

SharePlex® 10.2.1

Upgrade Guide for Oracle Source



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SharePlex Release Notes

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# About this Guide

This guide contains instructions for upgrading SharePlex environment. It is intended for administrators, consultants, analysts, and any other IT professionals tasked with upgrading SharePlex.

## **Other SharePlex documentation**

For the complete SharePlex documentation set, go to <https://support.quest.com/shareplex/technical-documents>.

# 1

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## Before you upgrade

This section contains important information that you need to know before you select a SharePlex installer and begin the upgrade procedure.

## Gather the required information

You will need the following information about the installation that you want to upgrade:

- Location of the SharePlex product directory
- Location of the SharePlex variable-data directory (or directories) in this instance of SharePlex.
- Name of the SharePlex administrator group (that contains the SharePlex administrator user).
- The ORACLE\_SID and ORACLE\_HOME (Oracle) or the database name (Open Target) associated with the installation you are upgrading. To determine this, look in the **default.yaml** file in the **data** sub-directory of the product directory.

## Check interoperability

If you are upgrading some SharePlex installations in a configuration, but not others, view the SharePlex Release Notes for interoperability support between versions. Parameter settings may be required.

## Who should perform the upgrade

Some steps in the upgrade procedures require the **Administrator** authorization level, which normally is only granted to the person or persons designated as the SharePlex Administrators. An upgrade can only be performed by a person who has this authorization and is familiar with SharePlex.

## Check for new and deprecated parameters

- Review the release notes and [Deprecated Parameters](#) section of the SharePlex [Reference Guide](#) to determine if any of the parameters that you are using were deprecated in this release. SharePlex retains backward compatibility of your current parameter settings, including those that are newly deprecated, so that you do not need to stop processes to reconfigure settings. However, you should familiarize yourself with the new parameter or default functionality that replaces a deprecated parameter to determine whether any configuration changes are appropriate.

- Review the [New features in this release](#) and [Enhancements in this release](#) sections of the Release Notes for any new parameters that affect your current configuration. If any upgrade steps are required, they will be noted.

## Upgrade on an Oracle source system

These requirements apply to SharePlex when it captures from an Oracle source database.

### Requirements to support character set conversion

When replicating to an Open Target target (non-Oracle target), SharePlex supports replication from any Oracle Unicode character set and the US7ASCII character set. SharePlex posts data to Open Target in the Unicode character set, and therefore if the source data is Unicode or US7ASCII, no conversion on the target is required.

However, if the following are true, conversion is required on the target:

- If the character set of the source data is anything other than Oracle Unicode or US7ASCII, you must install an Oracle client on the target to perform the conversion to Unicode for posting to the target.
- If the data must be posted to the target database in any character set other than Unicode, you must install an Oracle client on the target to perform the conversion and use the **target** command to identify the target character set for Post to use.
- If you are replicating LOB data, conversion is required regardless of what the source character set is.

#### **To perform conversion with an Oracle client on Windows**

1. Install an Oracle *Administrator* client on the target system. The client must be the Administrator installation type. The Instant Client and Runtime installation types are not supported.
2. In the SharePlex Registry key `\HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\QuestSoftware\SharePlex\port_number`, set `ORACLE_HOME` to the Oracle client installation location, and set `ORACLE_SID` to an alias or a non-existing SID. No Oracle database is required. SharePlex only needs to use the client libraries.
3. Upgrade SharePlex using the Windows installer.
4. Make certain the `SP_OPX-NLS_CONVERSION` parameter is set to the default of 1.

#### **To apply Unicode and US7ASCII data without conversion**

If the source data is Unicode or US7ASCII and you are not replicating LOB data, no conversion or Oracle client is needed. Set the `SP_OPX-NLS_CONVERSION` parameter to 0 to disable conversion, and then restart Post if it is running.

# 2

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## Download the SharePlex installer

There are different installers for SharePlex based on the type of operating system. This topic helps you understand the differences and the naming conventions used.

### Windows

On Windows, the SharePlex installer is named **sp\_setup\_version.exe**. It is a bundle that contains SharePlex binaries for all of the supported databases and versions.

The installer installs the following items:

- The SharePlex binaries and files
- The **SharePlex for *database*** program
- The **MKS Platform Components** program from Parametric Technology Corporation (default **C:\Program Files\MKS Toolkit**)
- Windows registry entries under `\HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432node`.
- One or more **SharePlex *port\_number*** Windows services (depending on the installed configuration)

Do not remove or modify any of these components while SharePlex is in production, including **SharePlex Installer**. These components all support SharePlex operation or upgrade.



# Where to get SharePlex installers

Download the SharePlex installation package that matches the operating system you are using.

Additionally, download any SharePlex patches, so that you can install them after you install the base software.

1. Go to the Quest Software Support page: <http://support.quest.com/>
2. Click **Download Software**.
3. In the search box, type **SharePlex** and press **Go**.
4. Click the arrow in the **Download** column for the version you need. You can also click the file name for access to more information and to download the file(s).
5. Transfer the file to system where you are installing SharePlex.
6. You are ready to begin the installation process. Be sure to thoroughly read the version specific Release Notes *prior* to running the installer.

# Upgrade on Windows

These instructions are for upgrading SharePlex on the Windows platform.

## IMPORTANT!

- If you are upgrading some SharePlex installations in a configuration, but not others, view the SharePlex Release Notes for interoperability support between versions.
- Perform the upgrade on all Windows machines that host databases involved in SharePlex replication.
- *Do not* uninstall SharePlex or the MKS Toolkit® environment before upgrading. Install the upgrade over the existing version.
- On Windows, install SharePlex on **all nodes** of each cluster, on the same port number, with identical path names. This is required to make the binaries and the required MKS Toolkit components available to all nodes, and to establish Registry entries.
- See [Before you upgrade](#) on page 6 for any pre-installation items that apply to your SharePlex installation.

## To run the upgrade

1. Log into Windows as the SharePlex Administrator.
2. (If using **copy/append**) Stop **sp\_sync\_launcher** on the target systems before applying the SharePlex upgrade.  

```
sp_ctrl> stop launcher
```
3. (Oracle as source only) In **sp\_ctrl**, use the **set param** command to stop DDL replication (if active) by setting the **SP\_OCT\_REPLICATE\_ALL\_DDL** parameter to 0.  

```
sp_ctrl>set param SP_OCT_REPLICATE_ALL_DDL 0
```

**IMPORTANT!** Keep the setting at 0 until prompted otherwise.
4. Stop the SharePlex service:
  - a. Run **SpUtils** from the shortcut on the Windows desktop.
  - b. Select the **SharePlex Services** tab.
  - c. Select the correct port, and then stop the SharePlex service.
  - d. Close the utility.

