/novell-zenmtr restart`
- ♦ `/etc/init.d/novell-zenserver restart`
- ♦ `/etc/init.d/novell-zenloader restart`

- 3 Start all the ZENworks Services on all the other ZENworks Servers in the Management Zone.

- ♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:  
`novell-zenworks-configure -c Start`
2. Enter the number next to the `Start` action.

- ♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:  
`/opt/novell/zenworks/bin/novell-zenworks-configure -c Start`
2. Enter the number next to the `Start` action.



---

# 14 Configuring the ZENworks Server to Point to the New Oracle Database Containing Data Moved from Another Oracle Database

If you move the data from one Oracle database to another Oracle database, the Windows or Linux ZENworks Server must be configured to point to the new Oracle database.

The following sections provide detailed information:

- ♦ [Section 14.1, “Preparing to Move the Data,” on page 73](#)
- ♦ [Section 14.2, “Configuring the ZENworks Server to Point to the New Oracle Database,” on page 74](#)

## 14.1 Preparing to Move the Data

Before configuring the server to point the new Oracle database, do the following:

- ♦ Make sure that the ZENworks Server is configured to an Oracle database. The database can be installed on the ZENworks Server or on a different device. Assume that the device that currently host the Oracle database is called ORDB1.
- ♦ Make sure that you have another Windows device with an Oracle database installed with the same database credentials as the ORDB1. Assume that this device is called ORDB2. For more information on how to install an Oracle database, see [“Installing an External ZENworks Database”](#) in the *ZENworks 11 Server Installation Guide*.
- ♦ Move the data from ORDB1 to ORDB2. For more information about moving the data, see the Oracle database documentation.
- ♦ Stop all the ZENworks Services on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```
    2. Enter the number next to the Stop action.

## 14.2 Configuring the ZENworks Server to Point to the New Oracle Database

To configure the ZENworks Primary Server to point to the new Oracle database (ORDB2), perform the following tasks on the ZENworks Primary Server:

- 1 Edit `zdm.xml` (located in `ZENworks_installation_path\conf\datamodel` on Windows and in `/etc/opt/novell/zenworks/datamodel` on Linux) to do the following:
  - ♦ Make sure that the value of the `Port` entry key is the port number on which the Oracle database is running.
  - ♦ Set the value of the `Server` entry key to the IP address of the ORDB2 device.
  - ♦ Set the value of the `Database` entry key to net service name of the Oracle database installed on the ORDB2 device.
- 2 Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the `Start` action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the `Start` action.

ZENworks Server should now point to the new database.

---

# 15 Migrating the Data from an External Sybase SQL Anywhere to an MS SQL Database

ZENworks 11 allows you migrate the data from an external Sybase database to an MS SQL database installed on a device that does not have ZENworks 11 installed.

---

**IMPORTANT:** Do not perform this scenario on a device that has ZENworks Reporting Server installed.

---

Review the following to migrate the database:

- ♦ [Section 15.1, “Preparing to Move the Data,” on page 75](#)
- ♦ [Section 15.2, “Migrating the Data from the External Sybase Database to an MS SQL Database,” on page 76](#)
- ♦ [Section 15.3, “Post-Migration Tasks,” on page 78](#)

## 15.1 Preparing to Move the Data

Before migrating the data from the Sybase database to the MS SQL database, do the following:

- ♦ Make sure that the license state of ENworks 11 is Active. The product must be installed and running either in the licensed version or the evaluation version.
- ♦ Save all the reports, `rights.xml`, and `ownership.xml` by using the `zman report-save (rpsv) (destination folder)` command. The XML files contain rights and ownership details of all the reports.
- ♦ Make sure that the Primary Server to which the Sybase database is configured has been upgraded to ZENworks 11.
- ♦ Make sure that the MS SQL database is installed on a device that does not have ZENworks 11 installed.
- ♦ (Conditional) If you want to create a new database on MS SQL Server, and migrate the Sybase data into the new database, you must be aware of the database administrator credentials.
- ♦ (Conditional) If you want to migrate the data to an existing database that resides on the MS SQL server in your network, the newly created user must be assigned the `db_owner` database role and you must procure the database credentials of the newly created user from the database administrator.
- ♦ Manually stop the ZENworks services running on all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following:
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Stop
```

2. Enter the number next to the Stop action.

- ♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```

2. Enter the number next to the Stop action.

- ♦ Make sure that the Novell ZENworks Embedded Datastore service on the Primary Server is running.

- ♦ **On Windows:** Do the following:

1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.

2. Double-click *Administrative Tools > Services*.

3. Ensure that the status of the *Novell ZENworks Embedded Datastore* service is *Started*.

- ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa status`.

- ♦ (Optional) The status of database migration is logged into the `novell-zenworks-configure.log` file. By default, only the messages of the type *Info* and *Severe* are logged. If you want other message types (such as *Finer*, *Finest*, and *Warning*) to also be logged into the file, do the following in the `novell-zenworks-configure.properties` file:

1. Set the value of `Logger.logLevel` to the appropriate message type.

For example, if you want messages of the type *Finest* to be logged:

```
#Logger.logLevel = FINEST
```

2. Uncomment the line by removing the “#” as follows:

```
Logger.logLevel = FINEST
```

The `novell-zenworks-configure.properties` file is located in `%ZENWORKS_HOME%\conf\` on Windows and in `/etc/opt/novell/zenworks/` on Linux.

## 15.2 Migrating the Data from the External Sybase Database to an MS SQL Database

- ♦ [Section 15.2.1, “Migrating the Data from the External Sybase Database to an MS SQL Database,” on page 76](#)
- ♦ [Section 15.2.2, “Resuming the Database Migration,” on page 77](#)

### 15.2.1 Migrating the Data from the External Sybase Database to an MS SQL Database

- 1 Make sure that all the tasks listed in [Section 15.1, “Preparing to Move the Data,” on page 75](#) are completed.
- 2 Run the database migration utility.

- ♦ **On the Windows Primary Server:** At the command prompt, go to

`ZENworks_installation_path\bin\`, then enter the following command:

```
novell-zenworks-configure.bat -c DBMigrateConfigureAction
```

- ♦ **On the Linux Primary Server:** At the console prompt, go to `/opt/novell/zenworks/bin`, then enter the following command:

```
novell-zenworks-configure -c DBMigrateConfigureAction
```

- 3 Select the target database type as `sql-server`.
- 4 Enter the IP address or host name of the MS SQL database server.
- 5 Enter the port used by the MS SQL database server.
- 6 (Optional) Enter the named instance for the MS SQL Server engine.
- 7 Choose to create a new database or use an existing database that resides on the MS SQL server.  
If you choose to create a new database, continue with [Step 8](#).  
If you choose to use an existing database, skip to [Step 9](#).
- 8 (Conditional) If you choose to create a new database in [Step 7](#), perform the following tasks:
  - 8a Select the authentication type (Windows or SQL Server) to be used for the database administrator user.
  - 8b Enter the database server administrator username.
  - 8c Enter the database server administrator password.
  - 8d (Conditional) If you choose Windows authentication in [Step 8a](#), enter the database administrator's domain name.
- 9 Select the authentication type (Windows or SQL Server) to be used for the database access user.
- 10 Enter the database access username.
- 11 Enter the database access user password.
- 12 (Conditional) If you choose Windows authentication in [Step 9](#), enter the database access user's domain name.
- 13 Enter the database name of the database that resides on the MS SQL server to which you want to migrate the data. If you choose to create a new database in [Step 7](#), the database is created on the MS SQL server with the name that you specify in this step.
- 14 (Conditional) If you choose to create a new database in [Step 7](#), enter the complete path where you want the database to be created.  
The database migration starts.
- 15 When the database migration is complete, you can verify the `novell-zenworks-configure.log` file to see if the migration was successful. The log file is located in `%ZENWORKS_HOME%\log\` on the Windows Primary Server and in `/var/opt/novell/log/zenworks/` on the Linux Primary Server.
- 16 After the database is successfully migrated, continue with [Section 15.3, "Post-Migration Tasks,"](#) on page 78.

## 15.2.2 Resuming the Database Migration

If the migration of the database is stopped for any reason, the ZENworks migration utility allows you to resume the migration if the `dbmigration.xml` file has been created. The file is located in the `%ZENWOKS_HOME%\bin` directory on the Windows Primary Server, and in the `/opt/novell/zenworks/bin` directory on the Linux Primary Server.

- 1 Run the database migration utility.
  - ♦ **On the Windows Primary Server:** At the command prompt, go to `ZENworks_installation_path\bin\`, then enter the following command:  

```
novell-zenworks-configure.bat -c DBMigrateConfigureAction
```

- ♦ **On the Linux Primary Server:** At the console prompt, go to `/opt/novell/zenworks/bin`, then enter the following command:

```
novell-zenworks-configure -c DBMigrateConfigureAction
```

- 2 Enter the target database type as sql database server.
- 3 Enter the IP address or host name of the MS SQL database server.  
You must specify the IP address or host name of the MS SQL database server used while migrating the database. For example, if you had specified the IP address of the database server while migrating the database, then you must specify the same IP address while resuming the database migration. You cannot specify the host name of the database server.
- 4 (Optional) Enter the named instance of the MS SQL Server engine.
- 5 Choose to use an existing database.
- 6 Enter the credentials of the database user depending on the authentication mode selected.
- 7 Enter the database name.
- 8 Choose to resume the database migration.  
The database migration starts.
- 9 After the database is successfully migrated, continue with [Section 15.3, “Post-Migration Tasks,”](#) on page 78.

## 15.3 Post-Migration Tasks

If there is only one server in the Management Zone, all ZENworks services are automatically started after the data is successfully migrated to an MS SQL Server database.

If there are multiple servers in the Management Zone:

- 1 On the device where you ran the migration utility, copy the following files to the appropriate directory on all the servers:

```
zdm.xml  
dmaccounts.properties  
dmmappings.properties
```

The files are located in the `%ZENWORKS_HOME%\conf\datamodel` directory on Windows and in the `/etc/opt/novell/zenworks/datamodel` directory on Linux.

- 2 Start all the ZENworks Services on all the ZENworks Servers in the Management Zone.

- ♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```

2. Enter the number next to the `Start` action.

- ♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

2. Enter the number next to the `Start` action.

The ZENworks Server now points to the new database.

---

**NOTE:** Ensure not to delete the ZENworks Sybase database files if you want to revert to using ZENworks Sybase database at a later time.

---

## 15.3.1 Configuring a migrated MS SQL database on a device that has ZENworks Reporting Server installed

- 1 Open the `jdbc.sbo` file from the following location:
  - ♦ **On Windows:** `<zenworks_home>\share\boe\BusinessObjects Enterprise 12.0\win32_x86\dataAccess\connectionServer\jdbc`
  - ♦ **On Linux:** `/opt/novell/zenworks/share/boe/bobje/enterprise120/linux_x86/dataAccess/RDBMS/connectionServer/jdbc`
- 2 Locate the MS SQL Server 2008 database tag and add the following content below the JDBCdriver tag:
  - ♦ **On Windows:**

```
<ClassPath>
<Path>[zenworks_home]\share\boe-publish\drivers\jdbc\mssql\sqljdbc.jar<
Path>
</ClassPath>
```
  - ♦ **On Linux:**

```
<ClassPath>
<Path>/opt/novell/zenworks/share/boe-publish/drivers/jdbc/mssql/
sqljdbc.jar</Path>
</ClassPath>
```
- 3 After you modify the `jdbc.sbo` file, restart the BusinessObjects Enterprise services.
- 4 After the BusinessObjects Enterprise services have been restarted, run the following command:  
`novell-zenworks-configure -c UpdateBOE`
- 5 Update BusinessObjects Enterprise from the `<Zenworks_home>\bin` folder.





---

# 16 Migrating an OEM Sybase database from a 32-bit machine to a 64-bit machine

- 1 Stop the OEM Sybase database service on the source machine (32-bit).
- 2 Use the ZENworks 11 SP2 media on the 64-bit machine and start the OEM Sybase database installation by using the following command:
  - ♦ **Windows:** `setup.exe -c`
  - ♦ **Linux:** `setup.sh -c`
- 3 Select OEM Sybase as the *Database Type*.
- 4 Select the default path for a 64-bit machine as the database path for the *Directory*. If you select any other path, the OEM database installation fails.

The default paths are as follows:

- ♦ **32-bit machine:** `Program Files/Novell/ZENworks`
- ♦ **64-bit machine:** `Program Files (x86)/Novell/ZENworks`

If a non-default port and path are used for the OEM database installation on the source machine (32-bit), it is recommended to select the same path structure on the 64-bit machine as well.

If a default port and path are used for the OEM database installation on the source machine (32-bit), it is recommended to select the same path structure on the 64-bit machine as well.

- 5 Enter the OEM database details (*Database Name*, *Database Engine Name*, *Database Server Name*, and *Port*). This information should be the same as that of the 32-bit OEM Sybase database, except for the IP address of the 32-bit machine, which will be changed after the OEM database installation on the 64-bit machine.

- 6 Stop the Sybase service on the 64-bit machine
- 7 Take a backup of the database folder from the 32-bit machine (includes the OEM Sybase database file) and replace the database file on the 64-bit machine with the backed-up (32-bit) database file.
- 8 Verify whether the `CONF` file on the 64-bit machine is updated with the proper OEM database path and port number respectively.

---

**NOTE:** There is no need to replace the `CONF` file, as a fresh install of the OEM database is done on the 64-bit machine using the same database credentials as that of the 32-bit machine.

---

- 9 Disable the network card on the 32-bit machine.
- 10 Configure the 32-bit machine's IP address, subnet mask, default gateway, preferred DNS, host name and DNS suffix on the 64-bit machine.
- 11 Reboot the 64-bit machine.



---

# ||| Database Management - Best Practices, Tips, Troubleshooting

This sections includes some tips and best practices for Sybase database:

- ♦ [Chapter 17, "Database Best Practices," on page 85](#)
- ♦ [Chapter 18, "Database Tips," on page 89](#)
- ♦ [Chapter 19, "Troubleshooting Database Migration," on page 95](#)



---

# 17 Database Best Practices

This documentation provides instructions to rebuild the Sybase database by using the DBISQL utility. You can choose to rebuild and validate the database by using any other utility that is recommended in the Sybase SQL Anywhere documentation.

- ♦ [Section 17.1, “Rebuilding the Sybase Database,” on page 85](#)

## 17.1 Rebuilding the Sybase Database

If your ZENworks database is an embedded or external Sybase database, you should rebuild the database so that it runs on the latest version of the Sybase database engine.

- 1 Make sure that you have archived your database credentials.

To archive the credentials of an external Sybase database, contact your database administrator.

To archive the credentials of an embedded or external OEM Sybase database, perform the following tasks on the database server:

- 1a Make sure the database service is running.

**On Windows:** In the Windows Services, make sure that the status of *Novell ZENworks Embedded Datastore* is *Started*.

**On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa status` to verify the status of the database. If the database is not running, enter `/etc/init.d/sybase-asa start`.


- 1b Obtain the Sybase connection information by running the `zman dgc` command.

- 1c Provide the credentials of the ZENworks administrator when prompted.

- 1d Copy and save the database username and password in to a text file.

- 2 Stop the Novell ZENworks Embedded Datastore service, if it is running.

- ♦ **On Windows:** Do the following:

1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
2. Double-click *Administrative Tools > Services*.
3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Stop*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.

- ♦ **On Linux:** At the console prompt, enter `/etc/init.d/sybase-asa stop`.

- 3 Stop all the ZENworks Services on the all the ZENworks Servers in the Management Zone.

- ♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:  
`novell-zenworks-configure -c Stop`
2. Enter the number next to the *Stop* action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Stop
```

