SequeLink®

Installation Guide

Release 6.0
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Preface

This book is your guide to installing DataDirect SequeLink® 6.0 from DataDirect Technologies. Read on to find out more about your SequeLink environment and how to use this book.

What Is DataDirect SequeLink®?

DataDirect SequeLink is a middleware product that provides point-to-point connections from a client to a server for the latest data access standards, including Open Database Connectivity (ODBC), JDBC, ActiveX Data Objects (ADO), and ADO.NET.

In this documentation, references to SequeLink Server and SequeLink Client apply to both the 32-bit and 64-bit versions. Information that applies to a specific version of SequeLink Server or SequeLink Client is identified.

Using This Book

This book assumes that you are familiar with your operating system and its commands; the concept of directories; the management of user accounts and security access; and your network protocol and its configuration.

This book contains the following information:

- Chapter 1 “Before You Install” on page 17 describes information that you should know before you install SequeLink, such as product requirements. It also provides CD mounting instructions for your platform.
- Chapter 2 “Installing SequeLink® Server” on page 33 provides installation instructions for SequeLink Server, including instructions for installing the SequeLink Manager on the same SequeLink server.
- Chapter 3 “Installing the SequeLink® Manager” on page 121 provides installation instructions for the SequeLink Manager on a networked client.
- Chapter 4 “Installing the ODBC Client” on page 125 provides installation instructions for the SequeLink Client *for* ODBC.
- Chapter 5 “Installing the ADO Client” on page 145 provides installation instructions for the SequeLink Client *for* ADO.
- Chapter 6 “Installing the JDBC Client” on page 159 provides installation instructions for the SequeLink Client *for* JDBC.
- Chapter 7 “Installing the .NET Client” on page 171 provides installation instructions for the SequeLink Client *for* .NET.

NOTE: This book refers the reader to Web URLs for more information about specific topics, including Web URLs not maintained by DataDirect Technologies. Because it is the nature of Web content to change frequently, DataDirect Technologies can guarantee only that the URLs referenced in this book were correct at the time of publishing.

SequeLink® Documentation

The following table provides a guide for finding information in your SequeLink documentation:

For information about...	Go to...
SequeLink concepts and planning your SequeLink environment	*Getting Started with SequeLink*
Installing the SequeLink middleware components	*SequeLink Installation Guide*
Administering your SequeLink environment	*SequeLink Administrator's Guide*
Developing ODBC, ADO, JDBC, and .NET applications for the SequeLink environment	*SequeLink Developer's Reference*
Troubleshooting and referencing error messages	*SequeLink Troubleshooting Guide and Reference*

HTML Version

All of these books can be placed on your system as HTML-based online help during a normal installation of the product. They are located in the help subdirectory of the product installation

directory. To use the help, you must have one of the following browsers installed:

- Internet Explorer 5.*x* or higher
- Netscape 4.*x*, 6.1, or higher
- FireFox 1.0 or higher

If you choose to install the online books, you can access the entire help system by selecting the help icon that appears in the DataDirect program group.

On UNIX and Linux platforms, if you want the help files, copy the /bookshtml subdirectory from the product DVD to a local directory.

To open the help system from a command-line environment, at a command prompt, enter:

```
browser_exe my_local_dir/bookshtml/help.htm
```

where *browser_exe* is the name of your browser executable and *my_local_dir* is the path to the product installation directory.

After the browser opens, the left pane displays the Table of Contents, Index, and Search tabs for the entire documentation library. When you have opened the main screen of the help system in your browser, you can bookmark it in the browser for quick access later.

NOTE: Security features set in your browser can prevent the help system from launching. A security warning message is displayed. Often, the warning message provides instructions for unblocking the help system for the current session. To allow the help system to launch without encountering a security warning message, the security settings in your browser can be modified. Check with your system administrator before disabling any security features.

Help is available from the setup dialog box for the ODBC driver and ADO data provider. When you click **Help**, your browser opens to the correct topic in the help system, without opening the help

Table of Contents. A grey toolbar appears at the top of the browser window.

This tool bar contains previous and next navigation buttons.

PDF Version

DataDirect product documentation is also provided in PDF format, which allows you to view it, perform text searches, or print it. You can view the PDF documentation using the Adobe Acrobat Reader. The PDF documentation is available on the product DVD and also on the DataDirect Technologies Web site:

You can download the entire library in a compressed file. When you uncompress the file, it appears in the correct directory structure.

If you want to copy the documentation library from the product DVD, you must maintain the same directory structure that is on the DVD.

- **To copy all product books**, copy the entire \bookspdf directory to your local or network drive.
- **To copy a specific book**, copy that book's directory structure (beneath the \bookspdf subdirectory) to your local or network drive. For example, to copy the *SequeLink Administrator's Guide*, you would copy the entire \admin subdirectory:

  ```
  \bookspdf\admin
  ```

Maintaining the correct directory structure allows cross-book text searches and cross-references. If you download or copy the books individually outside of their normal directory structure, their cross-book search indexes and hyperlinked cross-references

to other volumes will not work. You can view a book individually, but it will not automatically open other books to which it has cross-references.

To help you navigate through the library, a file, called **books.pdf**, is provided. This file lists each online book provided for the product. We recommend that you open this file first and, from this file, open the book you want to view.

Typographical Conventions

Convention	Explanation
italics	Introduces new terms with which you may not be familiar, and is used occasionally for emphasis.
bold	Emphasizes important information. Also indicates button, menu, and icon names on which you can act. For example, click **Next**.
UPPERCASE	Indicates keys or key combinations that you can use. For example, press the ENTER key. Also used for SQL reserved words.
`monospace`	Indicates syntax examples, values that you specify, or results that you receive.
`monospaced italics`	Indicates names that are placeholders for values that you specify. For example, *`filename`*.
forward slash /	Separates menus and their associated commands. For example, Select File / Copy means that you should select Copy from the File menu. The slash also separates directory levels when specifying locations under UNIX.
vertical rule |	Indicates an "OR" separator used to delineate items.

Convention	Explanation
brackets [ ]	Indicates optional items. For example, in the following statement: SELECT [DISTINCT], DISTINCT is an optional keyword. Also indicates sections of the Windows Registry.
braces { }	Indicates that you must select one item. For example, {yes | no} means that you must specify either yes or no.
ellipsis . . .	Indicates that the immediately preceding item can be repeated any number of times in succession. An ellipsis following a closing bracket indicates that all information in that unit can be repeated.

Environment-Specific Information

This book supports users of various operating environments. Where it provides information that does not apply to all supported environments, the following symbols are used to identify that information:

Symbol	Environment
	*Windows*. The Windows symbol identifies information specific to all Microsoft Windows environments.
	*Windows 32-bit*. The Windows symbol and the characters 32-bit identifies information specific to the Microsoft Windows 32-bit environment.
	*Windows 64-bit*. The Windows symbol and the characters 64-bit identifies information specific to the Microsoft Windows 64-bit environment.

Symbol	Environment
	*UNIX and Linux*. Information specific to Linux and UNIX environments is identified by this symbol, which applies to all Linux and UNIX environments supported. UNIX is a registered trademark of The Open Group in the United States and other countries.
z/OS	*z/OS*. Information specific to z/OS environments is identified by the characters z/OS.

Contacting Technical Support

DataDirect Technologies offers a variety of options to meet your technical support needs. Please visit our Web site for more details and for contact information:

http://support.datadirect.com

The DataDirect Technologies Web site provides the latest support information through our global service network. The SupportLink program provides access to support contact details, tools, patches, and valuable information, including a list of FAQs for each product. In addition, you can search our Knowledgebase for technical bulletins and other information.

To obtain technical support for an evaluation copy of the product, go to:

http://www.datadirect.com/support/eval_help/index.ssp

or contact your sales representative.

When you contact us for assistance, please provide the following information:

- The serial number that corresponds to the product for which you are seeking support, or a case number if you have been provided one for your issue. If you do not have a SupportLink contract, the SupportLink representative assisting you will connect you with our Sales team.
- Your name, phone number, email address, and organization. For a first-time call, you may be asked for full customer information, including location.
- The DataDirect product and the version that you are using.
- The type and version of the operating system where you have installed your DataDirect product.
- Any database, database version, third-party software, or other environment information required to understand the problem.
- A brief description of the problem, including, but not limited to, any error messages you have received, what steps you followed prior to the initial occurrence of the problem, any trace logs capturing the issue, and so on. Depending on the complexity of the problem, you may be asked to submit an example or reproducible application so that the issue can be recreated.
- A description of what you have attempted to resolve the issue. If you have researched your issue on Web search engines, our Knowledgebase, or have tested additional configurations, applications, or other vendor products, you will want to carefully note everything you have already attempted.
- A simple assessment of how the severity of the issue is impacting your organization.

1 Before You Install

This chapter describes information that you should know before you install SequeLink, such as product requirements. It also provides DVD mounting instructions for your platform.

NOTE: SequeLink 6.0 Servers are compatible with SequeLink 5.*x* Clients. Similarly, SequeLink 6.0 Clients are compatible with SequeLink 5.*x* Servers. Only SequeLink 6.0 services can be configured, managed, or monitored with the SequeLink Manager 6.0.

Product Requirements

This section lists the product requirements for:

- SequeLink Server
- SequeLink Client *for* ODBC
- SequeLink Client *for* ADO
- SequeLink Client *for* JDBC
- SequeLink Client *for* .NET
- SequeLink Manager Snap-in

For the latest information about the operating system platforms supported for each SequeLink component, go to the following Web URLs:

For SequeLink Servers:

http://www.datadirect.com/products/sequelink/matrix/slwebmatrixosvendorview.htm

For SequeLink Clients:

http://www.datadirect.com/products/sequelink/matrix/slwebmatrixclients.htm

SequeLink® Server

The following sections describe the requirements for installing SequeLink Server.

Windows Server platforms

- DVD-ROM drive on your Windows server, or a Windows server machine with a DVD-ROM drive and file transfer capability to a supported Windows server.
- Minimum of 100 MB of free disk space.
- MMC 1.2 or higher (you can download this software from the Microsoft Web site).

Table 1-1 lists the databases supported by SequeLink Server on Windows and their requirements.

Table 1-1. Requirements of Databases Supported by SequeLink Server on Windows

Database	Database Requirements
DB2 UDB v8.*x*, v9.*x*	The DB2 CLI client must be installed. Although an earlier version of a client can access a later version of a database, for example, client 8.2 to server 9.1, to insure that you have access to all of the features of a particular database, you should use the client that matches the database version, for example, client 9.1 to server 9.1. All components of the DB2 client software must be installed; otherwise, the driver will not operate properly. The appropriate DLLs and objects must be on your path.

Table 1-1. Requirements of Databases Supported by SequeLink Server on Windows

Database	Database Requirements
Informix Dynamic Server 10	Informix Client SDK 2.90 must be installed. To determine if it has been installed, check the version of the Informix Client SDK in the following file: *INFORMIXDIR*/release/en_us/0333/CLIENTREL.TXT where *INFORMIXDIR* is the INFORMIXDIR environment variable. If this file exists, the Informix Client SDK has been installed.
JDBC Socket	MDAC 2.7 Service Pack 1 or higher and a configured JDBC driver of your choice.
Oracle 9*i*, 10*g* R2	By default, SequeLink Server for Oracle uses the Oracle Bequeath protocol to communicate to the Oracle database engine. However, we strongly recommend that you configure the SequeLink Oracle service to use the Oracle Net Service (IPC or TCP protocol) instead. For more information, refer to the *SequeLink Administrator's Guide*.
Microsoft SQL Server 2000 and 2005	MDAC 2.7 Service Pack 1 or higher (32-bit platforms) or MDAC 2.8 or higher (64-bit platforms).
ODBC Socket	MDAC 2.7 Service Pack 1 or higher (32-bit platforms) or MDAC 2.8 or higher (64-bit platforms). In addition, SequeLink Server for ODBC Socket requires a properly configured ODBC driver that implements the ODBC functions described in "Backend Driver Requirements for SequeLink® Server for ODBC Socket" on page 23.
Sybase Adaptive Server 12.5.*x* and Sybase 15	MDAC 2.7 Service Pack 1 or higher (32-bit platforms) or MDAC 2.8 or higher (64-bit platforms).

NOTE: MDAC 2.7 Service Pack 1 is shipped with SequeLink on the DataDirect DVD and can be found in the sqlnk60\mdac\win32 subdirectory.

UNIX Platforms

- DVD-ROM drive on your UNIX server, or a Windows server machine with a DVD-ROM drive and file transfer capability to a supported UNIX server.
- TCP/IP.
- Korn shell. This requirement applies to Linux, which by default is not shipped with a Korn shell.

Table 1-2 lists the databases supported by SequeLink Server on UNIX and their requirements.

Table 1-2. Requirements of Databases Supported by SequeLink Server on Linux and UNIX

Database	Database Requirements
DB2 UDB v8.*x,* v9.x	The DB2 CLI client must be installed. Although an earlier version of a client can access a later version of a database, for example, client 8.2 to server 9.1, to insure that you have access to all of the features of a particular database, you should use the client that matches the database version, for example, client 9.1 to server 9.1. You must have all components of the DB2 client software installed; otherwise, the driver will not operate properly. The appropriate shared libraries and objects must be on your path.
Informix Dynamic Server 10	Informix Client SDK 2.90 must be installed. To determine if it has been installed, check the version of the Informix Client SDK in the following file: *INFORMIXDIR*/release/en_us/0333/CLIENTREL.TXT where *INFORMIXDIR* is the INFORMIXDIR environment variable. If this file exists, the Informix Client SDK has been installed.
JDBC Socket	A configured JDBC driver of your choice.

Table 1-2. Requirements of Databases Supported by SequeLink Server on Linux and UNIX *(cont.)*

Database	Database Requirements
ODBC Socket	A configured ODBC driver of your choice. SequeLink Server for ODBC Socket requires a properly configured ODBC driver that implements the ODBC functions described in "Backend Driver Requirements for SequeLink® Server for ODBC Socket" on page 23. The driver must work correctly with the DataDirect Technologies ODBC Driver Manager.
Oracle 9*i*, 10*g* R2	By default, SequeLink Server for Oracle uses the Oracle Bequeath protocol to communicate to the Oracle database engine. However, we strongly recommend that you configure the SequeLink Oracle service to use the Oracle Net Service (IPC or TCP protocol) instead. For more information, refer to the *SequeLink Administrator's Guide*.
Sybase Adaptive Server 12.5.*x* and Sybase 15	None.

z/OS Platform

- The amount of disk space that is required depends on the disk type. The minimum required is 500 tracks for a 3390 device (or equivalent), excluding space for primary and secondary log files. The size of log files depends on system use.
- IBM z/OS Communications Server.
- UNIX System Services support, which allows the SequeLink Server to access a Hierarchical File System (HFS) for writing session debug files.

- RRS must have been configured to support the DB2 RRSAF attachment required by the Threadpool connection model of the SequeLink Server.
- The SAS/C runtime libraries are installed with SequeLink Server.
- Any SAF-compliant security system product, including:
  - IBM RACF V2R1 or higher
  - Computer Associates CA-ACF2 6.0 or higher
  - Computer Associates CA-TOP SECRET

  NOTE: Make sure that your security system supports SAF RACROUTE macros.

Table 1-3 lists the databases supported by SequeLink Server for DB2 on z/OS and their requirements.

Table 1-3. Databases Supported by SequeLink Server for DB2 on z/OS

Database	Database Requirements
DB2 UDB for OS/390 and z/OS v7.1, DB2 UDB for z/OS v8.1, DB2 V9.1 for z/OS	When the Threadpool Connection Model is used, the RRS attachment facility (RRSAF) can be used only when RRS is installed and active.

z/OS UNIX System Services Platform

This section lists product requirements specific to SequeLink Server for JDBC Socket for z/OS USS.

NOTE: If you choose to use and install the JDBC driver from IBM DB2® WebSphere® Classic Federation for z/OS, formerly known as eXadas from CrossAccess, ensure the following maintenance packages are applied: PTF UN08293 and APAR PN13696.

- A minimum of 1500 tracks for a 3390 device (or equivalent). The amount of disk space required depends on the disk type.
- IBM z/OS Communications Server.
- Full z/OS USS support.
- Any SAF-compliant security system product, such as:
  - IBM RACF V2R1 or higher
  - Computer Associates CA-ACF2 6.0 or higher
  - Computer Associates CA-TOP SECRET
- A minimum region size of 128 MB.
- Java SDK 1.4. You can download the Java SDK from the IBM website:

  http://www-1.ibm.com/servers/eserver/zseries/software/java/getsdk14.html

  On the IBM Web site, carefully review the prerequisites.

Backend Driver Requirements for SequeLink® Server for ODBC Socket

SequeLink Server for ODBC Socket allows ODBC, ADO, JDBC, and .NET applications to connect to any database for which an ODBC 2.0 or 3.0-compliant driver is available.

In addition to the requirements provided in "SequeLink® Server" on page 18, SequeLink Server for ODBC Socket requires a properly configured ODBC driver that implements the ODBC functions listed in Table 1-4. On Windows, the ODBC driver must work correctly with the Microsoft ODBC Driver Manager; on UNIX, the driver must work correctly with the DataDirect Technologies ODBC Driver Manager.

Table 1-4. Required ODBC Function Support for the Third-party ODBC Driver

SQLAllocHandle	SQLFetch	SQLParamData
SQLBindCol	SQLFetchScroll (optional)	SQLPrepare
SQLBindParameter	SQLForeignKeys	SQLPrimaryKeys
SQLBulkOperations	SQLFreeHandle	SQLProcedureColumns
SQLCancel	SQLFreeStmt	SQLProcedures
SQLColAttribute	SQLGetConnectAttr	SQLPutData
SQLColumnPrivileges	SQLGetData	SQLRowCount
SQLColumns	SQLGetDiagRec	SQLSetConnectAttr
SQLDescribeParam (optional)	SQLGetFunctions	SQLSetEnvAttr
SQLDisconnect	SQLGetInfo	SQLSetStmtAttr
SQLDriverConnect	SQLGetTypeInfo	SQLSpecialColumns
SQLEndTran	SQLMoreResults	SQLStatistics
SQLExecDirect	SQLNumParams	SQLTablePrivileges
SQLExecute	SQLNumResultCols	SQLTables

Checking Your Third-Party JDBC Driver for SequeLink® Server for JDBC Socket

The ivcheckjdbcdriver utility is unpackaged after you extract the contents of the .tar file. The SequeLink administrator can use the ivcheckjdbcdriver utility to check the third-party JDBC driver environment that will be used behind the SequeLink Server for JDBC Socket.

Use this utility before configuring the SequeLink Server for JDBC Socket. You must enter the following configuration information:

- The JRE installation directory
- The JDBC Driver classpath
- The driver classname
- The connection URL of your backend JDBC driver

When the ivcheckjdbcdriver script has verified these settings and successfully made a connection, you can use these settings for the configuration of your SequeLink Server for JDBC Socket. The utility returns a driver-specific note with information for your environment.

NOTE: For some drivers, SequeLink provides a wrapper driver with its own Driver name and Connection URL. This wrapper driver fixes incorrect JDBC behavior, provides workarounds for driver deficiencies and optimizes code paths. For the following third-party drivers we strongly advise you to use these wrappers:

- Websphere Information Integrator Classic Federation for z/OS (also known as CrossAccess or DB2 II Classic Federation)

  Drivername:com.ddtek.jdbc.crossaccess30.CrossAccessDriver

  Connection url: jdbc:dd-crossaccess30:<datasource>: tcp/<host>/<port>:CODEPAGE=USS

- Apache Derby 10 (also known as Cloudscape)

  Drivername: com.ddtek.jdbc.derby10.DerbyDriver

  Connection url: jdbc:dd-derby10

For more information on the ivcheckjdbcdriver utility, refer to the *SequeLink Troubleshooting Guide and Reference*.

SequeLink® Client *for* ODBC

Windows Client 32-bit platforms:

Microsoft Data Access Components (MDAC), version 2.7 Service Pack 1 or higher. You can download a utility from the following Microsoft Web site that will report your installed MDAC version:

http://msdn.microsoft.com/data/downloads/default.aspx

MDAC 2.7 Service Pack 1 is shipped with SequeLink and can be found in the sqlnk60\mdac\win32 subdirectory (32-bit) on the DataDirect DVD. Alternatively, you can download the appropriate version of MDAC from the Microsoft Web site.

Windows Client 64-bit platforms:

Microsoft Data Access Components (MDAC), version 2.8 (64-bit) or higher.

UNIX:

No product-specific requirements.

SequeLink® Client *for* ADO

Windows Client platforms:

Microsoft Data Access Components (MDAC) 2.7 Service Pack 1 or higher. You can download a utility from the following Microsoft Web site that will report your installed MDAC version:

http://msdn.microsoft.com/data/downloads/default.aspx

MDAC 2.7 Service Pack 1 is shipped with SequeLink and can be found in the sqlnk60\mdac\win32 subdirectory (32-bit) on the DataDirect DVD. Alternatively, you can download the appropriate version of MDAC from the Microsoft Web site.

SequeLink® Client *for* JDBC

You can develop applications for SequeLink Client *for* JDBC (JDBC Client) using J2SE 1.4.2 or higher and the following APIs, which are supplied with the JDBC Client:

- JDBC 2.0 Optional Package
- JNDI 1.2
- JTA 1.0.1

Table 1-5 lists the product requirements for using the JDBC Client.

Table 1-5. Product Requirements for the JDBC Client

For Applications Using...	Minimum Product Requirements
JDBC 3.0 API	J2SE 1.4.2 or higher
J2EE Connector Architecture	J2SE 1.4.2 or higher
JSR 114 Rowsets	J2SE 1.4.2 or higher

Table 1-5. Product Requirements for the JDBC Client (cont.)

For Applications Using...	Minimum Product Requirements
JDBC 2.0 Core API	J2SE 1.4.2 or higher
JDBC 2.0 Optional Package	J2SE 1.4.2 or higher
Note that some components have specific requirements:	
■ XADataSource	■ J2SE 1.4.2 or higher and minimum J2EE 1.2
■ DataSource, ConnectionPoolDataSource	■ JNDI 1.2

NOTE: Standard installations of J2SE on some platforms do not include the jar file containing the extended encoding set that is required to support some of the less common database code pages. To verify whether your J2SE version provides extended code page support, check that charsets.jar is installed in the lib subdirectory of your J2SE installation directory.

If you do not have the required file, re-install J2SE, making sure that you install the international version of J2SE.

SequeLink® Client *for* .NET

Microsoft .NET Framework Redistributable 1.*x*, available for download on the Microsoft Web site.

All components should be compatible with .NET applications built to run on the Windows versions listed.

If you want to use distributed transactions, you must install COM+ Services, which include the Microsoft Distributed Transaction Coordinator (MS DTC).

SequeLink® Manager Snap-in

The following list describes the product requirements for the SequeLink Manager Snap-in:

MMC 1.2 or higher (you can download this software from the Microsoft Web site)

Mounting Your DVD

This section provides DVD mounting instructions for your SequeLink platform.

Windows

The supported Windows platforms provide the system option AutoRun for DVDs as a default feature. If enabled, the Product Setup starts immediately when you insert the DVD in the DVD-ROM drive.

If AutoRun for DVDs is disabled, or you are mounting the DVD on a network drive:

1. Insert the DVD into the DVD-ROM drive (for a local driver, this typically is drive D). If the DVD-ROM drive is on a network, mount the DVD and create a mapping to the DVD-ROM drive.
2. To view the contents of the DVD, double-click the DVD-ROM drive icon in the My Computer window.

UNIX

Sun Solaris

By default, the DVD-ROM drive mounts automatically when you insert the DVD. The other supported UNIX platforms do not automatically mount the DVD by default. If your workstation is not configured to mount a DVD automatically, you must enter the command for mounting the DVD.

HP-UX

```
# /usr/sbin/pfs_mountd&
# /usr/sbin/pfsd&
# pfs_mount -o xlat=unix /dev/rdsk/deviceName /dvdrom
```

where *deviceName* is the device name assigned to your DVD-ROM drive. The device name can be found using the HP-UX tool sam. When installation is complete, unmount the DVD-ROM with the command:

```
# /usr/sbin/pfs_umount /dvdrom
```

For example, if the device name for your DVD-ROM drive is /dev/rdsk/c0t4d0, and you want to mount it over the directory /dvdrom, you would enter the following command:

```
# pfs_mount -o xlat=unix /dev/rdsk/c0t4d0 /dvdrom
```

IBM-AIX

```
mount -r -v dvdrfs /dev/deviceName /dvdrom
```

where *deviceName* is the device name assigned to your DVD-ROM drive. The device name can be found using the AIX tool smit.

For example:

```
mount -r -v dvdrfs /dev/dvd0 /dvdrom
```

Linux

```
# mount -r -t iso9660 /dev/deviceName /mnt/dvdrom
```

where *deviceName* is the device name assigned to your DVD-ROM drive.

Read the README File

Read the SequeLink README text file for late-breaking information about SequeLink.

2 Installing SequeLink® Server

This chapter provides installation instructions for SequeLink Server, including instructions for installing the SequeLink Manager on the same SequeLink Server. See Chapter 3 “Installing the SequeLink® Manager” on page 121 for information about installing the SequeLink Manager on a networked client.