5. Run the **sp\_setup** installation program and follow the prompts:

| Prompt                  | Input   |
|-------------------------|---|
| Destination Folder      | Install the upgrade into the existing SharePlex product directory.  |
| Port number             | Select the port that this instance of SharePlex currently uses.   |
| Variable Data directory | Specify the existing SharePlex variable-data directory.   |
| Program Manager group   | Specify the existing Programs menu location.  |
| MKS Platform Components | Appears if this version of SharePlex contains a new version of MKS Toolkit®. Accept the default Program Files location.<br>If prompted to restart your system, you can postpone the restart until after you finish this installation. |
| Confirm installation    | Confirm the installation information.   |
| SharePlex license       | Accept the existing license shown or enter a new one if applicable.   |
| Finish                  | If you were prompted to restart the system after you installed the MKS Toolkit files, you may do so at any time after exiting the installer.  |

6. Run the appropriate Database Setup utility:
  - **Oracle:** see [Database Setup for Oracle](#) on page 17
  - **SQL Server:** see [Database Setup for SQL Server](#) on page 32
7. From **SpUtils**, start the SharePlex service.
8. (Source only) To enable DDL replication again, set the the SP\_OCT\_REPLICATE\_ALL\_DDL parameter to 1.

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## Verify Partition Schemes

If you are upgrading from a SharePlex version earlier than 9.0, the method of creating and storing partition schemes and row partitions for horizontal partitioning has changed. This information no longer is stored in the database.

When you run database setup during an upgrade, it converts the data from the SHAREPLEX\_PARTITION table to the new internal storage format. After the conversion, you can view the partitions with the **view partitions** command in **sp\_ctrl** to ensure that the partitions converted properly.

**NOTE:** For more information about the **view partitions** command, see the SharePlex [Reference Guide](#).

### To view row partitions

1. Run `sp_ctrl` on the source system.
2. Issue the following command with either option, depending on whether you want to view all partitions or just those for a particular partition scheme.

```
sp_ctrl> view partitions for {scheme_name | all}
```

The following is an example of converted partition schemes. Note that the conversion program populates the **Name** field with the name of the queue from the **Route** column.

| Scheme  | Name       | Route                     | Hash | Condition    |
|---------|------------|---------------------------|------|--------------|
| HASH4   | hash       | sys02:hash #@o.ora112     | 4    | ROWID        |
| TEST_CT | highvalues | sys02:highvalues@o.ora112 |      | sales>=10000 |
| TEST_CT | lowvalues  | sys02:lowvalues@o.ora112  |      | sales<10000  |

## SharePlex utilities

### Contents

- [Database Setup for MySQL](#)
- [Database Setup for Oracle](#)
- [Database Setup for PostgreSQL](#)
- [Database Setup for SQL Server](#)

## Database Setup for MySQL

### Overview

Run the Database Setup utility for MySQL (**mysql\_setup**) on a MySQL system to establish SharePlex as a MySQL database user. This utility creates the following:

- A SharePlex user account with full DBA privileges
- Tables and indexes for use by SharePlex and owned by the SharePlex user in a database of your choosing
- A default database connection.

### Guidelines for use

- Run the setup utility on all MySQL instances in the SharePlex replication configuration.
- Within a cluster, run the setup utility on the node to which the shared disk that contains the SharePlex variable-data directory is mounted.
- For consolidated replication, run the setup utility for each variable-data directory.

### Required privileges

Review the following requirements to ensure that the setup succeeds.

- The setup utility must be run as a MySQL Administrator that retains all of that user's default privileges. Both local and cloud MySQL Administrators should have the required privileges by default. The Administrator user is able to grant SharePlex the required privileges to operate on the database and to create the SharePlex database account and objects.

- (Cloud installations) Common restrictions on privileges in cloud-hosted database services make it difficult for the setup utility to succeed in every possible type of scenario. To ensure that the database setup succeeds, *only* use the setup utility for the following purposes: To do a *first-time* database setup with a *new* SharePlex user, or, to *modify* an existing SharePlex user that either owns the database or has access to it.

## Run Database Setup for MySQL

1. Shut down any running SharePlex processes and **sp\_cop** on the MySQL system.
2. Run the **mysql\_setup** program from the **bin** subdirectory of the SharePlex product directory.  
**IMPORTANT!** If you installed the SharePlex instance on any port other than the default of 2100, use the **-p** option to specify the port number. For example, in the following command the port number is 9400.

```
C:\users\splex\bin> mysql_setup -p9400
```

**Table 1: Setup prompts and responses**

| Prompt   | Response   |
|--|--|
| Enter the MySQL connection string [] :<br>:                                      | Enter a connection string that connects to the MySQL database.<br>Do not use a DSN.<br>If you are replicating data larger than 500 MB to MySQL Aurora on Amazon RDS, include the MySQL parameter <b>max_allowed_packet</b> in the connection string and set its value to the maximum size of the data. See the example.<br><b>Example connection string</b><br>DRIVER=/usr/lib64/libmyodbc5.so;socket=/var/lib/mysql/mysql.sock;character-set-server=utf8;collation-server=utf8_general_ci;max_allowed_packet=2G;wait_timeout= 6000;Server= <i>servername</i> .amazonaws.com |
| Enter the MySQL Administrator name :   | Enter the name of the MySQL Administrator. This user will perform the setup work on the SharePlex account and schema.  |
| Enter the password for the Administrator account :                               | Enter the password of the Administrator.   |
| Enter the replication target database name :                                     | Enter the name of the MySQL database where you want to install the SharePlex objects.  |
| Database name <i>database</i> does not exist. Would you like to create it? [y] : | If this prompt is displayed, the specified database does not exist. Press <b>Enter</b> to have the setup utility create it for you.  |
| Would you like to create a new SharePlex user [y]:                               | Press <b>Enter</b> to accept the default to create a new SharePlex database user account, or enter <b>n</b> to use an existing account as the SharePlex database user.   |

| Prompt  | Response   |
|---|--|
| Enter the name of the new SharePlex user:<br><br>Enter the name of the existing SharePlex user: | One of these prompts is displayed depending on whether you elected to create a new user or use an existing user. Enter the name of the SharePlex user. |
| Enter the password for the SharePlex user :   | Enter the password of the SharePlex user account.  |
| Re-enter the password for the SharePlex user :  | Enter the SharePlex password again.  |

A successful setup terminates with a message similar to the following:

```
Completed SharePlex for MySQL database configuration
SharePlex User name: mysql29
Database name: mysql29
Target specification in SharePlex configuration: r.mysql29
```

## Configure SharePlex to support MySQL database on Azure platform

You can configure SharePlex to support the MySQL database on the Azure platform using the below steps:

1. Add the DSN entry along with Socket path (SOCKET=) in the Odbc.ini file at /etc/odbc.ini and the .../var/odbc directory.
2. Copy the /etc/odbcinst.ini file to the .../var/odbc directory.
3. Run the MySQL setup utility.