2. Enter the number next to the Stop action.


- 4 At the console prompt, go to the Sybase database directory. By default, it is %ZENWORKS\_HOME%\database on Windows, and /var/opt/novell/zenworks/database on Linux.

- 5 Take a reliable backup of the zenworks\_zone\_name.db and Zenworks\_zone\_name.log files.

For detailed information on how to take an immediate backup of the files of the embedded Sybase database, see [Section 3, “Backing Up the Embedded Sybase SQL Anywhere Database,” on page 15](#). For detailed information on how to take an immediate backup of the files of the external Sybase database, see [Section 8, “Backing Up the External Sybase Database,” on page 45](#).

- 6 Start the Novell ZENworks Embedded Datastore service.

♦ **On Windows:** Do the following:

1. From the Windows desktop *Start* menu, click *Settings > Control Panel*.
2. Double-click *Administrative Tools > Services*.
3. Right-click the *Novell ZENworks Embedded Datastore* service, then click *Start*, or select the *Novell ZENworks Embedded Datastore* service, then click  on the toolbar.

♦ **On Linux:** At the console prompt, enter /etc/init.d/sybase-asa start.

- 7 (Conditional) If your database is installed on Linux, run the following script file:

```
source /opt/novell/zenworks/share/sybase/bin32/sa_config.sh
```

- 8 Ensure that the database authentication has been set up by verifying that the database\_authentication attribute in the saopts.sql file has been configured.

The saopts.sql file is located in the %ZENWORKS\_HOME%\share\asa\scripts\ directory on Windows, and in the /opt/novell/zenworks/share/sybase/scripts/ directory on Linux. The database\_authentication attribute is located in the following entry in the saopts.sql file:

```
if not exists( select * from SYS.SYSOPTION
  where ucasing( "option" ) = ucasing( 'database_authentication' ) ) then
  set option PUBLIC.database_authentication = <value>;
end if
go
```

If the value of set option PUBLIC.database\_authentication is empty or does not exist in the script, continue with [Step 8a](#) to launch the DBISQL utility and to configure the database authentication; else skip to [Step 9](#).

**8a** Launch the DBISQL utility.

- 8a1** At the command prompt, go to the %ZENWORKS\_HOME%\share\ASA\BIN32 directory on Windows or to the /opt/novell/zenworks/share/sybase/bin32s directory on Linux.

- 8a2** Enter the dbisql command.

- 8a3** In the *Identification* tab, specify the database credentials.

- 8a4** Click the *Database* tab, then specify the name of database service that is currently running.

- 8a5** Click *OK*.

**8b** In the *SQL Statements* section, specify the following query:

```
select setting
from sysoptions
  where "option" like 'database%' >># output_filename
```

**8c** Click *Execute SQL Statement(s)*.

The results of the query are written to the output file that you specify in the query.

**8d** Copy the result of the query from the output file, and paste it as the value of the `database_authentication` attribute in the `saopts.sql` file. The `saopts.sql` file is located in the `%zenworks_home%\share\asa\scripts\` directory on Windows, and in the `/opt/novell/zenworks/share/sybase/scripts/` directory on Linux.

The `database_authentication` attribute is located in the following entry in the `saopts.sql` file:

```
if not exists( select * from SYS.SYSOPTION
  where ucase( "option" ) = ucase( 'database_authentication' ) ) then
  set option PUBLIC.database_authentication =
<output_of_the_query_run_in_Step_8b>;
end if
go
```

**9** Stop the Novell ZENworks Embedded Datastore service.

- ♦ **For the Embedded Database:** Stop all the ZENworks services, including the Novell ZENworks Embedded Datastore service:

1. At the console prompt, run the `novell-zenworks-configure -c Start` command.
2. Type the option number corresponding to Stop.
3. Press Enter twice.

- ♦ **For the External Database:** Stop the Novell ZENworks Embedded Datastore Service by stopping the Windows Services manager on Windows, or by running the `/etc/init.d/sybase-asa stop` command on Linux.