The Unicode version of SequeLink Server is automatically installed during SequeLink Server installation on Linux, UNIX, and Windows. For information on configuring SequeLink Server, refer to the *SequeLink Administrator’s Guide*.

Installing SequeLink® Server on a Windows Server Platform

PREREQUISITE: You must have administrator privileges to install SequeLink Server on a Windows server. See “SequeLink® Server” on page 18 for database prerequisites.

The SequeLink Server installer on the supported Windows platforms requires the Microsoft Windows Installer service. If the SequeLink Server installer detects that the service is not installed on your machine, or that an older version is installed, a message is displayed. After installing the Microsoft Windows Installer service, you might need to restart your machine. Then, you can install SequeLink Server.

To start the SequeLink Server installer:

- **If you have one SequeLink Server installed and you are replacing it**, perform the following actions before you start the installer:
  - Make sure that the installation directory is empty.
  - Check that the %TEMP% directory does not contain SequeLink files such as swandm.ini.
  - Kill any SequeLink processes that are still running.
  - Make sure that the SequeLink ports have been removed from the etc/services file.
  - Use new service names.

  NOTE: If you have more than one SequeLink Server installed, call DataDirect Technical Support for instructions on uninstalling the SequeLink Server that you want to replace.
- **If installing from the DataDirect DVD**, insert the DVD into the DVD-ROM drive. If you have a local DVD-ROM drive, this typically is drive D. If the DVD-ROM drive is on a network, mount the DVD and create a mapping to the DVD-ROM drive. Then, perform one of the following actions:
  - If AutoRun for DVDs is enabled and you have a browser, the main installer window displays automatically. Select the product that you want to install; then, follow the instructions to install the product.
  - If AutoRun for DVDs is not enabled, or you do not have a browser, use Windows Explorer to navigate from the root directory of the DVD to the folder for the product you want to install. Then, double-click **setup.exe**.

- **If installing from files downloaded from the Web**, follow the instructions on the DataDirect Technologies Web site to download the appropriate self-extracting ZIP file. Open the contents of the ZIP file into a directory (for example: C:\temp). Then, navigate to the directory containing the unzipped files and double-click **setup.exe** to start the installer.

Gathering Information for the Installation

Table 2-1 lists the information that you must supply during installation of all SequeLink Servers on Windows. The table also provides an example of a value for each attribute. Refer to the *SequeLink Administrator's Guide* for information about SequeLink service attributes.

Table 2-1. Information Required for All SequeLink Server Installations on Windows

Attribute	Example	SequeLink Service Attribute
Name	Sales	N/A
Company	CompanyXYZ	N/A
Serial Number	See Note	N/A
IPE Key	See Note	N/A
Installation directory	C:\Program Files\DataDirect\slserver60	N/A
Name for SequeLink Agent	SLAgent60	"ServiceName"
Name for SequeLink Server	SLOracle60	"ServiceName"
Port for SequeLink Agent	19995	"ServiceConnectInfo"

NOTE: Provided by DataDirect Technologies for registered users

Table 2-1. Information Required for All SequeLink Server Installations on Windows

Attribute	Example	SequeLink Service Attribute
Port for SequeLink Server	19996	"ServiceConnectInfo"
SequeLink Administrator Name	DOMAIN\Administrator	"ServiceAdministrator"

NOTE: Provided by DataDirect Technologies for registered users

SequeLink® Server for Informix

Table 2-2 lists the information that you must supply during installation of SequeLink Server for Informix on Windows. The table also provides an example of a value for each attribute.

Table 2-2. Information Required During Installation of SequeLink 6.0 Server for Informix on Windows

Attribute	Example	Service Attribute Used
CLIENT_LOCALE	en_US.8859-1	"DataSourceINFDbLocale"
DB_LOCALE	en_US.8859-1	"DataSourceINFDbLocale"
HOST	myHost	"DataSourceINFHost"
INFORMIXDIR	C:\informix\Client-SDK	"DataSourceINFInformixDir"
INFORMIXSERVER	myInformixServer	"DataSourceINFInformixServer"
SERVICE	myInformixService	"DataSourceINFService"

SequeLink® Server for JDBC Socket

Table 2-3 lists the information that you supply during installation of SequeLink Server for JDBC Socket on Windows. The table also provides an example of a value for each attribute.

Table 2-3. Information Used During Installation of SequeLink 6.0 Server for JDBC Socket on Windows

Attribute	Example	SequeLink Service Attribute
Connection URL	jdbc:cloudscape:net://localhost:1527//odbc	"DataSourceSOCJDBCConnectionURL"
Database Properties	cloudscape	"DataSourceSOCJDBCDbPropertiesName"
Driver ClassName	com.ibm.db2.jcc.DB2Driver	"DataSourceSOCJDBCDriverClassName"
Driver ClassPath	D:\Program Files\DataDirect\slserver60\bin\classes;D:\\JDBCDrivers\Drivers.jar	"ServiceEnvironmentVariable" CLASSPATH
J2RE Path Required	D:\Program Files\java\j2sdk1.4.2_05\jre\bin;D:\Program Files\java\j2sdk1.4.2_05\jre\bin\server	"ServiceEnvironmentVariable" PATH

SequeLink® Server for ODBC Socket

During installation of SequeLink Server for ODBC Socket on Windows, you can supply a connection string for the backend ODBC driver, for example, DSN=my_backend_ODBC_dsn.

You set this value with the "DataSourceMSSODBCConnStr" service attribute, described in the *SequeLink Administrator's Guide*.

SequeLink® Server for Oracle

During installation, of SequeLink Server for Oracle on Windows, you must supply the version of the Oracle database. For example, if the data source is version Oracle 10*g*, you enter 10.

SequeLink® Server for Sybase

During installation of SequeLink Server for Sybase on Windows, you can supply a network address, for example, mySybaseServer;5000.

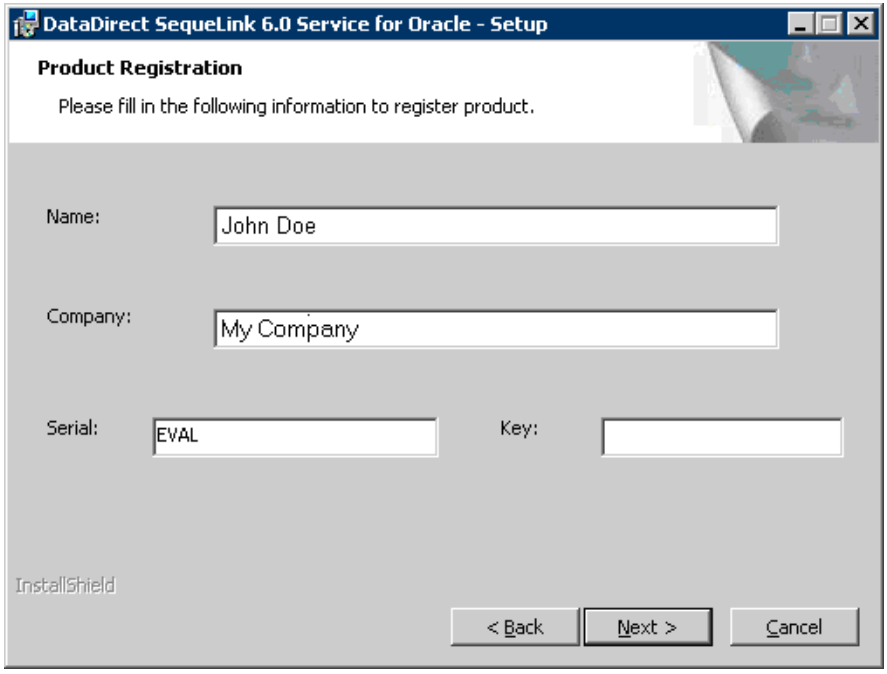
You set this value with the "DataSourceSybNetworkAddress" service attribute, described in the *SequeLink Administrator's Guide*.

Installing SequeLink® Server

NOTE: The screen shots in the following procedure show the installation of SequeLink Server for Oracle on a 32-bit Windows server. The installation on a 64-bit Windows server is similar.

1. Start the appropriate SequeLink Server installer. When the Welcome window appears, click **Next** to continue.
2. The License Agreement window appears. Accept the license agreement by clicking the **I accept the terms of the license agreement** option; then, click **Next**.

3 The Product Registration window appears, prompting you for product registration information.



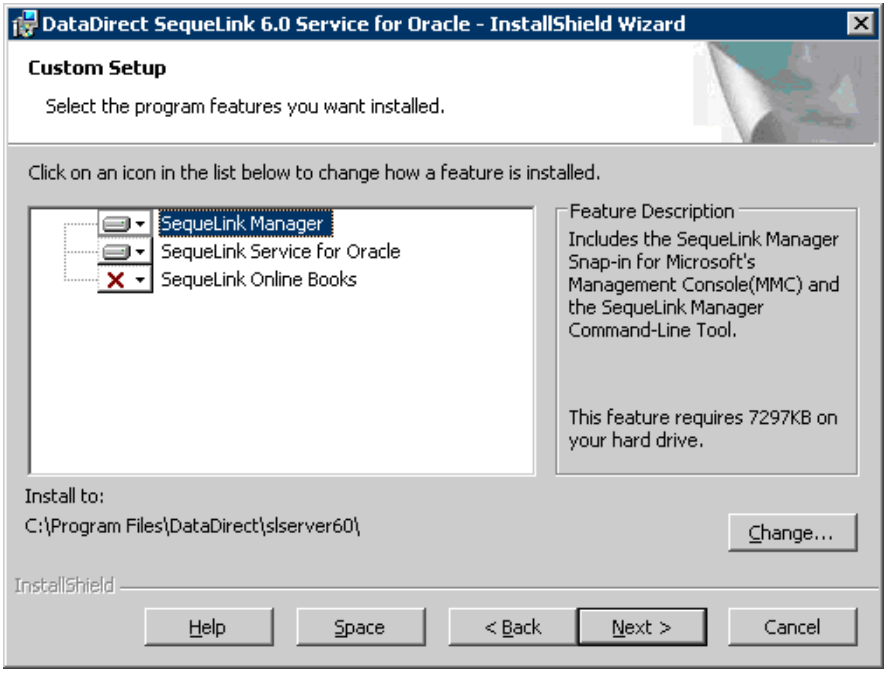
Type your name and your company name in the appropriate fields. Then, perform one of the following actions:

- If you are installing a *licensed* product, type the serial number and key provided to you by DataDirect Technologies.
- If you are installing an *evaluation* product, type `EVAL` in the Serial field and leave the Key field empty.

When you are finished, click **Next**.

If you chose to install an evaluation product, a message appears confirming the length of the evaluation period. Click **OK** to continue.

4 The Custom Setup window appears. Choose your installation options.



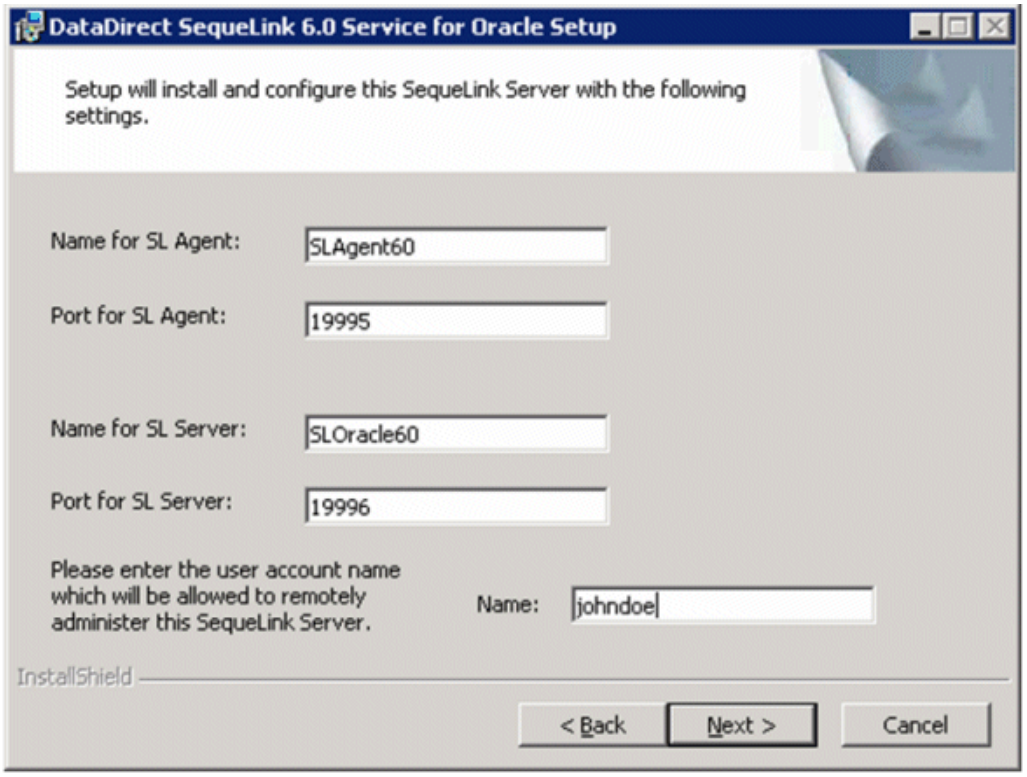
a Click one or multiple component icons to select the components to install. When you select a component, a description of the component appears in the Feature Description box.

b To change the installation directory, click **Change**. A window appears allowing you to browse and select an installation directory.

When you are satisfied with your settings, click **Next**.

NOTE: Multiple SequeLink Servers can be installed on the same machine; however, if you want to install them in the same directory, the SequeLink Servers must be different service types. For example, you can install SequeLink Server for Oracle and SequeLink Server for Microsoft SQL Server in the same directory.

5 A window appears, prompting you for the server names and TCP/IP ports to be used by the SequeLink Server. The SequeLink Agent allows the SequeLink administrator to configure, manage, and monitor this SequeLink Server using the SequeLink Manager.



NOTE: The service names and TCP/IP ports must be unique (not used by another service). If you do not specify a unique service name or a unique TCP/IP port, the installation will fail. No software will be installed.

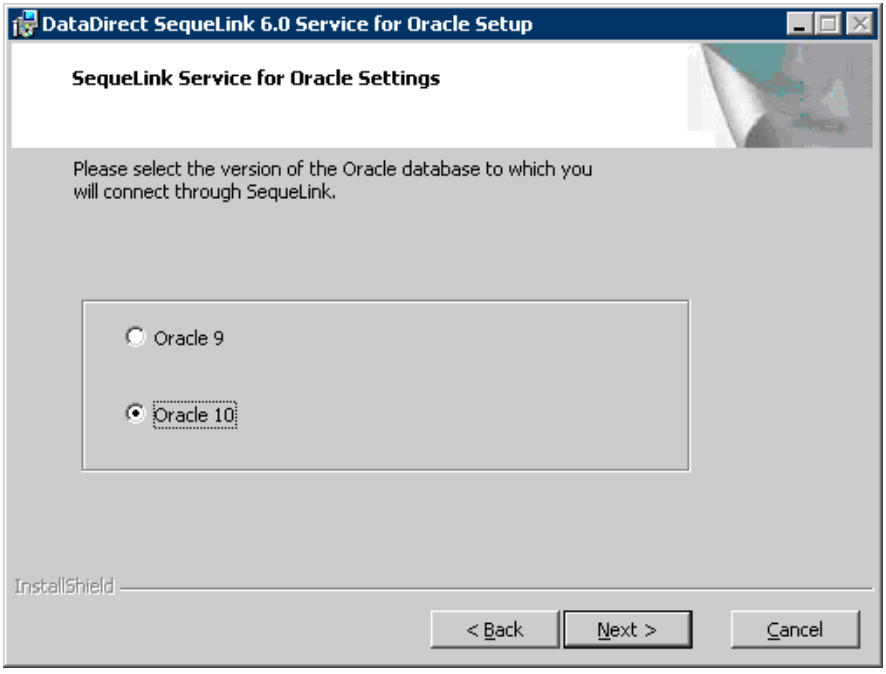
NOTE: If you are installing a different SequeLink Server service type in the same directory as an existing SequeLink Server, the same SequeLink Agent and SequeLink administrator account will be used; you will only be prompted for the service name and TCP/IP port of the SequeLink Server you are installing. Before proceeding, we

recommend that you use the SequeLink Manager to stop any running SequeLink services and SequeLink Agent.

If you are installing:

- SequeLink Server for Oracle on a 32-bit server, continue at Step 6 on page 43.
- SequeLink Server for Oracle on a 64-bit server, skip to Step 11 on page 49.
- SequeLink Server for Informix, skip to Step 7 on page 44.
- SequeLink Server for Sybase, skip to Step 8 on page 45.
- SequeLink Server for ODBC Socket, skip to Step 9 on page 46.
- SequeLink Server for JDBC Socket, skip to Step 10 on page 47.
- SequeLink Server for DB2, skip to Step 11 on page 49.
- SequeLink Server for SQL Server, skip to Step 11 on page 49.

6 If you are installing SequeLink Server for Oracle on a 32-bit server, the Oracle Version Information window appears, requiring you to select the version of your Oracle database.

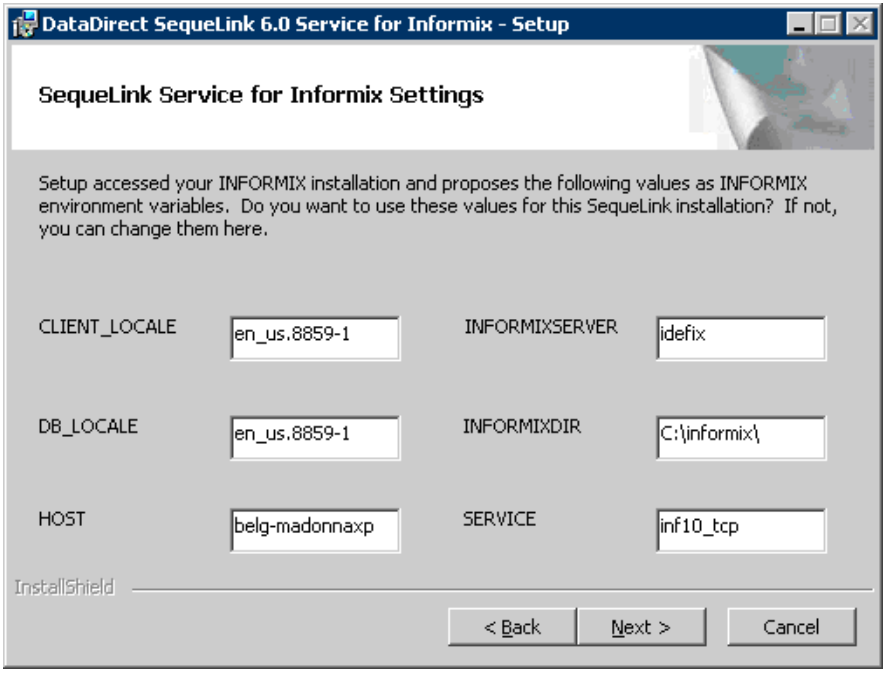


Select the version of your Oracle database (Oracle 9 or Oracle 10) by selecting the appropriate option, and click **OK**.

NOTE: If you select the incorrect version of Oracle, you will receive an error when you try to start the SequeLink for Oracle service.

Continue with Step 11 on page 49.

7 If you are installing SequeLink Server for Informix, the Informix Server Settings window appears, prompting you for information about your Informix installation. See "SequeLink® Server for Informix" on page 36 for the information you must supply.



Provide the following Informix information, then click **Next**:

CLIENT_LOCALE: Type the value of the CLIENTLOCALE environment variable.

DB_LOCALE: Type the value of the DBLOCALE environment variable.

HOST: Type the value of the INFORMIXHOST environment variable.

INFORMIXSERVER: Type the value of the INFORMIXSERVER environment variable.

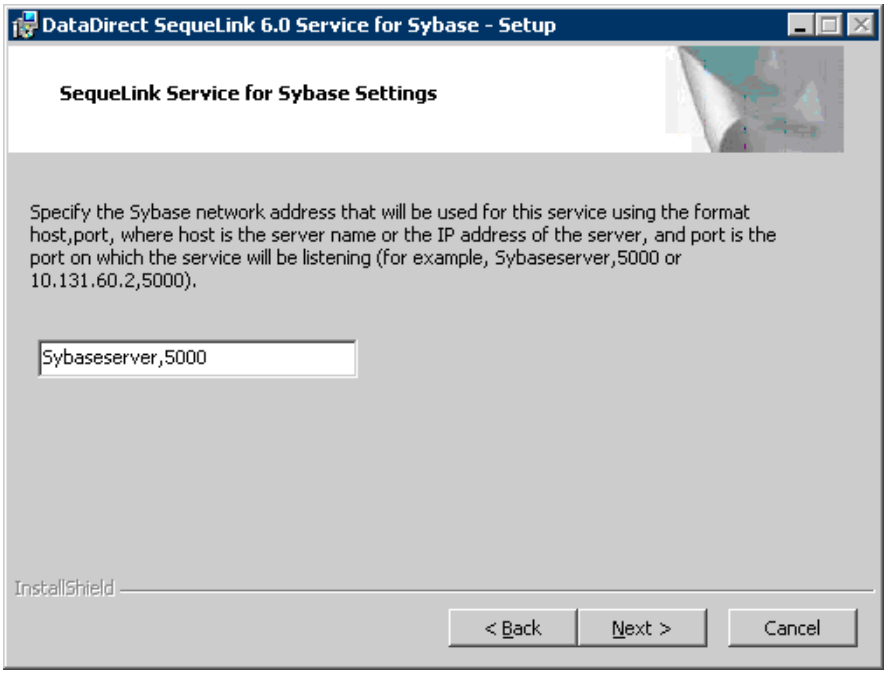
INFORMIXDIR: Type the value of the INFORMIXDIR environment variable.

SERVICE: Type the value of the SERVICE network parameter.

NOTE: Valid values for the fields on this window can be determined using the Informix tool Setnet32, which can be accessed from the Informix program group.

Continue with Step 11 on page 49.

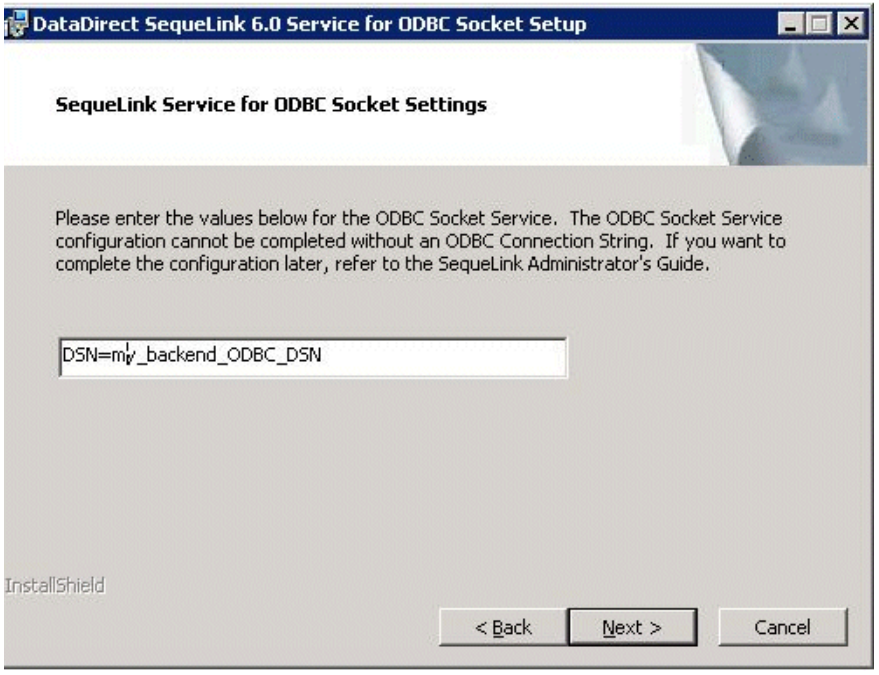
8 If you are installing SequeLink Server for Sybase, the Sybase Network Address window appears, prompting you for the network address of the Sybase database. See "SequeLink® Server for Sybase" on page 38 for the information you must supply.



Specify the network address of the Sybase database, for example, 10.30.131.2,5000. Then, click **Next** to continue.

Continue with Step 11 on page 49.