This process creates the SharePlex tables, login and user accounts needed to run SharePlex replication.

**Table 2: Setup Prompts and Responses**

| Prompt   | Response  |
|--|---|
| Enter the MySQL DSN name or connection string [] : | Enter the MySQL DSN name or a connection string that connects to the MySQL database system.<br><br>Example:<br><b>pslazpgdb02</b> |

| Prompt   | Response   |
|--|--|
| Is DB hosted over Azure ? :  | Y  |
| Enter the Database hostname :  | Enter the Azure database host name.<br><b>NOTE:</b> MySQL Administrator name should be in the <username> format (Do not mention the hostname)<br>Example:<br><b>pslazpgdb02.mysql.database.azure.com</b><br>If a user already exists for SharePlex then it should be entered in the <username@hostname> format.<br>If a new user needs to be created for SharePlex then is should be entered in the <username> format. |
| Enter the MySQL Administrator name :   | Enter the name of the MySQL Administrator. This user will perform the setup work on the SharePlex account and schema.<br>Example:<br><b>mysql</b>  |
| Enter the password for the Administrator account:  | Enter the password of the Administrator.<br><b>NOTE:</b> User 'mysql@pslazpgdb02.mysql.database.azure.com' got the superuser role.   |
| Enter the replication target database name :   | Enter the target database name on which replication needs to be performed.<br>Example:<br><b>sp_mk</b>   |
| Would you like to create a new SharePlex user?<br><br>Enter the name of the existing SharePlex user: | N (If you want to create a user, enter "y")<br><br>Enter the name of the SharePlex user.   |
| Enter the password of the SharePlex user :   | Enter the password of the SharePlex user account.  |
| Re-enter the password for the SharePlex user :   | This prompt is only shown if you created a new user. Enter the SharePlex password again.   |

**A successful setup terminates with a message similar to the following:**

```
Completed SharePlex for MySQL database configuration
SharePlex User name: mysql@pslazpgdb02.mysql.database.azure.com
Database name: sp_mk
The data source identifier in the SharePlex configuration is 'r.sp_mk' -
```



# Database Setup for Oracle

## Overview

Use the Database Setup utility for Oracle (**ora\_setup**) to establish SharePlex as an Oracle user and create the required SharePlex database objects. This setup utility creates the following:

- A SharePlex account
- Tables and other objects for use by SharePlex and owned by the SharePlex account
- Default connection for the SharePlex user

It is recommended that you review all of the content in this topic before running the setup utility.

## Supported Databases

Oracle source or target on supported platforms

## When to Run Oracle Setup

Whether or not to run this utility at the time of SharePlex installation depends on whether the database is a source, intermediary, or target database, and on how you intend to synchronize the data. To view the initial synchronization procedures, see the SharePlex [Administration Guide](#).

| System Type         | When to run Oracle Setup  |
|---------------------|---|
| Source system       | During installation of SharePlex  |
| Intermediary system | An intermediary system is used in a cascading configuration, where SharePlex replicates data to a remote system (or systems) and then sends that data from the intermediary system to the final target. If you intend to configure SharePlex to post data to a database on an intermediary system, and you intend to use a hot backup to establish the data on that system and the target, do not run the Database Setup utility on the intermediary or target systems. You will run it when you perform the initial synchronization procedure. |
| Target system       | Depends on the method that you will use to synchronize the source and target data when you are ready to activate replication: <ul style="list-style-type: none"><li>◦ If you intend to use transportable tablespaces or a cold copy (such as export/import, store/restore from tape, FTP), run the Database Setup utility during SharePlex installation.</li></ul>  |

| System Type | When to run Oracle Setup  |
|-------------|---|
|             | <ul style="list-style-type: none"> <li>◦ If you intend to use a hot backup to establish the target data, <i>do not</i> run the Database Setup utility. You will run it when you perform the initial synchronization procedure.</li> </ul> <p><b>NOTE:</b> If you run the Database Setup utility before the backup and recovery, the setup gets overwritten, and you will need to re-run it again after the backup and recovery.</p> |

## Supported Oracle Connections

The setup utility can configure any of the following connections for the SharePlex user to use when connecting to the database.

| Database type                | Connection  |
|------------------------------|---|
| Database with or without ASM | Bequeath  |
| Database with or without ASM | TNS alias<br>(A TNS login is specified for both the database and the ASM instance.) |
| PDB with ASM                 | TNS alias for the PDB and either TNS or bequeath for the ASM instance.              |
| Amazon RDS                   | TNS alias   |

## Required Run Privileges

The user who runs the Database Setup utility must have the following privileges:

### **Amazon RDS source or target**

The user who runs the setup utility must be the primary user that was created when the Oracle RDS instance was created. You are prompted for this user during the setup.

### **Non-multitenant (standard) database**

The user who runs the setup utility must have DBA privileges.

