

SharePlex® 9.2

Upgrade Guide for Oracle Source



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SharePlex Upgrade Guide for Oracle Source

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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 for Oracle.

Other SharePlex documentation

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

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 **defaults.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 Linux

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. Set ORACLE_HOME to the client installation. Set ORACLE_SID to an alias or a non-existing SID. SharePlex does not use them and a database does not have to be running.
3. Download the *Oracle-based SharePlex installer*, rather than the Open Target installer, to install SharePlex on the target system. The Oracle-based installer includes functionality that directs Post to use the conversion functions from the Oracle client library to convert the data before posting to the target database.
4. Follow the instructions for upgrading SharePlex *for Oracle* (not the ones for installing on Open Target).
5. Make certain the SP_OPX-NLS_CONVERSION parameter is set to the default of 1.

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.

Verify inclusion of one-off builds

If you have received one-off builds of SharePlex, confirm that those builds are included as fixes in the new release that you are installing. This applies to Linux/Unix only.

To verify one-offs

1. Run the `sp-bininfo` utility from the `util` subdirectory of the product directory of your current SharePlex installation.

```
$ cd path_to_SharePlex_proddir/util  
$ ./sp-bininfo
```
2. Compare the CRs of each one-off shown in the `sp-bininfo` output with the CRs in the Resolved Issues section of the Release Notes that are included with the new SharePlex version.
3. If any CRs of your one-offs are not shown in the Resolved Issues, the new version does not include that functionality, and you should not proceed with the upgrade. Contact SharePlex support to obtain the missing fixes.

Download the SharePlex installer

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

Linux and Unix

The SharePlex installer on Linux and Unix is a self-extracting installation file with the extension **.tpm**.

Oracle:

There is a separate SharePlex installer build for each supported Oracle database and platform.

`SharePlex-release#-build#-DatabaseVersion-platform-version-chipset.tpm`

Note: If the operating system version that you have is not listed, choose the highest number that is *below* your version.

Open Target:

The SharePlex Open Target installer supports all Open Target targets on all supported Linux platforms.

`SPX-release#-build#-rh-40-amd64-m64.tpm`

The installer creates a temporary target directory, within the current directory, for extraction. This temporary target directory is removed upon installation completion. You can extract the files to a file system that is separate from the SharePlex installation location by using the `-t` option when running the **.tpm** file. For additional options, see [Advanced SharePlex installer options](#) on page 1.

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, including components for capture from a SQL Server source database.

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.

SharePlex AMI

SharePlex AMI is an Amazon Machine Image with SharePlex pre-installed. To upgrade SharePlex AMI, you must use the SharePlex Open Target installer. This installation .tpm file has the following naming format:

```
SPX-release#-build#-oracle110-rh-40-amd64-m64.tpm
```

For more information about SharePlex AMI, see the *SharePlex Installation and Setup Guide for Oracle on RDS*.

Where to get SharePlex installers

Download the SharePlex installation package that matches the database version and 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 Linux/Unix for Oracle Database

These instructions are for upgrading SharePlex when configured for an Oracle database running on a Linux or Unix system.

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 Linux machines that host Oracle targets involved in SharePlex replication.
- See [Before you upgrade](#) on page 6 for any pre-installation items that apply to your SharePlex installation.
- You can upgrade SharePlex in the product directory that is currently being used, or you can upgrade to a new product directory. Instructions are supplied for both scenarios.

To upgrade SharePlex in the current product directory

1. Log in to the system as the SharePlex installation owner.
2. (If using **copy/append**) In **sp_ctrl** on the target systems, stop **sp_sync_launcher** before applying the SharePlex upgrade.

```
sp_ctrl> stop launcher
```
3. (If applicable) In **sp_ctrl** on the source system, use the **set param** command to stop DDL replication by setting the **SP_OCT_REPLICATE_ALL_DDL** parameter to 0.

```
sp_ctrl> set param SP_OCT_REPLICATE_ALL_DDL 0
```
4. Shut down the SharePlex instance that you are upgrading.

```
sp_ctrl> shutdown
```
5. Verify that all SharePlex processes in that SharePlex instance are stopped, and stop any that are still running.

```
# ps -ef | grep sp_  
sp_ctl> stop process
```