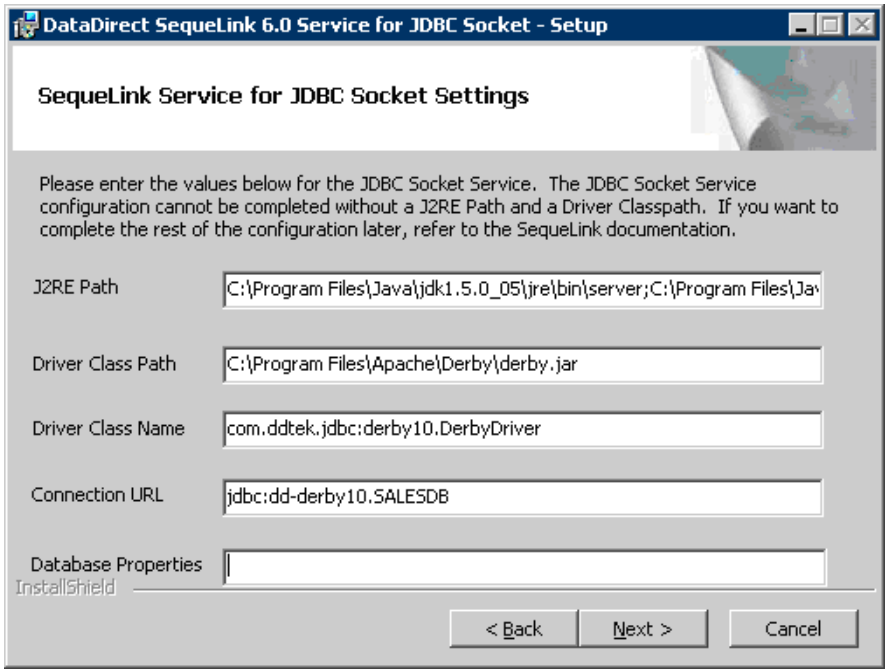
9 If you are installing SequeLink Server for ODBC Socket, the ODBC Connect String Information window appears, prompting you for a connection string for the ODBC system data source that connects to this service, for example, DSN=my_backend_ODBC_DSN.



If you leave this field empty during installation, you must configure the "DataSourceSOCODBCConnStr" service attribute before you can use SequeLink Server for ODBC Socket. For instructions on configuring SequeLink Server for ODBC Socket, refer to the *SequeLink Administrator's Guide*.

Click **Next** to continue.

10 If you are installing SequeLink Server for JDBC Socket, the JDBC Socket Settings window appears, prompting you for the values for this server.



Provide the following information, then click **Next**:

J2RE Path: Type the name of the directory where the Java Runtime Environment resides, for example, `PATH D:\Program Files\java\jdk1.5.0_05\jre\bin\server`.

Driver Classpath: Type the classpath that contains all of the JDBC drivers that need to be accessed by the SequeLink Server for JDBC Socket, for example, `C:\Program Files\Apache\Derby\derby.jar`.

Driver Name: Type the name of the JDBC driver being used to connect to the database. For example, if you are using the Apache derby JDBC driver, the value could be: `com.ddtek.jdbc:derby10.DerbyDriver`.

Connection URL: Type the URL string to pass to the JDBC driver to connect to the database. For example, if you are

using the Apache derby JDBC driver, the value could be: `jdbc:dd-derby10.SALESDB`.

Database Properties: Optionally, type the name of the properties file. Properties files are supplied in your installation package in the bin/odbc2jdbc/classes/com/ddtek/jniutil directory. The names of the properties files that are shipped with the product are: crossaccess30, db2v7mvs, db2v8udb, derby, oracle817, sqlsrv2000, and sybase125. If you do not find the appropriate properties file for your JDBC driver, contact DataDirect Technologies technical support.

For instructions on selecting the database properties after installation using the SequeLink attributes, refer to the *SequeLink Administrator's Guide*.

NOTE: If you will be connecting to the SequeLink Server for JDBC Socket with an ADO Client, you must configure the DataSourceProviderTypesFile and DataSourceProviderTypesSection service attributes. See "Completing the ODBC Socket and JDBC Socket Installation for the ADO Client" on page 154 for instructions on how to configure these attributes. Refer to the *SequeLink Administrator's Guide* for information about service attributes.

Click **Next** to continue.

NOTE: For some drivers, SequeLink provides a wrapper driver with its own Driver name and Connection URL. This wrapper driver fixes incorrect JDBC behavior, provides workarounds for driver deficiencies and optimizes code paths. For the following third-party drivers we strongly advise you to use these wrappers:

- Websphere Information Integrator Classic Federation for z/OS (also known as CrossAccess or DB2 II Classic Federation)

  Driver name: com.ddtek.jdbc.crossaccess30.CrossAccessDriver

  Connection hurl: jdbc:dd-crossaccess30:<datasource>: tcp/<host>/<port>:CODEPAGE=USS

  Database Properties: crossaccess30

- Apache Derby 10 (also known as Cloudscape)

  Driver name: com.ddtek.jdbc.derby10.DerbyDriver

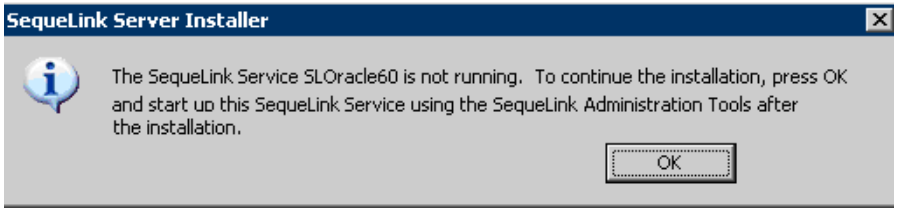
  Connection url: jdbc:dd-derby10

  Database Properties: derby

11 The Ready to Install the Program window appears, allowing you to go back and review your choices before proceeding. If you are ready to install, click **Install**.

If the installer encounters any Windows registration errors, it will not install SequeLink Server and will display a message that tells you to examine the installation log file SLSERVER.LOG (see "Installation Log File" on page 57). The installation is rolled back and no software is installed.

NOTE: If the installer has installed the SequeLink Server correctly, but the SequeLink Agent or the SequeLink Data Access service cannot be started, a message box appears:



Click **OK**. The SequeLink software is correctly installed, but the configuration needs to be corrected in order to start the services. Refer to the *SequeLink Troubleshooting Guide and Reference* for more information about starting SequeLink services and using the troubleshooting tools for SequeLink Server.

12 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**.

13 Test your SequeLink environment by establishing a connection between the SequeLink Client and the SequeLink Server. For instructions on testing your SequeLink environment, refer to the *SequeLink Administrator's Guide*.

Silent Installations

The SequeLink Server installer provides a command-line option for silent installations on Windows servers. For example, if you want to install a licensed copy of the SequeLink Server for SQL Server in an installation directory named \Program Files\DataDirect\SequeLink\SQL_Server, you would use the following command:

```
setup /s /v"NAME=\"John Doe\" COMPANY=\"My Company\" SERIAL=123456789012
KEY=12345678 INSTALLDIR=\"C:\Program Files\DataDirect\SequeLink\
SQL_Server\\" SLACCOUNTNAME=DDTEK\susank /qn /l*v C:\temp\SLSERVER.LOG"
```

Silent installations are useful for system administrators who want to create a batch file to execute multiple identical installations of SequeLink Server.

To install SequeLink Server silently:

1. Using a command-line, change to the directory containing the SETUP.EXE file for the SequeLink Server you want to install, or ensure that this directory is on your path. Type the command:

   ```
   setup /s /v"arguments /qn /l*v path\log"
   ```

   See "Command-Line Syntax" on page 52 for an explanation of the syntax rules. See Table 2-4 for an explanation of each command-line parameter. See Table 2-5 and Table 2-6 for an explanation of the arguments that follow the /v parameter.

2. The installation proceeds without any further user intervention or notification. You must consult the log that is created during the installation (see "Installation Log File" on page 57) to determine whether the installation was successful and, if it failed, why it failed. Have this log available if you contact DataDirect Technologies for technical support.

To uninstall SequeLink Server silently:

NOTE: Make sure that the SequeLink service is stopped before uninstalling.

Using a command line, change to the directory containing the SETUP.EXE file for the SequeLink Server you want to uninstall, or ensure that this directory is on your path. Type the command:

```
setup /s /x /v"REMOVE=ALL /qn /l*v path\log"
```

Then, press ENTER. The SequeLink Server is removed without requiring any further interaction.

Command-Line Syntax

In general, there must be a space between all command-line parameters and between each argument. The exception is that there cannot be a space between `/v` and the double quotation mark that follows it. Multiple arguments and parameters can be specified between the opening and closing double quotation marks, but each one must be separated by a space. The arguments are case-sensitive.

IMPORTANT: When any of the command-line parameters include an item that contains a space, that item must be preceded and followed by the escape character `\"`. For example:

```
INSTALLDIR=\"C:\Program Files\DataDirect\slserver60"
```

and

```
/l*v \"C:\log dir\log.txt\"
```

Parameters and Arguments

Table 2-4 describes each command-line parameter. See Table 2-5 and Table 2-6 for the required and optional arguments that follow the /v parameter. All arguments are case-sensitive.

Table 2-4. Silent Installation Parameters

Parameter	Description
/s	Instructs the installer to perform a silent installation.
/x	Instructs the installer to uninstall silently.
/v"*arguments parameters*"	Passes arguments to the installer; the v must not be followed by a space. All arguments and following parameters must be enclosed between the quotation marks (").
	See Table 2-5 and Table 2-6 for a description of the required and optional arguments that follow the /v parameter.
/qn	Additional parameter required to perform a silent installation.
/l*v *path\name*	Instructs the installer to create a log file of the installation. The v must be followed by a space, and then, by the path where you want the log file created, as well as the name of the log file. The directory you specify for the log file must exist. If you specify a directory that does not exist, the installation fails.

Table 2-5 lists the required arguments that follow the /v parameter. Arguments that are required for all SequeLink services are listed first, followed by required arguments that are service-specific. All arguments are case-sensitive. See Table 2-6 for optional arguments.

Table 2-5. Required Silent Installation Arguments

Argument	Description
All SequeLink Servers	
COMPANY=*company name*	Provide your company name. If your company name includes spaces, the name must be preceded and followed by the escape character \".
INSTALLDIR=*installation directory*	Provide the directory name where you want to install SequeLink Server. If this path contains spaces, you must use escape characters, as explained in "Command-Line Syntax" on page 52.
KEY=*key value*|\"\"	Provide the license key for your purchased product or type `KEY= \"\"` to install an evaluation product.
NAME=*user name*	Provide your name. If your user name includes spaces, the name must be preceded and followed by the escape character \".
REMOVE =ALL	Provide to uninstall SequeLink Server.
SERIAL=*serial number value*	Provide the serial number for your purchased product or enter `EVAL` to install an evaluation product.
SLACCOUNTNAME=*Administrator user ID*	Provide the user ID of the person who is authorized to administer the SequeLink Server.
Informix (see note)	
CLIENTLOCALE=*clientlocale*	Provide the value of the CLIENTLOCALE environment variable.
DBLOCALE=*dblocale*	Provide the value of the DBLOCALE environment variable.
HOST=*host*	Provide the value of the INFORMIXHOST environment variable.
INFORMIXDIR=*informixdir*	Provide the value of the INFORMIXDIR environment variable.

Table 2-5. Required Silent Installation Arguments *(cont.)*

Argument	Description
INFORMIXSERVER=*informixserver*	Provide the value of the INFORMIXSERVER environment variable.
INFORMIXSERVICE=*informixservice*	Provide the value of the SERVICE network parameter.
NOTE: Valid values for Informix-specific arguments can be determined using the Informix tool Setnet32, which can be accessed from the Informix program group.	
Oracle	
ORACLE_HOME	/rdbms/oracle10g
ORACLE_SID	Provide the Oracle System Identifier that refers to the instance of the Oracle database running on the server. The default value is ORCL.
SERVICE=*SL6_Oracle90* | *SL6_Oracle10*	Provide your Oracle version (applies to 32-bit machines only).
Sybase	
NETWORK ADDRESS=Sybase *network address*	Provide the network address of the Sybase database.
SequeLink Server for JDBC Socket	
JREPath=*J2RE PATH*	Provide the path where the virtual machine resides.
DRIVERCLASSPATH=*Classpath*	Type the classpath that contains all of the JDBC drivers that need to be accessed by the SequeLink Server for JDBC Socket, for example, `C:\Program Files\Apache\Derby\derby.jar`.
DRIVERCLASSNAME=*Driver Name*	Type the name of the JDBC driver being used to connect to the database. For example, if you are using the Apache derby JDBC driver, the value could be: `com.ddtek.jdbc:derby10.DerbyDriver`.

Table 2-5. Required Silent Installation Arguments (cont.)

Argument	Description
CONNECTIONURL=*Connection URL*	Provide the URL string to pass to the JDBC driver to connect to the database. For example, if you are using the Apache derby JDBC driver, the value could be: `jdbc:dd-derby10.SALESDB`.

Table 2-6 lists the optional arguments that follow the /v parameter. Arguments that are optional for all SequeLink services are listed first, followed by optional arguments that are service-specific. All arguments are case-sensitive.

Table 2-6. Optional Silent Installation Arguments

Argument	Description
All SequeLink Servers	
SLAGENTNAME=*Agent*	Provide the name of the SequeLink Agent for this service. The initial default is SLAgent60.
SLAGENTPORT=*Port*	Provide the port number of the SequeLink Agent. The initial default is 19995. NOTE: The TCP/IP port must be unique (not used by another service). If you do not specify a unique TCP/IP port, the installation fails.
SLSERVERNAME	Provide the service name for this service. The initial default depends on the SequeLink Server. NOTE: The service name must be unique (not used by another service). If you do not specify a unique service name, the installation fails.

Table 2-6. Optional Silent Installation Arguments (cont.)

Argument	Description
SLSERVERPORT=*Port*	Provide the port number of the SequeLink service. The initial default is 19996. NOTE: The TCP/IP port must be unique (not used by another service). If you do not specify a unique TCP/IP port, the installation fails.
SequeLink Server for ODBC Socket	
ODBCCONNSTR=*ODBC connection string*	Provide the connection string for the ODBC system data source. If you do not specify this argument, you must configure the DataSourceSOCODBCConnStr service attribute before you can use SequeLink Server for ODBC Socket. For instructions on configuring SequeLink Server for ODBC Socket, refer to the *SequeLink Administrator's Guide*.

Installation Log File

If you encounter any problems during the installation, you can find details about the problem in the installation log file.

For SequeLink Server installations using the standard installation procedure as described in "Installing SequeLink® Server" on page 38, the SequeLink Server creates a SLSERVER.LOG file in your temporary directory (for example, C:\temp).

For silent installations as described in "Silent Installations" on page 51, you must specify the path of the location of the log file and the log file name as described in "Command-Line Syntax" on page 52.

The log file created during the installation can be read with a text editor or word processor. DataDirect Technologies provides technical support to help you interpret the log file if you encounter problems.

Although the log file can be very long, the most important information is at the beginning and end. For example, for silent installations, the initial lines reproduce all the command-line arguments that you entered. The final lines of the log file indicate whether the installation was successful. If a failure occurred, examine the command-line entries to see if the syntax is correct.

Integrating SequeLink® Monitoring with Windows Performance Monitoring

If you are integrating SequeLink monitoring with the Windows Performance Monitoring tool on the Windows platforms on which the SequeLink Server runs, you must explicitly set the required counters in the Windows registry. When the SequeLink Server installation finishes, the files SWEVPERF.INI and SWEVPERF.H appear in your temporary directory (for example, C:\temp). For instructions on integrating SequeLink monitoring with Windows performance monitoring, refer to the *SequeLink Administrator's Guide*.

Uninstalling SequeLink® Server

NOTE: Make sure all SequeLink services are stopped before uninstalling SequeLink Server. For instructions on stopping a SequeLink service, refer to the *SequeLink Administrator's Guide*.

On all Windows platforms, the Remove option of the product Setup deletes product files and entries in the system information.

You should use the Remove option if you have a SequeLink Server installed and want to install the same SequeLink Server in a different location. Remove the installed SequeLink Server; then, reinstall the SequeLink Server in the new location.

To remove your installation:

1. After opening Add/Remove Programs, select the DataDirect program and, depending on your platform, click **Remove** or **Add/Remove**. Clicking **Remove** immediately removes the program. Clicking **Add/Remove** displays the DataDirect Setup Welcome window. Click **Next** to display the Program Maintenance window.
2. Select **Remove**; then, click **Next**. The Remove the Program window appears.
3. Click **Remove**.
4. On the Setup Completed window, click **Finish**.

Installing SequeLink® Server on Linux and UNIX

NOTE: See "SequeLink® Server" on page 18 for database prerequisites.

The method you use to install SequeLink Server for Linux and UNIX depends on whether you install:

- **From a DVD**. The method you use to install SequeLink Server for UNIX from a DVD depends on whether your workstation has a DVD-ROM drive:
  - **If your workstation has a DVD-ROM drive**, see "Installing on a Server with a DVD-ROM Drive" on page 66.
  - **If your workstation does not have a DVD-ROM drive**, you must transfer the files from another computer which has a DVD-ROM drive and an FTP utility to your workstation, untar the transferred files, and run the SequeLink Server installation script. See "Installing on a Server without a DVD-ROM Drive" on page 72 for instructions on installing SequeLink Server on a server without a DVD-ROM drive.
- **From files downloaded from the Web**. You extract the downloaded file and run the SequeLink Server installation script. For instructions on installing SequeLink Server from downloaded files, see "Installing From Downloaded Files" on page 75.

Table 2-7 identifies the SequeLink Server tar file you need to transfer for your SequeLink Server.

Table 2-7. SequeLink Server tar Files

SequeLink Server	32-bit Tar Files	64-bit Tar Files
DB2	sldb2.tar	sldb264.tar
Informix	slinf.tar	N/A
JDBC Socket	slsoc2jdbc.tar	N/A
ODBC Socket	slsoc.tar	slsoc64.tar
Oracle	slora.tar	slora64.tar
Sybase	slsyb.tar	slsyb64.tar

Installation Setup Notes

The following sections describe utilities and procedures that an administrator can use during installation and setup of SequeLink Server:

- "User Login for Installation" on page 61
- "Processor Information Utility" on page 62
- "Checking Your Third-Party JDBC Driver Environment" on page 62

User Login for Installation

To install SequeLink Server, you can log on as *root* or another user. If you choose to log on as any user other than root, the security operating system user ID and password authentication mechanism (for example, ServiceAdminAuthMethods=OSlogon(UID,PWD)) will not be

supported for this SequeLink installation. For more information about authentication and defining security for SequeLink, refer to the *SequeLink Administrator's Guide*.

Processor Information Utility

DataDirect Technologies Support may, on occasion, ask that you use the Processor Information Utility to identify the type of license you need.

After you have untarred the SequeLink Server package, execute from a command shell: `ddprocinfo`.

The utility automatically determines the number and type of processors in your machine and displays the information. The message also includes the type of license required for your DataDirect Technologies product. Provide this information to DataDirect Support when requested.

Checking Your Third-Party JDBC Driver Environment

The ivcheckjdbcdriver utility is unpackaged after you extract the contents of the SequeLink Server for JDBC Socket.tar file. The SequeLink administrator can use the ivcheckjdbcdriver utility to check the third-party JDBC driver environment that will be used behind the SequeLink Server for JDBC Socket.

Gathering Information for the Installation

Table 2-8 lists the information that you must supply during installation of all SequeLink Servers on Linux/UNIX. The table also provides an example of a value for each attribute.

Table 2-8. Required Information for All SequeLink Server Installations on Linux and UNIX

Attribute	Example	SequeLink Service Attribute
Installation directory	/usr/slserver60	N/A
SequeLink Administrator Name	root	"ServiceAdministrator"
Name for SequeLink Agent	SLAgent60	"ServiceName"
Port for SequeLink Agent	19995	"ServiceConnectInfo"
Name for SequeLink Server	SLOracle60	"ServiceName"
Port for SequeLink Server	19996	"ServiceConnectInfo"
Name	Sales	N/A
Company	CompanyXYZ	N/A
Serial Number	[1]	N/A
IPE Key	*	N/A

1.NOTE: Provided by DataDirect Technologies for registered users

SequeLink® Server for DB2

During installation of SequeLink Server for DB2 on Linux and UNIX, you must supply the UNIX account name of the DB2 instance, for example, db2inst1.

SequeLink® Server for Informix

During installation of SequeLink Server for Informix on Linux and UNIX, you must supply the INFORMIXSERVER attribute, for example, myInformixServer. You set this value with the "DataSourceINFInformixServer" service attribute, described in the *SequeLink Administrator's Guide*.

SequeLink® Server for JDBC Socket

Table 2-9 lists the information that you must supply during installation of SequeLink Server for JDBC Socket on Linux and UNIX. The table also provides an example of a value for each attribute.

Table 2-9. Required Information for SequeLink 6.0 Server for JDBC Socket on UNIX

Attribute	Example	SequeLink Service Attribute
J2RE Path **Required**	/usr/bin/java	"ServiceEnvironmentVariable" for the shared library path
Driver ClassPath	/usr/slserver60/bin/classes; / JDBCDrivers/Drivers.jar	"ServiceEnvironmentVariable" CLASSPATH
Driver ClassName	com.ddtek.jdbc.derby10. DerbyDriver	"DataSourceSOCJDBCDriverClassName"
Connection URL	jdbc:dd-derby10	"DataSourceSOCJDBCConnectionURL"
Database Properties	derby10	"DataSourceSOCJDBCDbProperties Name"

SequeLink® Server for ODBC Socket

During installation of SequeLink Server for ODBC Socket on Linux and UNIX, you can supply a connection string for a backend ODBC data source, for example, DSN=my_backend_ODBC_ds.

To set this value, use the "DataSourceSOCODBCConnStr" service attribute, described in the *SequeLink Administrator's Guide*.

SequeLink® Server for Oracle

Table 2-10 lists the information that you must supply during installation of SequeLink Server for Oracle on Linux and UNIX. The table also provides an example of a value for each attribute.

Table 2-10. Information Used During Installation of SequeLink 6.0 Server for Oracle on Linux and UNIX

Attribute	Example	SequeLink Service Attribute
UNIX account name of the Oracle instance	ora10	N/A
Required		
Connection method	■ An Oracle SQL*Net Service such as ORA10TCP ■ Bequeath protocol using Oracle SID, such as ORA10	"DataSourceORAServiceName"
ORACLE_HOME	/rdbms/oracle10g	N/A
ORACLE_SID	ORCL	N/A

SequeLink® Server for Sybase

Table 2-11 lists the information that you may supply during installation of SequeLink Server for Sybase on Linux and UNIX. The table also provides an example of a value for each attribute.

Table 2-11. Information Used During Installation of SequeLink 6.0 Server for Sybase on Linux and UNIX

Attribute	Example	Service Attribute Used
UNIX account name of the Sybase instance	syb15	N/A
Required		
Home directory of the Sybase account	/rdbms/syb15	N/A
Name of the Sybase server	mySybaseServer	"DataSourceSybNetworkAddress"

Installing on a Server with a DVD-ROM Drive

If your Linux or UNIX server has a DVD-ROM drive, you can install SequeLink Server from the DataDirect DVD. When the installation completes, the Installer window appears, allowing you to install another product or exit from the installer. Default answers for any questions are displayed in square brackets, [ ]. To accept the default, press ENTER.

When you run the SequeLink Server installer, it prompts you for choices you need to make and information you need to supply. Default answers to questions are enclosed within square brackets, [ ]. To accept the default, press ENTER.

NOTES:

- The examples in this procedure show the information that displays when you install SequeLink Server for Oracle on a 32-bit UNIX machine. For a description of the installation options used in the other SequeLink Servers, see "Installing SequeLink® Server" on page 38.
- If you logged on to your Linux or UNIX system as a user other than *root*, extract the files from the SequeLink Server tar file and then, execute the `ksh install.sh -po` command as described in "Installing on a Server without a DVD-ROM Drive" on page 72.

To install SequeLink Server:

1. Log on to your UNIX system as *root*. See "User Login for Installation" on page 61 for more information.

   NOTE: If you are installing SequeLink Server for JDBC Socket, you must log on with root authority.

2. Mount the DVD. See "Mounting Your DVD" on page 29 for instructions on mounting the DVD.

3. Change to the top-level directory on the DVD and navigate to the product package that you want to install. For example, for Oracle on UNIX, the directory structure is one of the following:

   ```
   sl60/solaris/server/32-bit/slora.tar
   sl60/solaris/server/64-bit/slora64.tar
   ```

4. Untar the package. For example, for the 32-bit Oracle package, enter the following command:

   ```
   tar -xvof slora.tar
   ```

5. Enter the following command:

   ```
   ksh install.sh
   ```

6. Select the SequeLink Server to install.

7 Verify the SequeLink Server to install (the examples in this procedure show the information that displays when you install SequeLink Server for Oracle on a 32-bit machine).

```
You are installing the product:

SequeLink 6.0 Server for Oracle 9 or 10
on Solaris 10 or higher
-------------------------------------------
Do you want to continue (Y/N) ? [Y]
```

Enter `Y` to continue the installation. Enter `N` to stop the installation; no software is installed.

8 Enter the installation directory, or press ENTER to accept the default installation directory. If the directory does not exist, it will be created for you.

9 Enter the UNIX account name that was used to install the database software on your machine.

10 Select the connection method that you want SequeLink to use to connect to the Oracle Server.

```
Please choose the connection method you want SequeLink
to use to connect to the Oracle server.
1. Bequeath Protocol
2. Oracle Net Service: connect to the Oracle database
   through the Oracle listener.

Enter your choice [1]:
```

The default is to use the Oracle Bequeath Protocol to communicate to the Oracle database engine. However, we strongly recommend that during installation, you select the Oracle Net Service instead. If you accept the default value during installation and later want to use the Oracle Net Service, you can change the configuration.