### Multitenant database

The user who runs the setup utility should have SYSDBA privileges (recommended), but at minimum the user should be a DBA user with privileges for **sys.users\$** and **sys.enc\$**. The minimum following grants are required for the SharePlex user:

```
create user c##sp_admin identified by sp_admin;

grant dba to c##sp_admin container=ALL;

grant select on sys.user$ to c##sp_admin with grant option container=ALL;
```

## Privileges Granted to SharePlex

The Database Setup utility grants to the SharePlex database user the following privileges.

| Privilege granted      | Description  |
|------------------------|--|
| DBA role               | The Database Setup utility grants DBA role and unlimited resource privileges, tablespace privileges, and read privileges to the redo logs.   |
| Default Oracle profile | By default this profile has the unlimited resource privileges originally assigned by Oracle.   |
| Grants                 | The following grants are issued to SharePlex: <ul style="list-style-type: none"><li>To access the data dictionary (outside the DBA roles) if O7_DICTIONARY_ACCESSIBILITY is set to FALSE:<br/><b>grant select any dictionary toSharePlexUser;</b></li><li>To replicate DDL:<br/><b>grant select any table toSharePlexUserwith admin option;</b><br/><b>grant create any view toSharePlexUserwith admin option;</b></li></ul> |

## Requirements

- Install the database client on the system where you are running Oracle Setup. Consult the Oracle documentation for the appropriate client version to use with the database.
- Run the Database Setup utility for all source and target Oracle instances in the SharePlex replication configuration.
- Within a cluster, run the Database Setup utility on all nodes of the cluster. This ensures that the SharePlex settings in the Windows Registry include the correct ORACLE\_SID.
- For a consolidated replication topography, or other topology with multiple variable-data directories, run the Database Setup utility for each variable-data directory.
- SharePlex supports local BEQUEATH connections or remote connections using a TNS alias. Be prepared to supply Oracle Setup the needed connection values for whichever connection you want to use. If using TNS, the **tnsnames.ora** file must be configured prior to running setup.

- If the Oracle database is a multitenant container database, run the Database Setup utility for each pluggable database involved in a replication scenario. A SharePlex user and schema objects must exist in each PDB.
- If you run the Database Setup utility when there is an active configuration, the DDL that the setup performs to install or update the SharePlex internal tables will be replicated to the target. To work around this issue, set the **SP\_OCT\_REPLICATE\_ALL\_DDL** parameter to **0** before running the utility, then return the parameter to its previous setting after the setup is complete. This parameter takes effect immediately.

## SharePlex Schema Storage Requirements

The Database Setup utility for Oracle installs some database objects for use by SharePlex. The storage requirements for these objects should be satisfied before running Oracle Setup. See the following table.

| Storage                        | Description   |
|--------------------------------|---|
| SharePlex objects tablespace   | <p>The Database Setup utility installs some tables into a tablespace of your choosing. All but the SHAREPLEX_LOBMAP table use the default storage settings of the tablespace.</p> <p>The SHAREPLEX_LOBMAP table contains entries for LOBs stored out-of-row. It is created with a 1 MB INITIAL extent, 1 MB NEXT extent, and PCTINCREASE of 10. The MAXEXTENTS is 120, allowing the table to grow to 120 MB.</p> <p><b>Preferred action:</b> If you enable supplemental logging for primary and unique keys, you can set the SP_OCT_ENABLE_LOBMAP parameter to 0, and nothing will be stored in the SHAREPLEX_LOBMAP table. In this case, you do not have to consider its size growth. It is recommended that you enable supplemental logging for primary and unique keys to maximize the performance of the Read process.</p> <p><b>Alternate action:</b> The default storage usually is sufficient for SHAREPLEX_LOBMAP, permitting more than 4 million LOB entries. If the Oracle tables to be replicated have numerous LOB columns that are inserted or updated frequently, consider increasing the size the SharePlex tablespace accordingly. Take into account that this table shares the tablespace with other SharePlex tables.</p> <p>If the database uses the cost-based optimizer (CBO) and the tables that SharePlex processes include numerous LOBs, incorporate the SHAREPLEX_LOBMAP table into the analysis schedule.</p> <p><b>NOTE:</b> A new installation of SharePlex does not change storage parameters from a previous installation.</p> |
| SharePlex temporary tablespace | <p>The Database Setup utility prompts for a temporary tablespace for SharePlex to use for sorts and other operations, including sorts performed by the <b>compare</b> commands. The default temporary tablespace is the one where the SharePlex objects are installed. If you plan to use the <b>compare</b> commands to compare large tables, especially those without a primary or unique key, specify a dedicated temporary tablespace for SharePlex.</p>  |
| SharePlex index tablespace     | <p>The Database Setup utility prompts for a tablespace to store the indexes for the SharePlex tables. The default index tablespace is the one where the SharePlex objects are installed. To minimize I/O contention, specify a different index tablespace from the one where the tables are installed.</p> <p><b>NOTE:</b> If indexes from a previous version of SharePlex are installed in the SharePlex objects tablespace, you can move them to a different tablespace and then specify that tablespace when you run the setup utility.</p>  |

# Run Database Setup for Oracle

**IMPORTANT!** The Oracle instance must be open before this procedure is performed.

1. Shut down any SharePlex processes that are running, including **sp\_cop**.
2. Run the Database Setup program from the command prompt of the operating system, using the full path from the SharePlex **bin** subdirectory.
 

**IMPORTANT!** On Windows, if you installed SharePlex on any port other than the default of 2100, use the **-p** option to specify the port number. For example, in the following command the port number is 9400:

```
C:\users\splex\bin>ora_setup -p9400
```
3. Specify whether the system is a source system, a target system, or both a source and target system in the SharePlex configuration.
 

**NOTE:** This prompt only appears the first time that you run setup for this database.
4. For connection type, select **Oracle**.
5. Refer to the following table for the prompts and responses to configure SharePlex correctly for the desired connection type.

**Table 3: Setup prompts and response**

| Prompt   | Response   |
|--|--|
| Will SharePlex install be using a BEQUEATH connection? (Entering 'n' implies a SQL*net connection):  | <p>Press <b>Y</b> to use a local BEQUEATH connection, or press <b>N</b> to use a TNS alias connection.</p> <p><b>NOTE:</b> Press <b>N</b> to use a <b>TNS alias</b> if:</p> <ul style="list-style-type: none"> <li>• the database is a multitenant database</li> <li>• SharePlex is capturing from, or posting to, a remote database, such as one on Amazon RDS.</li> <li>• the database is in a cluster (such as Oracle RAC)</li> </ul> |
| Are you configuring SharePlex for an AWS RDS database?   | <p>Press <b>N</b> if you are not configuring SharePlex for an Oracle database on RDS.</p> <p>Press <b>Y</b> if you are configuring SharePlex for an Amazon AWS RDS database.</p>   |
| <p>One of the following prompts is shown:</p> <ul style="list-style-type: none"> <li>• If you selected BEQUEATH= Y:<br/>Enter the Oracle SID for which SharePlex should be installed:</li> </ul> | <p><b>Non-multitenant database:</b> Accept the default or type the correct SID or TNS alias.<br/>On RAC, the TNS alias must be a global alias.</p> <p><b>Multitenant database:</b> Type the TNS alias of the PDB.</p> <p><b>Amazon RDS:</b> Type the TNS alias of the RDS</p>  |

