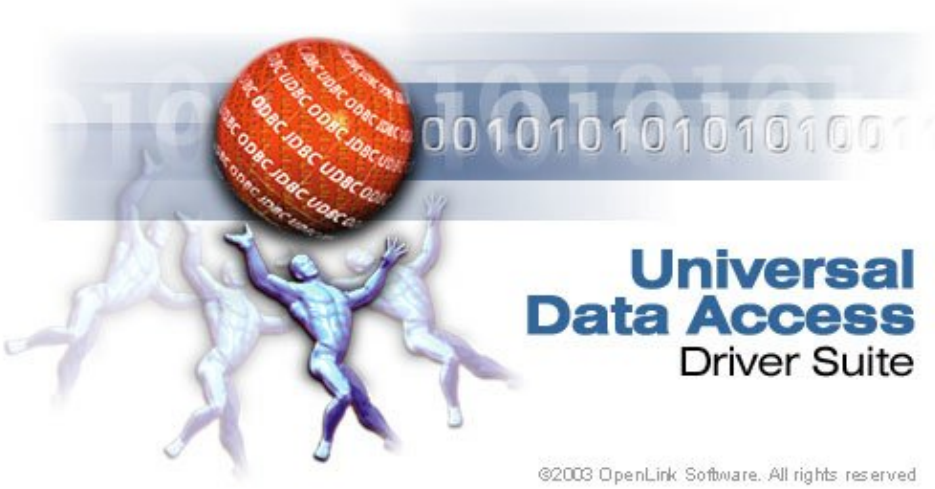

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2 Chapter 1. OpenLink ODBC Driver (Express Edition) Documentation

Abstract
OpenLink Express Edition drivers enhance the common perception of an ODBC driver - a single component installed on the desktop or workstation machine only - by not requiring any further installation of database-specific networking on the client, or components on the database-server. Once installed, it provides seamless connectivity to the databases. The Express Edition drivers have been designed in harmony with Apple's Mac Universal Platform. Maximum capability, minimum effort.

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- Overview
  - ♦ Driver Architecture
  - ♦ System Requirements
  - ♦ Installation and Configuration Guide
  - ♦ OpenLink Express Edition Drivers Installation and Configuration on Mac OS X

2.1 Overview

The OpenLink Express Edition driver is a client-only installation and goes some way to ensure the job for developers, administrators and end-users is simplified. Part of this process means installing the software in one location as opposed to numerous locations. By discarding the server-side setup, there is no server-side administration so the user has only a single entry-point for installation and administration. In the majority of cases, knowing the database by name is all that is required.

To the developer writing an application, there is no requirement to know on which server it resides: you can write your application for any environment, regardless of where it will end. There are also performance benefits gained by employing this single solution, which in some cases exceeds that provided by the database vendor's drivers. Being able to integrate your solution simply into your organization with its plethora of internal and disparate systems means your RoI increases significantly.

2.1.1 Driver Architecture

These drivers are built by implementing the ODBC data-access interface specifications directly connecting to the database. There are no limiting factors as with traditional Single-Tier solutions.

The Express Edition drivers are Type-B- or -C-based remote procedure calls (RPC) interface to the wire-protocol of the underlying database. This is a client-only interface that communicates directly with the remote database server. These interfaces typically are unavailable to third-party developers. To date the Open Source projects such as FreeTDS, MySQL, PostgreSQL and Interbase are the only publicly accessible and freely available versions of such interfaces.

The ODBC Express Edition drivers offer developers an opportunity to develop generic solutions across platforms without prior knowledge of the operating system hosting the Database server.

2.1.2 System Requirements

2.1.2.1 Software Requirements

You must have the following software to use OpenLink Express Edition ODBC Drivers:

- One or more ODBC-compliant application(s).
- A supported database server.
- The OpenLink Express Edition ODBC Driver for the target database server
- A valid license file for each required OpenLink Express Edition ODBC Driver.

2.1.2.2 Hardware Requirements

You must have the following hardware to use OpenLink Single-Tier Drivers for ODBC:

- A TCP/IP network connection to the database server from the client machine the Express Edition driver is installed on.
- An ODBC Application Host running an operating system that is supported by OpenLink Express Edition ODBC Drivers. The currently supported operating systems are Mac OS X 10.3 (PPC), Mac OS X 10.4 (PPC & Intel). Please check the OpenLink website http://www.openlinksw.com/ to verify availability of support for an operating system.

The ODBC client applications you want to use may have their own hardware or software requirements, which must also be satisfied.

2.1.3 Installation and Configuration Guide

This section provides a step-by-step guide for the installation and configuration of the OpenLink Express Edition drivers.

2.1.4 OpenLink Express Edition Drivers Installation and Configuration on Mac OS X

3 Chapter 2. Product Licensing

Table of Contents

- OpenLink License Manager Usage Notes
  - Background
  - Single-Tier
  - Multi-Tier
  - How to stop/start the OpenLink License Manager
  - Environment Variables
  - OpenLink License Manager Networking Considerations

3.1 OpenLink License Manager Usage Notes

3.1.1 Background

As of UDA release 6.0 and above, OpenLink have moved the handling of licenses from individual products into a specific License Manager process. This takes the form of an executable, (`oplmgr'), from which all OpenLink commercial products request licenses via network connections.

3.1.2 Single-Tier

OpenLink UDA Single-Tier is a single driver installed on the client only.

For releases 6.0, the oplmgr process was started automatically by the driver on first connection. As of release 6.1, this behaviour has changed; in order to facilitate use of License Manager process for administering licenses of all OpenLink products simultaneously on the same machine, the license-manager must be started explicitly started in advance of services that will use it. The release 6.1 installers now check if a License Manager (oplmgr) process is already running and if not start their own local instance.

3.1.3 Multi-Tier

OpenLink UDA Multi-Tier drivers comprise at least 3 components: a generic client installed on client machines, all of which contact a central request broker which spawns an RDBMS-specific database agent to connect to the specific database requested. The request-broker asks the license-manager for licenses for every connection requested.

For UDA release 6.0, the oplmgr process was started automatically by the request-broker (oplrqb). As of release 6.1, this behaviour has changed. In order that you should only need one license-manager per server, handling licenses for a variety of products (particularly combinations of Multi-Tier and OpenLink Virtuoso Universal Server), the license-manager must now be explicitly started before other services requiring it. The release 6.1 installers now check if a License Manager (oplmgr) process is already running and if not start their own local instance.

3.1.4 How to stop/start the OpenLink License Manager

The license manager takes the following commandline options:

```
      bash$ oplmgr --help
      OpenLink License Manager
      Version 1.2.2 as of Thu Feb 15 2007 (Release 6.0 cvsid 00084).
      Compiled for Linux 2.4.20-46.9.legacysmp
(i686-generic-linux-glibc23-32)
      Copyright (C) OpenLink Software.
      Usage:
      oplmgr [-shrutp] [+start] [+stop] [+reload] [+user arg] [+chroot arg]
      [+pidfile arg]
      +start     start the license manager
      +stop      stop the license manager
      +reload    force a configuration reload
      +user      run as the specified user
      +chroot    perform a chroot to the specified directory
      +pidfile   pid file to use for server operation
```

We recommend that you create an /etc/init.d/ script that runs `oplmgr +start' on boot-up.

3.1.5 Environment Variables

The OpenLink License Manager will search through directories in the OPL_LICENSE_DIR variable or failing that, the PATH environment variable, for files matching *.lic.

OpenLink recommends you use /etc/oplmgr/ to store your licenses; each product installation will include a copy of the oplmgr executable in its respective 'bin' directory, such that if this is the only OpenLink product on the system, it can be manually started and used for processing licenses with an appropriate OPL_LICENSE_DIR value. A generic system startup script is also being developed for Unix systems to enable the License Manager process to be automatically started on machine boot. If found, product installers will automatically append this to your OPL_LICENSE_DIR variable.

3.1.6 OpenLink License Manager Networking Considerations

The OpenLink License Manager sends and receives using the multicast IP address 224.0.0.24 on port 60001/udp to communicate between components and other license-managers that might be on your network. In the event that it cannot establish this multicast communication, it may cease allocating licenses, so in the event of license allocation-related errors, please check your firewall configuration permits this traffic.