11 You are prompted to confirm information about your database installation. Enter the information for which you are prompted, or press ENTER to accept the proposed values.

```
The installer accessed your current Oracle
installation and found a list of possible values for
the environment variable ORACLE_SID.
Please enter the value for the environment variable
ORACLE_SID applicable to your Oracle installation.
ora10g
Please enter a value for the ORACLE_SID variable
[ora10g]: ora10g
*******************************************
```

12 You are prompted for information that is required to create the SequeLink Agent. The SequeLink Agent allows the SequeLink administrator to configure, manage, and monitor this SequeLink Server using the SequeLink Manager. To create a SequeLink Agent service, enter the user ID of the SequeLink administrator account, or press ENTER to accept the default.

```
Please enter the Unix account name which will be
allowed to remotely administer this SequeLink Server
[root] :
```

13 Enter the name of the SequeLink Agent service, or press ENTER to accept the default.

```
Enter the name of this SequeLink agent service
[SLAgent]:
```

14 Enter the TCP/IP port that the SequeLink Agent service will use to listen for connection requests.

```
Enter the TCP/IP port for your SequeLink agent service
[19995] :
```

Enter an available unique port, or press ENTER to accept the default. The installer creates the SequeLink Agent.

NOTE: The port you choose must be unique (not used by another service). If the port you choose is not unique, the installation will fail. No software will be installed.

15 Enter the name of the SequeLink data access service, or press ENTER to accept the default.

```
Enter the name of your SequeLink Oracle service
[SLOracle10] :
```

16 Enter the TCP/IP port that the SequeLink Server will use to listen for connection requests.

```
Enter the TCP/IP port for this SequeLink Oracle service
[19996] :
```

Enter an available port, or press ENTER to accept the default. The port you choose must not be used by another service. The installer creates the SequeLink data access service.

17 Review the installation settings.

```
Ready to start installation with the following settings:

SequeLink home directory : ../slserver60
SequeLink Agent settings:  Administrator : root
                           Service name : SLAgent
                           TCP/IP port: 19995
SequeLink Oracle settings : Service name : SLOracle
                           TCP/IP port : 19996
Oracle home directory : /rdbms/oracle10g
ORACLE_SID : ora10g
Link service executables : No

You will need approx. 40000 kBytes free diskspace in
your SequeLink home directory (depending on your
platform and configuration).
-----------------------------------------------
1) Start installation with these settings
2) Change SequeLink home directory
3) Change SequeLink Agent settings
4) Change SequeLink Oracle settings
5) Change Oracle home directory
```

```
6) Change Oracle version
7) Change Oracle Connection method
9) Abort installation
Enter your choice [1] ?
```

You can choose to continue with the installation using these settings, change any settings, or end the installation. Enter the appropriate choice, or press ENTER to start the installation with the current settings.

18 You are prompted for your product registration. Enter your name, company name, serial number, and key. The serial number and key are provided to you by DataDirect Technologies. If you are installing an evaluation copy of SequeLink Server, leave the Key field empty.

19 The installer prompts you to review the information. Enter `C` to change the information, or press ENTER to continue.

20 The license agreement is displayed. Press ENTER to advance through the license agreement. Then, enter `YES` to accept the license agreement or `NO` to decline the agreement and end the installation.

21 The installer prompts you to continue with the installation. Press ENTER to continue. The installer installs the files.

22 When the installation of the SequeLink Agent is complete, the installer prompts you to start the SequeLink Agent service.

```
-----------------------------------------------
Starting SequeLink Agent service
-----------------------------------------------
Would you like the installer to start the SequeLink
Agent (Y/N) ? [Y]
```

Enter `Y` to start the SequeLink Agent service. Enter `N` if you do not want to start the SequeLink Agent service at this time. You can start the SequeLink Agent at a later time.

23 The installer prompts you to start the SequeLink Server data access service.

```
Would you like the installer to start SequeLink Server
for Oracle (Y/N) ? [Y]
```

Enter `Y` to start the SequeLink Server data access service. Enter `N` if you do not want to start the service at this time. You can start the SequeLink service at a later time.

24 The installer prompts you for the password for the user ID that you specified in Step 12.

```
Password:
```

Enter the password of the SequeLink administrator account. A message appears when SequeLink Server successfully starts and publishes itself on the TCP/IP port.

You may need to tune your SequeLink Server after installation. For information on tuning the SequeLink Server, refer to the *SequeLink Administration Guide*.

Installing on a Server without a DVD-ROM Drive

Installing SequeLink Server when your server does not have a DVD-ROM drive involves:

- Transferring files to your UNIX server
- Extracting the files
- Running the installation script

If you logged on to your Linux or UNIX system as a user other than *root*, extract the files from the SequeLink Server tar file and then, execute the `ksh install.sh -po` command as described in this section.

If your server does not have a DVD-ROM drive, you can mount a DVD on another computer with a DVD-ROM drive and transfer

the tar file in *binary* format to your server using file transfer software (for example, FTP). After the tar file is transferred or copied to your server, you must extract the files from the tar file to run the installation script.

Table 2-7 "SequeLink Server tar Files" on page 61 identifies the SequeLink Server tar file you need to transfer for your SequeLink Server.

Transferring SequeLink Server Files

1. Mount the DVD on a computer with a DVD-ROM drive and FTP capability. See "Mounting Your DVD" on page 29 for instructions on mounting the DVD.
2. Log on to your UNIX system as *root* or another user. See "User Login for Installation" on page 61 for more information.
3. If a SequeLink home directory does not exist, create a target directory on the server. For example, to create a SequeLink home directory called *sqlnk* in the usr directory, enter:

   ```
   mkdir /usr/sqlnk
   ```

4. On the machine from which you will be transferring the files, change to the directory on the DVD for your server platform (for example, /sqlnk60/solaris/server).

   From this machine, transfer the appropriate tar file (in binary format) to the SequeLink home directory on the server (for example, /usr/sqlnk).

   How you transfer files from another system to the server depends on your TCP/IP product and your system's operating system. For more information about transferring files, refer to the documentation supplied with your TCP/IP product.

   IMPORTANT: Transfer the tar file in binary format. If you transfer files in the wrong format, the SequeLink Server installation will fail.

Extracting SequeLink® Server Files

On the server, access the tar file you transferred to the SequeLink home directory and extract it. For example, to extract the tar file for SequeLink Server for Oracle, you would enter:

```
tar -xvof slora.tar
```

Running the Installation Script

When you run the installation script, it prompts you for choices you need to make and information you need to supply. Default answers to questions are enclosed within square brackets, [ ]. To accept the default, press ENTER.

NOTE: The examples in this procedure show the information that displays when you install SequeLink Server for Oracle. See "Installing SequeLink® Server" on page 38 for a description of the installation options used in the other SequeLink Servers.

To run the installation script:

1 Change to the SequeLink home directory. For example, enter:

```
dvd /usr/sqlnk
```

2 If you logged on to your UNIX system as:

- *root*, enter the following command:

```
ksh install.sh
```

- Another user, enter the following command:

```
ksh install.sh -po
```

3 Select the SequeLink Server to install.

4 Follow Step 7 through Step 24 under "Installing on a Server with a DVD-ROM Drive" on page 66 to complete the installation.

Installing From Downloaded Files

The tar file you download from the DataDirect Technologies Web site depends on the SequeLink Server you are using. Table 2-7 "SequeLink Server tar Files" on page 61 identifies which SequeLink Server tar file to download.

NOTE: The examples in this procedure show the information that displays when you install SequeLink Server for Oracle on UNIX. See "Installing SequeLink® Server" on page 38 for a description of the installation options used in the other SequeLink Servers.

To install SequeLink Server from files downloaded from the Web:

1. Log on to your UNIX system as *root* or another user. See "User Login for Installation" on page 61 for more information.
2. Download the SequeLink Server tar file from the DataDirect Technologies Web site. Download instructions are available on the DataDirect Technologies Web site.

   If you are downloading to a machine other than the target machine, you will need to transfer the file (in binary format) to your UNIX workstation. How you transfer files from another system to your UNIX workstation depends on your TCP/IP product and your system's operating system. For more information about transferring files, refer to the documentation supplied with your TCP/IP product.

   IMPORTANT: Transfer the file in binary format. If you transfer the file in the wrong format, the installation will fail.
3. On your UNIX server, access the downloaded tar file and extract it. For example, to extract the tar file for SequeLink Server for Oracle, you would enter:

   ```
   tar -xvof slora.tar
   ```

4 If you logged on to your UNIX system as:

- *root*, enter the following command:

```
ksh install.sh
```

- Another user, enter the following command:

```
ksh install.sh -po
```

When you run the installation script, it prompts you for choices you need to make and information you need to supply. Default answers to questions are enclosed within square brackets, [ ]. To accept the default, press ENTER.

Running the Installation Script

When you run the installation script, you will be prompted for choices you need to make and information you need to enter. Default answers to questions are enclosed in square brackets, [ ]. To accept the default value, press ENTER.

Follow Step 6 through Step 24 under "Installing on a Server with a DVD-ROM Drive" on page 66 to complete the installation.

Uninstalling SequeLink® Server on Linux and UNIX

For information on using the SequeLink Manager Command-Line Tool (swcla), refer to the *SequeLink Administrator's Guide*.

1 Start the SequeLink Manager Command-Line Tool by typing the following command; then, press ENTER:

```
installdir/admin/swcla.sh
```

2 Open the local configuration file by typing the following; then, press ENTER:

```
aoc /installdir/cfg/swandm.ini
```

3 List the SequeLink services by typing the following command; then, press ENTER:

```
sl
```

4 Stop each SequeLink Agent and database service that is running by typing the following command; then, press ENTER:

```
sst service_name
```

where `service_name` is the name of the service that you want to stop.

5 Unregister each SequeLink Agent and database service by typing the following command; then, press ENTER:

```
su service_name
```

where `service_name` is the name of the service that you want to unregister.

6 Delete each SequeLink Agent and database service by typing the following command; then, press ENTER:

```
sd service_name
```

where *`service_name`* is the name of the service that you want to delete.

7 Exit swcla by typing the following; then, press ENTER:

```
exit
```

8 Delete the SequeLink installation directory.

Installing SequeLink® Server on z/OS

z/OS Installing SequeLink Server for DB2 UDB for z/OS involves the following steps:

- "Step 1. Unpacking the Product Files" on page 85
- "Step 2. Registering Your License" on page 87
- "Step 3. Allocating the SequeLink® ISPF Libraries to a TSO Session (Optional)" on page 88
- "Step 4. Modifying the APF List" on page 89
- "Step 5. Configuring SequeLink® Server" on page 89
- "Step 6. Configuring the DB2 Environment" on page 104
- "Step 7. Starting the SequeLink® Server for DB2 for z/OS Service" on page 107
- "Step 8. Configuring SequeLink® Service Security (Optional)" on page 108
- "Step 9. Configuring Security for the SequeLink® Manager for z/OS Operator Interface (Optional)" on page 108

Read the readme.txt file for the latest information of this SequeLink 6.0 Server for DB2 on z/OS release.

Data Sets Created During Installation

Prior to SequeLink Server for DB2 on z/OS version 5.5, both the SequeLink installation data sets and the specific SequeLink Server data sets used a high-level qualifier (HLQ) prefix.

The naming convention now gives the SequeLink administrator more control and flexibility over naming data sets:

- Deployment, for example, from development to production, is easier.
- SequeLink installation libraries are read-only.
- Multiple server environments, such as Production, Development, and Quality Assurance, can be administered separately. For example:
  - User-specific data set names can be made unique for each environment
  - The data sets can be allocated on separate volumes.
  - RACF data set security can be set for each environment.

Two new data set prefixes have been introduced:

- HLQ is the installation data set prefix. The HLQ prefix is required at install time.
- USR is the server-specific data set prefix. The USR prefix and the server name (USR.*servername*) are required when a SequeLink Server is added.

The maximum length for each qualifier is 24 characters; the name must be compliant with the operating system data set naming convention.

The installation libraries are copied to data sets prefixed with the installation data set prefix (HLQ). The SequeLink servers generated and configured with the SequeLink Server Manager for z/OS (SSMC) reside in the data sets prefixed with a server-specific data set prefix (USR.*servername*), so that data sets related to one SequeLink Server can be grouped, where USR specifies the SequeLink Server environment and *servername* is the name of the SequeLink server.

The list of SequeLink servers that will be managed using the SSMC is maintained in the server list data set. The name consists of the server-specific data set prefix USR suffixed with '.SERVERS'.

Example:

A company installs SequeLink and configures three SequeLink Servers, one for the production environment and two for the test and development environment. The production server accesses DB2V8 and the testing/development servers access DB2 v8 and DB2 V9.

```
HLQ = SQLNK.V6R0M0
USR1 = COMPANY.PROD
servername1 = SQLDB2V8
USR2 = COMPANY.DEV
servername1 = SQLDB2V8
servername2 = SQLDB2V9
```

This results in the following data sets on your system:

SequeLink installation data sets

- SQLNK.V6R0M0.CLIST
- SQLNK.V6R0M0.DBRM
- SQLNK.V6R0M0.IPE
- SQLNK.V6R0M0.LINKLIB
- SQLNK.V6R0M0.LOADLIB
- SQLNK.V6R0M0.MSGS
- SQLNK.V6R0M0.PANELS
- SQLNK.V6R0M0.SKELS
- SQLNK.V6R0M0.TABLES
- SQLNK.V6R0M0.SWANDM.INI
- SQLNK.V6R0M0.README

Serverlist data sets

- COMPANY.PROD.SERVERS
- COMPANY.PROD.SQLDB2V8.SWANDM.INI
- COMPANY.PROD.SQLDB2V8.SWEVLOG
- COMPANY.PROD.SQLDB2V8.CNTL

- COMPANY.DEV.SERVERS
- COMPANY.DEV.SQLDB2V8.SWANDM.INI
- COMPANY.DEV.SQLDB2V8.SWEVLOG
- COMPANY.DEV.SQLDB2V8.CNTL

- COMPANY.DEV.SQLDB2V9.SWANDM.INI
- COMPANY.DEV.SQLDB2V9.SWEVLOG
- COMPANY.DEV.SQLDB2V9.CNTL

Security Requirements for SequeLink® Data Sets

This section describes the minimum RACF permissions required by the SequeLink administrator and the ServerUID (the user ID connected to the SequeLink Server's started task or job) for the data sets that are created by SequeLink during your SequeLink installation and subsequent configuration. These include:

- Installation data sets
- Data sets that are used during the creation of a new SequeLink Server
- Data sets that are allocated during the configuration of a new server
- Hierarchical file system (HFS) file directory for error reporting and debugging

Installation Data Sets

Installation data sets are prefixed with HLQ, where HLQ is the high-level qualifier. Set RACF permissions for these data sets as shown in the following table:

Table 2-12. Setting Security Permissions for Installation Data Sets

Data Sets	Required Permissions
CLIST, MSGS, PANELS, SKELS	READ for administrator
DBRM	READ for administrator
IPE	READ/WRITE for administrator and ServerUID
LINKLIB, LOADLIB	READ for administrator and READ for ServerUID
SWANDM.INI	READ for administrator
TABLES	READ for administrator

Table 2-12. Setting Security Permissions for Installation Data Sets *(cont.)*

Data Sets	Required Permissions
README	READ for administrator

NOTE: ServerUID is the user ID connected to the SequeLink Server's started task or job.

Data Sets Allocated During the Server Configuration

Data sets that are allocated during the server configuration are prefixed with USR.ServerName, where USR specifies the SequeLink Server environment, and ServerName is the name of the SequeLink server. The data sets include data sets that are created during JCL generation and data sets created by the EVLDEF job.

Set RACF permissions for data sets created during JCL generation as shown in the following table:

Table 2-13. Setting RACF Permission for Data Sets Created During JCL Generation

Data Sets (JCL Generation)	Required Permissions
CNTL	ALTER for administrator
SWANDM.INI	ALTER for administrator
	UPDATE for ServerUID

NOTE: ServerUID is the user ID connected to the SequeLink Server's started task or job.

Set RACF permissions for the SWEVLOG data set created by the EVLDEF job to ALTER for administrator and UPDATE for ServerUID. In this case, ServerUID is the user ID connected to the SequeLink Server's started task or job.

Data Sets Used in the Creation of a New SequeLink® Server

SequeLink Server Manager for z/OS tracks all of the installed SequeLink Servers for a specific environment. The list of SequeLink servers is maintained in the server list data set *USR_prefix*.SERVERS, where *USR_prefix* is the server-specific data set prefix.

Set RACF permissions for the SERVERS data set to ALTER for administrator.

NOTE: When the SequeLink Server Manager is started with a new USR environment, the corresponding serverlist data set is automatically allocated.

HFS File Directory for Error Reporting and Debugging

You must create an OMVS segment for the RACF user id that represents the SequeLink Server. Set RACF permissions to allow this user id to write to the UNIX HFS filesystem directory, as specified in the ServiceDebugLogPath attribute. The default value is the directory /tmp. For information about the ServiceDebugLogPath attribute, refer to the *SequeLink Administrator's Guide*.

This OMVS segment must also exist to allow the SequeLink Server to use the TCP/IP OpenEdition interface.

Gathering Information for the Installation

Table 2-14 lists the information that you must supply during installation of SequeLink Server for DB2 for z/OS. The table also provides an example of a value for each attribute.

Table 2-14. Required Information for SequeLink Server for DB2 for z/OS Installation

Attribute	Example
Installation data set prefix	SQLNK.V6R0M0
Server-specific data set prefix	COMPANY.PROD
Server name	SQLD2V8
Volume for data set creation	VOL(DDIR02) | VOL(SMS)
Port for SequeLink Server	19996
Name	Sales
Company	CompanyXYZ
Serial Number	[1]
IPE Key	*

1.NOTE: Provided by DataDirect Technologies for registered users

Step 1. Unpacking the Product Files

The installation package for SequeLink Server for DB2 for z/OS is delivered as a zip file, sldb2zos.zip.

- **If downloading the file from the DataDirect DVD**, insert the DVD into the DVD-ROM drive. If you have a local DVD-ROM drive, this typically is drive D. If the DVD-ROM drive is on a network, mount the DVD and create a mapping to the DVD-ROM drive. Save sldb2zos.zip to a temporary directory.
- **If downloading the file from the Web site**, download instructions are available on the DataDirect Technologies Web site. Save sldb2zos.zip to a temporary directory.

1 Unzip the file sldb2zos.zip to a directory on your PC. Make sure that the unzip program you are using supports long filenames.

  The batch file ftpsldb2zos.bat and the installation files in xmitted format described in Table 2-15 are unzipped to your PC.

Table 2-15. SequeLink Server for DB2 on z/OS Installation Files

Data Set	Description
CLIST	A data set that contains REXX executables used by the SequeLink Manager for z/OS.
DBRM	A partitioned data set that contains the DB2 Database Request Module (DBRM) used to create the packages for the DB2 service.
IPE	A data set that contains JCL to customize the license information.
LOADLIB	A partitioned data set that contains all the system load modules for SequeLink Server.
LINKLIB	The SAS/C runtime library.
MSGS	A data set that contains ISPF messages generated by the SequeLink Manager for z/OS.

Table 2-15. SequeLink Server for DB2 on z/OS Installation Files *(cont.)*

Data Set	Description
PANELS	A data set that contains ISPF panels used by the SequeLink Manager for z/OS.
README	A README data set containing installation information for SequeLink Server for z/OS.
SKELS	A data set that is used to generate JCL.
SWANDM.INI	The SequeLink configuration file used for all SequeLink services on the z/OS machine. *Do not alter this file*.
TABLES	A data set containing ISPF tables used by the SequeLink Manager for z/OS.

2 At a command line, run the batch file ftpsldb2zos.bat:

```
ftpsldb2zos  hostname  userid  password
```

where *hostname*, *userid*, and *password* are the host name, user ID, and password for your z/OS system. This batch file sends the files listed in Table 2-15 to your z/OS system using ftp, and stores them in an intermediate xmit format. The target data sets are created if they do not exist.

3 Before the transferred files can be used, they must be received on the z/OS machine. On TSO, issue the following command for each file that was transmitted in Step 2:

```
RECEIVE INDATASET(XMIT.filename)
```

4 When prompted by the message `INMR906A Enter restore parameters or 'DELETE' or 'END' +`, enter:

```
DA(HLQ_prefix) UNIT(unit) VOLUME(volume)
```

where *HLQ_prefix* is the SequeLink installation data set high-level qualifier. The UNIT() and VOLUME() operands are optional.

Step 2. Registering Your License

The HLQ.IPE data set contains two members that you use to work with your license for the SequeLink Server for DB2 on z/OS:

- Use IPEREG to register your license.
- Use IPERPT to print out a report about your license in case of problems with the product registration.

When you execute the IPEREG job to register your license, the register job requires you to enter your product registration information. Enter your name, company name, serial number, and key. The serial number and key are provided to you by DataDirect Technologies. If you are installing an evaluation copy of SequeLink Server, leave the IPE Key field empty.

After a successful registration, a registration file, HLQ.ISLVINI, is added in the SequeLink installation data sets. The registration information is displayed in the output of the IPEREG job.

```
DATADIRECT Product Registration:
Name: My Name  CO:  My Company  SER#: snsnsnsnsnsn  IPE: ipeipeip
DATADIRECT Product Registration successful based on the key provided.
```

where *snsnsnsnsnsn* is the serial number you provided and *ipeipeip* is the IPE key you provided.

NOTE: SequeLink Server for DB2 on z/OS must be registered correctly or the installation and configuration will not work.

Step 3. Allocating the SequeLink® ISPF Libraries to a TSO Session (Optional)

Allocating the SequeLink ISPF libraries to your TSO session allows you to use a simpler command syntax for starting the SequeLink Manager for z/OS (as described in "A. Starting the SequeLink® Manager for z/OS" on page 90).

If you are planning to use the SequeLink Manager for z/OS regularly, we recommend that you allocate the SequeLink ISPF libraries to the TSO session as shown in Table 2-16.

Table 2-16. SequeLink ISPF Library Allocation (z/OS)

SequeLink ISPF Libraries	Allocate to...
SequeLink_HLQ.CLIST	SYSPROC or SYSEXEC
SequeLink_HLQ.LOADLIB	ISPLLIB
SequeLink_HLQ.MSGS	ISPMLIB
SequeLink_HLQ.PANELS	ISPPLIB
SequeLink_HLQ.SKELS	ISPSLIB
SequeLink_HLQ.TABLES	ISPTLIB

NOTE: *SequeLink_HLQ* is the SequeLink high-level qualifier identifying the libraries.

Step 4. Modifying the APF List

Before you can use the SequeLink Server for DB2 on z/OS, you must modify the APF list to contain entries for the following items:

- LOADLIB data set containing the executable modules of the SequeLink Server.
- LINKLIB (the SAS/C runtime library distributed with SequeLink). It must be APF-authorized.

To authorize LOADLIB and LINKLIB:

1. Locate the SYS1.PARMLIB data set.
2. To APF-authorize the libraries dynamically, modify the PROGxx member of the SYS1.PARMLIB to include an entry for each SequeLink Server data set LOADLIB and LINKLIB SAS/C runtime library. Enter the operator command `/SET PROG=xx` to activate the change.

Step 5. Configuring SequeLink® Server

Configuring SequeLink Server for DB2 on z/OS involves the following stages:

- "A. Starting the SequeLink® Manager for z/OS" on page 90
- "B. Creating a SequeLink® Server" on page 93
- "C. Reviewing the SequeLink® Server Configuration" on page 98
- "D. Configuring a Server Using the DB2 CAF Attachment" on page 100
- "E. Generating JCL" on page 102

- "F. Creating the EventTrace Data Set" on page 103
- "G. Configuring Additional SequeLink® Features" on page 104

IMPORTANT: Do not directly edit the SequeLink_HLQ.SWANDM.INI file (where SequeLink_HLQ is the SequeLink high-level qualifier). When you define a SequeLink Server, copies of these master files are created for the SequeLink Server definition using the name of the SequeLink Server. The server-specific configuration file must be maintained by the SequeLink Manager for z/OS and must not be edited directly.

A. Starting the SequeLink® Manager for z/OS

1 Start the SequeLink Manager for z/OS. How you start the SequeLink Manager for z/OS depends on whether you allocated the SequeLink ISPF libraries to the TSO session as described in the previous section.

- If you allocated the ISPF libraries, continue with Step 2.
- If you did not allocate the ISPF libraries, continue with Step 3.

2 **Starting the SequeLink Manager When ISPF Libraries Are Allocated:**

Type the following command:

```
TSO %SSMC [HLQ(HLQ_prefix) USR(USR_prefix)]
```

where `HLQ_prefix` is the installation data set prefix, and `USR_prefix` is the server-specific data set prefix. Then, press ENTER. When using this format to start the SequeLink Manager for z/OS, you must always pass the HLQ parameter. We recommend passing the USR parameter as well. If you do not specify the USR parameter, SequeLink retrieves the last passed value from your SSMC profile. If neither parameter is passed, and no value can be retrieved from your profile, the default value HLQ is used.