| Prompt   | Response   |
|--|--|
| <ul style="list-style-type: none"> <li>If you selected BEQUEATH = N:<br/><br/>Enter the TNS alias for which SharePlex should be installed:</li> </ul>  | database.  |
| <p>One of the following prompts is shown:</p> <ul style="list-style-type: none"> <li>If the database is not on RDS:<br/>Enter a DBA user for <i>SID</i>:</li> <li>If the database is on RDS:<br/><br/>In order to create the SharePlex tables and user account, we must connect to the RDS database using the RDS primary user.</li> </ul> | <p><b>Non-multitenant database:</b> Type the name of a database user that has DBA privileges.</p> <p><b>Multitenant database:</b> Type the name of a common user who has the required privileges to install the account and objects.</p> <p><b>Amazon RDS database:</b> Type the name of the RDS primary user.</p>   |
| <p>One of the following prompts is shown:</p> <ul style="list-style-type: none"> <li>If the database is not on RDS:<br/><br/>Enter password for the DBA account, which will not echo:</li> <li>If the database is on RDS:<br/><br/>Enter the password for the RDS primary user, which will not echo.</li> </ul>                            | <p><b>Non-multitenant database:</b> Type the password of the DBA user.</p> <p><b>Multitenant database:</b> Type the password of the common user. Omit the @ and the rest of the connect string. SharePlex constructs the connect string in the proper format.</p> <p><b>Amazon RDS database:</b> Type the password of the RDS primary user.</p>  |
| <p>Current SharePlex user is <i>user</i>.<br/>Would you like to create a new SharePlex user?</p>   | <p>Press <b>N</b> to update an existing SharePlex account or <b>Y</b> to create a new SharePlex account. Type the credentials when prompted.</p> <p>You are allowed five attempts to type a valid password for an existing SharePlex user. Passwords are obfuscated.</p> <p><b>IMPORTANT!</b> If there is an active configuration and you changed the SharePlex schema, copy the SharePlex objects from the old schema to the new one to preserve the replication environment.</p> |
| <p>Do you want to enable replication of tables with TDE?</p>   | <p>Press <b>N</b> since TDE is not supported for RDS.</p>  |
| <p>Enter the default tablespace for use by</p>   | <p>Press <b>Enter</b> to accept the default or type the name of a</p>  |

| Prompt  | Response  |
|---|---|
| SharePlex:  | different tablespace.   |
| Enter the temporary tablespace for use by SharePlex:  | Press <b>Enter</b> to accept the default or type the name of a different tablespace.  |
| Enter the index tablespace for use by SharePlex:  | Press <b>Enter</b> to accept the default or type the name of a different tablespace.  |
| Will the current setup for sid: <i>SID</i> be used as a source (including cases as source for failover or primary-primary setups)?  | Press <b>Y</b> if this is a source system or press <b>N</b> if this is a target system. <b>IMPORTANT:</b> All systems in a primary-primary configuration (peer-to-peer) and in a high-availability configuration are considered to be source systems due to the bidirectional nature of the replication.  |
| <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>The following prompts are only shown if the database is a source on ASM.</li> <li>If this is an Oracle target, the setup is now complete.</li> </ul> |   |
| ASM detected. Do you wish to connect to ASM using BEQUEATH connection?  | Press <b>Y</b> for SharePlex to use a BEQUEATH connection to connect to the ASM instance, or press <b>N</b> to use a TNS alias.<br><b>IMPORTANT!</b> If the database uses ASM <i>and</i> the database TNS alias is configured with a SCAN IP, then you must specify connection through an ASM TNS alias in order for SharePlex to connect to the ASM instance.  |
| <p>The following prompt is displayed if you did not select a BEQUEATH connection:</p> <p>Do you wish to keep connecting using the same user/password?</p>   | <p>Press <b>Y</b> to use the same user and password as the login user, or press <b>N</b> to be prompted for a different user and password.</p> <p>Normally the user running SharePlex must be a member of the OSASM group. This does not apply if SP_OCT_OLOG_USE_OCI is set to the non-default value of 1.</p> <p>Also if you are using a BEQUEATH connection, the user running SharePlex must be a member of the OSDBA group.</p> |
| <p><b>NOTE:</b> If you selected to use a BEQUEATH connection to connect to ASM, the database setup is</p>   |   |

| Prompt   | Response  |
|--|---|
| <p>complete. Continue to <a href="#">Database Setup for Oracle</a>.</p> <p>If you selected <b>N</b>, you need to supply a TNS alias, and the prompts continue.</p>   |   |
| <p>Enter the ASM tns alias to be used by SharePlex:</p>  | <p>Type the name of the TNS alias.</p>  |
| <p>Enter an ASM admin (has both sysdba and sysasm privilege) username for <i>alias</i>:</p>  | <p>Type the name of a user with sysasm and sysdba privileges to the ASM instance.</p>   |
| <p>Enter user password for <i>user</i>:</p>  | <p>Type the password of the user.</p>   |
| <p>SharePlex installs internal objects that include a package to support the SDO_GEOMETRY data type of the Oracle Spatial and Graph option. If this option is not installed in the database, the following prompt is shown:</p> <p>The SharePlex object that supports replication of SDO_GEOMETRY cannot be installed because the Oracle Spatial and Graph feature is not installed. Do you want to continue with the setup without support for SDO_GEOMETRY? [n]:</p> | <p>Press <b>Y</b> to continue the database setup without support for SDO_GEOMETRY, or press <b>N</b> to terminate <b>ora_setup</b>.</p> |

- After completion of the Oracle setup, the ora\_setup.config file will be generated inside `<Installation_directory>/var/data`.

### Note about the tnsnames file

When you set up SharePlex for database connection through a TNS alias and ASM connection locally through a BEQUEATH connection (through OS authentication), it is important to set up the **tnsnames.ora** file correctly on each node. Assuming a SharePlex database account exists on the primary node, SharePlex will always connect to the primary ASM\_SID automatically because it was provided when SharePlex was installed. However, upon failover, SharePlex must query the local **v\$asm\_client** view to get the correct ASM\_SID of the failover instance. Therefore, ensure that the IP address of a given node is always listed first in the local **tnsnames.ora** file on that node.