4 Chapter 3. OpenLink ODBC Driver for DB2 (Express Edition)

Table of Contents

- OpenLink ODBC Driver for DB2 (Express Edition) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for DB2 (Express Edition) for Windows
  - Installation
  - Configuration

4.1 OpenLink ODBC Driver for DB2 (Express Edition) for Mac OS X

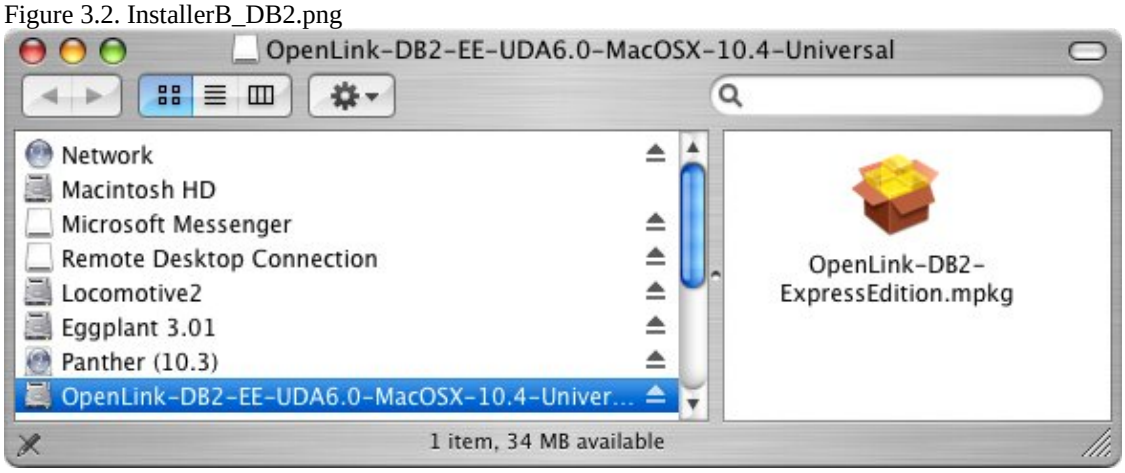
4.1.1 Installation Guide

The OpenLink ODBC Driver for DB2 (Express Edition) is distributed as a Disk image (DMG) file. Simply double click on the disk image 'mul6edb2.dmg' to extract the installer mpkg file:

Figure 3.1. InstallerA_DB2.png

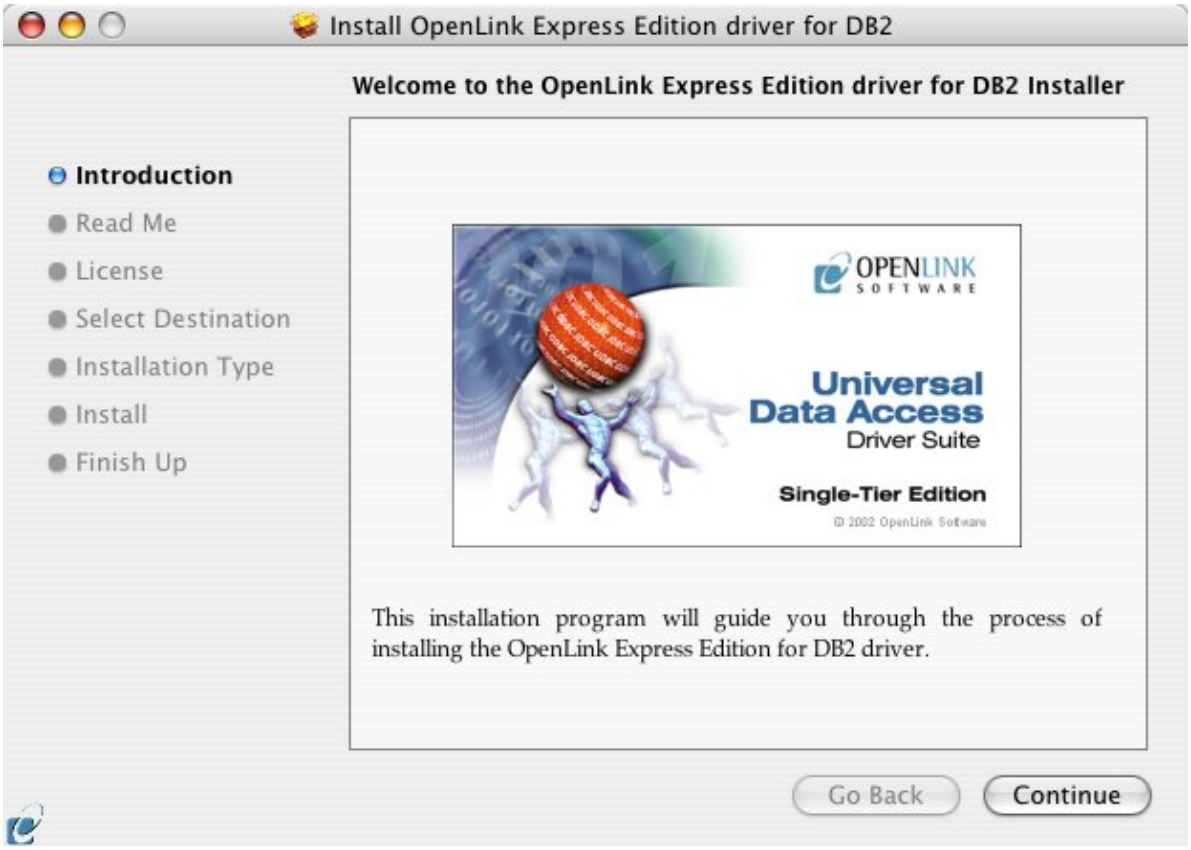
Double click on the mpkg file to run the installer and following the on screen instruction as indicated below to complete the installation:

Figure 3.2. InstallerB_DB2.png



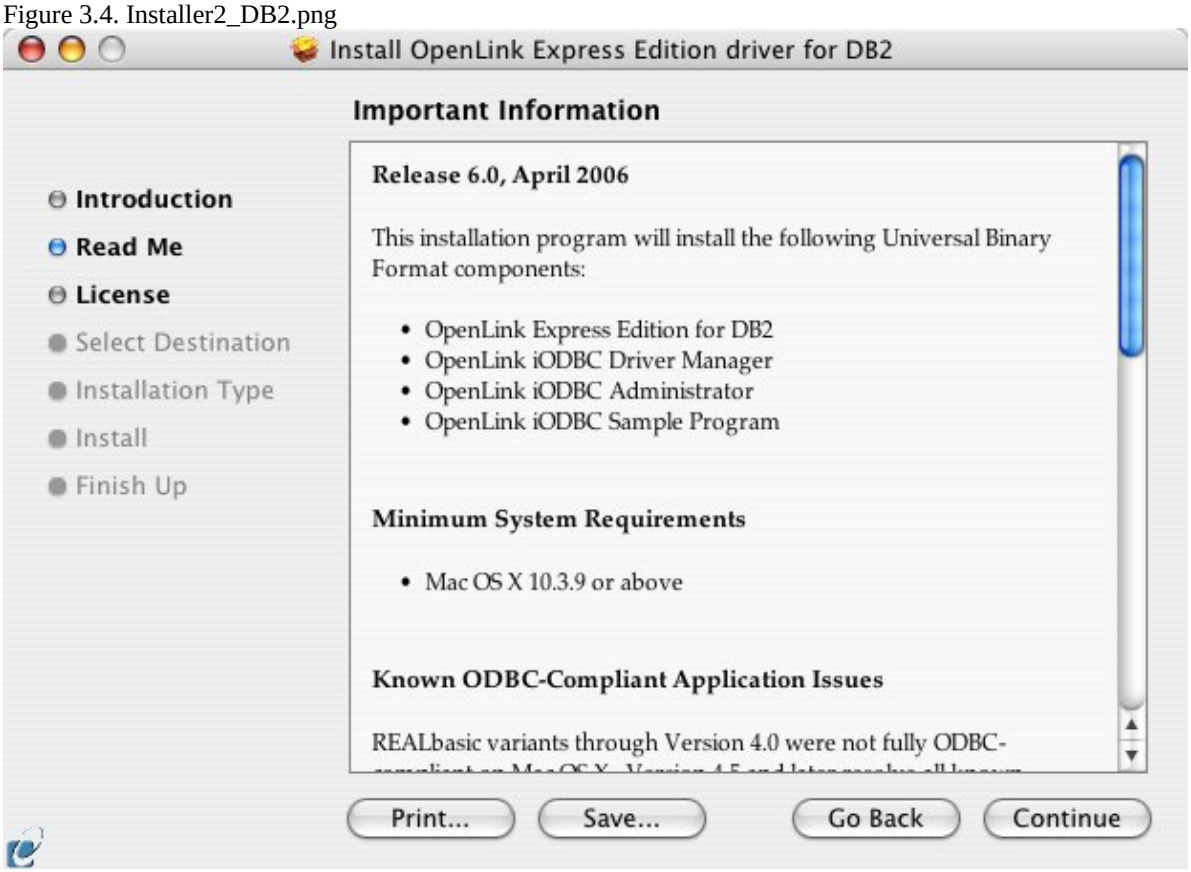
Installer Welcome Dialog for the OpenLink ODBC Driver for DB2 (Express Edition):