For example:

```
TSO %SSMC HLQ(SQLNK.V6R0M0) USR(COMPANY.DEV)
```

3 Starting the SequeLink Manager When ISPF Libraries Are Not Allocated:

Type the following command:

```
TSO EX 'HLQ_prefix.CLIST(SSMC)' '[HLQ(HLQ_prefix)]
[USR(USR_prefix)]'
```

where `HLQ_prefix` is the installation data set prefix, and `USR_prefix` is the server-specific data set prefix. Then, press ENTER. You do not have to explicitly specify the HLQ prefix. If it is not specified, the prefix is set to the high-level qualifier of the data set from which the SSMC CLIST is executed. We recommend passing the USR parameter as well; the parameter will be saved in the user's SSMC profile. If you do not specify the USR parameter, SequeLink retrieves the last passed value from your SSMC profile. If neither parameter is passed, and no value can be retrieved from your profile, the default value HLQ is used.

For example:

```
TSO EX 'SQLNK.V6R0M0.CLIST(SSMC)' 'HLQ(SQLNK.V6R0M0)
USR(COMPANY.DEV)'
```

or

```
TSO EX 'SQLNK.V6M0.CLIST(SSMC)' 'USR(COMPANY.DEV)'
```

The HLQ used will be the HLQ from which the SSMC CLIST is fetched.

NOTE: In the first example, the HLQ specified to locate the SSMC CLIST might be different from the HLQ argument passed. This is especially important when administering two different versions of SequeLink. In this case, we recommend that you always specify the HLQ argument explicitly.

4 When the Serverlist data set (USR_prefix.SERVER) has not been allocated for the environment USR, you are prompted for the necessary information. Press ENTER to continue. The SequeLink Manager for z/OS main menu appears.

```
       DataDirect SequeLink Manager for z/OS - Main menu

 Command ===>

ServerList dataset COMPANY.DEV.SERVERS is not defined yet

Do you want it to be allocated now? YES/NO


    F1=Help      F3=End       F5=View Err F12=Cancel
```

5 If you select NO, you exit the SSMC application. If you select YES, the following panel appears. Enter VOL(*vvvvvv*) where *vvvvvv* is the volume on which you want to allocate the serverlist data set. This volume will be used to allocate server-specific data sets for SequeLink servers that are added to this environment. Press ENTER to continue.

```
       DataDirect SequeLink Manager for z/OS - Main menu

 Command ===>

Specify VOLUME on which to allocate it?  VOL(vvvvvv) | VOL (SMS)


    F1=Help      F3=End       F5=View Err F12=Cancel
```

6 When you start the SequeLink Manager for z/OS, copyright information appears. Press ENTER to continue. The SequeLink Manager for z/OS start panel appears.

```
             DataDirect SequeLink Manager for z/OS
 Command ===>

(c) Copyright 1995-2008  DataDirect Technologies.   All rights reserved.

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SequeLink datasets Qualifier(s)  SQLNK.V6R0M0
ServerList dataset  COMPANY.DEV.SERVERS
User datasets Qualifier(s)  COMPANY.DEV


Press Enter to continue.

F1=Help       F3=End               F5=View Err           F12=Cancel
```

B. Creating a SequeLink® Server

On z/OS, a SequeLink Server is a started task/job name that corresponds to a single data access service. You can define multiple SequeLink Servers on the same z/OS machine. Each SequeLink Server has SequeLink Agent functionality that is included in the data access service. When you add a SequeLink Server, you are prompted to add a DB2 interface and a service.

To create a SequeLink Server:

1 From the ServerList panel, type `A` at the Command prompt to create a SequeLink Server; then press ENTER. The Add Server panel appears.

```
         DataDirect SequeLink Manager for z/OS - Add server
Command ===>

Complete the following fields for the new server:

 Server name . . . . . .SQLDB2V8
 Description
 Development SequeLink for DB2v8  (subsys:DB8A)

 Hostname/IP-address
 10.30.14.109
 Portnumber  . . . . . .26804
```

2 Provide the following information, then press ENTER:

Server name: Type the name of the new SequeLink Server definition. The server name you choose will be the job name or started task name.

Description: Type a description for the new SequeLink Server definition.

Hostname/IP-address: Type the TCP/IP host name or the TCP/IP address of the SequeLink Server definition. The HOME address of the local TCP/IP stack or the standard 127.0.0.1 TCP/IP loopback address will be inserted. In some instances, such as when the TSO session for the SequeLink Manager is running on another IP stack than the server, you must specify the TCP/IP address of the server machine.

Portnumber: Type the port to be used by the SequeLink service.

NOTE: When you create a server, a server-specific configuration file is created. If such a file already exists, you are prompted to confirm whether you want to overwrite the existing configuration file.

3 You are prompted to supply parameters to the DB2 interface.

```
         DataDirect SequeLink Manager for z/OS - Add DB2 Interface
Command ===>

Enter parameters for the DB2 interface for server SQLDB2V8 : IMPORTANT
after adding the DB2 interface ensure to add the service attribute
MVSServiceDB2InterfaceID.

Interface ID . . . DSN8         DB2 Subsystem ID       DB8N
DB2 Version  . . . V810  (eg.:V810)

Description
DB2 version 8 Development System
DB2 Loadlib  DSN810.SDSNLOAD
DB2 Exitlib  DSN810.DB8N.SDNSEXIT
```

4 Provide the following information; then, press ENTER.

Interface ID: Type a Logical ID identifying the DB2 interface for the SequeLink Server, for example, DSN8. The corresponding service attribute is MVSServiceDB2InterfaceID.

DB2 Subsystem Id: Type the SubsystemId of the DB2 subsystem you want to access, for example, DBR8. The corresponding service attribute is MVSDB2SubsystemName.

DB2 Version: Type the version of DB2 to be used, for example, V810. The corresponding service attribute is MVSDB2Version.

Description: Type a description of the DB2 interface. The corresponding service attribute is MVSDB2RootDescription.

DB2 Loadlib: Type the name of the DB2 load library, for example, DB2.V8R1M0.SDSNLOAD. The corresponding service attribute is MVSDB2LoadLibrary.

DB2 Exitlib: Type the name of the DB2 exit library, for example, DB2.V8R1M0.DB8R.SDSNLOAD. The corresponding service attribute is MVSDB2ExitLibrary.

5 You are prompted to supply parameters to define the service.

```
              DataDirect SequeLink Manager for z/OS - Add service
Command ===>

Complete the following fields for the new service for server ACCT1:

Service name . . . .
Description

Portnumber . . . .  3456
```

6 Provide the following information; then, press ENTER.

```
              DataDirect SequeLink Manager for z/OS - Add service
Command ===>

Complete the following fields for the new service for server SQLDB2V8:

Service name . . . .ACCT1
Description
Accounting

Portnumber . . . .  26804
```

Service name: Type the service name. The corresponding service attribute is ServiceName.

Description: Type a description of the service. The corresponding service attribute is ServiceDescription.

Portnumber: The port number entered in the Server Definition panel is displayed here.

7 The ServerList panel shows the SequeLink Server you just created.

```
 DataDirect SequeLink Manager for z/OS - ServerList          Row 1 to 1 of 1
Command ===>                                                   SCROLL > CSR

Allowed actions or commands are:

 o  (S)elect a server       o  (G)enerate JCL
 o  (A)dd a server          o  (O)perator interface
 o  (D)elete a server

   Name        Description
--------------------------------------------------------------------------------
   SQLDB2V8    Development SequeLink for DB2v8 (subsys: DB8A)
```

Once you have created a SequeLink Server, type `S` beside it to view the server management tree. The server management tree shows the DB2 interface, User ID (UID) maps, and SequeLink Service and its configuration settings.

See "C. Reviewing the SequeLink® Server Configuration" on page 98 for information about making modifications to this newly configured server. Refer to the *SequeLink Administrator's Guide* for more information about navigating through the server management tree.

C. Reviewing the SequeLink® Server Configuration

1 Type S beside the SequeLink Server that you want to configure; then, press ENTER. The server management tree for the selected server is displayed.

2 From the server management tree, type / beside the Service Settings node of the SequeLink service to expand it; then, press ENTER. The server management tree shows the attribute categories for the service.

```
          DataDirect SequeLink Manager for z/OS
Command ===>                                                SCROLL > CSR

Management Tree for server SQLDB2V8
   To see a list of valid actions on a node, type '?' beside it.
   Use '/' to expand or collapse tree branches.
   Valid commands are : EXP SAVE REFRESH ERRSTK
--------------------------------------------------------------------------------
   - SQLDBV8  (OFFLINE)
     - Global Settings
     - DB2 Interface
       - DSN8
     - UID Maps
     - SequeLink Service
       - ACCT1
         - Configuration
           - Service Settings
             S Administrative Security
               - Advanced
               - General
               - Logging
```

3 Type S beside the attribute category for which you want to view attributes; then, press ENTER. The AttributeList panel appears for that category, listing all the attributes and their values.

For example, if you selected the Administration Security category, the following AttributeList panel appears:

```
            DataDirect SequeLink Manager for z/OS - AttributeList
                                                                  Row 1 to 2 of 2
                                                                    MORE >>>


Service ACCT1
   Enter the 'ADD'-command to add an attribute or
   perform one of the actions below on a specific attribute
   o (S)elect    o (C)hange    o (D)elete    o (?)Help

     Name                            Value
   ------------------------------------------------------------------------------
     MVSServiceAdminSecurity         SAFBASIC
     ServiceAdminAuthMethods         OSLogon(UID,PWD)
   ***************************** Bottom of data ********************************

   COMMAND ===>                                                 SCROLL > PAGE
```

NOTE: To display help about an attribute, type ? beside the attribute; then, press ENTER.

For instructions on adding, changing, and deleting attributes, including server data source attributes, refer to the SequeLink Administrator's Guide.

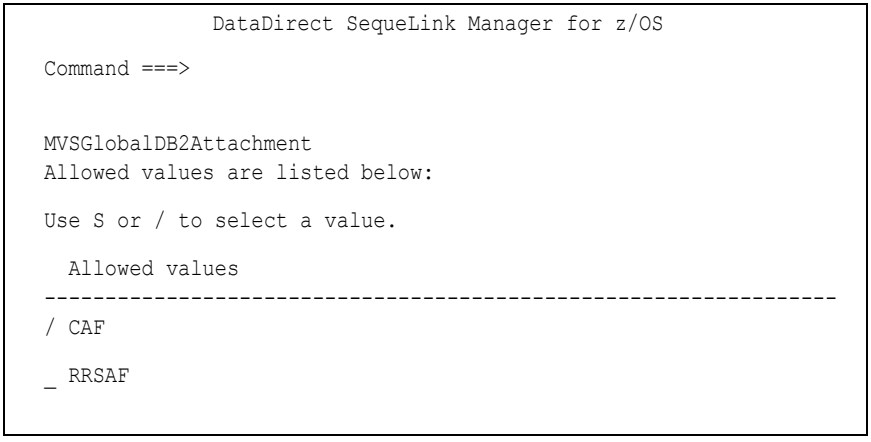
We highly recommend using the DB2 RRSAF attachment, which allows you to fully exploit the threadpooling capabilities of SequeLink. However, If you do not wish to or cannot use the RRSAF attachment, you must make some additional changes. Continue to "D. Configuring a Server Using the DB2 CAF Attachment" on page 100. Otherwise, skip to "E. Generating JCL" on page 102.

D. Configuring a Server Using the DB2 CAF Attachment

We highly recommend using the DB2 RRSAF attachment, which allows you to fully exploit the threadpooling capabilities of SequeLink. If you do not wish to or cannot use the DB2 RRSAF attachment, you must change additional configuration settings.

To configure a server using the DB2 CAF attachment:

1. Type `S` beside the Global Settings node for the server; then, press ENTER.
2. In the AttributeList panel, type `C` next to the MVSGlobalDB2Attachment service attribute. The service attribute panel appears.



3. Type `/` next to CAF to select it; then, press ENTER.

4 In the management tree of the SequeLink Service, expand the nodes. Type / next to the Advanced node; then, press ENTER. The AttributeList panel is displayed.

```
          DataDirect SequeLink Manager for z/OS - AttributeList
                                                              Row 1 to 2 of 2
COMMAND ===>                                                   SCROLL > PAGE
                                                                    MORE >>>

Service ACCT1
Enter the 'ADD'-command to add an attribute or
perform one of the actions below on a specific attribute
o (S)elect    o (C)hange    o (D)elete    o (?)Help

  Name                              Value
------------------------------------------------------------------------------
 _  ServiceCodePage                 OS
 _  ServiceConnectionModel          ThreadPool
 _  ServiceMaxSessions              2000
 _  ServiceMaxThreads               64
 _  ServiceMinThread                32
***************************** Bottom of data ****************************
```

5 Type S beside the attribute you want to change; then, press ENTER. The Attribute Display window appears with the cursor positioned at the Value field of the attribute.

6 Type the new values of the following attributes; then, press ENTER:

- Change ServiceConnectionModel to Thread/Connection
- Increase ServiceMaxThreads to 256
- Decrease ServiceMaxSessions to 250

You are returned to the AttributeList panel, and the attribute values, if valid, are changed.

7 Press **F3** to return to the server management tree.

NOTE: We highly recommend that you use the ThreadPool connection model, which requires the RRSAF attachment. This setting allows you to have a large number of connections.

E. Generating JCL

After a SequeLink Server is created and configured for the first time, you must generate the JCL. The SequeLink Manager adapts the JCL from the SequeLink_HLQ.SKELS data set and saves the adapted output in a server-specific data set named USR.Servername.CNTL, where USR is the high-level qualifier and Servername is the name of the SequeLink Server.

The following list shows the JCL members that are generated and the tasks they perform. Also, this list notes any tasks you must perform for the JCL member.

- BIND*xx*: These members bind all required SequeLink packages and plans for your DB2 subsystems. Read the comments in this bind job carefully. The tailored job contains a job-step for the defined DB2 interface and bind statements for all data sources that use this interface.

  - BIND7: bind job for DB2 v7
  - BIND8C: bind job for DB2 v8, compatibility mode
  - BIND8N: bind job for DB2 v8, new function mode
  - BIND9: bind job for all DB2 v9 modes.

  NOTE: If data sources are added later, an interface is changed, or the collection-prefixes of a data source are changed, you must regenerate and submit these members.

- CFGPRINT: A summary member you can use for debugging purposes that reports the content of all variables at the time of JCL generation. This member also lists the user and date and time of the last JCL generation.

- EVLDEF: This member creates the event trace file for the server.

- INIT: This member contains operator interface commands that will be executed after the successful startup of the server.

  NOTE: To add or delete operator interface commands you want to execute after the successful startup of the server, edit this member.

- RUNSMF: This member is a sample job that allows SMF records to be printed.

- RUNSRVR: This member is the started task or job that is used to start the server.

  NOTE: If the DB2 interface is changed, you must regenerate this member, and restart the server.

- RUNCLUST: This member prints out the Sysplex registration information.

- RUNWHAT: This member is a diagnostic job that prints all versions of the software components and can be used for debugging. Execute this job only on a specific request from DataDirect Technologies technical support.

F. Creating the EventTrace Data Set

Create the EventTrace data set by running the EVLDEF job you created in "E. Generating JCL" on page 102. This job can be found in the data set USR.ServerName.CNTL, where USR is the high-level qualifier and Servername is the name of the SequeLink Server. By running EVLDEF, a VSAM data set is created that can be used by the Event Trace and Monitoring components of the SequeLink Server.

G. Configuring Additional SequeLink® Features

Refer to the *SequeLink Administrator's Guide* for information on configuring the following SequeLink features:

- Support for SYSPLEX
- Support for WLM enclaves
- Support for terminal security

Step 6. Configuring the DB2 Environment

Configuring the DB2 environment for SequeLink Server involves:

- "A. Binding the SequeLink® Package"
- "B. Granting Access to the SequeLink® Server Package" on page 105
- "C. Granting Cancel Thread Authorization to the SequeLink® Server (RRSAF Attachment Only)" on page 106
- "D. Binding the SequeLink® Plan (CAF Attachment Only)" on page 107
- "E. Granting Access to the SequeLink® Server Plan (CAF Attachment Only)" on page 107

A. Binding the SequeLink® Package

The server-specific CNTL library contains generated BIND jobs to bind the SequeLink DBRMs into packages.

Because SequeLink Server for DB2 can change isolation level dynamically, each DBRM is bound into a package using a different isolation level for each package. The collection ID name of each package is created by concatenating the DB2 collection prefix and the DB2 collection suffix as shown in Table 2-17.

Table 2-17. Isolation Levels of SequeLink DBRMs

Data Source Transaction Isolation	Data Source DB2 Collection Prefix	Data Source DB2 Collection Suffix	Collection ID	Isolation
Uncommitted	SWDB2	U	SWDB2_U	UR
Committed	SWDB2	S	SWDB2_S	CS
RepeatableRead	SWDB2	T	SWDB2_T	RS
Serializable	SWDB2	R	SWDB2_R	RR

NOTE: The collection *prefix* is set when you create the SequeLink data source (SequeLink service attribute DataSourceDB2CollectionPrefix). The collection *suffix* is set when you configure the transaction isolation level of the data source (SequeLink service attribute DataSourceTransactionIsolation). For a list of SequeLink service attributes, refer to the *SequeLink Administrator's Guide*.

B. Granting Access to the SequeLink® Server Package

Grant access to the SequeLink Server package for all users that will be connecting to the SequeLink Server. When granting access to the SequeLink package, remember to include the user ID associated with the SequeLink Server for each DB2 subsystem to which the SequeLink Server will connect. To grant access to the SequeLink Server package for all users, you can use the following SQL statement:

```
GRANT EXECUTE ON PACKAGE collection-id.* TO PUBLIC
```

where *collection-id.** is a collection-id used in the SequeLink bind job. See Table 2-17 for the names of possible collection-ids.

C. Granting Cancel Thread Authorization to the SequeLink® Server (RRSAF Attachment Only)

SequeLink has enhanced the facility to kill a session. In previous versions of SequeLink, when a session was active into DB2, SequeLink had to wait until the session returned.

SequeLink now automatically correlates output from DB2 with information from SequeLink. This means that the SequeLink administrator has more control over the SequeLink sessions, and can take action without spending time to investigate why a killed session does not end.

To request the DB2 database to cancel a DB2 Thread, use the DB2 IFI call interface to route a -CANCEL THREAD(token) command to DB2. SequeLink *only* requests canceling a DB2 Thread that is owned by it. DB2 threads owned by any other application are never canceled.

NOTE: This enhancement is not supported for the CAF attachment.

To enable this feature, the USERID that represents the SequeLink Server address space needs one of the following DB2 authorizations:

- SYSOPR
- SYSCTRL
- SYSADM

Refer to your DB2 documentation for more information about the DB2 "COMMAND REFERENCE" -CANCEL THREAD(DB2) command.

D. Binding the SequeLink® Plan (CAF Attachment Only)

When you are setting up your server with the CAF attachment, you must bind the SequeLink plan. The server-specific CNTL library contains generated BIND jobs to bind the SequeLink Server packages into plans.

The SequeLink plan name is set when you create the SequeLink data source (SequeLink service attribute MVSDataSourceDB2Plan). For a list of SequeLink service attributes, refer to the *SequeLink Administrator's Guide*.

E. Granting Access to the SequeLink® Server Plan (CAF Attachment Only)

When you are setting up your server to use the CAF attachment, you must grant access to the SequeLink plan for all users who will connect to the SequeLink Server. When granting access to the SequeLink plan, remember to include the user ID associated with the SequeLink Server for each DB2 subsystem to which the SequeLink server will connect.

To grant access to the SequeLink plan for all users, you can use the following SQL statement:

```
GRANT EXECUTE ON PLAN planname TO PUBLIC
```

where *planname* is the name of the SequeLink plan.

Step 7. Starting the SequeLink® Server for DB2 for z/OS Service

Use the generated RUNSRVR member in the server-specific CNTL data set to start the SequeLink Server for DB2 service. The startup JCL can be a batch job or a started task.

Step 8. Configuring SequeLink® Service Security (Optional)

For more information about configuring SequeLink's security features for z/OS, refer to the *SequeLink Administrator's Guide*.

Step 9. Configuring Security for the SequeLink® Manager for z/OS Operator Interface (Optional)

Some Operator Interface commands can be useful in performing administration tasks. These commands can be issued using the Operator Interface of the SequeLink Manager for z/OS. For more information about configuring security for the Operator Interface of the SequeLink Manager for z/OS, refer to the chapter on using the SequeLink Manager in the *SequeLink Administrator's Guide*.

Installing SequeLink® Server on z/OS UNIX System Services

SequeLink Server for JDBC Socket is supported on z/OS UNIX System Services (USS).

NOTE: See "Installing SequeLink® Server on a Windows Server Platform" on page 33 and "Installing SequeLink® Server on Linux and UNIX" on page 60 to install SequeLink Server for JDBC Socket on Windows and UNIX.

User Login for Installation

To install SequeLink Server for JDBC Socket on z/OS USS, you must log on to the z/OS machine with root authority, also known as superuser authority, which means you should have UID(0) defined in your OMVS segment.

Security Authorities for Installation

Two levels of UNIX Security on z/OS USS exist, the normal UNIX-level and the z/OS UNIX-level. The z/OS UNIX-level security, which is recommended, is triggered when the profile BPX.DAEMON or BPX.SERVER in the FACILITY class is defined. This level forces program fetch control. If z/OS UNIX-level security is active, you need READ authority on profile BPX.FILEATTR.PROGCTL to install SequeLink Server for JDBC Socket.

Installation Procedure

To install the SequeLink Server for JDBC Socket on z/OS USS, you must:

- Transfer the tar file to your HFS file system on z/OS USS. Because z/OS does not have a DVD-ROM drive, you must mount the product DVD on a computer that has a DVD-ROM drive and transfer the tar file in binary format to your HFS file system using file transfer software such as FTP.
- Extract the contents of the tar file.
- Run the installation script.

Transferring the tar file

1. Mount the SequeLink DVD on a machine that has file transfer software. See "Mounting Your DVD" on page 29 for DVD mounting instructions.
2. Log on to the z/OS USS machine with root authority. Use either a Telnet or TSO OMVS session to start a shell. Telnet is the preferred interface to use.
3. Create a SequeLink home directory on the z/OS USS machine if one does not exist. For example, to create a SequeLink home directory named sqlnk in the usr directory, enter:

   ```
   mkdir /usr/sqlnk
   ```

4. On the machine that has the DVD mounted, change to the directory on the SequeLink DVD for your server platform. Transfer the slsoc2jdbc.tar file in binary format to the SequeLink home directory that you created in Step 3. If you transfer the file in the wrong format, the SequeLink Server installation will fail.

Extracting the contents of the tar file

On the z/OS USS machine, access the tar file you transferred and extract the contents by entering:

```
tar -xvof slsoc2jdbc.tar
```

Running the installation script

When you run the installation script, you will be prompted for choices you need to make and information you need to enter. Default answers to questions are enclosed in square brackets, [ ]. To accept the default value, press ENTER.

NOTE: Run the installation script on the z/OS USS machine.

To run the installation script:

1. Make sure you are logged on to the z/OS USS machine with root authority.
2. Change to the SequeLink home directory. For example, enter:

   ```
   dvd /usr/sqlnk
   ```

3. Start the installation script by entering:

   ```
   sh install.sh
   ```

4. At the prompt, select the SequeLink Server you want to install. After you enter your choice, the SequeLink Server installer file is uncompressed.

   ```
   DataDirect SequeLink Server installer is uncompressing
   now. Please wait...
   ```

5 Verify the SequeLink Server to install.

```
------------------------------------------------------
You are installing the product:
SequeLink Server for JDBC Socket
Version 6.0 on z/OS Unix System Services
------------------------------------------------------
Do you want to continue (Y/N)? [Y]
```

Enter `Y` to continue the installation. Enter `N` to stop the installation; no software will be installed.

6 Enter the installation directory, or press ENTER to accept the default installation directory, which is /usr/slserver60. If the directory does not exist, it is created for you.

```
------------------------------------------------------
Enter the target directory where you want to install
SequeLink Server.
If this directory does not exist, it will be created for
you.
------------------------------------------------------
Enter target directory ? [/usr/slserver60] :
```

7 Enter the Java Runtime Environment directory; this directory must contain 'bin/classic/libjvm.so'. For example, /usr/lpp/java/IBM/J1.4.

```
Enter the full path of the directory where the Java
Runtime Environment (JRE) is installed.
```

8 The installation script prompts you for information that is required to create the SequeLink Agent that allows the SequeLink administrator to configure, manage, and monitor this SequeLink Server using the SequeLink Manager. To create a SequeLink Agent, enter the user ID of the SequeLink administrator account, or press ENTER to accept the default. Typically, you would enter your own user ID as SequeLink administrator. Make sure that the user ID that you enter is defined in RACF.

```
Please enter the Unix account name which will be
allowed to remotely administer this SequeLink Server
[authenticated] :
```

9 Enter the name of the SequeLink Agent, or press ENTER to accept the default.

```
Enter the name of this SequeLink agent service
[SLAgent]:
```

10 Enter the TCP/IP port on which the SequeLink Agent will be listening, or press Enter to accept the default, which is 19995. The port you enter must be a unique port.

```
Enter the TCP/IP port for your SequeLink agent service
[19995]:
```

NOTE: If the port you specify is not unique, the installation will fail and no software will be installed.