6. (Optional) If you need to upgrade the Oracle database, do so now.
7. Tar up the existing SharePlex product directory and move the tar file to different location as a backup.
8. Run the SharePlex installation program.
9. Verify that the information shown on the first prompt corresponds to the Oracle version and platform that you are upgrading.
10. Follow the prompts to supply the following information:

Prompt	Input
Installation type	Select the current product directory of the SharePlex installation you are upgrading.
SharePlex Admin group	Select the DBA-privileged group to which the SharePlex Administrator user belongs.
ORACLE_SID of the database	Enter the Oracle SID of the database for which you are upgrading SharePlex.
ORACLE_HOME	Enter the path to the Oracle HOME directory of the selected Oracle SID.
Proceed with upgrade?	Press Enter to confirm the SharePlex environment and proceed with the upgrade.
License key (do you want to upgrade?)	Press Enter to accept the default of N (no) to keep the existing license, or enter Y to specify a new license key if required for this upgrade.
License key	(If Y was selected) Enter the new license key that you received from Quest.
Customer name	If you added the license key, enter the SiteMessage text string provided by Quest with the license key.

- a. Log in to the system as the user that will be named as the SharePlex Administrator during this installation. This user will own the installation files and binaries.
- b. If **sp_cop** is running, shut it down.


```
sp_ctrl> shutdown
```
- c. Copy the installation file to a temporary directory where you have write permissions.
- d. Grant executable permissions to the file.


```
#chmod 555installation_file
```
- e. Run the .tpm file. If installing SharePlex in a cluster, run the installer from the primary node (the one to which the shared disk is mounted)


```
# .installation_file
```

- f. Verify that the information shown on the first screen corresponds to the Oracle version and platform you are upgrading.
- g. You are prompted for the following:

Prompt	Input
Installation type	Select <New Installation> .
Product directory location (path)	<p>Enter the path to the SharePlex installation directory.</p> <p>If the specified directory does not exist, the installer creates it. If the directory exists, it must be empty. The installer quits if the directory contains prior SharePlex installations or other files.</p> <p>In a cluster, install on the shared disk. For more information, see Installation and setup for Oracle cluster on page 1.</p>
Variable data directory location	<p>Specify an empty directory. The installer creates the specified directory if it does not exist.</p> <p>IMPORTANT! Do not install this directory into the SharePlex product directory.</p> <p>In a cluster, install the variable-data directory on the shared disk. For more information, see Installation and setup for Oracle cluster on page 1.</p>
SharePlex Admin group	<p>Enter the DBA-privileged group to which the SharePlex Administrator user belongs, which will own the SharePlex binaries. If the default group of the SharePlex Administrator is oinstall, select any option, and make certain this user is listed under oinstall in the etc/group file. For more information, see Installer checklist on page 1.</p>
ORACLE_SID of the database	<p>Enter the Oracle SID of the database for which you are installing SharePlex.</p> <p>If you want to use one set of SharePlex binaries to replicate data on a system that contains multiple minor or patch release versions of Oracle Database, select the lowest patch release version that you want to include in replication. Alternatively, you can install separate instances of SharePlex for each Oracle version.</p>

Prompt	Input
	In an Oracle cluster, the ORACLE_SID must be an alias in the tnsnames.ora file that is used for all cluster nodes. For more information, see Set up SharePlex in an Oracle cluster on page 1.
ORACLE_HOME	Enter the path to the Oracle HOME directory of the selected Oracle SID.
TCP/IP port for SharePlex	Enter the port number to use for SharePlex TCP/IP communications.
License key (do you have?)	Press Enter to accept the default of Y (yes). If you do not have a license, enter no . For licensing on a cluster, see Installation and setup for Oracle cluster on page 1 At any point before you run SharePlex you can add the license key with the splex_add_key utility. For more information, see SharePlex license utilities on page 1.
License key	Enter the license key you received from Quest.
Customer name	Enter the SiteMessage text string provided by Quest with the license key.