## Run Database Setup for Oracle Remote Capture

**IMPORTANT!** The Oracle instance must be open before this procedure is performed.



1. Set the SP\_OCT\_OLOG\_USE\_OCI parameter to 1 and restart the Capture process.
2. Shut down any SharePlex processes that are running, including **sp\_cop**.
3. Run the Database Setup program from the command prompt of the operating system, using the full path from the SharePlex **bin** subdirectory.  
**IMPORTANT!** If you installed SharePlex on any port other than the default of 2100, use the **-p** option to specify the port number. For example, in the following command the port number is 9400:  

```
C:\users\splex\bin>ora_setup -p9400
```
4. Specify whether the system is a source system, a target system, or both a source and target system in the SharePlex configuration.  
**NOTE:** This prompt only appears the first time that you run setup for this database.
5. For connection type, select **Oracle**.
6. Refer to the following table for the prompts and responses to configure SharePlex correctly for the desired connection type.

**Table 4: Setup prompts and response**

| Prompt   | Response   |
|--|--|
| Will SharePlex install be using a BEQUEATH connection? (Entering 'n' implies a SQL*net connection):  | Press <b>N</b> to use a TNS alias connection.  |
| Are you configuring SharePlex for an AWS RDS database?   | Press <b>N</b> if you are not configuring SharePlex for an Oracle database on RDS.   |
| <p>One of the following prompts is shown:</p> <ul style="list-style-type: none"> <li>• If you selected BEQUEATH= Y:<br/> Enter the Oracle SID for which SharePlex should be installed:</li> <li>• If you selected BEQUEATH = N:<br/> Enter the TNS alias for which SharePlex should be installed:</li> </ul> | <p><b>Non-multitenant database:</b> Accept the default or type the correct SID or TNS alias.<br/> On RAC, the TNS alias must be a global alias.</p> <p><b>Multitenant database:</b> Type the TNS alias of the PDB.</p> <p><b>Amazon RDS:</b> Type the TNS alias of the RDS database.</p>                           |
| <p>One of the following prompts is shown:</p> <ul style="list-style-type: none"> <li>• If the database is not on RDS:<br/> Enter a DBA user for <i>SID</i>:</li> </ul>   | <p><b>Non-multitenant database:</b> Type the name of a database user that has DBA privileges.</p> <p><b>Multitenant database:</b> Type the name of a common user who has the required privileges to install the account and objects.</p> <p><b>Amazon RDS database:</b> Type the name of the RDS primary user.</p> |

| Prompt  | Response  |
|---|---|
| <ul style="list-style-type: none"> <li>If the database is on RDS:<br/><br/>In order to create the SharePlex tables and user account, we must connect to the RDS database using the RDS primary user.</li> </ul>   |   |
| <p>One of the following prompts is shown:</p> <ul style="list-style-type: none"> <li>If the database is not on RDS:<br/><br/>Enter password for the DBA account, which will not echo:</li> <li>If the database is on RDS:<br/><br/>Enter the password for the RDS primary user, which will not echo.</li> </ul> | <p><b>Non-multitenant database:</b> Type the password of the DBA user.</p> <p><b>Multitenant database:</b> Type the password of the common user. Omit the @ and the rest of the connect string. SharePlex constructs the connect string in the proper format.</p> <p><b>Amazon RDS database:</b> Type the password of the RDS primary user.</p>   |
| Enter the Local Oracle Client Library directory:  | Enter the Oracle Client Home directory path.<br><b>Example:</b><br>/u01/app/oracle/product/19.0.0/clienthome_1  |
| Enter the TNS alias for which SharePlex should be installed (Blank to abort) :  | Enter the name of the TNS alias   |
| Current SharePlex user is user.<br>Would you like to create a new SharePlex user?   | Press <b>N</b> to update an existing SharePlex account or <b>Y</b> to create a new SharePlex account. Type the credentials when prompted.<br><br>You are allowed five attempts to type a valid password for an existing SharePlex user. Passwords are obfuscated.<br><br><b>IMPORTANT! If there is an active configuration and you changed the SharePlex schema, copy the SharePlex objects from the old schema to the new one to preserve the replication environment.</b> |
| Do you want to enable replication of tables with TDE?   | Press <b>N</b> since TDE is not supported for RDS.  |
| Enter the default tablespace for use by SharePlex:  | Press <b>Enter</b> to accept the default or type the name of a different tablespace.  |

| Prompt  | Response   |
|---|--|
| Enter the temporary tablespace for use by SharePlex:  | Press <b>Enter</b> to accept the default or type the name of a different tablespace.   |
| Enter the index tablespace for use by SharePlex:  | Press <b>Enter</b> to accept the default or type the name of a different tablespace.   |
| Will the current setup for sid: <i>SID</i> be used as a source (including cases as source for failover or primary-primary setups)?  | Press <b>Y</b> if this is a source system or press <b>N</b> if this is a target system.<br><b>IMPORTANT:</b> All systems in a primary-primary configuration (peer-to-peer) and in a high-availability configuration are considered to be source systems due to the bidirectional nature of the replication.  |
| The following prompt is displayed if you did not select a BEQUEATH connection:<br><br>Do you wish to keep connecting using the same user/password?  | Press <b>Y</b> to use the same user and password as the login user, or press <b>N</b> to be prompted for a different user and password.<br>Normally the user running SharePlex must be a member of the OSASM group. This does not apply if SP_OCT_OLOG_USE_OCI is set to the non-default value of 1.<br>Also if you are using a BEQUEATH connection, the user running SharePlex must be a member of the OSDBA group. |
| SharePlex installs internal objects that include a package to support the SDO_GEOMETRY data type of the Oracle Spatial and Graph option. If this option is not installed in the database, the following prompt is shown:<br><br>The SharePlex object that supports replication of SDO_GEOMETRY cannot be installed because the Oracle Spatial and Graph feature is not installed. Do you want to continue with the setup without support for SDO_GEOMETRY? [n]: | Press <b>Y</b> to continue the database setup without support for SDO_GEOMETRY, or press <b>N</b> to terminate <b>ora_setup</b> .  |

**NOTE:** While running the **ora\_cleansp** utility, enter the TNS alias provided while performing **ora\_setup**.

## Run Database Setup for Oracle in Silent Mode

**IMPORTANT!** The Oracle instance must be open before this procedure is performed.

1. Shut down any SharePlex processes that are running, including **sp\_cop**.

2. Use the following command to run Ora\_setup in the background in silent mode:-  
`nohup ./ora_setup -f <Full_file_path_of_ora_setup.config> > SilentOra.out 2>&1`
3. For more details on how to configure the Ora\_setup.config file, refer to the ora\_setup.config file at the below location:  
`/<product_directory>/install/ora_setup.config`

**NOTE:** After the setup is completed successfully, all of the password fields will be automatically removed from the config file for security reasons.