**10** Create a temporary directory with the name as `unload` within `c:\dbreload\` on Windows or within `/tmp/dbreload/` on Linux.

**11** At the console prompt of the database server, run the following command to start the database service:

**On Windows:** `dbeng12 %ZENWORKS_HOME%\database\zenworks_ZONE_NAME.db -n rebuild`

**On Linux:** `dbeng12 /var/opt/novell/zenworks/database/zenworks_ZONE_NAME.db -n rebuild`

**12** Open another command prompt on the database server, and run the `unload` command.

**12a** At the command prompt, go to the `%ZENWORKS_HOME%\share\ASA\BIN32` directory on Windows or to the `/opt/novell/zenworks/share/sybase/bin32s` directory on Linux.

**12b** Run the appropriate command:

**On Windows:** `dbunload -c "UID=zenadmin;PWD=database_password;ENG=rebuild" -an c:\dbreload\unload\zenworks_<management_zone_name>.db`

**On Linux:** `dbunload -c "UID=zenadmin;PWD=database_password;ENG=rebuild" -an /tmp/dbreload/unload/zenworks_<management_zone_name>.db`

**13** After the database rebuild has been successfully completed, take a reliable backup of the newly built database. The database is located in the `c:\dbreload\unload` directory on Windows and in the `/tmp/dbreload/unload` directory on Linux.

If you encounter any issues during the rebuild process, contact [Novell Support \(http://www.novell.com/support\)](http://www.novell.com/support).

- 14 Stop the Novell ZENworks Embedded Datastore service by using the `dbeng12` command:
  - ♦ **On Windows:** Right-click the *Rebuild* icon located in Windows taskbar, then click *Shutdown*.
  - ♦ **On Linux:** At the console prompt, enter `q`.
- 15 Overwrite the database and applicable log file in the database directory with the new ones located in the `unload` directory (`zenworks_management_zone_name.*`).

The `unload` directory is located in `c:\dbreload\` on Windows or in `/tmp/dbreload/` on Linux.
- 16 Start the Novell ZENworks Embedded Datastore service.
  - ♦ **For the Embedded Database:** Start all the ZENworks services, including the Novell ZENworks Embedded Datastore service:
    1. At the console prompt, run the `novell-zenworks-configure -c Start` command.
    2. Type the option number corresponding to Start.
    3. Press Enter twice.
  - ♦ **For the External Database:** Start the Novell ZENworks Embedded Datastore service in the Services window on Windows, or run the `/etc/init.d/sybase-asa start` command on Linux.
- 17 Start all the ZENworks Services on the all the ZENworks Servers in the Management Zone.
  - ♦ **On Windows:** Do the following
    1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```
    2. Enter the number next to the Start action.
  - ♦ **On Linux:** Do the following:
    1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```
    2. Enter the number next to the Start action.
- 18 Take a backup of the newly created database on a regular basis (daily or weekly).



---

# 18 Database Tips

- ♦ Section 18.1, “Changing the Backup Location and Schedule of the Embedded Sybase Database Subsequent to the Initial Backup,” on page 89
- ♦ Section 18.2, “Changing the Backup Schedule and Location of the External Sybase Database Subsequent to the Initial Backup,” on page 91
- ♦ Section 18.3, “Reverting to the ZENworks Sybase Database from the ZENworks Oracle Database,” on page 92
- ♦ Section 18.4, “Identifying the EBF Version of Sybase Database Server,” on page 93
- ♦ Section 18.5, “Maximum Pool Size,” on page 93

## 18.1 Changing the Backup Location and Schedule of the Embedded Sybase Database Subsequent to the Initial Backup

Review the following sections:

- ♦ Section 18.1.1, “Changing the Backup Location of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup,” on page 89
- ♦ Section 18.1.2, “Changing the Backup Schedule of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup,” on page 90

### 18.1.1 Changing the Backup Location of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup

To change the backup location of the embedded Sybase SQL Anywhere database subsequent to its initial backup:

- 1 Delete the existing database backup schedule by executing the following command at the Primary Server command prompt:

```
zman db current_database_backup_location DropSchedule.sql
```

*Dropschedule.sql* is located by default in the ZENworks\_Installation\_directory:\Novell\Zenworks\share\zman\samples\database directory on a Windows server, and in the /opt/novell/zenworks/share/zman/samples/database directory on a Linux server.

- 2 Enter the following command to back up the database to a new location:

```
zman database-backup complete_path_of_the_new_database_backup_directory  
complete_path_of_the_database_backup_schedule_file -d SQL_function_call
```

For example, to back up the database to the c:\dbbackup\newdbbackups directory on a Windows server according to the database backup schedule specified in the c:\backUpschedule.sql, enter the following command:

```
zman database-backup c:\dbbackup\newdbbackups c:\backUpSchedule.sql -d
SQL_function_call
```

For more information about this command, view the zman man page (man zman) on the device, or see [zman\(1\)](#) in the *ZENworks 11 Command Line Utilities Reference*.