11 Enter the name of the SequeLink Server for JDBC Socket service, or press ENTER to accept the default, which is SLSocket2JDBC.

```
Enter the name of your SequeLink for JDBC Socket
service or press ENTER to accept the default
[SLSocket2JDBC]:
```

12 Enter the TCP/IP port on which the SequeLink Server for JDBC Socket will be listening for connection requests, or press Enter to accept the initial default, which is 19996. The port you enter must be a unique port.

```
Enter the TCP/IP port for your SequeLink for JDBC Socket
service [19996]:
```

NOTE: If the port you specify is not unique, the installation will fail and no software will be installed.

13 Enter the pathname where the JDBC drivers are installed, for example: /u/drivers/JDBC/cac30/cacjdb21.jar. If you specify more than one JDBC driver pathname, you must separate the values with a colon (:).

```
Enter the CLASSPATH for the back-end JDBC drivers you
want to use with this SequeLink Server for JDBC Socket:
```

14 Enter the JDBC driver class name, for example: `com.ddtek.jdbc.crossaccess30.CrossAccessDriver`. Refer to your JDBC driver documentation for the driver's class name or to the output of the ivcheckjdbcdriver utility.

```
Enter the JDBC driver classname for the default server
datasource:
```

See "Checking Your Third-Party JDBC Driver for SequeLink® Server for JDBC Socket" on page 24 for information about using the ivcheckjdbcdriver utility.

15 Enter the JDBC driver connection URL, for example:
jdbc:sequelink://10.30.14.109.14902
or
jdbc:dd-crossaccess30:EXIMS:tcp/10.30.14.109/9001:CODEPAGE=USS

Refer to your JDBC driver documentation or to the output of the ivcheckjdbcdriver utility to determine the connection URL. See "Checking Your Third-Party JDBC Driver for SequeLink® Server for JDBC Socket" on page 24 for information about using the ivcheckjdbcdriver utility.

16 Enter the name for the database properties file, or press ENTER to accept the default. Properties files are used to provide settings needed for the SequeLink Clients that cannot be supplied by the back-end JDBC driver. These files are supplied in your installation package in the bin/odbc2jdbc/classes/com/ddtek/jniutil directory. The names of the properties files that are shipped with the product are: crossaccess30, db2v7mvs, db2v8udb, derby, oracle91, sqlsrv2000, sybase125.

When you enter a name, specify the file name without the .properties extension, for example, crossaccess30. If you do not find the appropriate properties file for your JDBC driver, contact DataDirect Technologies technical support.

```
Enter the name of the DataDirect supplied database
properties file for the default server datasource or
press Enter to use the default settings.
```

17 Review the installation settings that you have specified. Then, you can either:

- Press ENTER to accept these settings and start the installation.
- Change any of the settings.
- End the installation.

```
------------------------------------------------------------------------
Ready to start installation with the following settings:

SequeLink home directory : /u/qa/sl60/server
SequeLink Agent settings : Administrator : mfigp
                           Service name : SLAgent
                           TCP/IP port : 15999
SequeLink Socket2JDBC settings : Service name : SLSocket2JDBC
                                 TCP/IP port : 15936
JRE installation directory : /usr/lpp/java14/J1.4

JDBC Driver CLASSPATH    :
/sqlnkdev/releases/ext/JDBCDriversForSocket/07/Drivers.jar
JDBC Driver ClassName    : com.ddtek.jdbc.crossaccess30.CrossAccessDriver
```

```
JDBC Connection URL      :
jdbc:dd-crossaccess30:EXIMS:tcp/10.30.14.109/9001:CODEPAGE=USS
Database properties file : crossaccess30

Link service executables : No
You will need approx. 24000 kBytes free diskspace in your SequeLink
home directory (depending on your platform and configuration.).
------------------------------------------------------------------------
1) Start installation with these settings
2) Change SequeLink home directory
3) Change SequeLink Agent settings
4) Change SequeLink Socket2JDBC settings
5) Change JRE installation directory
6) Change JDBC Driver related setting
9) Abort installation
Enter your choice [1] ?
```

18 During the installation, both the SequeLink Server for JDBC Socket and the SequeLink Agent are installed. When the installation of the SequeLink Agent is complete, the installer prompts you to start the SequeLink Agent service. Press ENTER to start the service. Enter `N` if you do not want to start the SequeLink Agent service at this time. The service can be started at a later time.

```
Would you like the installer to start the SequeLink
Agent (Y/N)? [Y]
```

19 The installer now prompts you to start the SequeLink Service for JDBC Socket. Press ENTER to start the SequeLink Service for JDBC Socket. Enter `N` if you do not want to at this time. The service can be started at a later time.

```
Would you like to start the SequeLink Server for
Socket2JDBC (Y/N)? [Y]
```

20 You may need to tune the SequeLink Server for JDBC Socket depending on your workload. For information about tuning, refer to the *SequeLink Administrator's Guide*.

Environment Variables

Table 2-18 lists the environment variables set for the SequeLink Server for JDBC Socket during installation, and provides a description of what is set in the variables.

Table 2-18. Environment Variables Set During Installation

Environment Variable	Description
<LIBPATH>	Shared library path for the ODBC-to-JDBC bridge and the Java Virtual Machine
CLASSPATH	Classpath containing all JDBC drivers that need to be accessed by the SequeLink Server for JDBC Socket and the classes for the SequeLink for JDBC Socket service
ISLVINI	Directory for the license ini file (does not apply on z/OS UNIX System Services)
ODBCINI	File with the ODBC configuration information for the ODBC-to-JDBC bridge
SL_JAVA_OPTIONS	Options to influence the Java Virtual Machine used by the backend JDBC driver For example: `SL_JAVA_OPTIONS=Xms32m-Xmx64m-Xcomp-verbose`

Upgrading or Extending an Evaluation License

If you are using an evaluation version of SequeLink Server, you can upgrade to a licensed version or extend your evaluation for another 15 days. How you do this depends on your platform.

NOTE: After upgrading to a licensed version, you must restart the SequeLink Agent and SequeLink Server for the change to become active.

Windows Servers

After an evaluation installation, you should use the Modify option of the product Setup to upgrade to a licensed installation.

1. Call DataDirect Technologies sales to obtain an 8-digit key to upgrade your evaluation version to a licensed version or an 8-digit key to extend your evaluation version for another 15 days.
2. After opening Add or Remove Programs, select the appropriate SequeLink Server application and click **Change**. This displays the DataDirect SequeLink Setup Welcome window. Click **Next** to display the Program Maintenance window.
3. Select **Modify** on the Program Maintenance window. Then, click **Next** to continue. The Licensing Information window appears.
4. On the Licensing Information window, type your name, the company name, the serial number, and key in the appropriate fields.

   Then, click **Next**. The Destination window appears.

5 The Destination Folder window allows you to change the installation directory from the default location. This is optional.

   To change the installation directory, click **Change** and select the new installation directory path. Then, click **OK** to return to the Destination Folder window.

6 Click **Next**. The Ready to Modify the Program window appears.

7 The Ready to Modify the Program window provides the opportunity for you to click back through the Setup windows and make any changes or corrections. When you are satisfied with your installation option selections, click **Install** to begin the installation.

8 When the installation finishes, the InstallShield Wizard Completed window appears. Click **Finish** to exit Setup.

UNIX

1 Call DataDirect Technologies sales to obtain an 8-digit key to upgrade your evaluation version to a licensed version or an 8-digit key to extend your evaluation version for another 15 days.

2 Log on as root.

3 Change to the ipe subdirectory of your SequeLink installation directory. For example:

```
dvd /usr/slserver/ipe
```

4 Run the ipeexeu.sh shell script. For example:

```
./ipeexeu.sh
```

5 Follow the on-screen instructions to provide the serial number and key.

3 Installing the SequeLink® Manager

The SequeLink Manager tool allows you to centrally configure and manage your SequeLink environment. This chapter provides installation instructions for the SequeLink Manager Snap-in and SequeLink Manager Command-Line Tool on a networked client.

NOTE: The SequeLink Manager is installed by default with the SequeLink Server. You only need to install the SequeLink Manager as described in this chapter if you want to run the SequeLink Manager on a Windows server machine other than the machine running SequeLink Server.

See Chapter 2 “Installing SequeLink® Server” on page 33 for instructions on installing the SequeLink Manager locally on the SequeLink Server.

Installing the SequeLink® Manager

The SequeLink Manager installer requires the Microsoft Windows Installer service. If the SequeLink Manager installer detects that the service is not installed on your machine, or that an older version is installed, a message is displayed. After installing the Microsoft Windows Installer service, you might need to restart your machine. Then you can install SequeLink Manager.

The SequeLink Manager installer on Windows also checks for the correct version of Microsoft Data Access Components (MDAC). If the installer detects that MDAC 2.7 Service Pack 1 or higher is not installed, an error message is generated.

MDAC 2.7 Service Pack 1 is shipped with SequeLink and can be found in the sqlnk60\mdac\win32 subdirectory (32-bit) on the DataDirect DVD. Alternatively, you can download MDAC from the Microsoft Web site.

To start the SequeLink Manager installer:

- **If installing from the DataDirect DVD**, insert the DVD into the DVD-ROM drive. If you have a local DVD-ROM drive, this typically is drive D. If the DVD-ROM drive is on a network, mount the DVD and create a mapping to the DVD-ROM drive. Then, perform one of the following actions:
  - If AutoRun for DVDs is enabled and you have a browser, the main installer window displays automatically. Select the product that you want to install; then, follow the instructions to install the product.
  - If AutoRun for DVDs is not enabled or you do not have a browser, use Windows Explorer to navigate from the root directory of the DVD to the folder for the SequeLink Manager (\sqlnk60\win32\manager). Then, double-click **setup.exe**.
- **If installing from files downloaded from the Web**, follow the download instructions on the DataDirect Technologies Web site to download the appropriate self-extracting ZIP file. Open the contents of the ZIP file into a directory (for example: C:\temp). Then, navigate to the directory that contains the unzipped files and double-click **setup.exe** to start the installer.

To install the SequeLink Manager:

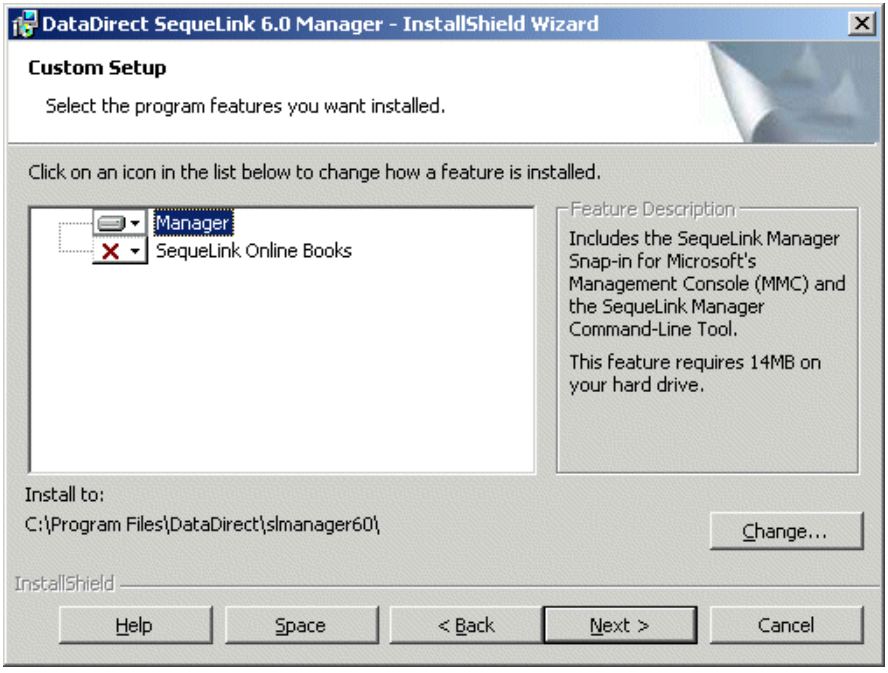
1. Start the SequeLink Manager installer. When the Welcome window appears, click **Next** to continue.
2. The License Agreement window appears. Accept the license agreement by clicking the **I accept the terms of the license agreement** option; then, click **Next**.

3 The Custom Setup window allows you choose specific installation options.

a Click one or multiple component icons to select the components to install. When you select a component, a description of the component appears in the Feature Description box.

NOTE: If you want the SequeLink Manager to be installed on a drive other than the local drive, click the **Manager** component icon and select its installation option.

b To change the installation directory, click **Change**. A window appears allowing you to browse and select an installation directory. The default directory is C:\Program Files\DataDirect\slmanager60.



When you are satisfied with your settings, click **Next**.

4 The Ready to Modify the Program window allows you to go back and review your choices before proceeding. If you are ready to install, click **Install**.

5 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**. For instructions on testing your SequeLink installation, refer to the *SequeLink Administrator's Guide*.

4 Installing the ODBC Client

This chapter provides installation instructions for the SequeLink Client *for* ODBC (the ODBC Client) on 32-bit and 64-bit platforms.

IMPORTANT: You must install both the SequeLink Server and the SequeLink Client. If you have not already done so, install the SequeLink Server after installing the Client.

Installing the ODBC Client on Windows

The SequeLink Client *for* ODBC installer on Windows requires the Microsoft Windows Installer service. If the SequeLink *for* ODBC Client installer detects that the service is not installed on your machine, or that an older version is installed, a message is displayed. After installing the Microsoft Windows Installer service, you might need to restart your machine. Then you can install the ODBC Client.

The SequeLink Client *for* ODBC installer also checks for Microsoft Data Access Components (MDAC). If the installer detects that MDAC 2.7 Service Pack 1 or higher (32-bit) or MDAC 2.8 or higher (64-bit platforms) is not installed, an error message is generated.

You must install MDAC. MDAC 2.7 Service Pack 1 is shipped with SequeLink and can be found in the sqlnk60\mdac\win32 subdirectory on the DataDirect DVD. Alternatively, you can download the appropriate version of MDAC from the Microsoft Web site.

To start the ODBC Client installer:

- **If installing from the DataDirect DVD**, insert the DVD into the DVD-ROM drive. If you have a local DVD-ROM drive, this typically is drive D. If the DVD-ROM drive is on a network, mount the DVD and create a mapping to the DVD-ROM drive. Then, perform one of the following actions:

  - If AutoRun for DVDs is enabled and you have a browser, the main installer window displays automatically. Select the product that you want to install; then, follow the instructions to install the product.
  - If AutoRun for DVDs is not enabled or you do not have a browser, use Windows Explorer to navigate from the root directory of the DVD to the folder for the installer of product that you want to install:
    - \sqlnk60\client\win32\odbc for the 32-bit driver
    - \sqlnk60\client\win64\odbc for the 64-bit driver

    Then, double-click **SETUP.EXE**.

- **If installing from files downloaded from the Web**, follow the download instructions on the DataDirect Technologies Web site to download the appropriate self-extracting ZIP file. Open the contents of the ZIP file into a directory (for example: C:\temp). Then, navigate to the directory that contains the unzipped files and double-click **SETUP.EXE** to start the installer.

Installing the ODBC Client

NOTE: Unless otherwise specified, the screen shots in the following procedure show the installation of SequeLink Client for ODBC on a 32-bit Windows machine. The installation on a 64-bit Windows server is similar. For clarity, the term "ODBC Client"as used in this procedure applies to both versions of the ODBC Client.

1 Start the ODBC Client installer. When the Welcome window appears, click **Next** to continue. The License Agreement window appears.

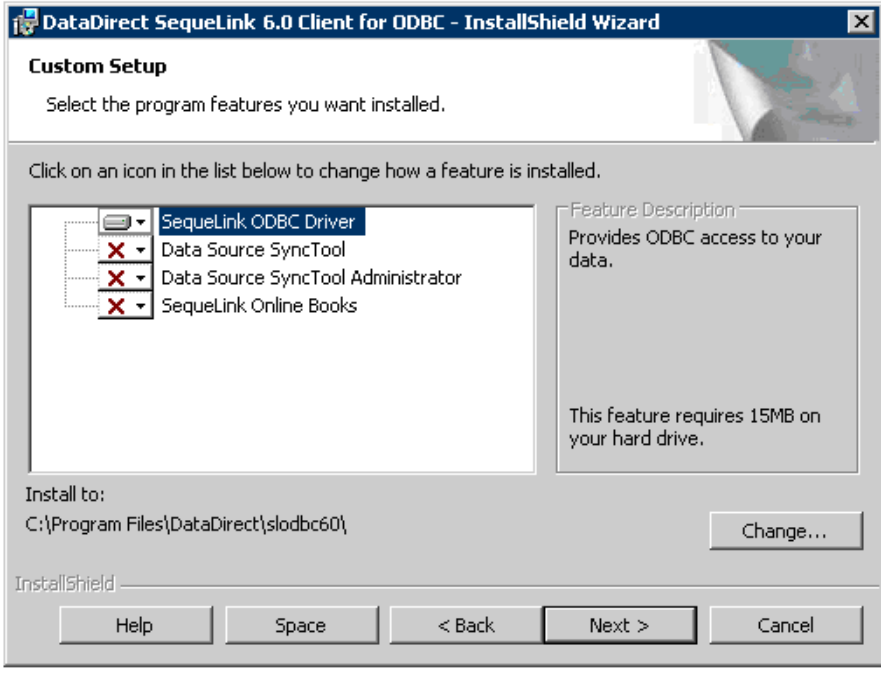
2 On the License Agreement window, perform one of the following actions:

- Accept the agreement by clicking the appropriate option. Then, click **Next**. The Custom Setup window appears.
- Do not accept the agreement by clicking **Cancel** to exit the installation.

3 The Custom Setup window allows you to choose specific installation options.

a Click one or multiple component icons to select the components to install. When you select a component, a description of the component appears in the Feature Description box. To install a component, click the drop-down arrow in the icon and select **This feature, and all subfeatures, will be installed on local hard drive.** The red X disappears on the icon.

b To change the installation directory, click **Change**. A window appears allowing you to browse and select an installation directory.



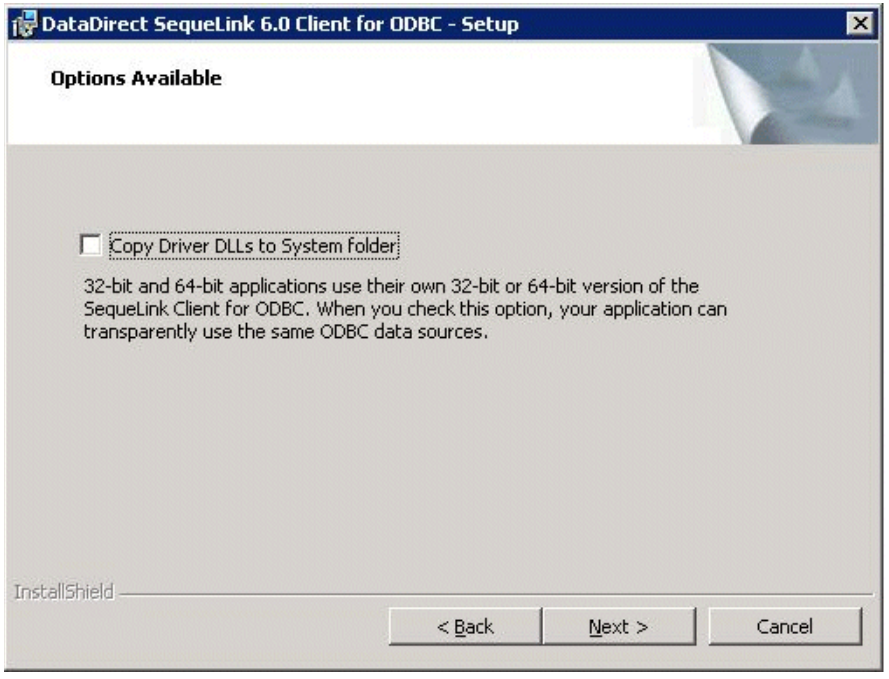
When you are satisfied with your settings, click **Next**.

On a 32-bit machine, continue at Step 5.

On a 64-bit machine, the Options Available window appears. Continue at Step 4.

4 On the Options Available window, select the Copy Driver DLLs to Systems32 folder check box if you want your application to transparently determine whether to load the 32-bit or 64-bit version of the driver.

- If you select the check box, the ODBC Client will also be copied to the Windows system32 directory. This means that any 32-bit or 64-bit application, using any type of ODBC data source, will be able to locate and load the ODBC Client driver dynamically using the WOW64 subsystem's built-in redirection for both the registry entries and the file system.
- If you do not select the check box, 64-bit applications will recognize only 64-bit ODBC data sources and 32-bit applications will recognize only 32-bit ODBC data sources.



5 The Ready to Install the Program window allows you to go back and review your choices before proceeding. If you are ready to install, click **Install**.

6 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**.

7 For instructions on testing your SequeLink installation, refer to the *SequeLink Administrator's Guide*.

NOTES:

- If you want to use the SequeLink Client with Microsoft Distributed Transaction Coordinator (MS DTC), you must reboot.
- To change which components are installed or remove the SequeLink Client *for* ODBC from your machine, run the installation program again. When it detects an existing SequeLink Client *for* ODBC installation on your machine, the installer will prompt you to uninstall the SequeLink Client from your machine.

Uninstalling can also be accomplished in silent mode. See "Silent Installations" for details.

Silent Installations

The Microsoft Windows Installer service adds the MSIEXEC.EXE file to the system directory of your workstation to make silent installations possible for the initial installation of the SequeLink Client *for* ODBC. Silent installations are useful for system administrators who want to create a batch file to execute the initial installation of multiple identical ODBC Clients.

To install the ODBC Client silently:

1 Using a command line, change to the directory where the setup.exe file is located (see "Installing the ODBC Client on Windows" on page 125) and type the following command:

```
setup /s /v"/qn"
```

where the `/s` switch specifies a silent installation. Other switches and properties can also be used to customize the installation; refer to the Microsoft Windows Installer SDK documentation.

2 Press ENTER. The installation will proceed, using defaults, without requiring any further interaction.

NOTE: Users who want to use the SequeLink Client with Microsoft Distributed Transaction Coordinator (MS DTC) must reboot after installation.

Example 1: To install from files downloaded from the DataDirect Web site on a 32-bit machine, change to the directory into which you unzipped the files. Using a command line, type the following command:

```
setup /s /v"/qn"
```

Example 2: To install from the DVD on a 64-bit machine and enable your application to transparently determine whether to load the 32-bit or 64-bit version of the driver, change to the sqlnk60\client\win64\odbc subdirectory on the DVD. Using a command line, type the following command:

```
setup /s /COPYDRIVERS=TRUE /v"/qn"
```

where `COPYDRIVERS=TRUE` is an optional driver-specific switch that determines if your application can transparently determine whether to load the 32-bit or 64-bit version of the driver.

To uninstall the ODBC Client silently:

Using a command line, change to the directory where the setup.exe file is located. For example, if you installed the ODBC Client on a 32-bit machine from the product DVD, change to the sqlnk60\client\win32\odbc subdirectory on the DVD. Using a command line, type the following command:

```
setup /s /x
```

Then, press ENTER. The SequeLink Client *for* ODBC is removed without requiring any further interaction.

Quick Install Images

When the Microsoft Windows Installer service is installed, the MSIEXEC.EXE file resides in the system directory of your workstation to make Quick Install images possible.

A Quick Install Image is a predefined, customized installation image that you can use for the initial installation of the same SequeLink Client *for* ODBC configuration, including data source definitions, on multiple workstations. It helps ensure that all SequeLink Clients in your organization or workgroup are installed and configured in the same way. Minimal user interaction is required to install the Quick Install Image.

NOTE: Users who want to use the SequeLink Client with Microsoft Distributed Transaction Coordinator (MS DTC) must reboot after installation.

You can configure a Quick Install Image with the following options:

- **Workstation or Network Installation**. If you configure:
  - A workstation installation, all SequeLink Client *for* ODBC files must be installed on each workstation.
  - A network installation, the ODBC Client is installed at a network location and each workstation can share this network version. Before the network version can be used, the Quick Install Image must be run on each workstation.
- **Installation Directory**. On a workstation installation, you can specify the directory where the SequeLink Client *for* ODBC will be installed. The default directory is C:\Program Files\DataDirect\slodbc60.
- **Default Data Sources**. Your Quick Install image can create a set of default data sources. First, you must create a data source file (.DSF) using the SequeLink Data Source SyncTool Administrator. For instructions on exporting ODBC data source definitions to data source files, refer to the *SequeLink Administrator's Guide*.

  NOTE: Quick Install images only support data source files that specify import in Merge or Overwrite mode.

Creating a Quick Install Image

1. Using a command line, change to the directory where the setup.exe file is located. For example, to install from the DVD on a 32-bit machine, change to the sqlnk60\win32\client\odbc directory on the DVD.
2. Using a command line, type the following command:

   ```
   setup /a
   ```

   Then, press ENTER.
3. The Welcome window appears. Click **Next** to continue.