NOTE: The installer will upgrade the default variable-data directory that is listed in the **defaults.yaml** file, which is located in the **data** sub-directory of the product directory.

11. If you have more than one variable-data directory that needs to be upgraded, perform the following steps for *each of those directories*.
 - a. Export the SP_SYS_VARDIR environment variable to the next variable-data directory that you want to upgrade.
 - b. Within the variable-data directory that you exported, create a subdirectory named “**downgrd**” with the same owner and permissions that are assigned to the other subdirectories in that directory.

```
cd $SP_SYS_VARDIR
mkdir downgrd
chmod 775 downgrd
```

12. Run the **ora_setup** Database Setup utility for each variable-data directory in the installation of SharePlex that you upgraded. See [Database Setup for Oracle](#) on page 28.
13. Start SharePlex using the following syntax with options as appropriate.

```
$ cd /productdir/bin
$ ./sp_cop [-uidentifier] &
```

where:

- `-uidentifier` starts `sp_cop` with the unique identifier for the instance you are upgrading, and is only needed if there are multiple instances of `sp_cop` running on the system.
14. (If applicable) In `sp_ctrl` on the source system, set the the `SP_OCT_REPLICATE_ALL_DDL` parameter to 1.


```
sp_ctrl> set param SP_OCT_REPLICATE_ALL_DDL 1
```

To upgrade SharePlex to a new product directory

1. Shut down `sp_cop`.


```
sp_ctrl> shutdown
```
2. (Optional) If you need to upgrade the Oracle database, do so now.
3. Tar up the existing SharePlex product directory and move the tar file to different location as a backup.
4. Run the SharePlex installer and, when prompted to specify the product directory location, select **New Installation**.
5. When prompted for the SharePlex product directory path, specify the *new* product directory path.
6. When prompted for the variable-directory path, specify a new *temporary* variable-data directory, which will not be used.
7. Export the `SP_SYS_VARDIR` environment variable to the *existing* variable-data directory (*not* the temporary one) that you want to upgrade.
8. Within the existing variable-data directory that you exported, create a subdirectory named “**downgrd**” with the same owner and permissions that are assigned to the other subdirectories in that directory.


```
cd $SP_SYS_VARDIR
mkdir downgrd
chmod 775 downgrd
```
9. Run the `ora_setup` Database Setup utility using the existing SharePlex Oracle database user. See [Database Setup for Oracle](#) on page 28.
10. Start `sp_cop`.


```
$ /productdir/bin/sp_cop [-uidentifier] [-s] &
```

Upgrade on Linux/Unix for Open Target Databases

These instructions are for upgrading SharePlex when configured for an Open Target database running on a Linux or Unix system.

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 Linux machines that host Open Target targets involved in SharePlex replication.
- See [Before you upgrade](#) on page 6 for any pre-installation items that apply to your SharePlex installation.

To run the upgrade

1. Log in to the system as the user that will be named as the SharePlex Administrator during this installation. This user will own the installation files and binaries.
2. (Reinstallations) If **sp_cop** is running, shut it down.
3. Copy the installation file to a temporary directory where you have write permissions.
4. Grant executable permissions to the file.
chmod 555 *installation_file*
5. Run the .tpm file. If installing SharePlex in a cluster, run the installer from the primary node (the one to which the shared disk is mounted)
.Installation_file
6. You are prompted for the following:

Prompt for:	Input
Installation type	Select <New Installation>.
Product directory location (path)	Enter the path to the existing SharePlex installation directory.
Variable data directory location	Enter the name of the existing variable-data directory.
SharePlex Admin group	Enter the DBA-privileged group to which the SharePlex Administrator user belongs, which owns the SharePlex binaries.
TCP/IP port for SharePlex	Enter the port number of the SharePlex instance you are upgrading.
License key (do you want to upgrade?)	Press Enter to accept the default of N (no) to keep the existing license, or enter Y to specify a new license key if required for this upgrade.
License key	(If Y was selected) Enter the new license key that you received from Quest.
Customer name	If you added the license key, enter the SiteMessage text string provided by Quest with the license key.

The installer displays the location of the install log file and then quits.