## 18.1.2 Changing the Backup Schedule of the Embedded Sybase SQL Anywhere Database Subsequent to the Initial Backup

To change the backup schedule of the embedded Sybase SQL Anywhere database subsequent to its initial backup:

- 1 Create a schedule file with the Alter Event content:

```
ALTER EVENT backup_schedule_name
SCHEDULE
START TIME specify_the_schedule
```

For example, you could use the `Alterschedule.sql` file to back up the database at a 11:00 p.m. on Monday, Tuesday, and Wednesday of every week as follows:

```
ALTER EVENT ZENDBBackup
SCHEDULE
START TIME '11:00 PM'
ON ('Monday', 'Tuesday', 'Wednesday')
```

A sample `Alterschedule.sql` file is available in the `ZENworks_Installation_directory:\Novell\Zenworks\share\zman\samples\database` directory on a Windows server, and in the `/opt/novell/zenworks/share/zman/samples/database` directory on a Linux server.

- 2 Enter the following command to back up the database according to the new schedule:

```
zman database-backup complete_path_of_the_database_backup_directory
complete_path_of_the_modified_database_backup_schedule_file -d
SQL_function_call
```

For example, to back up the database to the `c:\dbbackup\` directory on a Windows server according to the database backup schedule specified in the `c:\AlterSchedule.sql`, enter the following command:

```
zman database-backup c:\dbbackup\ c:\AlterSchedule.sql -d SQL_function_call
```

For more information about this command, view the zman man page (man zman) on the device, or see [zman\(1\)](#) in the *ZENworks 11 Command Line Utilities Reference*.

## 18.2 Changing the Backup Schedule and Location of the External Sybase Database Subsequent to the Initial Backup

To change the backup location and the backup schedule of the external Sybase database subsequent to its initial backup, perform the following tasks on the device that has the external Sybase database installed and running:

- 1 Launch the DBISQL utility:
  - 1a At the command prompt, go to the %ZENWORKS\_HOME%\share\ASA\BIN32 directory on Windows or to the /opt/novell/zenworks/share/sybase/bin32s directory on Linux.
  - 1b Enter the dbisql command.
  - 1c In the *Identification* tab, specify the database credentials.
  - 1d Click the *Database* tab, then specify the name of database service that is currently running.
  - 1e Click *OK*.
- 2 Change the database backup schedule and the backup location as desired.

You can use the same SQL query to change the database backup schedule and the backup location. You can change the backup schedule and the location at the same time or at a different time.

```
ALTER EVENT
name_of_the_existing_backup_schedule_event_containing_the_database_backup_sche
dule_or_location_that_you_want_to_change

SCHEDULE

new_database_backup_schedule or existing_backup_schedule

HANDLER

BEGIN

BACKUP DATABASE DIRECTORY
'complete_path_of_the_existing_database_backup_location or complete_path_of
new_database_backup_location'

TRANSACTION LOG TRUNCATE

END;
```

If you want to back up the database to a directory on Windows, you must use \\ (double backslash) as the delimiter while specifying the database backup directory path

For example, assume that you have database backup event, zendbbackup, that locally backs up the database to c:\dbbackup at 1:00 a.m. every day. If you want to change the database backup schedule or location, review the following:

- ♦ If you want to back up the database at 11:00 p.m. on Monday, Wednesday, and Friday of every week, change the database backup schedule in the zendbbackup event by executing the following query in the DBISQL utility:

```
ALTER EVENT zendbbackup

SCHEDULE

'11:00 PM' ON ('Monday', 'Wednesday', 'Friday')

HANDLER

BEGIN

BACKUP DATABASE DIRECTORY 'c:\\dbbackup'
```

```
TRANSACTION LOG TRUNCATE
```

```
END;
```

- ◆ If you want to back up the database to a new location, such as `e:\zendb\dbbackup`, change the database backup location in the `zendbackup` event by executing the following query in the DBISQL utility:

```
ALTER EVENT zendbackup
```

```
SCHEDULE
```

```
'1:00 AM' EVERY 24 HOURS
```

```
HANDLER
```

```
BEGIN
```

```
BACKUP DATABASE DIRECTORY 'e:\\zendb\\dbbackup'
```

```
TRANSACTION LOG TRUNCATE
```

```
END;
```

- ◆ If you want to back up the database at 2:00 a.m. on the first, second, and third day on the month to a new location, `e:\zendb\dbbackup`, change the database backup schedule and location in the `zendbackup` event by executing the following query in the DBISQL utility:

```
ALTER EVENT zendbackup
```

```
SCHEDULE
```

```
'2:00 AM' EVERY 24 HOURS ON (1,2,3)
```

```
HANDLER
```

```
BEGIN
```

```
BACKUP DATABASE DIRECTORY 'e:\\zendb\\dbbackup'
```

```
TRANSACTION LOG TRUNCATE
```

```
END;
```

## 18.3 Reverting to the ZENworks Sybase Database from the ZENworks Oracle Database

ZENworks 11 allows you migrate the data from an internal or external Sybase database to an Oracle database installed on a device that does not have ZENworks 11 installed. You can revert to using ZENworks Sybase database at a later time if you have retained the ZENworks Sybase database files after migrating the data to Oracle.