Figure 3.3. Installer1_DB2.png



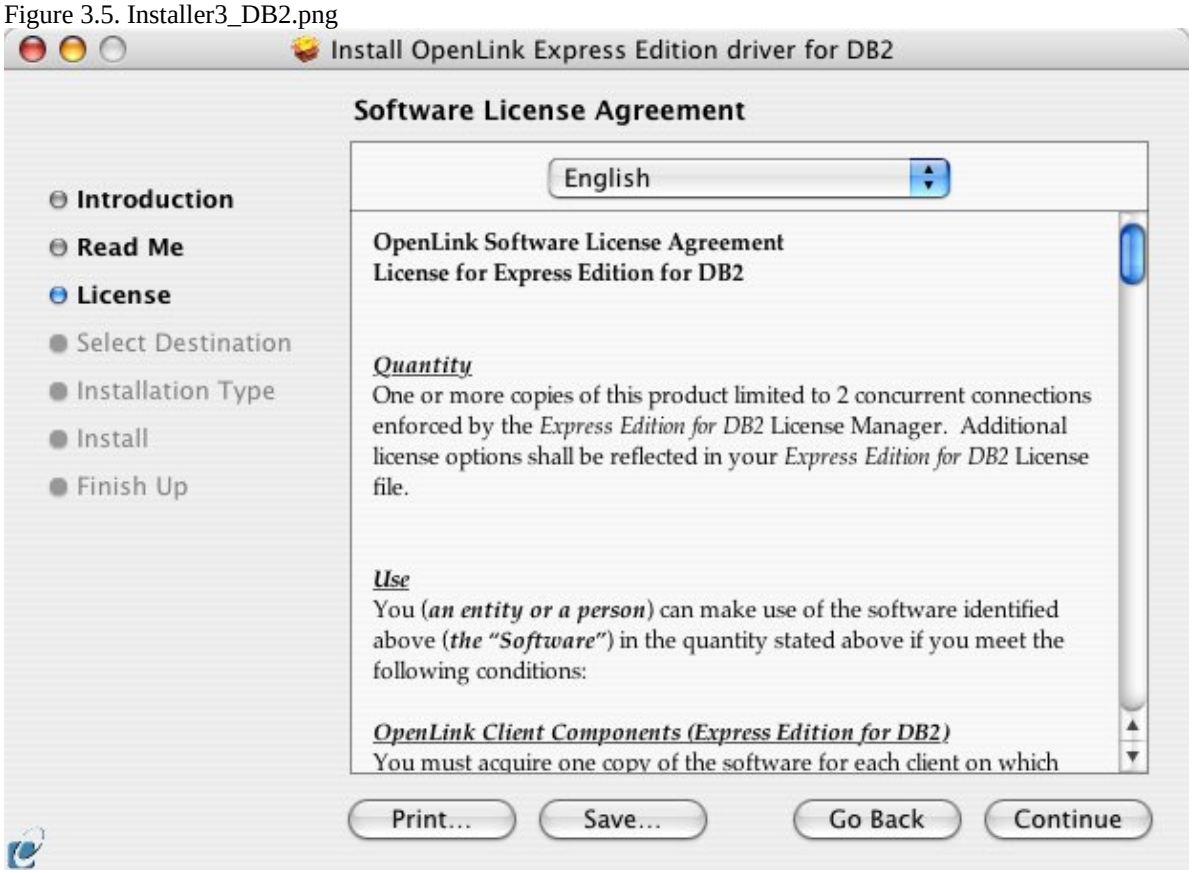
Please review the readme file for installation requirements and known issues:

Figure 3.4. Installer2_DB2.png



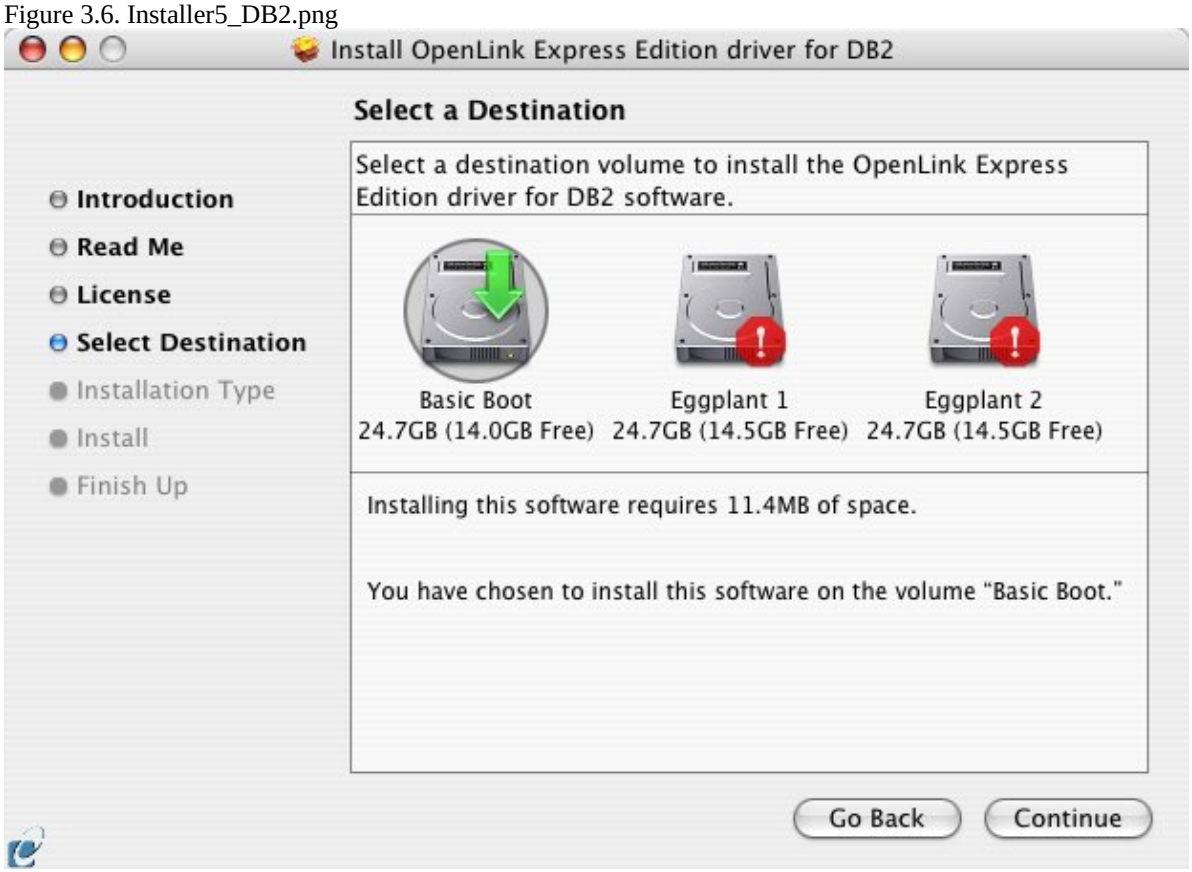
Please read the software license agreement before continuing your installation:

Figure 3.5. Installer3_DB2.png



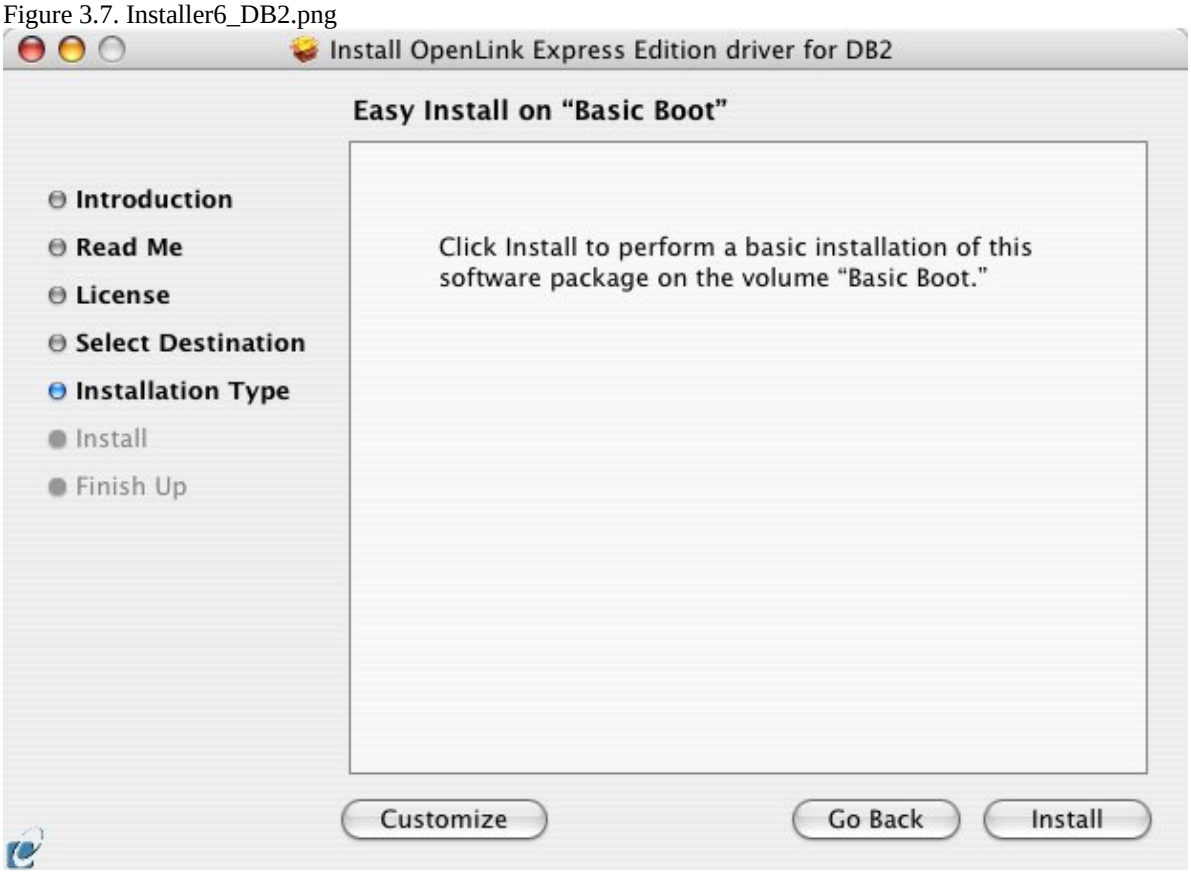
Select destination volume for driver installation:

Figure 3.6. Installer5_DB2.png



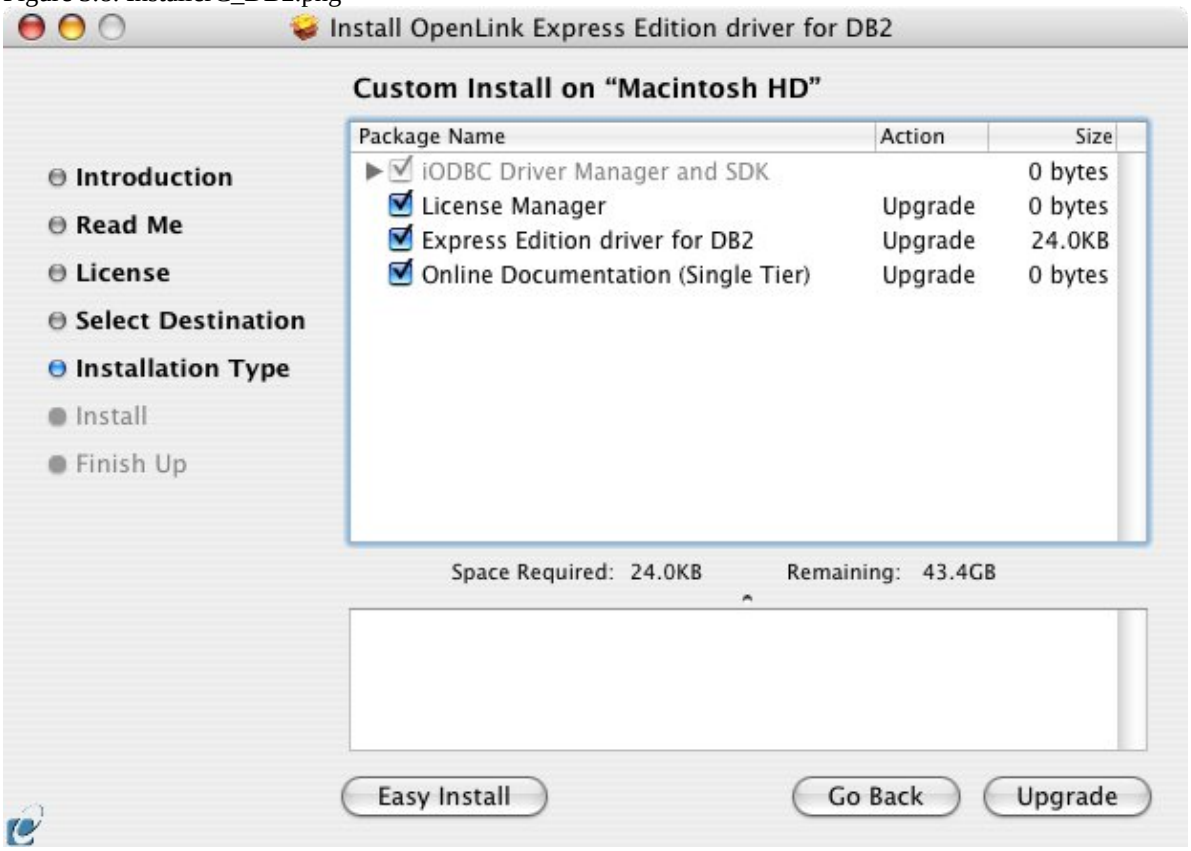
Choose to perform a custom or default installation of the driver:

Figure 3.7. Installer6_DB2.png



If you chose the custom option select which of the components below are to be installed:

Figure 3.8. InstallerC_DB2.png



The software must be installed as a user with administrative privileges on the machine:

Figure 3.9. Installer7_DB2.png

After the driver has been installed you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

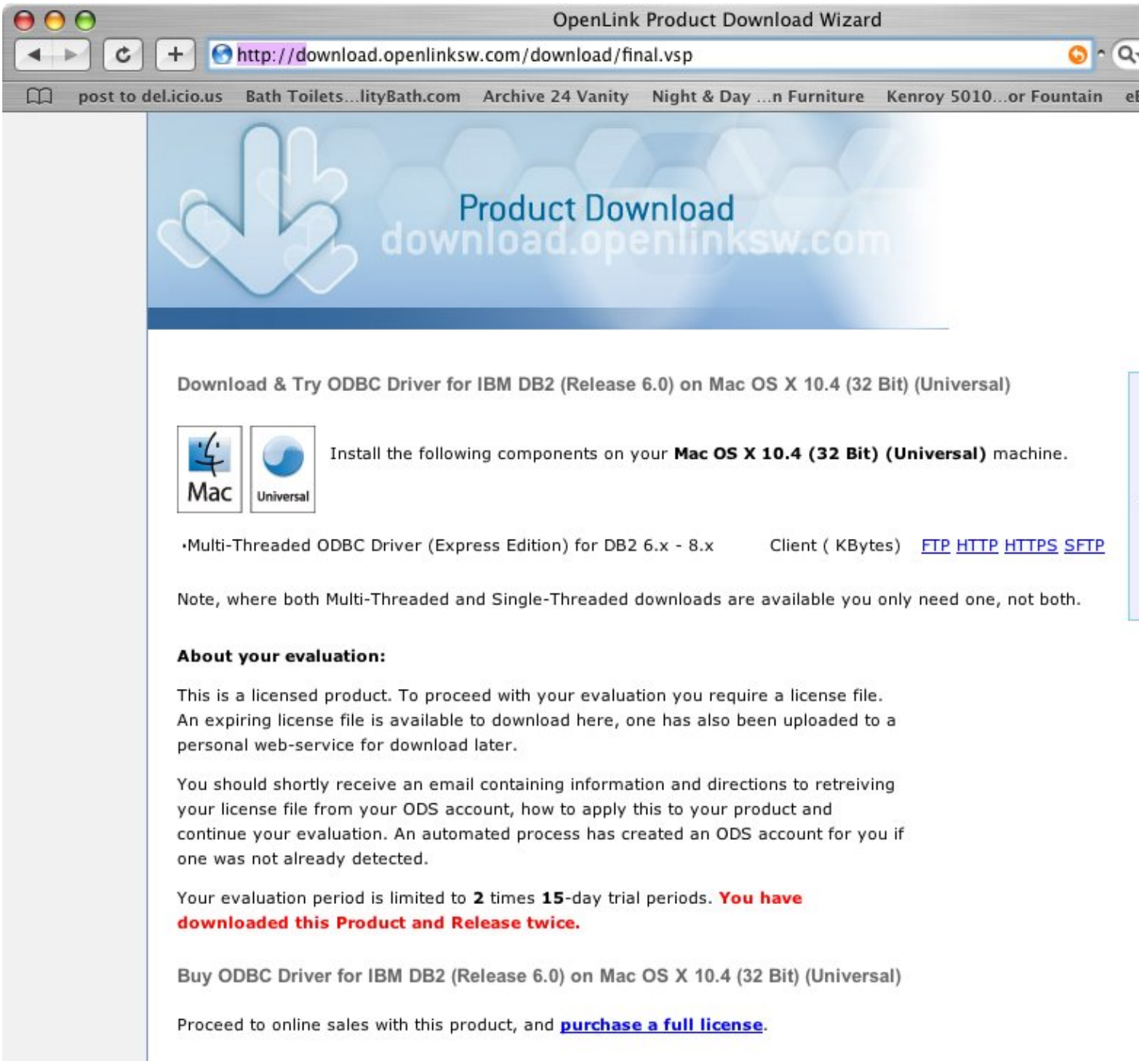
Figure 3.10. Installer8_DB2.png

To obtain the trial license you must be a registered user on the OpenLink Web site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Figure 3.11. InstallerD_DB2.png

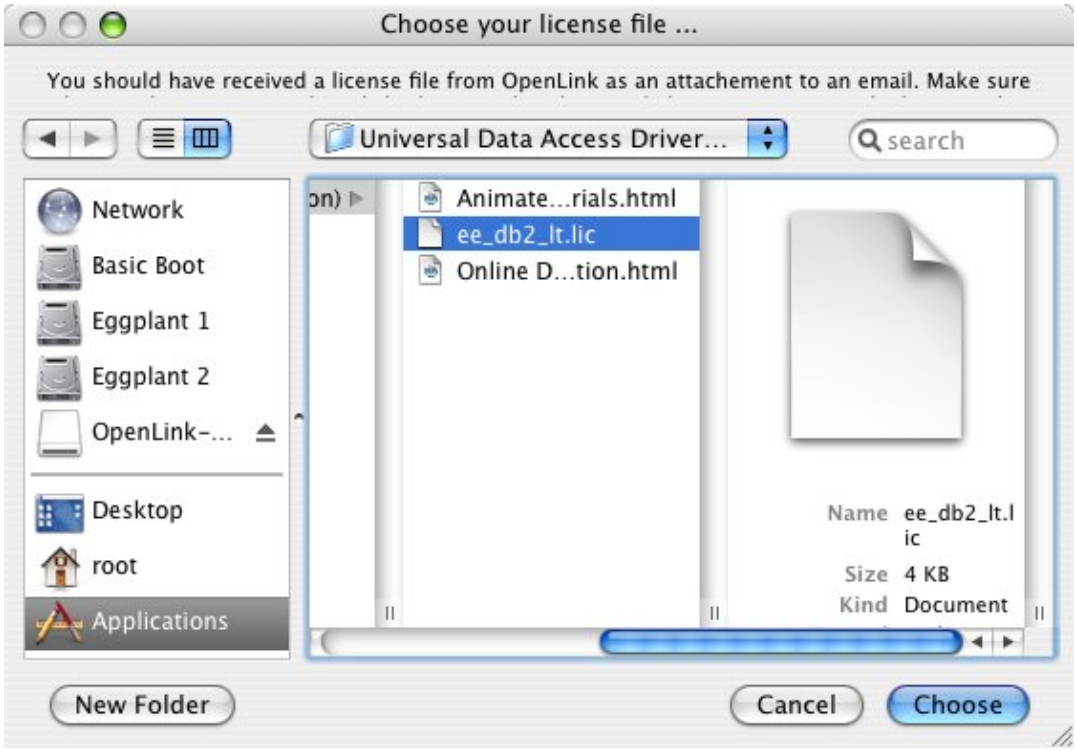
Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLink Data Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 3.12. InstallerE_DB2.png