7. Run the appropriate Database Setup utility for your database to upgrade the SharePlex database account. See [SharePlex utilities](#) on page 23.
8. Repeat all of the installation procedures for all Unix and Linux machines that host an Open Target database.

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. 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 28
 - **SQL Server:** see [Database Setup for SQL Server](#) on page 39
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.

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

Additional Upgrade for SAP ASE target

This section applies to upgrades from SharePlex version 8.5 to the current release.

This procedure updates the way that SAP ASE is defined in the routing map in the configuration file and the way that connection settings are defined for Post.

- In the configuration file, the routing map now requires `r.database_name`, where `database_name` is the actual name of the target database, not a DSN.
- The connection information for Post to connect to SAP ASE is now configured through the **connection** command, rather than in the target configuration created by the **target** command.

To complete the upgrade from version 8.5 to the current version of SharePlex for an SAP ASE target, while keeping the current configuration active so that replication can continue, use the following procedure.

NOTE: This upgrade keeps the routing map as configured in version 8.5 and only changes the Post connection settings.

1. From the Unix command line of the operating system, run the following command, where `database_name` is the actual name of the target database (not a DSN).
export SP_TARGET_DATABASE=database_name
2. Start **sp_cop**.
`/product_dir/bin/sp_cop`
3. In **sp_ctrl**, issue the **show post** command. The state should be "stopped-due to error." If Post did not stop, stop it with the **stop post** command.
stop post [for datasource-datadesf]
4. Issue the following commands, using the new **connection** command, but this time substitute the DSN of the database for `DSN`. Do not specify the actual database name in this case.
connection r.DSNset user=name_of_Post_database_user
connection r.DSNset password=password
5. Start Post.
start post [for datasource-datadesf]

SharePlex utilities

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- Database Setup for SQL Server
- Database Setup for Teradata

Database Setup for HANA

Overview

Run the Database Setup utility for HANA (**hana_setup**) on a target HANA system to establish a user account, schema, and tables for use by SharePlex.

Supported databases

HANA on supported platforms

Guidelines for use

- Run the setup utility on all target HANA instances in the SharePlex replication configuration.
- Within a server cluster, run the setup utility on the node that has the mount point to the shared disk that contains the SharePlex variable-data directory.
- For consolidated replication, run the setup utility for each variable-data directory.

- The only supported connection method to HANA is by connect string. Connection through a DSN is not supported.
- Make certain that you assign the required permissions that are shown in this setup process.

Required privileges

The setup utility must be run as a HANA Administrator in order to grant SharePlex the required privileges to operate on the database and to create the SharePlex database account.

Run Database Setup for HANA

1. Shut down any running SharePlex processes and **sp_cop** on the target system.
2. Run the **hana_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> hana_setup -p9400
```

Table 1: Setup Prompts and Responses

Prompt	Response
Enter the HANA connection string [] :	<p>Enter a connection string that connects to the HANA database system. The required components of a connection string for SharePlex to connect to HANA are:</p> <ul style="list-style-type: none"> • SERVERNODE: The name of the target HANA server, then a colon, then the HANA port number. • DRIVER: The path to the HANA ODBC driver. • CHAR_AS_UTF8: This must be passed as CHAR_AS_UTF8=1. <p>Example: SERVERNODE=server1.dept.abc.corp:30015;DRIVER=/usr/sap/hdbclient/libodbcHDB.so;CHAR_AS_UTF8=1</p> <p>You do not have to supply a user, password, and default database, because the setup utility prompts for those.</p>
Enter the HANA Administrator name :	Enter the name of the HANA Administrator. This user will perform the work on the SharePlex account.
Enter the password for the Administrator account :	Enter the password of the Administrator.

Prompt	Response
Enter the name of the database :	Enter the name of the database that you want to contain the tables and other objects for use by SharePlex. You can enter the name of a new or existing database.
Database name database does not exist. Would you like to create it? [y] :	If this prompt is displayed, the specified database does not exist. Press Enter to have the setup utility create it for you.
Would you like to create a new SharePlex user [y]:	Press Enter to accept the default to create a new SharePlex database user account and schema of the same name in the specified database, or enter n to use an existing SharePlex account.
Enter the name of the new SharePlex user: 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 HANA database configuration
SharePlex User name: splex
```