To revert to using ZENworks Sybase database, perform the following tasks:

- 1 On the device where you run the migration utility, rename the following files:

```
zdm.xml.bak to zdm.xml
```

```
dmaccounts.properties.bak to dmaccounts.properties
```

```
dmmappings.properties.bak to dmmappings.properties
```

The files are located in the `ZENworks_installation_path\conf\datamodel` directory on Windows and in the `/etc/opt/novell/zenworks/datamodel` directory on Linux.

2 Restart all the ZENworks Services on all the ZENworks Servers in the Management Zone.

♦ **On Windows:** Do the following

1. Execute the following command at the server prompt:

```
novell-zenworks-configure -c Start
```

2. Enter the number next to the Restart action.

♦ **On Linux:** Do the following:

1. Execute the following command at the server prompt:

```
/opt/novell/zenworks/bin/novell-zenworks-configure -c Start
```

2. Enter the number next to the Restart action.

## 18.4 Identifying the EBF Version of Sybase Database Server

To know the version of the EBF that is installed and running on the Sybase database server, run the `dblocate` utility. The utility is located in the `%ZENWORKS_HOME%\share\ASA\BIN32` directory on a Windows database server and in the `/opt/novell/zenworks/share/sybase/bin32s` directory on a Linux database server.

## 18.5 Maximum Pool Size

The `MaxPoolSize` value configured in the `zdm.xml` file governs the maximum number of connections allowed in a database connection pool from a Primary Server.

The `zdm.xml` file is located on the Primary Server:

**Windows:** `%ZENWORKS_HOME%\conf\datamodel\`

**Linux:** `/etc/opt/novell/zenworks/datamodel/`

With the default `MaxPoolSize` value of 100, the `ZENServer` and `ZENLoader` services currently create a single thread pool. As a result, under the peak load, there are 100 possible connections each from `ZENloader` and `ZENserver`.

However, the database server should be able to accept and serve  $200 * \langle N \rangle$  concurrent connections from the ZENworks context, where  $N$  is the number of Primary Servers in the ZENworks Zone.

The current default value is sufficient for most configurations and loads. Customizing the `MaxPoolSize` value is not recommended and requires close monitoring of the database and ZENworks functionality and performance.

If you want to configure a higher value for the `MaxPoolSize` parameter, ensure that the number of concurrent connections that can be accepted or served by the database server is greater than or equal to  $2 * \langle Configured MaxPoolSize \rangle * \langle Number of Primary Servers \rangle$ .

---

**NOTE:** The default `MinPoolSize` value is 5.

---



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# 19 Troubleshooting Database Migration

- ♦ Section 19.1, “Troubleshooting a Java Heap Space Exception,” on page 95
- ♦ Section 19.2, “Troubleshooting an Oracle Database Crash,” on page 96
- ♦ Section 19.3, “Troubleshooting an Oracle Tablespace Issue,” on page 96
- ♦ Section 19.4, “Troubleshooting the Database Migration Failure Issue,” on page 96
- ♦ Section 19.5, “Troubleshooting the Database Migration by Using An Existing User Schema,” on page 97

## 19.1 Troubleshooting a Java Heap Space Exception

If you encounter a Java Heap Space exception during the database migration because of low memory:

- 1 Edit the `ZENworks_installation_path\bin\novell-zenworks-configure.bat` file on Windows or `/opt/novell/zenworks/bin/novell-zenworks-configure` on Linux to change the heap space value in the following line, depending upon the RAM of the device where the migration utility is running:

```
%JAVA_HOME%\bin\java" -Djava.library.path=%ZENLIB% -cp "%MYCP%" %DEBUG_OPTS%  
%JAVA_OPTS% -Xmx128m com.novell.zenworks.configure.ConfigureLoader  
%CONFIG_OPTS%
```

The heap space value is represented in megabytes (MB) within `-Xmx128m`. By default, it is 128.

For example, if the RAM of the device is 512 MB, then the line in the `novell-zenworks-configure.bat` file can be updated as follows:

```
%JAVA_HOME%\bin\java" -Djava.library.path=%ZENLIB% -cp "%MYCP%" %DEBUG_OPTS%  
%JAVA_OPTS% -Xmx512m com.novell.zenworks.configure.ConfigureLoader  
%CONFIG_OPTS%
```

---

**IMPORTANT:** The heap space value must be either equivalent to or less than the RAM of the device.

---

- 2 At the console prompt, run the `ZENworks_installation_path\bin\novell-zenworks-configure.bat` file on Windows or `/opt/novell/zenworks/bin/novell-zenworks-configure` on Linux.

- 3 Follow the prompts.