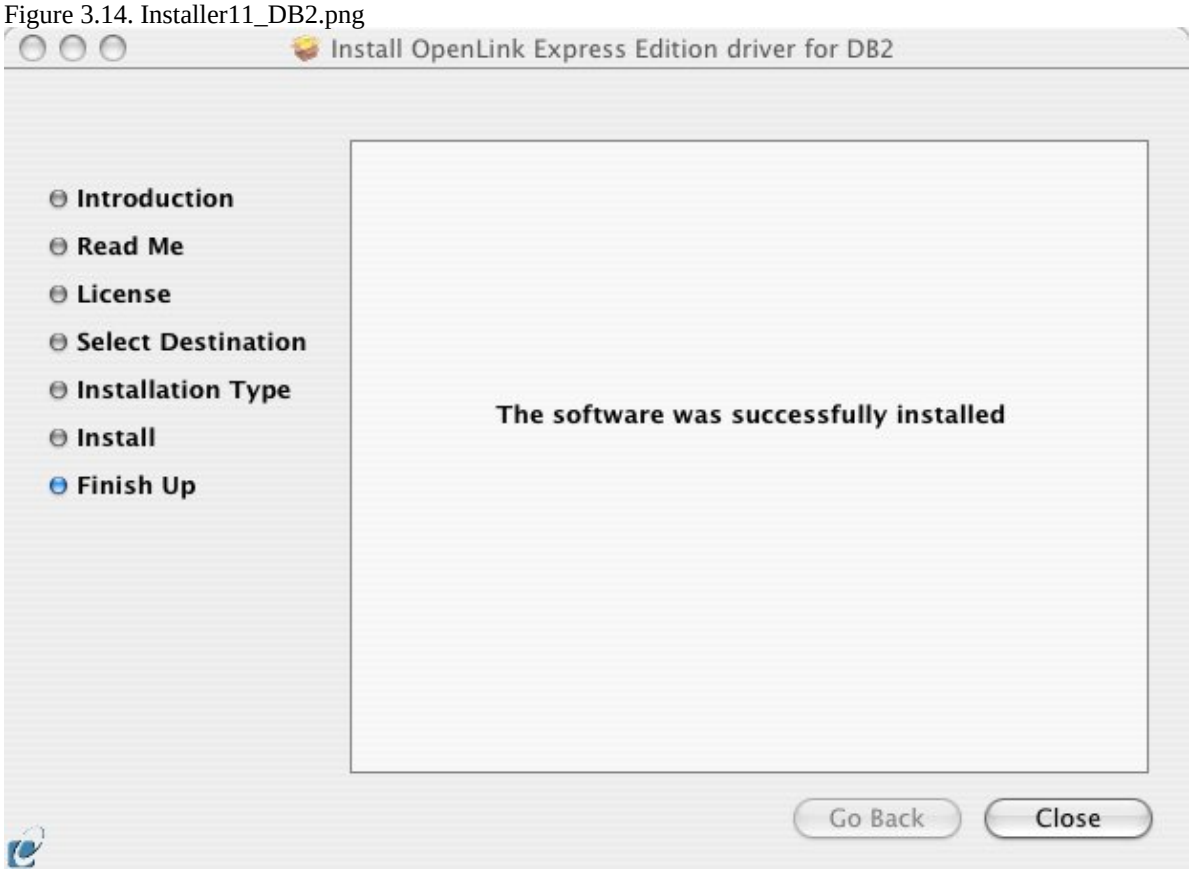
Select the license file to be used for the installation:

Figure 3.13. Installer10_DB2.png



Installation is complete:

Figure 3.14. Installer11_DB2.png



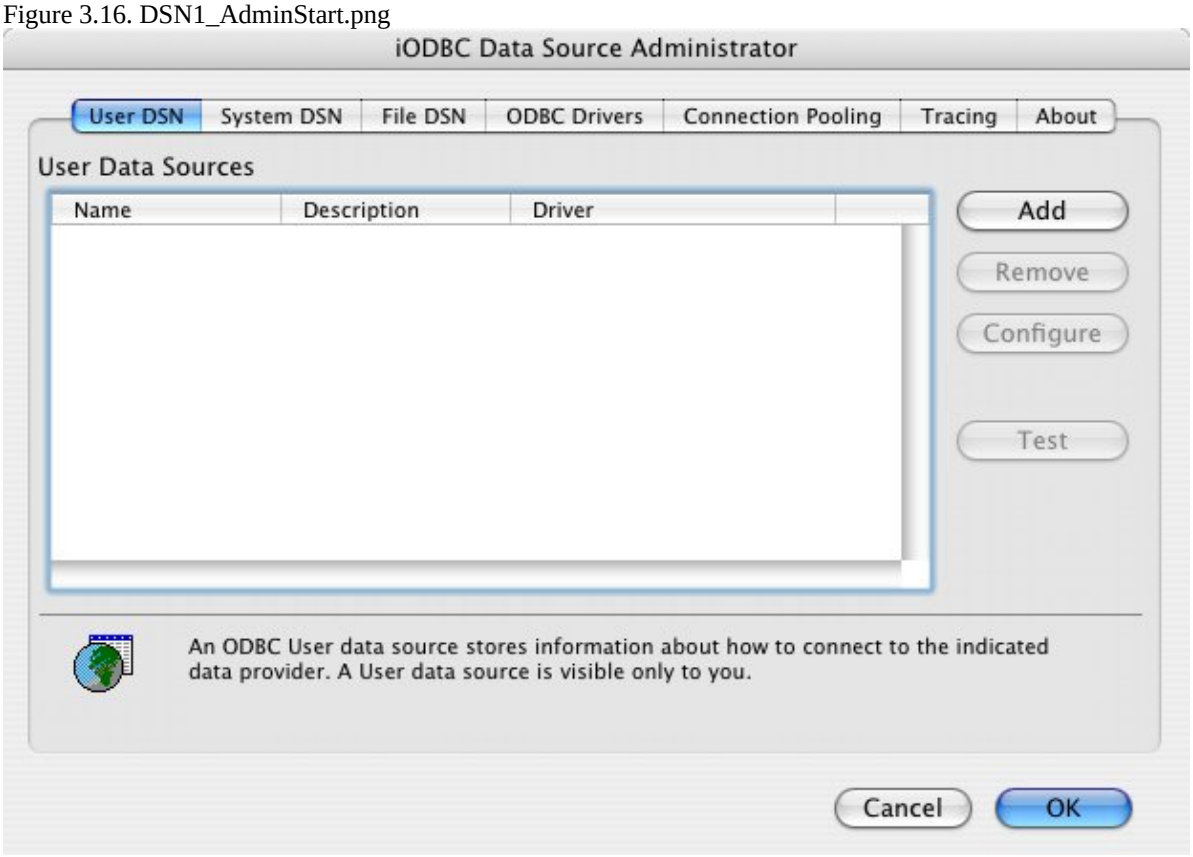
4.1.2 Configuration

To configure an ODBC DSN, run the OpenLink iODBC Administrator located in the /Applications/iODBC folder:

Figure 3.15. DSN0_AdminStart.png

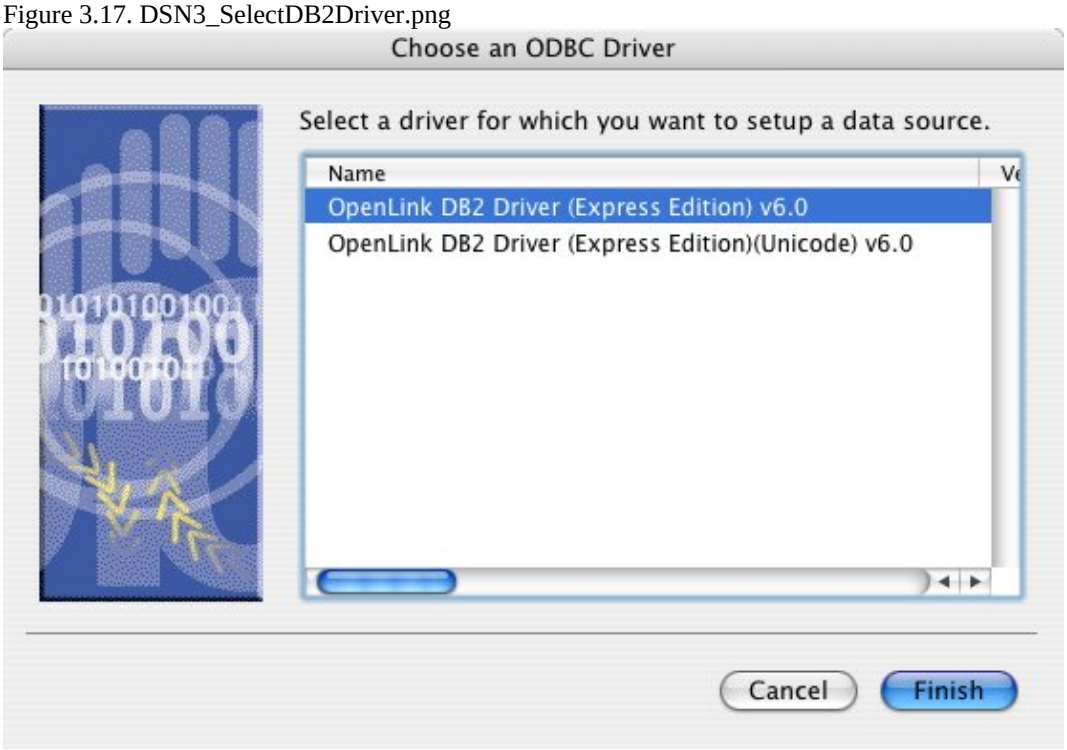
Click on the add button to Choose the ODBC Driver the DSN should be created for:

Figure 3.16. DSN1_AdminStart.png



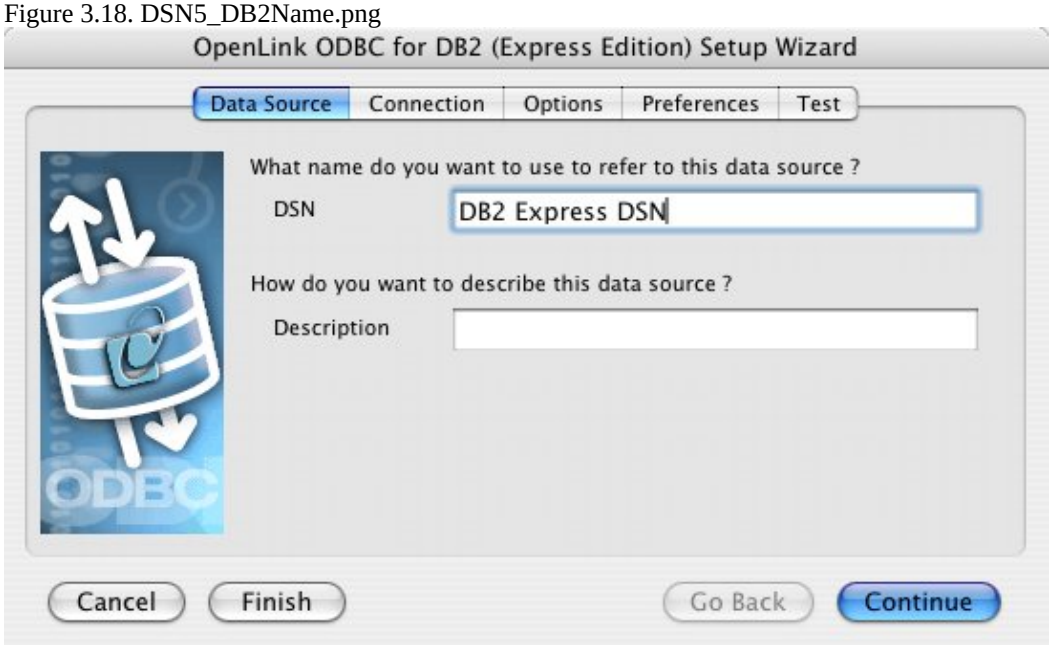
Choose the OpenLink DB2 Driver (Express Edition) v6.0 from the list of available drivers:

Figure 3.17. DSN3_SelectDB2Driver.png



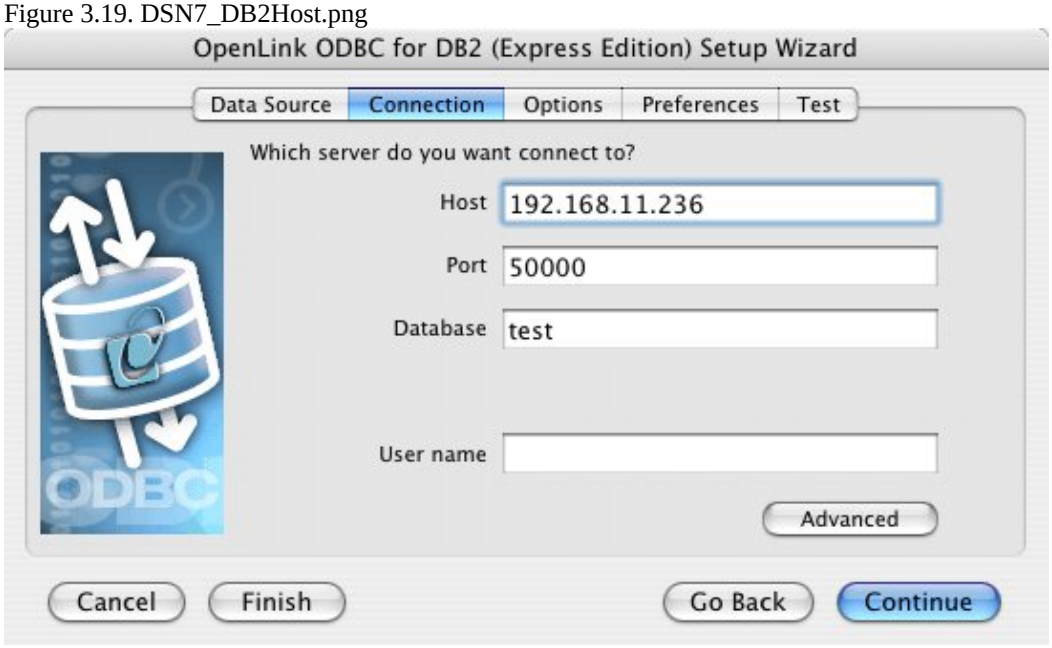
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 3.18. DSN5_DB2Name.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 3.19. DSN7_DB2Host.png



- Host - the hostname of the server on which the DB2 database is running
- Port - the TCP port on which DB2 listens
- Database - a valid DB2 database alias
- Username - the username of a valid DB2 user
- Advanced - Additional optional configuration paramters:

Table 3.1.

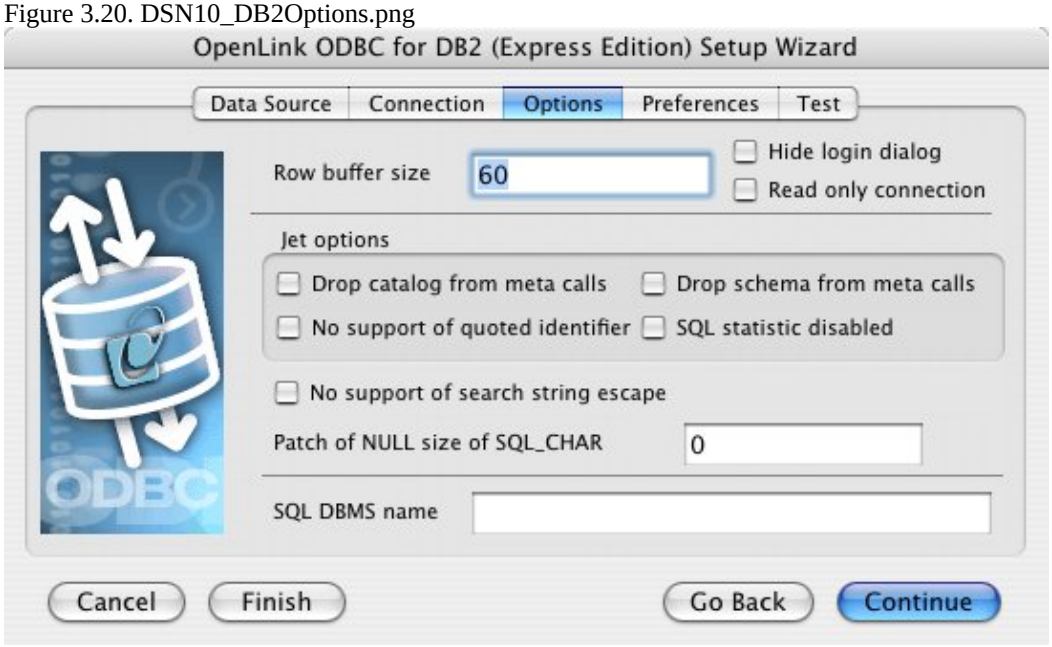
FullyMaterializeLobData	Indicates whether the driver retrieves LOB locators for FETCH operations. The data type of this property is boolean. If the value is true, LOB data is fully materialized within the JDBC driver when a row is fetched. If this value is false, LOB data is streamed. The driver uses locators internally to retrieve LOB data in chunks on an as-needed basis It is highly recommended that you set this value to false when you retrieve LOBs that contain large amounts of data. The default is true.
ResultSetHoldability	