Database name: ndb5

Target specification in SharePlex configuration: r.ndb5

Grant privileges to SharePlex

Before you start SharePlex replication to a HANA target, grant the following privileges to the SharePlex database user in that target (where *SP_USER* is the name of the SharePlex database user):

- GRANT USER ADMIN TO *sp_user*;
- GRANT TABLE ADMIN TO *sp_user*;
- GRANT CATALOG READ TO *sp_user*;
- GRANT DATA ADMIN TO *sp_user* WITH ADMIN OPTION;
- GRANT ROLE ADMIN TO *sp_user* WITH ADMIN OPTION;

Additionally, log in as the owner of each schema that contains objects that you want to replicate, then make the following grants on the schema:

- GRANT CREATE ANY ON SCHEMA *schema_name* TO *sp_user*;
- GRANT DEBUG ON SCHEMA *schema_name* TO *sp_user*;
- GRANT DELETE, DROP, EXECUTE, INDEX, INSERT, SELECT, UPDATE ON SCHEMA *schema_name* TO *sp_user*;

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.

Supported databases

MySQL on Linux. For supported Linux platforms and versions, see the SharePlex Release Notes.

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 2: Setup prompts and responses

Prompt	Response
Enter the MySQL connection string [] :	Enter a connection string that connects to the MySQL database. Do not use a DSN. If you are replicating data larger than 500 MB to MySQL Aurora on Amazon RDS, include the MySQL parameter max_allowed_packet in the connection string and set its value to the maximum size of the data. See the example. Example connection string 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=servername.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.

Prompt	Response
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 Enter to have the setup utility create it for you.
Would you like to create a new SharePlex user [y]:	Press Enter to accept the default to create a new SharePlex database user account, or enter n to use an existing account as the SharePlex database user.
Enter the name of the new SharePlex user: 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
```

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"> ◦ 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. ◦ 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. <p>NOTE: 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 (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 master 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, but if support for TDE is required, then this user must have SYSDBA 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;
```

If TDE support is required for the CDB, then the following *additional* privilege is required:

```
grant select on sys.enc$ 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	By default this profile has the unlimited resource privileges originally assigned by Oracle.

Privilege granted	Description
Oracle profile	
Grants	<p>The following grants are issued to SharePlex:</p> <ul style="list-style-type: none"> To access the data dictionary (outside the DBA roles) if <code>O7_DICTIONARY_ACCESSIBILITY</code> is set to <code>FALSE</code>: grant select any dictionary to <i>SharePlexUser</i>; To replicate DDL: grant select any table to <i>SharePlexUser</i> with admin option; grant create any view to <i>SharePlexUser</i> with admin option;

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	The Database Setup utility installs some tables into a tablespace of your choosing. All but the <code>SHAREPLEX_LOBMAP</code> table use the default storage settings of the tablespace.

Storage	Description
	<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>Preferred action: 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>Alternate action: 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>NOTE: 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 compare commands. The default temporary tablespace is the one where the SharePlex objects are installed. If you plan to use the compare 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>NOTE: 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. (Unix and Linux only) If you are using multiple variable-data directories, export the environment variable that points to the variable-data directory for the SharePlex instance for which you are running Database Setup.

ksh shell:

```
export SP_SYS_VARDIR=/full_path_of_variable-data_directory
```

csh shell:

```
setenv SP_SYS_VARDIR=/full_path_of_variable-data_directory
```

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! 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
```
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 3: Setup prompts and response