4 The Workstation or Network Quick Install image window appears.

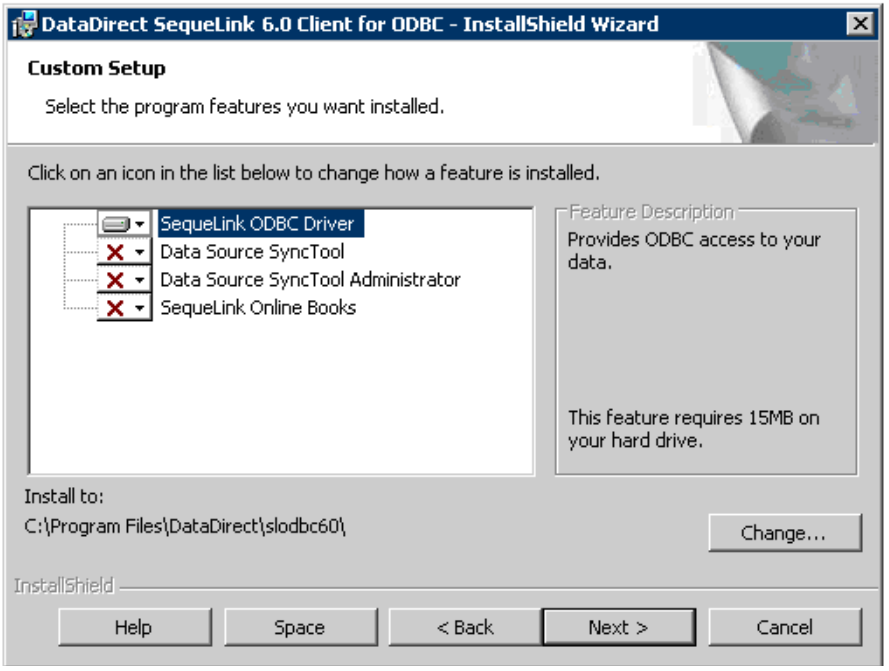
Select the type of Quick Install image to create:

- For a Network Quick Install image, select the **Create a Network Quick Install image** option and click **Next**. Skip to Step 6.
- For a Workstation Quick Install image, select the **Create a Workstation Quick Install image** option and click **Next**. Continue with Step 5.

5 For a Workstation Quick Install image, the Destination Folder window allows you to specify a folder on the workstation where the ODBC Client will be installed.

Click **Change** to choose another folder. When you are satisfied with your choice, click **Next** to continue. Continue with the next step.

6 The Custom Setup window allows you to choose specific installation options. Click one or multiple component icons to select the components to install. When you select a component, a description of the component appears in the Feature Description box. To install a component, click the drop-down arrow in the icon and select **This feature, and all subfeatures, will be installed on local hard drive.** The red X disappears on the icon.



After setting all options, click **Next**.

7 The Create Default Data Sources window allows you to choose whether to create default data sources.

- If you click **No**, skip to Step 9.
- If you click **Yes**, continue with Step 8.

8 If you choose to create default data sources, the DSF File Location window appears. Click **Browse** to specify the path to the appropriate data source file. Then, click **Next**.

NOTE: Quick Install images only support data source files that specify import in Merge or Overwrite mode. Continue with Step 10.

9 In the Network Location window, type the directory where the Quick Install image will be saved in the Network location field, or click **Change** to navigate to a directory. When you are satisfied with your choice, click **Install**.

10 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**.

Running a Quick Install Image

To run a Quick Install image, the Microsoft Windows Installer must be available on each workstation. The Quick Install image can also be installed silently. See "Silent Installations" on page 130 for more information about silent installations.

To perform a Quick Install:

1 Use one of the following methods to run the Quick Install image from your workstation:

- Use Windows Explorer to navigate to the network directory containing the Quick Install image file. Double-click **DataDirect SequeLink for ODBC 6.0.Msi**.
- Verify that the Windows installer MSIEXEC.EXE file is on your path and, using a command line, type the following command:

```
msiexec /i "network_location\DataDirect SequeLink 6.0
Client for ODBC.Msi"
```

where *network_location* is the location of the Quick Install Image file; then, press ENTER.

2 The Welcome window appears. Click **Next** to continue.

3 The Ready to Install the Program window appears. If you are ready to install, click **Install**.

4 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**.

5 For instructions on testing your SequeLink installation, refer to the *SequeLink Administrator's Guide*.

Uninstalling the ODBC Client

On all Windows platforms, the Remove option of the product Setup deletes product files and entries in the system information.

You should use the Remove option if you have a SequeLink ODBC Client installed and want to install the same SequeLink ODBC Client in a different location. Remove the installed ODBC Client; then, reinstall the ODBC Client in the new location.

To remove your installation:

1 After opening Add/Remove Programs, select the DataDirect program and, depending on your platform, click **Remove** or **Add/Remove**. Clicking **Remove** immediately removes the program. Clicking **Add/Remove** displays the DataDirect Setup Welcome window. Click **Next** to display the Program Maintenance window.

2 Select **Remove**; then, click **Next**. The Remove the Program window appears.

3 Click **Remove**.

4 On the Setup Completed window, click **Finish**.

Installing the ODBC Client on Linux and UNIX

If you are installing:

- **From a DVD**, see one of the following sections:
  - "Installing on a Workstation without a DVD-ROM Drive"
  - "Installing on a Workstation with a DVD-ROM Drive" on page 141
- **From files downloaded from the Web**, see "Installing From Downloaded Files" on page 143

NOTE: Installation on Linux and UNIX automatically includes both the 32-bit and 64-bit ODBC Client.

Installing on a Workstation without a DVD-ROM Drive

Installing the ODBC Client on a UNIX workstation without a DVD-ROM drive involves the following steps:

- Transferring files to your UNIX workstation
- Extracting the files
- Running the installation script
- Setting up the SequeLink environment for your users

If your workstation does not have a DVD-ROM drive, you must mount the DVD on another computer with a DVD-ROM drive and transfer the tar file in binary format to your UNIX workstation using file transfer software (for example, FTP). After the tar file is transferred to your UNIX workstation, extract the files from the tar file and run the installation script.

See "Mounting Your DVD" on page 29 for information on mounting the DVD.

Transferring Files

1. Mount the DVD on a computer with a DVD-ROM drive and FTP capability.
2. Log on to the UNIX workstation where you want to install the ODBC Client software.
3. Create a temporary directory on the UNIX workstation. This directory will be used to run the installation script and can be deleted after installation. For example, enter:

   ```
   mkdir /tmp/sqlnk
   ```

4. On the system from which you will be transferring the files, change to the directory on the DVD that applies to your system and client. For example, to install the ODBC Client on Solaris, change to the sqlnk60/solaris/client/ directory on the DVD.
5. From this system, transfer the file slclient.tar in binary format using file transfer software to the temporary directory you created in Step 3.

   How you transfer files from another system to your UNIX workstation depends on your TCP/IP product and your system's operating system. For more information about transferring files, refer to the documentation supplied with your TCP/IP product.

   IMPORTANT: Transfer the files in binary format. If you transfer files in the wrong format, the installation will fail.

Extracting ODBC Client Files

On your UNIX workstation, access the tar file you transferred to the temporary directory and extract it. For example, enter:

```
tar -xvof slclient.tar
```

Running the Installation Script

When you run the ODBC installer, it prompts you for choices you need to make and information you need to supply. Default answers to questions are enclosed within square brackets, [ ]. To accept the default, press ENTER.

To run the installation script:

1. Enter the following command to run the installation script:

   ```
   ksh unixpi.ksh
   ```

2. The product information summary is displayed.

   NOTE: The following example shows the information for installing the SequeLink Client *for* ODBC on Solaris; your messages may be different.

   ```
   The Product Setup is preparing the installation for
   SequeLink for ODBC Client on Solaris.
   Do you want to continue (Y/N) ? [Y]
   ```

   Enter `Y` to continue the installation. Enter `N` to stop the installation; no software will be installed.

3. The Product License Agreement screen is displayed. Press any key to advance through the license agreement.

   Enter `YES` to accept the agreement and continue the installation. Enter `NO` to stop the installation; no software will be installed.

4. Enter the fully qualified path of the target directory for the SequeLink Client *for* ODBC software. If this directory does not exist, it will be created for you.

5 If the Product Setup detects a previously installed version of the SequeLink Client *for* ODBC in the directory you specified, it asks you if you want to make a backup of your existing installation.

   Enter `Y` to create a backup of your existing installation. The backup will be created in the *installdir*/backup directory, where *installdir* is your SequeLink Client *for* ODBC installation directory, in a file with the format slclient*mmddyy*.tar, where *mmddyy* is the date the file was created.

6 The SequeLink Client *for* ODBC is installed. A message appears, informing you when the installation is complete.

7 After your installation is complete, you must set up the SequeLink environment for your users. See "Setting Up the SequeLink® Environment for Users" on page 144 for instructions on setting up the SequeLink environment for your users.

8 For instructions on testing your SequeLink installation, refer to the *SequeLink Administrator's Guide*.

Installing on a Workstation with a DVD-ROM Drive

If your UNIX workstation has a DVD-ROM drive, you can use the Product Setup to install the ODBC Client and other DataDirect Technologies products on your DataDirect DVD. The Product Setup prompts you for information you need to supply during installation and provides default values for this information. Default answers to questions are enclosed within brackets, [ ]. To accept the default, press ENTER.

To install the ODBC Client:

1 Mount the DVD.

2 Change to the top-level directory on the DVD.

3 Enter the following command to run the Product Setup:

```
ksh unixmi.ksh
```

The Product Setup displays a list of all available products.

4 Select the product you want to install. For example, select one of the following products:

- ODBC Client for Solaris
- ODBC Client for AIX
- ODBC Client for Linux
- ODBC Client for HP-UX
- ODBC Client for z/OS USS

5 The product information summary is displayed.

Follow Step 2 through Step 8 under "Running the Installation Script" on page 140 to complete the installation.

Installing From Downloaded Files

1 Download the appropriate tar file from the DataDirect Technologies Web site. Download instructions are available on the DataDirect Technologies Web site.

If you are downloading to a machine other than the target machine, you will need to transfer the files (in binary format) to your UNIX workstation. How you transfer files from another system to your UNIX workstation depends on your TCP/IP product and your system's operating system. For more information about transferring files, refer to the documentation supplied with your TCP/IP product.

IMPORTANT: Transfer the file in binary format. If you transfer files in the wrong format, the installation will fail.

2 On your UNIX workstation, access the tar file and extract it. For example, enter:

```
tar -xvof slclient.tar
```

3 Enter the following command to run the installation script:

```
ksh unixpi.ksh
```

4 The product information summary displays:

Follow Step 2 through Step 8 under "Running the Installation Script" on page 140 to complete the installation.

Setting Up the SequeLink® Environment for Users

For each SequeLink user, set up a SequeLink environment by running the appropriate shell script in the SequeLink directory:

- If using the Korn or Bourne shell, enter: `. sqlnk.sh`.

  NOTE: This script can also be sourced from the user's .profile script.

- If using the C shell, enter: `. source sqlnk.csh`

  NOTE: This script can also be sourced from the user's .login script.

- On 64-bit platforms, use the 64-bit versions of these scripts, for example, sqlnk64.sh.

5 Installing the ADO Client

This chapter provides installation instructions for the SequeLink Client *for* ADO (the ADO Client).

IMPORTANT: You must install both the SequeLink Server and the SequeLink Client. If you have not already done so, install the SequeLink Server after installing the Client.

Installing the ADO Client on Windows

The ADO Client installer on Windows requires the Microsoft Windows Installer service. If the ADO Client installer detects that the service is not installed on your machine, or that an older version is installed, a message is displayed. After installing the Microsoft Windows Installer service, you might need to restart your machine. Then you can install the ADO Client.

The ADO Client installer also checks for Microsoft Data Access Components (MDAC). If the installer detects that MDAC 2.7 Service Pack 1 or higher is not installed, an error message is generated.

You must install MDAC. MDAC 2.7 Service Pack 1 is shipped with SequeLink and can be found in the sqlnk60\mdac32 subdirectory on the DataDirect DVD.

To start the ADO Client installer:

- **If installing from the DataDirect DVD**, insert the DVD into the DVD-ROM drive. If you have a local DVD-ROM drive, this typically is drive D. If the DVD-ROM drive is on a network, mount the DVD and create a mapping to the DVD-ROM drive. Then, perform one of the following actions:
  - If AutoRun for DVDs is enabled and you have a browser, the main installer window displays automatically. Select the product that you want to install; then, follow the instructions to install the product.
  - If AutoRun for DVDs is not enabled or you do not have a browser, use Windows Explorer to navigate from the root directory of the DVD to the folder for the product that you want to install (\sqlnk60\win\ado). Then, double-click **SETUP.EXE**.
- **If installing from files downloaded from the Web**, follow the download instructions on the DataDirect Technologies Web site to download the appropriate self-extracting ZIP file. Open the contents of the ZIP file into a directory (for example: C:\temp). Then, navigate to the directory that contains the unzipped files and double-click **SETUP.EXE** to start the installer.

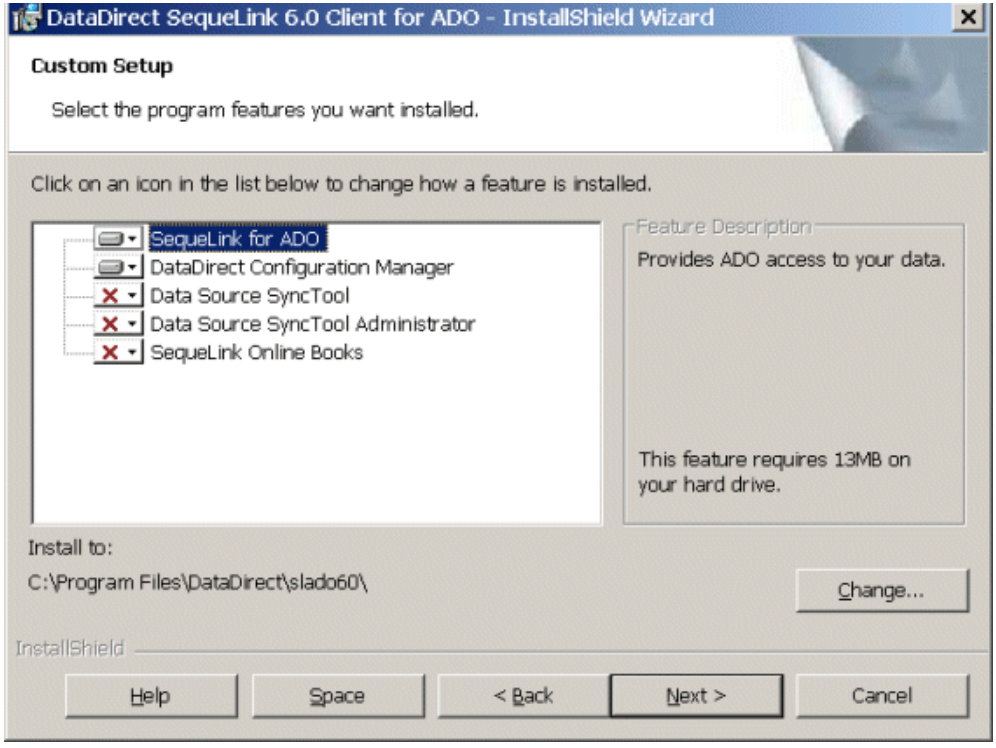
Installing the ADO Client

1. Start the SequeLink *for* ADO installer. When the Welcome window appears, click **Next** to continue. The License Agreement window appears.

2 On the License Agreement window, perform one of the following actions:

- Accept the agreement by clicking the appropriate option. Then, click **Next**. The Custom Setup window appears.
- Do not accept the agreement by clicking **Cancel** to exit the installation.

3 The Custom Setup window allows you choose specific installation options.



a Click one or multiple component icons to select the components to install. When you select a component, a description of the component appears in the Feature Description box.

b To change the installation directory, click **Change**. A window appears allowing you to browse and select an installation directory.

When you are satisfied with your settings, click **Next**.

4 The Ready to Install the Program window allows you to go back and review your choices before proceeding. If you are ready to install, click **Install**.

5 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**.

6 For instructions on testing your SequeLink installation, refer to the *SequeLink Administrator's Guide*.

NOTE: If you want to use the SequeLink Client with Microsoft DTC, you must reboot your machine.

NOTE: If you will be connecting to the SequeLink Server for ODBC Socket with an ADO Client, you must configure the DataSourceProviderTypesFile and DataSourceProviderTypesSection service attributes. Refer to the *SequeLink Administrator's Guide*.

Silent Installations

When the Microsoft Windows Installer service is installed, the MSIEXEC.EXE file resides in the system directory of your workstation to make silent installations possible for the initial installation of the ADO Client. Silent installations are useful for system administrators who want to create a batch file to execute the initial installation of multiple identical ADO Clients.

To install the ADO Client silently:

Using a command line, change to the directory where the setup.exe file is located. For example, to install from the DVD on a 32-bit machine, change to the sqlnk60\client\win32\ado subdirectory on the DVD. Using a command line, type the following command:

```
setup /s /v"/qn"
```

Then, press ENTER. The installation will proceed, using defaults, without requiring any further interaction. The /s switch specifies a silent installation. Other switches and properties can also be used to customize the installation; see the Microsoft Windows Installer SDK documentation.

NOTE: Users who want to use the SequeLink Client with Microsoft Distributed Transaction Coordinator (MS DTC) must reboot after installation.

To uninstall the ADO Client silently:

Using a command line, change to the directory where the SETUP.EXE file is located. For example, if you installed the ADO Client on a 32-bit machine from the product DVD, change to the sqlnk60\client\win32\ado subdirectory on the DVD. Type the following command:

```
setup /s /x
```

Then, press ENTER. The ADO Client is removed without requiring any further interaction.

Quick Install Images

When the Microsoft Windows Installer service is installed, the MSIEXEC.EXE file resides in the system directory of your workstation to make Quick Install images possible for the initial installation of the ADO Client.

A Quick Install image is a predefined, customized installation image that you can use for the initial installation of the same ADO Client configuration, including data source definitions, on multiple workstations. It helps ensure that all SequeLink Clients in your organization or workgroup are installed and configured in the same way. Minimal user interaction is required to install the Quick Install image.

NOTE: Users who want to use the SequeLink Client with Microsoft Distributed Transaction Coordinator (MS DTC) must reboot after installation.

You can configure a Quick Install image with the following options:

- **Workstation or Network Installation**. If you configure:
  - A workstation installation, the ADO Client must be installed on each workstation.
  - A network installation, the ADO Client is installed at a network location and each workstation can share this network version. Before the network version can be used, the Quick Install Image must be run on each workstation.
- **Installation Directory**. On a workstation installation, you can specify the directory where the ADO Client will be installed.
- **Default Data Sources**. Your Quick Install image can create a set of default data sources. First, you must create a data source file (.OSF) using the SequeLink Data Source SyncTool Administrator. For more information about exporting data source definitions to data source files, refer to the *SequeLink Administrator's Guide*.

  NOTE: Quick Install images only support data source files that specify import in Merge or Overwrite mode.

Creating a Quick Install Image

1 Using a command line, change to the directory where the setup.exe file is located. For example, to install from the DVD on a 32-bit machine, change to the sqlnk60\client\win32\ado subdirectory on the DVD.

2 Using a command line, type the following command:

```
setup /a
```

Then, press ENTER.

3 The Welcome window appears. Click **Next** to continue.

4 The next window prompts you to choose a Network or a Workstation Quick Install image.

Select the type of Quick Install image to create:

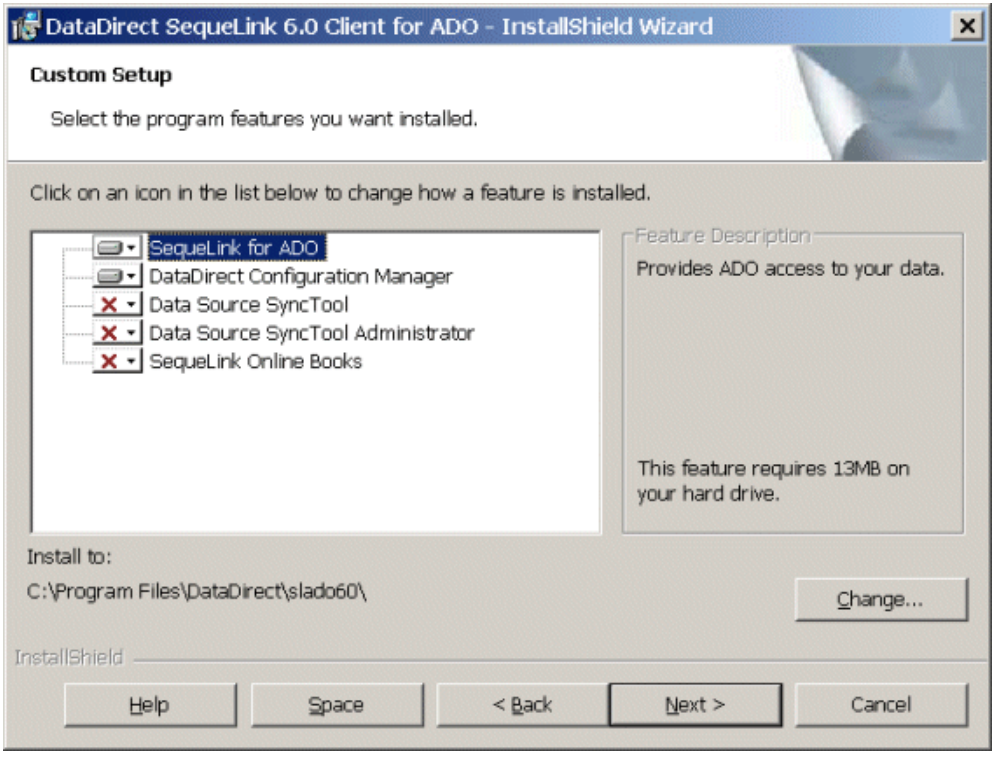
- For a Network Quick Install image, select the **Create a Network Quick Install image** option and click **Next**. Skip to Step 6.
- For a Workstation Quick Install image, select the **Create a Workstation Quick Install image** option and click **Next**. Continue with Step 5.

5 If you are creating a Workstation Quick Install image, the Destination Folder window allows you to specify a folder on the workstation where the ADO Client will be installed. The default destination folder is C:\Program Files\DataDirect\slado60.

When you are satisfied with your settings, click **Next**.

Click **Change** to choose another folder. When you are satisfied with your choice, click **Next** to continue. Continue with the next step.

6 The Custom Setup window allows you choose specific installation options. Click one or multiple component icons to select the components to install. When you select a component, a description of the component appears in the Feature Description box. To install a component, click the drop-down arrow in the icon and select **This feature, and all subfeatures, will be installed on your local hard drive**. The red X disappears from the icon.



7 The Create Default Data Sources window allows you to choose whether to create default data sources.

- If you click **No**, skip to Step 9.
- If you click **Yes**, go to Step 8.

8 If you choose to create default data sources, the OSF File Location window is displayed. Click **Browse** to specify the path to the appropriate data source file. Then, click **Next**.

NOTE: Quick Install images only support data source files that specify import in Merge or Overwrite mode.

9 In the Network Location window, type the directory where the Quick Install image will be saved in the Network location field, or click **Change** to navigate to a directory. When you are satisfied with your choice, click **Install**.

10 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**.

Running a Quick Install Image

To run a Quick Install image, the Microsoft Windows Installer must be available on each workstation. The image can also be installed silently. See "Silent Installations" on page 148 for more information about silent installations.

To perform a Quick Install:

1 Use one of the following methods to run the Quick Install image from your workstation:

- Use Windows Explorer to navigate to the network directory containing the Quick Install image. Double-click **DataDirect SequeLink 6.0 Client for ADO.msi**.
- Verify that the Windows installer MSIEXEC.EXE file is on your path and, using a command line, type the following command:

```
msiexec /i "network_location\DataDirect
SequeLink 6.0 Client for ADO.msi"
```

where *network_location* is the location of the Quick Install Image file; then, press ENTER.

2 The Welcome window appears. Click **Next** to continue.

3 The Ready to Install the Program window appears. If you are ready to install, click **Install**.

4 The InstallShield Wizard Completed window appears when the installation has been completed successfully. Click **Finish**.

5 For instructions on testing your SequeLink installation, refer to the *SequeLink Administrator's Guide*.

Completing the ODBC Socket and JDBC Socket Installation for the ADO Client

NOTE: This procedure applies to both SequeLink Server for JDBC Socket and SequeLink Server for ODBC Socket.

1 From the SequeLink Manager Snap-in, select **SequeLink 6.0 Manager**. For detailed instructions on starting the MMC and working with the SequeLink Manager Snap-in, refer to the *SequeLink Administrator's Guide*.