	Specifies whether cursors remain open after a commit operation. Valid values are 1 - HOLD_CURSORS_OVER_COMMIT or 2 - CLOSE_CURSORS_AT_COMMIT.
CliSchema	Specifies the schema of the DB/2 shadow catalog tables or views that are searched when an application invokes a DatabaseMetaData method.
CurrentSchema	Specifies the default schema name that is used to qualify unqualified database objects in dynamically prepared SQL statements. This value of this property sets the value in the CURRENT SCHEMA special register on a server other than a DB2 UDB for z/OS server. Do not set this property for a DB2 UDB for z/OS server.
CurrentSQLID	Specifies: The authorization ID that is used for authorization checking on dynamically prepared CREATE, GRANT, and REVOKE SQL statements. The owner of a table space, database, storage group, or synonym that is created by a dynamically issued CREATE statement. The implicit qualifier of all table, view, alias, and index names specified in dynamic SQL statements.
CurrentFunctionPath	Specifies the SQL path that is used to resolve unqualified data type names and function names in SQL statements that are in JDBC programs. The data type of this property is String. For a DB2 UDB for Linux, UNIX and Windows server, the maximum length is 254 bytes. The value is a comma-separated list of schema names. Those names can be ordinary or delimited identifiers.
CurrentLockTimeout	Directs DB2 UDB for Linux, UNIX and Windows servers to wait indefinitely for a lock or to wait for the specified number of seconds for a lock when the lock cannot be obtained immediately. The data type of this property is int. A value of zero means no wait. A value of -1 means to wait indefinitely. A positive integer indicates the number of seconds to wait for a lock.
JdbcCollection	Specifies the collection ID for the packages that are used by an instance of the DB2 Universal JDBC Driver at run time. The data type of jdbcCollection is String. The default is NULLID.
CurrentPackageSet	Specifies the collection ID to search for DB2 packages for the DB2 Universal JDBC Driver. The data type of this property is String. The default is NULLID. If currentPackageSet is set, its value overrides the value of jdbcCollection.
CurrentPackagePath	Specifies a comma-separated list of collections on the server. The DB2 server searches these collections for the DB2 packages for the DB2 Universal JDBC Driver. The precedence rules for the currentPackagePath and currentPackageSet properties follow the precedence rules for the DB2 CURRENT PACKAGESET and CURRENT PACKAGE PATH special registers.
SecurityMechanism	Specifies the DRDA security mechanism. Possible values are: 3 - User ID and password, 4 - User ID only, 7 - User ID, encrypted password,9 - Encrypted user ID and password, 11 - Kerberos. If this property is specified, the specified security mechanism is the only mechanism that is used. If the security mechanism is not supported by the connection, an exception is thrown.
KerberosServerPrincipal	For a data source that uses Kerberos security, specifies the name that is used for the data source when it is registered with the Kerberos Key Distribution Center (KDC).
DeferPrepares	Specifies whether to defer prepare operations until run time. The data type of this property is boolean.
ClientUser	Specifies the current client user name for the connection. This information is for client accounting purposes. Unlike the connection user name, this value can change during a connection. For a DB2 UDB for Linux, UNIX and Windows server, the maximum length is 255 bytes.
ClientWorkstation	Specifies the workstation name for the current client for the connection. This information is for client accounting purposes. This value can change during a connection. The data type of this property is String. For a DB2 UDB for Linux, UNIX and Windows server, the maximum length is 255 bytes.
ClientApplicationInformation	Specifies application information for the current client for the connection. This information is for client accounting purposes. This value can change during a connection. The data type of this property is String. For a DB2 UDB for Linux, UNIX and Windows server, the maximum length is 255 bytes.
ClientAccountingInformation	Specifies accounting information for the current client for the connection. This information is for client accounting purposes. This value can change during a

connection. The data type of this property is String. For a DB2 UDB for Linux, UNIX and Windows server, the maximum length is 255 bytes.

As indiacted above the paramters of the options and preferences tabs are not required for a basic connection:

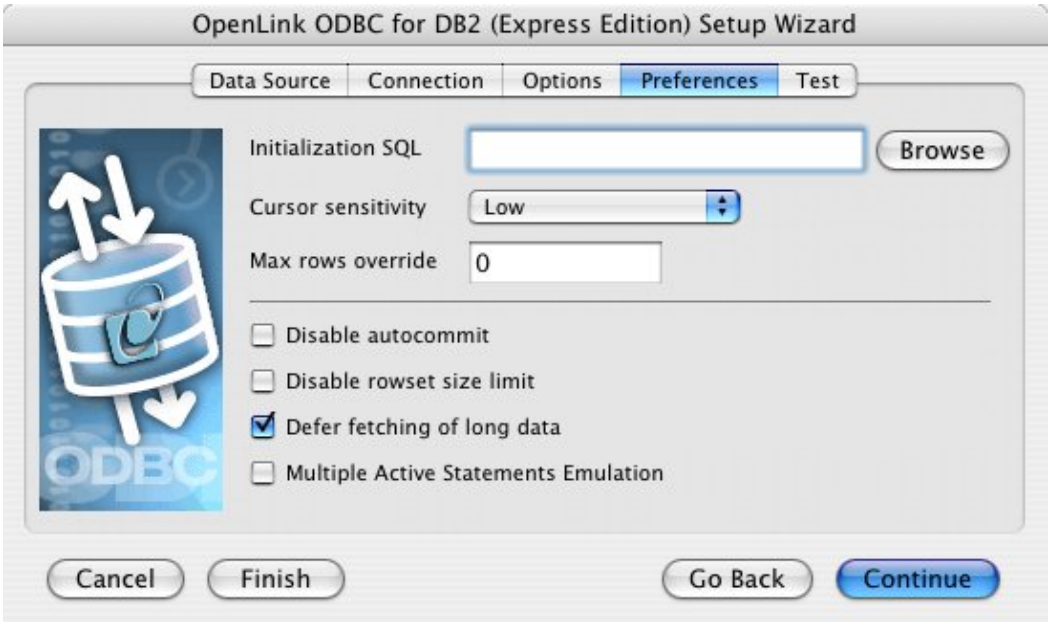
Figure 3.20. DSN10_DB2Options.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo /bin/edit/Main/SQLGetInfo?topicparent=Main.UdaEeInstallConfigDB2 for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL like select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo

  for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo (SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

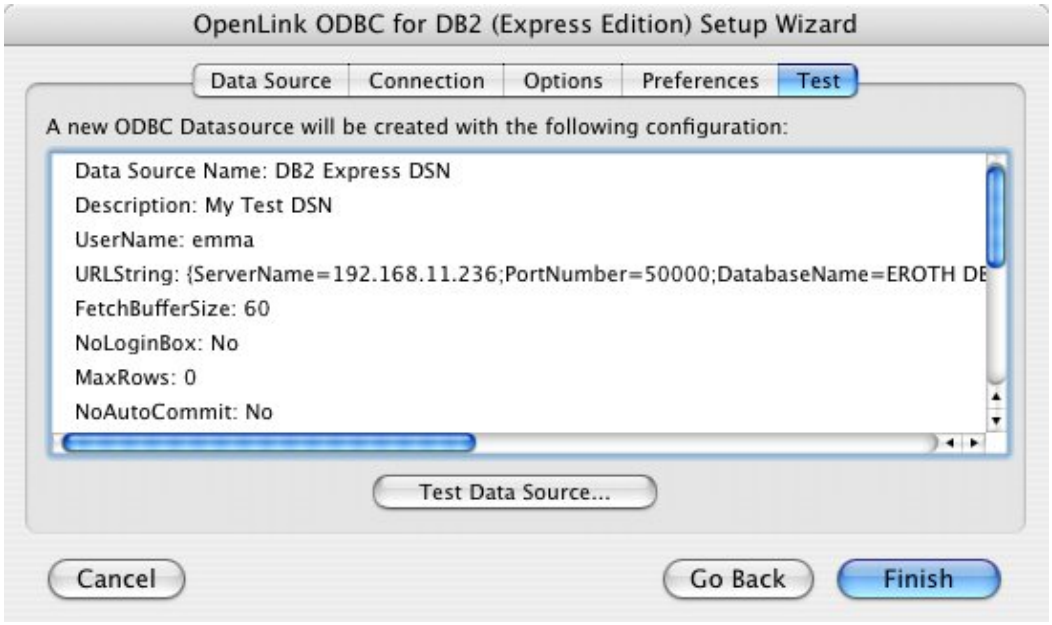
Figure 3.21. DSN11_DB2Preferences.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