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

Prompt	Response
<ul style="list-style-type: none"> If the database is not on RDS: Enter a DBA user for <i>SID</i>: If the database is on RDS: In order to create the SharePlex tables and user account, we must connect to the RDS database using the RDS Master user. 	<p>database user that has DBA privileges.</p> <p>Multitenant database: Type the name of a common user who has the required privileges to install the account and objects.</p> <p>Amazon RDS database: Type the name of the RDS master user.</p>
<p>One of the following prompts is shown:</p> <ul style="list-style-type: none"> If the database is not on RDS: Enter password for the DBA account, which will not echo: If the database is on RDS: Enter the password for the RDS master user, which will not echo. 	<p>Non-multitenant database: Type the password of the DBA user.</p> <p>Multitenant database: 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>Amazon RDS database: Type the password of the RDS master user.</p>
<p>Current SharePlex user is <i>user</i>. Would you like to create a new SharePlex user?</p>	<p>Press N to update an existing SharePlex account or Y 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>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.</p>
<p>Do you want to enable replication of tables with TDE?</p>	<p>Press Y to be prompted for the path name of the TDE wallet file. Type the fully qualified path for the TDE wallet file, including the wallet file name.</p> <p>Press N if not replicating TDE tables.</p>
<p>Enter the default tablespace for use by SharePlex:</p>	<p>Press Enter to accept the default or type the name of a different tablespace.</p>
<p>Enter the temporary tablespace for use by Shareplex:</p>	<p>Press Enter to accept the default or type the name of a different tablespace.</p>

Prompt	Response
Enter the index tablespace for use by SharePlex:	Press Enter 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 master-master setups)?	Press Y if this is a source system or press N if this is a target system. IMPORTANT: All systems in a master-master 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>NOTE:</p> <ul style="list-style-type: none"> • The following prompts are only shown if the database is a source on ASM. • If this is an Oracle target, the setup is now complete. 	
ASM detected. Do you wish to connect to ASM using BEQUEATH connection?	Press Y for SharePlex to use a BEQUEATH connection to connect to the ASM instance, or press N to use a TNS alias. IMPORTANT! 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.
The following prompt is displayed if you selected a BEQUEATH connection: Do you wish to keep connecting using the same user/password?	Press Y to use the same user and password as the login user, or press N to be prompted for a different user and password.
<p>NOTE: If you selected to use a BEQUEATH connection to connect to ASM, the database setup is complete. Continue to Note about the tnsnames file. If you selected N, you need to supply a TNS alias, and the prompts continue.</p>	
Enter the ASM tns alias to be used by SharePlex:	Type the name of the TNS alias.
Enter an ASM admin (has both sysdba and sysasm privilege) username for <i>alias</i> :	Type the name of a user with sysasm and sysdba privileges to the ASM instance.

Prompt	Response
Enter user password for user:	Type the password of the user.
<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> <pre>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]:</pre>	Press Y to continue the database setup without support for SDO_GEOMETRY, or press N to terminate ora_setup .

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.

Database Setup for PostgreSQL

Overview

Run the Database Setup utility for PostgreSQL (**pg_setup**) to establish a user account, schema, and tables for use by SharePlex.

Supported databases

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

Guidelines for use

- Run the Database Setup utility on all target PostgreSQL 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.
- On **Windows**, you must supply a DSN (data source name) as the connection method.
- On **Linux**, you can provide a connection string or a DSN (data source name). Note the following when deciding on the connection method on Linux:

Connection Type on Linux	What to do
Connection string	You do not need to provide a user, password, or default database in a connection string. The connection string must have the port, server and driver defined. This is an example from EDB Postgres Plus Advanced Server; your connection string will probably be different based on your own database setup: Port=5444;server=localhost;driver=/u01/PostgresPlus/connectors/odbc/lib/edb-odbc.so;database=edb;
DSN	If you have a DSN defined, and you want to use it for the SharePlex connection, copy or link the ODBC files in which that DSN is defined (odbc.ini and odbcinst.ini) to the odbc subdirectory of the SharePlex variable-data directory. This prevents connection errors when the SharePlex processes connect to the database. If you do not have a DSN defined but want to use one, you can create it in the template files provided in the odbc subdirectory.

Required privileges

Review the following requirements to ensure that the setup succeeds.

- The Database Setup utility must be run as a PostgreSQL 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/psqlodbca.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 4: Setup prompts and responses

Prompt	Response
<p>(Linux)</p> <p>Enter the PostgreSQL DSN name or connection string [] :</p>	Enter a DSN or a connection string if the system is Linux, or enter a DSN if the system is Windows.
<p>(Windows)</p> <p>Enter the PostgreSQL DSN name [] :</p>	
Enter the PostgreSQL Administrator name :	Enter the name of the PostgreSQL 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 Enter to have the setup utility create it for you.