# Database Setup for PostgreSQL

## Overview

Run the Database Setup utility for Postgres (**pg\_setup**) to establish a user account, schema, and tables for use by SharePlex.

## Supported databases

All implementations of the Postgres open-source database on supported platforms

## Fujitsu Enterprise Postgres Prerequisite

Fujitsu Postgres contains a customized ODBC driver designed to run with the shared libraries supplied by Fujitsu Postgres. In order to ensure the proper configuration, you must create a symbolic link to ensure that the correct libraries are found at runtime.

### Issue Description

If you attempt to run the pg\_setup program prior to creating the symbolic link, pg\_setup will fail with the following error message:

```
Error: [unixODBC]invalid connection option "target_server"
```

### To create a symbolic link

To ensure that the proper library gets loaded, first locate the path to the directory where the Fujitsu Postgres libraries are installed (for example `/opt/fsepv95server64/lib`). Then create a symbolic link in the SharePlex `OPTDIR/lib/hooks` directory pointing to the **libpq.so.5** library in the Fujitsu Postgres library directory. For example:

```
cd /opt/splex/lib/hooks
ln -s /opt/fsepv95server64/lib/libpq.so.5
```

## Guidelines for use

- Run the Database Setup utility on all target Postgres instances in the SharePlex replication configuration.
- Within a server cluster, run the Database Setup utility on the node to which the shared disk that contains the SharePlex variable-data directory is mounted.

- For consolidated replication, run the Database Setup utility for each variable-data directory.
- Supply a DSN (data source name) as the connection method.

## Required privileges

Review the following requirements to ensure that the setup succeeds.

- The Database Setup utility must be run as a Postgres Administrator in order to grant SharePlex the required privileges to operate on the database and to create the SharePlex database account.
- (Symfaware only) If the person who is running the setup utility is not a Fujitsu Enterprise Postgres owner, set the environment variable LD\_LIBRARY\_PATH to include the path to the **lib** subdirectory in the Fujitsu Enterprise Postgres installation directory. The LD\_LIBRARY\_PATH is set in the **.bash\_profile** file of the Fujitsu Enterprise Postgres owner.

Example:

```
export LD_LIBRARY_PATH= /opt/symfoserver64/lib:$LD_LIBRARY_PATH
```

If you do not set this path, the following error occurs:

```
symbol lookup error: /opt/fsepv95client64/odbc/lib/psqlodbc.so: undefined
symbol: PQconnectdbParams
```

- Cloud installations:
  - Common restrictions on privileges in cloud-hosted database services make it difficult for the setup utility to succeed in every possible type of scenario. To ensure that the database setup succeeds, *only* use the setup utility for the following purposes: To do a *first-time* database setup with a *new* SharePlex user, or, to *modify* an existing SharePlex user that either owns the database or has access to it.
  - On Amazon RDS, you might need to grant usage/privileges on the target schema and tables to the SharePlex user, as shown in the following example:  
Log in as the schema owner, then issue the following commands:  
grant usage on schema *schema\_name* to *user\_name*;  
grant all privileges on all tables in schema *schema\_name* to *user\_name*;

## Run Database Setup for PostgreSQL

1. Shut down any running SharePlex processes and **sp\_cop** on the target system.
2. Run the **pg\_setup** program from the **bin** subdirectory of the SharePlex product directory.  
**IMPORTANT!** If you installed the SharePlex instance on any port other than the default of 2100, use the **-p** option to specify the port number. For example, in the following command the port number is 9400.  
**\$ /users/splex/bin> pg\_setup -p9400**

**Table 5: Setup prompts and responses**

| Prompt                             | Response     |
|------------------------------------|--------------|
| Enter the PostgreSQL DSN name [] : | Enter a DSN. |

| Prompt  | Response  |
|---|---|
| Enter the PostgreSQL Administrator name :   | Enter the name of the Postgres Administrator. This user will perform the work on the SharePlex account.   |
| Enter the password for the Administrator account :  | Enter the password of the Administrator.  |
| Enter the replication target database name:   | Enter the name of the database that you want to contain the SharePlex tables and other objects for use by SharePlex. You can enter the name of a new or existing database.                              |
| Database name <i>database</i> does not exist. Would you like to create it? [y] :                | If this prompt is displayed, the specified database does not exist. Press <b>Enter</b> to have the setup utility create it for you.   |
| Would you like to create a new SharePlex user [y]:  | Press <b>Enter</b> to accept the default to create a new SharePlex database user account and schema of the same name in the specified database, or enter <b>n</b> to use an existing SharePlex account. |
| Enter the name of the new SharePlex user:<br><br>Enter the name of the existing SharePlex user: | One of these prompts is displayed depending on whether you elected to create a new user or use an existing user. Enter the name of the SharePlex user.  |
| Enter the password of the SharePlex user :  | Enter the password of the SharePlex user account.   |
| Re-enter the password for the SharePlex user :  | This prompt is only shown if you created a new user. Enter the SharePlex password again.  |

A successful setup terminates with a message similar to the following:

```
Completed SharePlex for PostgreSQL database configuration
SharePlex User name: splex
Database name: ndb5
Target specification in SharePlex configuration: r.ndb5
```

# Configure SharePlex to support PostgreSQL database on Azure platform

You can configure SharePlex to support the PostgreSQL database on the Azure platform using the below steps:

1. Add the DSN entry in the Odbc.ini file at /etc/odbc.ini and the .../var/odbc directory.
2. Copy the /etc/odbcinst.ini file to the .../var/odbc directory.
3. Run the PostgreSQL setup utility.

This process creates the SharePlex tables, login and user accounts needed to run SharePlex replication.