When you are prompted to enter the location of the file required for resuming the migration, enter the the complete path of `DBMigration.xml`. The file is located in the `ZENworks_installation_path\bin` directory on Windows, and in the `/opt/novell/zenworks/bin` directory on Linux.

The XML file contains a list of tables and a flag indicating whether the table was successfully migrated or not. When the database migration resumes, only the tables with flag value set to `False` are migrated.

## 19.2 Troubleshooting an Oracle Database Crash

If the Oracle database crashes during the database migration:

- 1 At the console prompt, run the `ZENworks_installation_path\bin\novell-zenworks-configure.bat` file on Windows or `/opt/novell/zenworks/bin/novell-zenworks-configure` on Linux.
- 2 Follow the prompts.

When you are prompted to enter the location of the file required for resuming the migration, enter the complete path of `DBMigration.xml`. The file is located in the `ZENworks_installation_path\bin` directory on Windows, and in the `/opt/novell/zenworks/bin` directory on Linux.

The XML file contains a list of tables and a flag indicating whether the table was successfully migrated or not. When the database migration resumes, only the tables with flag value set to `False` are migrated.

---

**IMPORTANT:** Do not edit the contents of `DBMigration.xml`.

---

## 19.3 Troubleshooting an Oracle Tablespace Issue

If the Oracle `USERS` tablespace does not have sufficient space to create and store the ZENworks database schema, the database migration fails with the following error messages while trying to create the tables:

```
SEVERE: Terminating the database migration...
SEVERE: An error has occurred while migrating the database.
```

To resolve this issue, the Oracle database administrator must increase the size of the `USERS` tablespace. Ensure that the tablespace has a minimum of 100 MB to create ZENworks database schema without any data in it and an appropriate additional space depending upon the size of the database to be migrated.

## 19.4 Troubleshooting the Database Migration Failure Issue

If the `NLS_CHARACTERSET` parameter is not set to `AL32UTF8` and the `NLS_NCHAR_CHARACTERSET` parameter is not set to `AL16UTF16`, the database migration fails with the following error messages:

```
Failed to run the sql script: localization-updater.sql,
message:Failed to execute the SQL command: insert into
zLocalizedMessage(messageid,lang,messagestr)
values('POLICYHANDLERS.EPE.INVALID_VALUE_FORMAT','fr','La stratÃ©gie {0} n'a
pas pu Ãatre appliquÃe du fait que la valeur de la variable "{1}" n'est pas
dans un format valide. '),
message:ORA-00600: internal error code, arguments: [ktfbbsearch-7], [8], [],
[], [], [], [], []
```

To resolve this issue, set the `NLS_CHARACTERSET` parameter to `AL32UTF8` and the `NLS_NCHAR_CHARACTERSET` parameter to `AL16UTF16`. To ensure that the character set parameters are configured with the recommended values, run the following query at the database prompt:

```
select parameter, value from nls_database_parameters where parameter like
'%CHARACTERSET%';
```



## 19.5 Troubleshooting the Database Migration by Using An Existing User Schema

If you choose to migrate the database by using an existing user schema, the database migration utility creates the ZENworks database but it might fail to migrate the data.

To resolve this issue:

- 1 Make sure that the ZENworks tables, views, and user sequence are deleted from the newly created ZENworks database by the database administrator. Later on, clear the `user_recyclebin` database table.
- 2 Start the database migration again by using the same user schema.

To start the migration from an internal Sybase to the Oracle database, see [“Migrating the Data from the Internal Sybase Database to an Oracle Database” on page 33](#). To start the migration from an external Sybase to the Oracle database, see [“Migrating the Data from the External Sybase Database to an Oracle Database” on page 67](#).



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# A Documentation Updates

This section contains information on documentation content changes that were made in this *Database Management Reference* for Novell ZENworks 11 SP2. The information can help you to keep current on updates to the documentation.

The documentation for this product is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the changes listed in this section.

If you need to know whether a copy of the PDF documentation that you are using is the most recent, the PDF document includes a publication date on the title page.

The documentation was updated on the following date:

- ♦ [Section A.1, "March 2013: Update for ZENworks 11 SP2 \(11.2.3\)," on page 99](#)
- ♦ [Section A.2, "October 2013: Update for ZENworks 11 SP2 \(11.2.4\)," on page 99](#)

## A.1 March 2013: Update for ZENworks 11 SP2 (11.2.3)

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Location	Change
<a href="#">Chapter 18, "Database Tips," on page 89</a>	The following section was added to this guide: <ul style="list-style-type: none"><li>♦ <a href="#">Section 18.5, "Maximum Pool Size," on page 93</a></li></ul>

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## A.2 October 2013: Update for ZENworks 11 SP2 (11.2.4)

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Location	Change
<a href="#">Chapter 6, "Migrating the Data from an Internal Sybase Database to an External Oracle Database," on page 31</a>	A Note added in the following section: <ul style="list-style-type: none"><li>♦ <a href="#">Section 6.2.1, "Migrating the Data from the Internal Sybase Database to an Oracle Database," on page 33</a></li></ul>

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