Prompt	Response
Would you like to create a new SharePlex user [y]:	Press Enter to accept the default to create a new SharePlex database user account and schema of the same name in the specified database, or enter n to use an existing SharePlex account.
Enter the name of the new 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 name of the existing 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: splx
Database name: ndb5
Target specification in SharePlex configuration: r.ndb5
```

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 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.

Supported databases

Microsoft SQL Server on Windows

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.
- (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 5: Setup prompts and responses

Prompt	Response
Enter the Microsoft SQL Server DSN name [] :	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 :	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 :	Enter the password of the Administrator.

Prompt	Response
Enter the database name:	Enter the name of the 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 Enter to have the setup utility create it for you.
Would you like to create a new SharePlex login [y]:	Press Enter to accept the default to create a new SharePlex database user account, or enter n to use an existing account as the SharePlex database user.
Enter the name of the existing 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 name of the new SharePlex login:	
Enter the password for <i>login</i> :	Enter the password of the SharePlex user account.
Re-enter the password for <i>login</i> :	Enter the SharePlex password again.
Will this database be used as a source?	Accept the default of n if the database will only be a target. Enter Y if this database will be a source database for SharePlex. A response of Y 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: splex
Database name: db1
Target specification in SharePlex configuration: r.db1
```

Database Setup for Teradata

Overview

Run the Database Setup utility for Teradata (**td_setup**) on a Teradata system to establish a user account and database for use by SharePlex.

Supported databases

Teradata on supported platforms

Requirements for use

- You can provide a connection string for the database, or you can use an ODBC Data Source Name (DSN). See the Teradata ODBC documentation for instructions if you want to use a DSN.
- Run the setup utility on all target Teradata instances in the SharePlex replication configuration.
- Within a server 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 on the Teradata target.

Required privileges

The setup utility must be run as a Teradata Administrator in order to grant SharePlex the required privileges to operate on the database and to create the SharePlex database account.

Run Database Setup for Teradata

1. Shut down any running SharePlex processes and **sp_cop** on the target system.
2. Run the **td_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> td_setup -p9400

Table 6: Setup Prompts and Responses

Prompt	Response
Please enter the full directory path of the Teradata ODBC driver:	Enter the full path to the Teradata ODBC driver library. This step initializes the driver location within the setup utility so that the rest of the setup can take place. It requires a second running of the setup utility to complete the setup steps.
Please run td_setup again to create the tables, login and user accounts needed to run SharePlex replication.	Run the setup utility again, including the port number if you installed SharePlex on any port other than 2100: \$/users/splex/bin> td_setup -p9400
Enter the Teradata DSN name or connection string[]:	Enter the Data Source Name that connects to Teradata.
Enter the Teradata Administrator name:	Enter the name of the Teradata Administrator. This user will perform the work on the SharePlex account.

Prompt	Response
Enter the password for the Administrator account:	Enter the password of the Administrator.
Would you like to create a new SharePlex user [y]:	Press Enter to accept the default to create a new SharePlex database user account or enter n to use an existing SharePlex account.
Enter the name of the new SharePlex user: (or...) Enter the name of the existing SharePlex user:	Enter the name of the new or existing SharePlex user, depending on which option you chose in the previous step.
Enter the password for new SharePlex user: (or...) Enter the password for existing SharePlex user:	Enter the password of the new or existing SharePlex user account.
Re-enter the password for new SharePlex user:	This prompt is only shown if you created a new user. Enter the SharePlex password again.
Enter the name of the database:	Accept the default or enter a different name for the 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 Enter to have the setup utility create it for you.

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

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

Grant additional database privileges

The setup utility creates the following objects:

- a database user by which SharePlex Post will operate (which also owns a database)
- a database into which SharePlex can install its internal objects (which can be the database owned by the SharePlex Post user or a different one)

The setup utility then prompts you to specify any additional Teradata databases that you want to include as replication targets. For each of those databases, the utility issues the following grant to the SharePlex user:

```
grant all on database to SharePlex_user;
```

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