**Table 6: Setup Prompts and Responses**

| Prompt  | Response   |
|---|--|
| Enter the PostgreSQL DSN name or connection string [] : | Enter the PostgreSQL DSN name or a connection string that connects to the PostgreSQL database system.<br>Example:<br><b>pslazpgdb02</b>  |
| Is DB hosted over Azure ? :                             | Y  |
| Enter the Database hostname :                           | Enter the Azure database host name.<br><b>NOTE:</b> PGsetup Administrator name should be in the <username> format (Don't mention hostname)<br>Example:<br><b>pslazpgdb02.postgres.database.azure.com</b><br>If a user already exists for SharePlex then it should be entered in the <username@hostname> format.<br>If a new user needs to be created for SharePlex then it should be entered in the <username> format. |
| Enter the PostgreSQL Administrator name :               | Enter the name of the PostgreSQL Administrator. This user will perform the setup work on the SharePlex account and schema.<br>Example:<br><b>postgres</b>  |
| Enter the password for the Administrator account:       | Enter the password of the Administrator.<br><b>NOTE:</b> User 'postgres@pslazpgdb02.postgres.database.azure.com' got the superuser role.   |
| Enter the replication target database name :            | Enter the target database name on which replication needs to be performed.<br>Example:<br><b>sp_mk</b>   |

| Prompt   | Response   |
|--|--|
| Would you like to create a new SharePlex user?<br><br>Enter the name of the existing SharePlex user: | N (If you want to create a user, enter "y")<br><br>Enter the name of the SharePlex user. |
| Enter the password of the SharePlex user :   | Enter the password of the SharePlex user account.  |
| Re-enter the password for the SharePlex user :   | This prompt is only shown if you created a new user. Enter the SharePlex password again. |

**A successful setup terminates with a message similar to the following:**

```
Completed SharePlex for PostgreSQL database configuration
SharePlex User name: postgres@pslazpgdb02.postgres.database.azure.com
Database name: sp_mk
The data source identifier in the SharePlex configuration is 'r.sp_mk' -
```

# Database Setup for SQL Server

## Overview

Run the Database Setup utility for SQL Server (**mss\_setup**) on a Microsoft SQL Server system to establish SharePlex as a SQL Server database user. This utility creates the following:

- A SharePlex user account with the db\_owner role
- Tables and indexes for use by SharePlex and owned by the SharePlex user in a database of your choosing
- A default database connection.

## Supported databases

For supported SQL Server platforms and versions, see the SharePlex Release Notes.

## Guidelines for use

- A *system* DSN (data source name) must exist for the SQL Server database. SharePlex Post uses the DSN to connect to the database through ODBC.
- Run the Database Setup utility on all SQL Server instances in the SharePlex replication configuration.



- Within a cluster, run the Database Setup utility on the node to which the shared disk that contains the variable-data directory is mounted.
- For consolidated replication, run the Database Setup utility for each variable-data directory.

## Required privileges

Review the following requirements to ensure that the setup succeeds.

- The Database Setup utility must be run as a SQL Server System Administrator in order to grant SharePlex the required privileges to operate on the database and to create the SharePlex database account and objects.
- The sysadmin role is required to run **mss\_setup**, but it is not required by the SharePlex database account used to run SharePlex replication (the SharePlex User). The db\_owner role is required by the SharePlex User account and it is granted by **mss\_setup** (for source and target).
- (Cloud installations) Common restrictions on privileges in cloud-hosted database services make it difficult for the setup utility to succeed in every possible type of scenario. To ensure that the database setup succeeds, *only* use the setup utility for the following purposes: To do a *first-time* database setup with a *new* SharePlex user, or, to *modify* an existing SharePlex user that either owns the database or has access to it.

## Run Database Setup for SQL Server

1. Shut down any running SharePlex processes and **sp\_cop** on the SQL Server system.
2. Run the **mss\_setup** program from the **bin** subdirectory of the SharePlex product directory.  
**IMPORTANT!** If you installed the SharePlex instance on any port other than the default of 2100, use the **-p** option to specify the port number. For example, in the following command the port number is 9400.

```
C:\users\splex\bin> mss_setup -p9400
```

**Table 7: Setup prompts and responses**

| Prompt   | Response   |
|--|--|
| Enter the Microsoft SQL Server DSN name [] :<br>:        | Enter the data source name (DSN) that connects to SQL Server. Make certain the DSN is a system DSN, not a user DSN.        |
| Enter the Microsoft SQL Server Administrator name :<br>: | Enter the name of the SQL Server Administrator. This user will perform the setup work on the SharePlex account and schema. |
| Enter the password for the Administrator account :<br>:  | Enter the password of the Administrator.   |
| Enter the database name:<br>:                            | Enter the name of the database where you want to install the SharePlex objects.  |
| Database name <i>database</i>                            | If this prompt is displayed, the specified database does not exist. Press <b>Enter</b>                                     |

| Prompt  | Response   |
|---|--|
| does not exist. Would you like to create it? [y] :  | to have the setup utility create it for you.   |
| Would you like to create a new SharePlex login [y]:   | Press <b>Enter</b> to accept the default to create a new SharePlex database user account, or enter <b>n</b> to use an existing account as the SharePlex database user.   |
| Enter the name of the existing SharePlex login:<br><br>Enter the name of the new SharePlex login: | One of these prompts is displayed depending on whether you elected to create a new user or use an existing user. Enter the name of the SharePlex user.   |
| Enter the password for login:   | Enter the password of the SharePlex user account.  |
| Re-enter the password for login :   | Enter the SharePlex password again.  |
| Will this database be used as a source?   | Accept the default of <b>n</b> if the database will only be a target. Enter <b>y</b> if this database will be a source database for SharePlex. A response of <b>y</b> prompts the setup to prepare the database for data capture and installs the SharePlex account and objects. |

A successful setup terminates with a message similar to the following:

```
Completed SharePlex for Microsoft SQL Server database configuration
```

```
SharePlex User name: splx
```

```
Database name: db1
```

```
Target specification in SharePlex configuration: r.db1
```

# About us

## We are more than just a name

We are on a quest to make your information technology work harder for you. That is why we build community-driven software solutions that help you spend less time on IT administration and more time on business innovation. We help you modernize your data center, get you to the cloud quicker and provide the expertise, security and accessibility you need to grow your data-driven business. Combined with Quest's invitation to the global community to be a part of its innovation, and our firm commitment to ensuring customer satisfaction, we continue to deliver solutions that have a real impact on our customers today and leave a legacy we are proud of. We are challenging the status quo by transforming into a new software company. And as your partner, we work tirelessly to make sure your information technology is designed for you and by you. This is our mission, and we are in this together. Welcome to a new Quest. You are invited to Join the Innovation™.

## Our brand, our vision. Together.

Our logo reflects our story: innovation, community and support. An important part of this story begins with the letter Q. It is a perfect circle, representing our commitment to technological precision and strength. The space in the Q itself symbolizes our need to add the missing piece — you — to the community, to the new Quest.

## Contacting Quest

For sales or other inquiries, visit [www.quest.com/contact](http://www.quest.com/contact).

## Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to-videos
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product