2 Select the SequeLink Agent.

3 Select **SequeLink Services**.

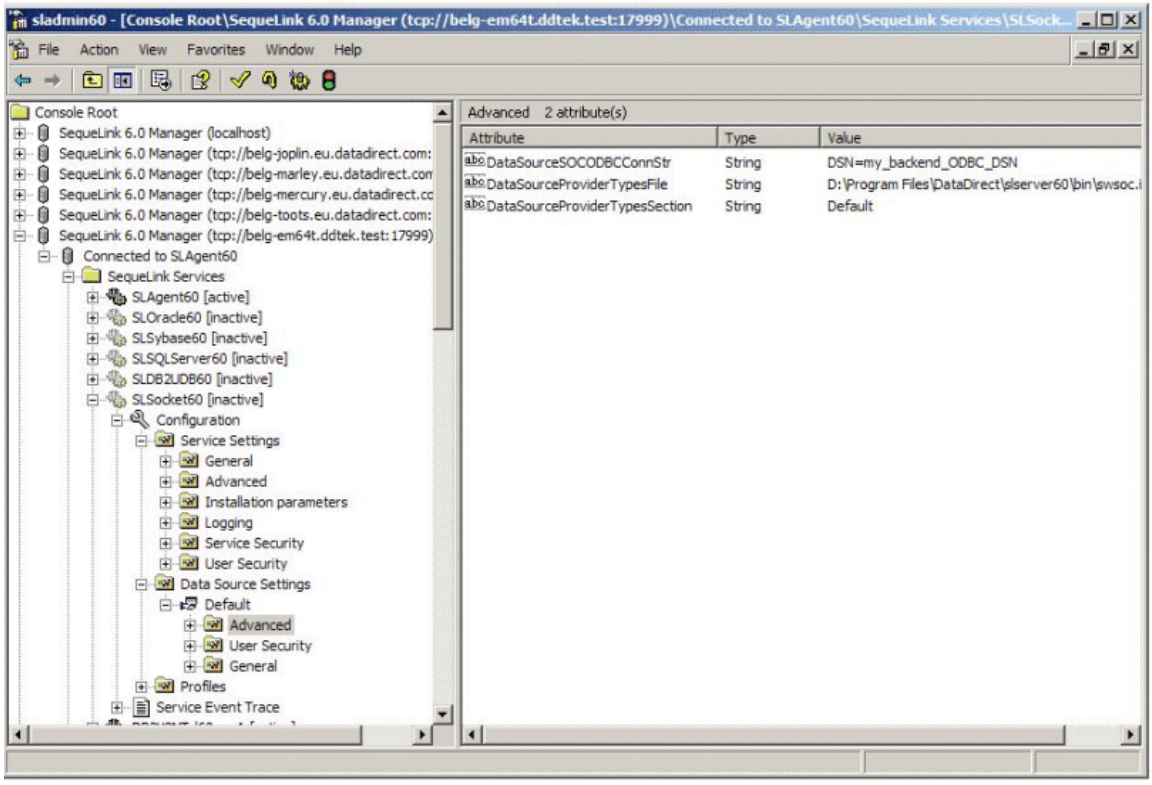
4 Select **SLSocket60**.

5 Select **Configuration**.

6 Select **Data Source Settings**.

7 Select **Default**.

8 Select **Advanced**. The service attributes are displayed.



9 Right-click the **DataSourceProviderTypesFile** service attribute, and select **Properties**. The Properties window appears.

10 In the Value field, type `\installdir\bin\swsoc.ini`, where *installdir* is the SequeLink installation directory.

11 Click **OK**. The attribute is changed.

12 Right-click the **DataSourceProviderTypesSection** service attribute, and select **Properties**. The Properties window appears.

13 In the Value field, type the name of the section of the ProviderTypes file that will contain the data type information for the provider. For example, if you are connecting to an Oracle database, you might type `Oracle` in this field.

14 Click **OK**. The attribute is changed.

15 Save the configuration.

16 Open the swsoc.ini file and check the data type mappings between the ADO data types and the data types used by the backend ODBC driver.

NOTE: If the data type mappings for the backend ODBC driver are not in the swsoc.ini file, you must add them manually.

17 Modify the file as needed, then save the swsoc.ini file.

Uninstalling the ADO Client

On all Windows platforms, the Remove option of the product Setup deletes product files and entries in the system information.

You should use the Remove option if you have a SequeLink ADO Client installed and want to install the same SequeLink ADO Client in a different location. Remove the installed ADO Client; then, reinstall the ADO Client in the new location.

To remove your installation:

1 After opening Add/Remove Programs, select the DataDirect program and, depending on your platform, click **Remove** or **Add/Remove**. Clicking **Remove** immediately removes the program. Clicking **Add/Remove** displays the DataDirect Setup Welcome window. Click **Next** to display the Program Maintenance window.

2 Select **Remove**; then, click **Next**. The Remove the Program window appears.

3 Click **Remove**.

4 On the Setup Completed window, click **Finish**.

Uninstalling can also be accomplished in silent mode. See Silent Installations for details.

6 Installing the JDBC Client

This chapter provides installation instructions for the SequeLink Client *for* JDBC (the JDBC Client).

IMPORTANT: You must install both the SequeLink Server and the SequeLink Client. If you have not already done so, install the SequeLink Server after installing the Client.

On Linux, UNIX, and Windows, you can choose to install the online books on your system. When installed, they are located in the books directory that is created beneath the SequeLink installation directory.

Installing the JDBC Client

NOTE: Be sure that a full JDK is on your path. See "SequeLink® Client for JDBC" on page 27 for more information.

To install on your local drive:

1 Locate the JDBC Client. If you are installing:

- From the DataDirect DVD, navigate to the sqlnk60/client/java subdirectory. Continue at Step 3.

  See "Mounting Your DVD" on page 29 for information about mounting the SequeLink DVD on the most common Java-enabled platforms.

- From the DataDirect Web site http://www.datadirect.com/download/downloadindex.asp, download the sequelinkjdbc.jar file to an *installer* directory, which can also be the *installation* directory for the JDBC Client. You can choose a different installation directory during the installation procedure.

2 At a command prompt, enter the following command to unpack the SLJCInstaller.jar file:

```
java -jar sequelinkjdbc.jar
```

3 To run the installer, follow either of the following procedures:

- If you prefer to use a Graphical User Interface (GUI), go to "GUI Installation" for instructions.
- If you prefer to use a command line, go to "Command-Line Installation" on page 163 for instructions.

GUI Installation

1 At a command prompt, enter the following command:

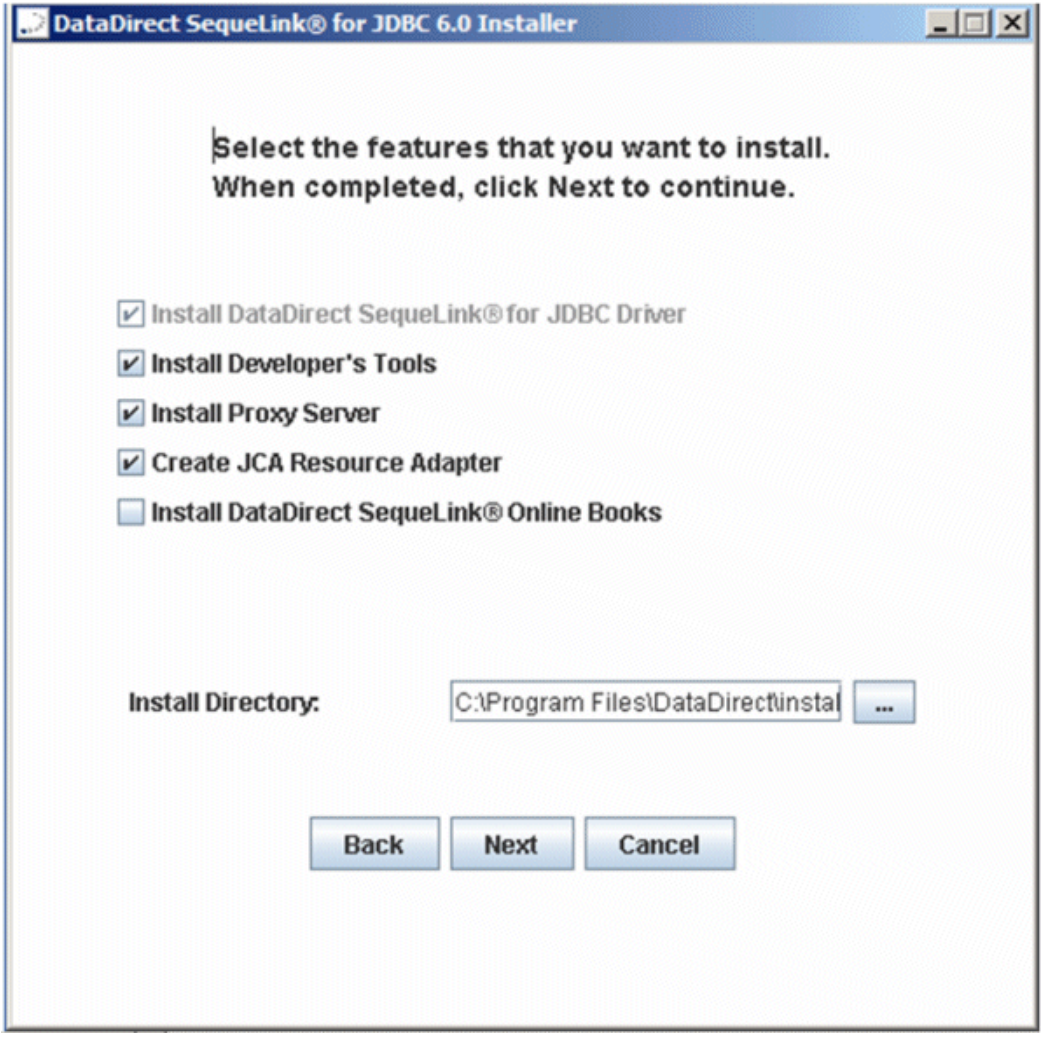
```
java -jar SLJCInstaller.jar
```

The DataDirect SequeLink *for* JDBC 6.0 Installer window appears. Click **Next** to continue. The License Agreement window appears.

2 On the License Agreement window, perform one of the following actions:

- Accept the agreement by clicking the appropriate option.Then, click **Next**. The Custom Setup window appears.
- Do not accept the agreement by clicking **Cancel** to exit the installation.

3 A window appears allowing you to select the components to install.



Because the SequeLink *for* JDBC Driver option is required, that option is grayed out.

Select or clear one or more of the following options:

- **Install Developer's Tools:** Select this option to install DataDirect Test™ for testing JDBC applications, DataDirect Spy™ for tracking JDBC calls, and the DataDirect Connection Pool Manager.
- **Install Proxy Server**: Select this option to install the SequeLink Proxy Server. Installing the SequeLink Proxy Server on the Web server from which your JDBC applets are downloaded allows untrusted applets to connect to SequeLink Servers on hosts other than the Web server.
- **Create JCA Resource Adapters:** Select this option if you need to create resource adapters to connect to enterprise information systems through the J2EE Connector Architecture.
- **Install SequeLink Online Books**: Select this option to install the SequeLink 6.0 library.

4 In the Install Directory field, type the path, including the drive letter on Windows machines, of the JDBC Client installation directory or click the **...** button next to the field to select an installation directory.

NOTE: The default value for the installation directory is the directory from which the installer is running. Verify that you have entered or selected the correct directory into which you want to install the JDBC Client. If you have a previous version of the JDBC Client installed on the same machine, you must specify a directory different from the one for the previous version.

Then, click **Next** to continue.

5 A window appears allowing you to confirm your installation options. Click **Back** to revise your choices, or click **Install** to install the JDBC Client. The JDBC Client is installed.

6 Click **Finish** to close the Installer.

Command-Line Installation

1 At a command prompt, change to the directory where the SLJCInstaller.jar is located.

2 Enter the following command:

```
java -cp SLJCInstaller.jar
com.ddtek.jdbc.sljcinstaller.Installer -ir {yes|no}
-it {yes|no} -ib {yes|no} -ip {yes|no} -d {install_dir}
```

where:

`-ir`	{yes|no}. If yes, JCA resource adapters are installed for connecting to enterprise information systems through the J2EE Connector Architecture.
`-it`	{yes|no}. If yes, the following JDBC development components are installed: DataDirect Test for testing JDBC applications, DataDirect Spy for tracking JDBC calls, and the DataDirect Connection Pool Manager.
`-ib`	{yes|no}. If yes, the SequeLink 6.0 library is installed.
`-ip`	{yes|no}. If yes, the SequeLink Proxy Server is installed. Installing the SequeLink Proxy Server on the Web server from which your JDBC applets are downloaded allows untrusted applets to connect to SequeLink Servers on hosts other than the Web server.

`-d` *install_dir* — Specifies the full path, including the drive letter on Windows machines, to the JDBC Client installation directory.

NOTE: If the directory path contains spaces, you must enclose the path name with double quotation marks, for example:

```
-d "c:\Program Files\DataDirect\sljc60"
```

3 If the JDBC Client was successfully installed, a message appears confirming the installation.

Example:

```
java -cp SLJCInstaller.jar
com.ddtek.jdbc.sljcinstaller.Installer -ir yes -it yes
-ib yes -ip no -d "C:\Program Files\DataDirect\sljc60"
```

This SequeLink command-line example performs the following actions:

- Installs the SequeLink *for* JDBC Driver
- Creates JCA resource adapters (`-ir yes`)
- Installs the JDBC development components DataDirect Test and DataDirect Spy (`-it yes`)
- Installs the SequeLink Online Books (`-ib yes`)
- Does not install the SequeLink Proxy Server (`-ip no`)
- Installs the preceding components to the installation directory C:\Program Files\DataDirect\sljc (`-d "C:\Program Files\DataDirect\sljc60"`)

Installed Files

Table 6-1 shows the JDBC Client directory after installation and provides a description of the files.

Table 6-1. JDBC Client Directory and Files

Directories and Files	Description
books/*.*	Files for the SequeLink online books, which are in HTML format.
driver/examples/CheckAgainstCertificateFromFile.java driver/examples/CheckAgainstCertificateFromJar.java driver/examples/KeyStoreCertificateChecker.java	Contain Java source files that provide examples of certificate checkers.
driver/examples/JNDI_FILESYSTEM_Example.java driver/examples/JNDI_LDAP_Example.java	Contain Java source files that allow you to create JDBC data sources. These source files must be adapted for your environment, and subsequently compiled and run.
driver/lib/sljc.jar	JAR file containing all classes of the JDBC driver implementing the JDBC 3.0 API. To load the driver, add this path to your CLASSPATH variable. This JAR file also contains all classes of the JDBC driver implementing the JDBC 2.0 Optional Package. To use the JDBC 2.0 Optional Package, add this path to your CLASSPATH variable.
driver/lib/slssl14.jar driver/lib/iaik_jce_full.jar	JAR files required for J2SE 1.4.2 or higher JVMs. The files contain all classes of the JDBC driver that implement SSL encryption.
driver/lib/sljc.rar	Resource Archive for use with J2EE Connector Architecture.
help/*.*	Files for the HTML-based online help for the JDBC driver.

Table 6-1. JDBC Client Directory and Files (cont.)

Directories and Files	Description
testforjdbc/lib/testforjdbc.jar	JAR file containing all the DataDirect Test classes. To use DataDirect Test, add this path to your CLASSPATH variable.
testforjdbc/testforjdbc14.bat	Batch file that starts DataDirect Test.
testforjdbc/testforjdbc14.sh	UNIX shell script that starts DataDirect Test.
pool/lib/pool.jar	JAR file containing all the classes for the DataDirect Connection Pool Manager.
proxy/cmdsrvc.exe	Executable that registers the SequeLink Proxy Server as a Windows service.
proxy/proxyserver14.bat	Batch file that starts the SequeLink Proxy Server.
proxy/cert/	Directory containing demo certificates.
proxy/demos/com/ddtek/sequelink/demo/demo.properties proxy/demos/com/ddtek/sequelink/demo/GenerateDemoCertificates$DN.class proxy/demos/com/ddtek/sequelink/demo/GenerateDemoCertificates.class	Contain Java files you can use to generate certificates.
proxy/demos/com/ddtek/sequelink/demo/KeyTool.class	Contains a Java class file that extracts certificates from a Java2 KeyStore and converts certificates to different formats.
proxy/lib/slproxy.jar	JAR file containing all classes for the SequeLink Proxy Server.
proxy/log	The directory that contains all messages logged by the SequeLink Proxy Server.

Table 6-1. JDBC Client Directory and Files (cont.)

Directories and Files	Description
proxy/proxyserver14.sh	UNIX shell script that starts the SequeLink Proxy Server.
spy/lib/spy.jar	JAR file containing all Spy classes. To use DataDirect Spy, add this path to your CLASSPATH variable.
sun/lib/jdbc2_0-stdext.jar	JAR file containing redistributable Sun Microsystems components for the JDBC 2.0 Optional Package.
sun/lib/jndi.jar	JAR file containing redistributable Sun Microsystems components for JNDI 1.2.
sun/lib/jta-spec1_0_1.jar	JAR file containing redistributable Sun Microsystems components for JTA 1.0.1.
sun/lib/fs/fscontext.jar sun/lib/fs/providerutil.jar	JAR files containing redistributable Sun Microsystems components for the File System JNDI Provider.
sun/lib/ldap/jaas.jar sun/lib/ldap/ldap.jar sun/lib/ldap/ldapbp.jar sun/lib/ldap/providerutil.jar	JAR files containing redistributable Sun Microsystems components for the LDAP JNDI Provider.

Connecting to a Database

Once the JDBC Client is installed and the driver is configured the way you want it, you can connect from your application to your database in either of the following ways: with a connection URL through the JDBC Driver Manager or with a Java Naming Directory Interface (JNDI) data source.

For information about configuring JDBC client data sources and a list of JDBC connection attributes and their valid values, refer to the SequeLink Developer's Reference

Use the following steps to load the driver from your JDBC application.

1. Setting the Classpath

The JDBC Client must be defined in your CLASSPATH variable. The CLASSPATH is the search string your Java Virtual Machine (JVM) uses to locate the JDBC driver on your computer. If the driver is not defined on your CLASSPATH, you will receive a "`class not found`" error when trying to load the driver. Set your system CLASSPATH to include the following entries, where `sljc.jar` is the driver jar file and `install_dir` is the path to your JDBC Client installation directory:

```
install_dir/lib/sljc.jar
install_dir/lib/slssl14.jar
install_dir/lib/iaik_jce_full.jar
```

Windows Example

```
CLASSPATH=.;c:\sljdbc60\driver\lib\sljc.jar
CLASSPATH=.;c:\sljdbc60\driver\lib\slssl14.jar
CLASSPATH=.;c:\sljdbc60\driver\lib\iaik_jce_full.jar
```

UNIX Example

```
CLASSPATH=.:/home/user1/sljdbc60/driver/lib/sljc.jar
CLASSPATH=.:/home/user1/sljdbc60/driver/lib/slssl14.jar
CLASSPATH=
.:/home/user1/sljdbc60/driver/lib/iaik_jce_full.jar
```

2. Registering the Driver

IMPORTANT: If using Java SE 6, you do not need to register the driver and can skip this step. Java SE 6 automatically registers the driver with the JDBC Driver Manager.

Registering the driver tells the JDBC Driver Manager which driver to load. The driver is registered by using the Class.forName method and specifying the driver class name as the argument. The name of the driver for the JDBC Client is com.ddtek.jdbc.sequelink.SequeLinkDriver.

Uninstalling the JDBC Client

To uninstall, delete the entire SequeLink installation directory.

7 Installing the .NET Client

This chapter provides installation instructions for the SequeLink Client *for* .NET (the .NET Client).

IMPORTANT: You must install both the SequeLink Server and the SequeLink Client. If you have not already done so, install the SequeLink Server after installing the Client.

Installation Directory

The Setup program creates and installs the data provider in the installation directory, by default:

C:\Program Files\DataDirect\sldotnet60

Do not delete the installer after the initial installation; you may need it later to reinstall a data provider.

NOTE: The .NET data provider is automatically installed in the Global Assembly Cache (GAC).

If you install SequeLink Client *for* .NET and select to install the optional MS DTC Support components, the Client can enlist in MS DTC coordinated transactions. These components are required to call some unmanaged code.

When you install the .NET Client, HTML-based online help for developing .NET applications is integrated into Visual Studio .NET.

Installing from a DVD

To install the data provider on your local drive:

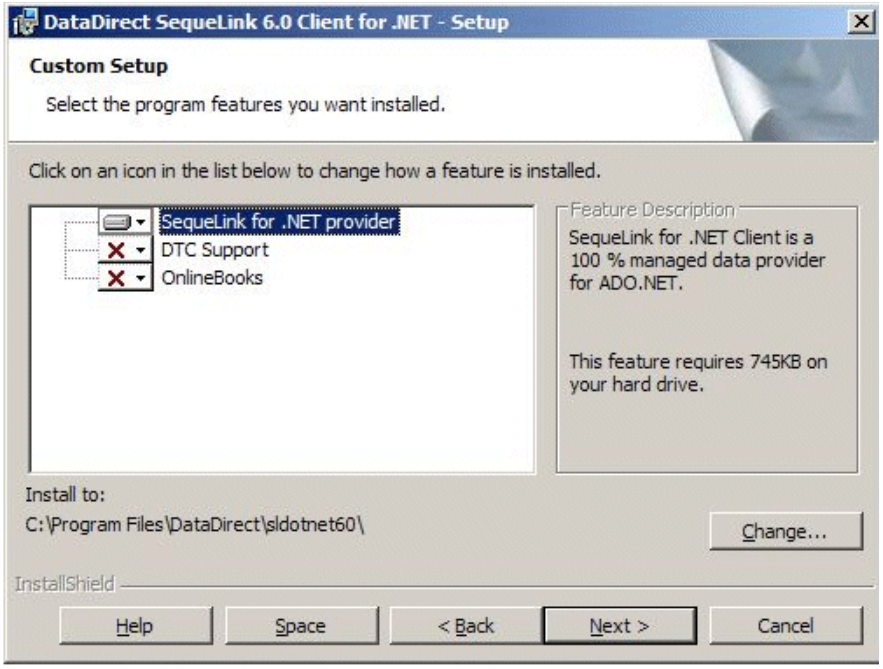
1. Place the DVD into the DVD-ROM drive. If the DVD-ROM drive is on a network, you must mount the DVD and create a mapping to the DVD-ROM drive.
2. On Windows, the main installer window displays automatically when the DVD is mounted, if AutoRun for DVDs is enabled and you have a browser available. Click the product that you want to install.

   If AutoRun for DVDs is not enabled or you do not have a browser, use Windows Explorer to navigate from the root directory of the DVD to the folder for the product that you want to install. Then, double-click the Setup program.
3. The Welcome window for the product appears. Click **Next** to continue. The License Agreement window appears.

   NOTE: You can exit the Setup program at any time by clicking **Cancel**, or return to the previous window by clicking **Back**.
4. On the License Agreement window, perform one of the following actions:

   - Accept the agreement by clicking the appropriate option. Then, click **Next**. The Custom Setup window appears.
   - Do not accept the agreement by clicking **Cancel** to exit the installation.

5 The Custom Setup window allows you to install the online books, enable support for Microsoft DTC, and change the installation directory.



- To enable the MS DTC support components, click the drop-down arrow in the DTC Support icon and select **This feature, and all subfeatures, will be installed on local hard drive**. The red X disappears from the DTC Support icon.
- To install the online books, click the drop-down arrow in the OnlineBooks icon and select **This feature, and all subfeatures, will be installed on local hard drive**. The red X disappears from the OnlineBooks icon.
- To change the installation directory from the default location of C:\Program Files\DataDirect\sldotnet60, click **Change** and select the new installation directory path. Then, click **OK** to return to the Custom Setup window.

6 Click **Next**. The Ready to Install the Program window appears.

7 Click **Install** to begin the installation.

8 When the product files have been copied, the Setup Completed window appears. Click **Finish** to exit Setup.

NOTE: If you want to use the SequeLink Client with Microsoft Distributed Transaction Coordinator (MS DTC), you must reboot.

After completion of the DVD installation, the main installer window reappears, allowing you the option to install another DataDirect product.

A DataDirect SequeLink 6.0 Client *for* .NET program group is created as part of the installation. This program group provides the following shortcuts:

- HTML Help
- Readme
- Online Books (if you installed the books)

For information on using the data provider, refer to the *SequeLink Administrator's Guide*.

Installing from Downloaded Files

DataDirect makes the .NET Client available for either purchase or evaluation via its download site on the World Wide Web (http://www.datadirect.com). Installation follows essentially the same procedure as installation from a DVD.

NOTE: You must run the Setup program from the machine on which you are installing the product. You cannot run the Setup program from a network location to install the product on your local machine.

This section provides instructions for installing the SequeLink *for* .NET Client downloaded from a Web site to your local drive or to a network location.

To install the data provider from downloaded files:

1. Download the product zip file from the Web site.
2. Unzip the files, maintaining the directory structure in the zip file, to a temporary directory, for example:

   `C:\TEMP`

3. From Windows Explorer, navigate to this directory; then, double-click the Setup program.
4. The Welcome window for the product appears. Follow Step 3 through Step 8 under "Installing from a DVD" on page 172 to complete the installation.

NOTE: If you want to use the SequeLink Client with Microsoft Distributed Transaction Coordinator (MS DTC), you must reboot.

For information on using the data provider, refer to the *SequeLink Developer's Reference* and *SequeLink Administrator's Guide*.

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