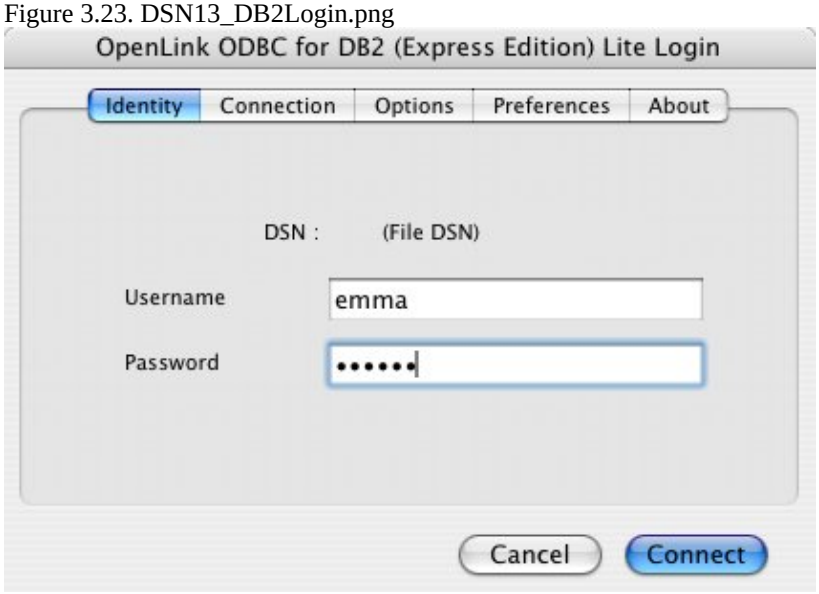
Click on the 'Test Data Source' button to make a connection to the database to verify connectivity:

Figure 3.22. DSN12_DB2Test.png



Enter a vaild username and pasword for the database:

Figure 3.23. DSN13_DB2Login.png



A successful connection to the database has been made:

Figure 3.24. DSN14_DB2Success.png

4.2 OpenLink ODBC Driver for DB2 (Express Edition) for Windows

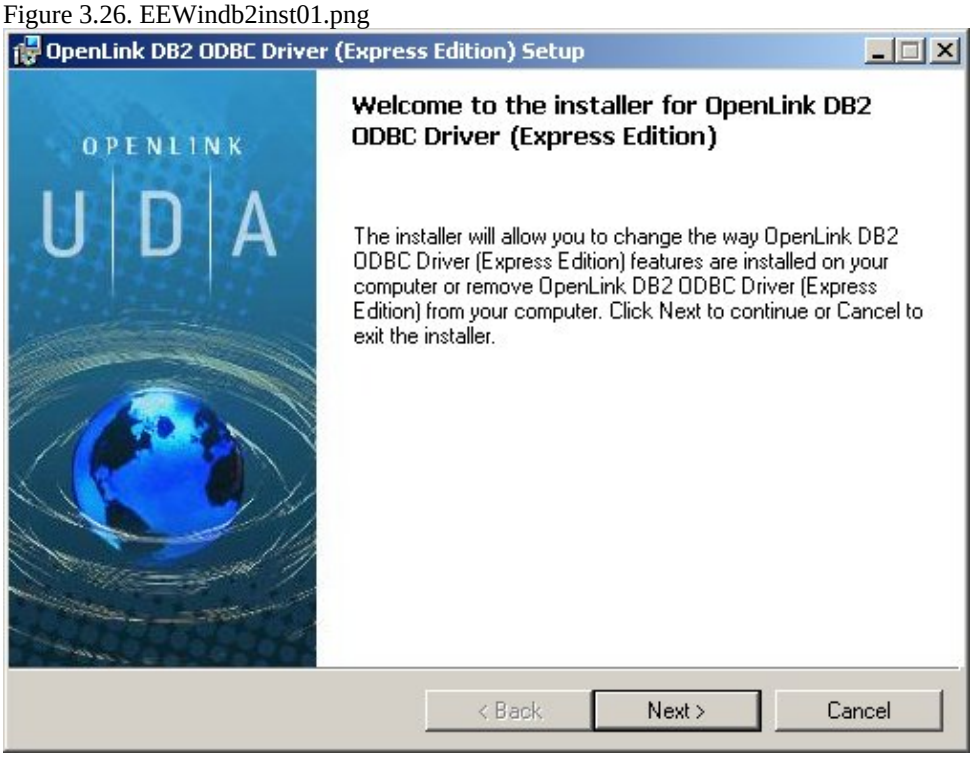
4.2.1 Installation

The OpenLink ODBCDriver for DB2 (Express Edition) is distributed as a Windows MSI installer. Simply double click the installer 'ntl6edb2.msi' to commence the installation:

Figure 3.25. EEWindb2inst00.png

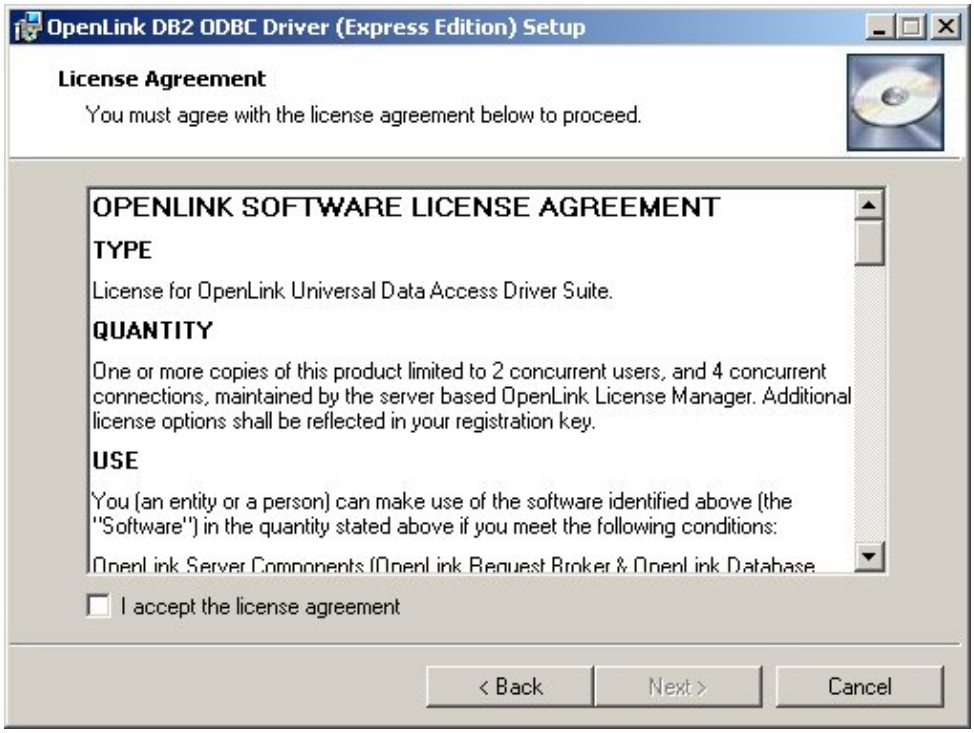
Installer Welcome Dialog for the OpenLink ODBCDriver for DB2 (Express Edition):

Figure 3.26. EEWindb2inst01.png



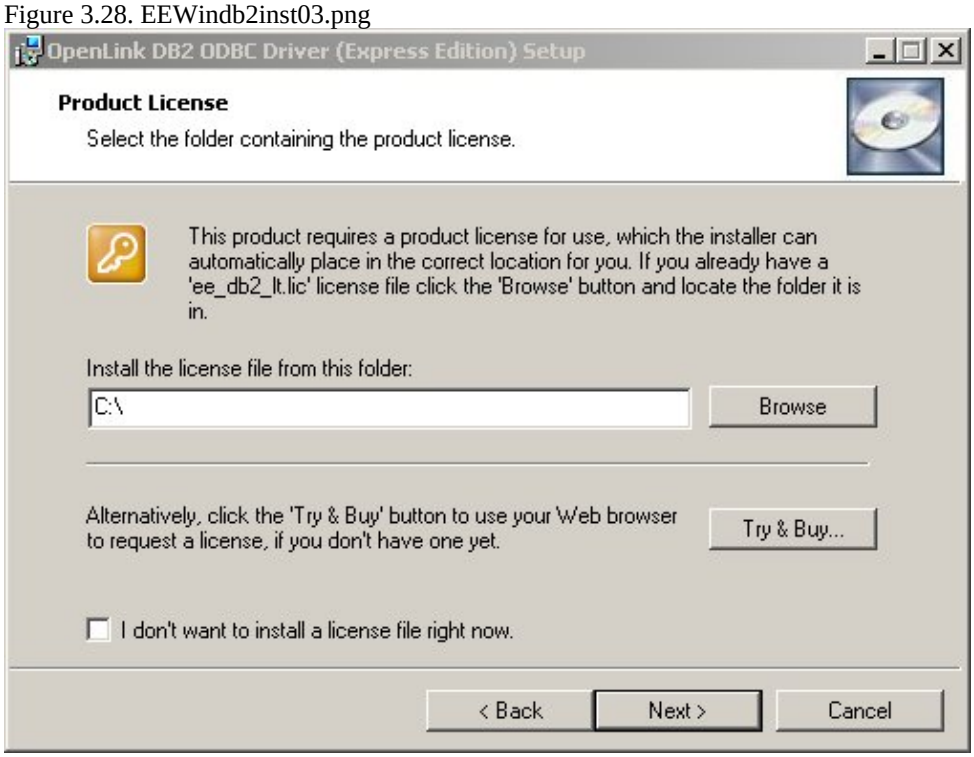
Please read the software license agreement and accept before continuing your installation:

Figure 3.27. EEWindb2inst02.png



Before installation, you will be prompted for a license file. If a license file already exists on the machine, then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtained by selecting the 'try and buy' option which loads OpenLink's online try and buy web page:

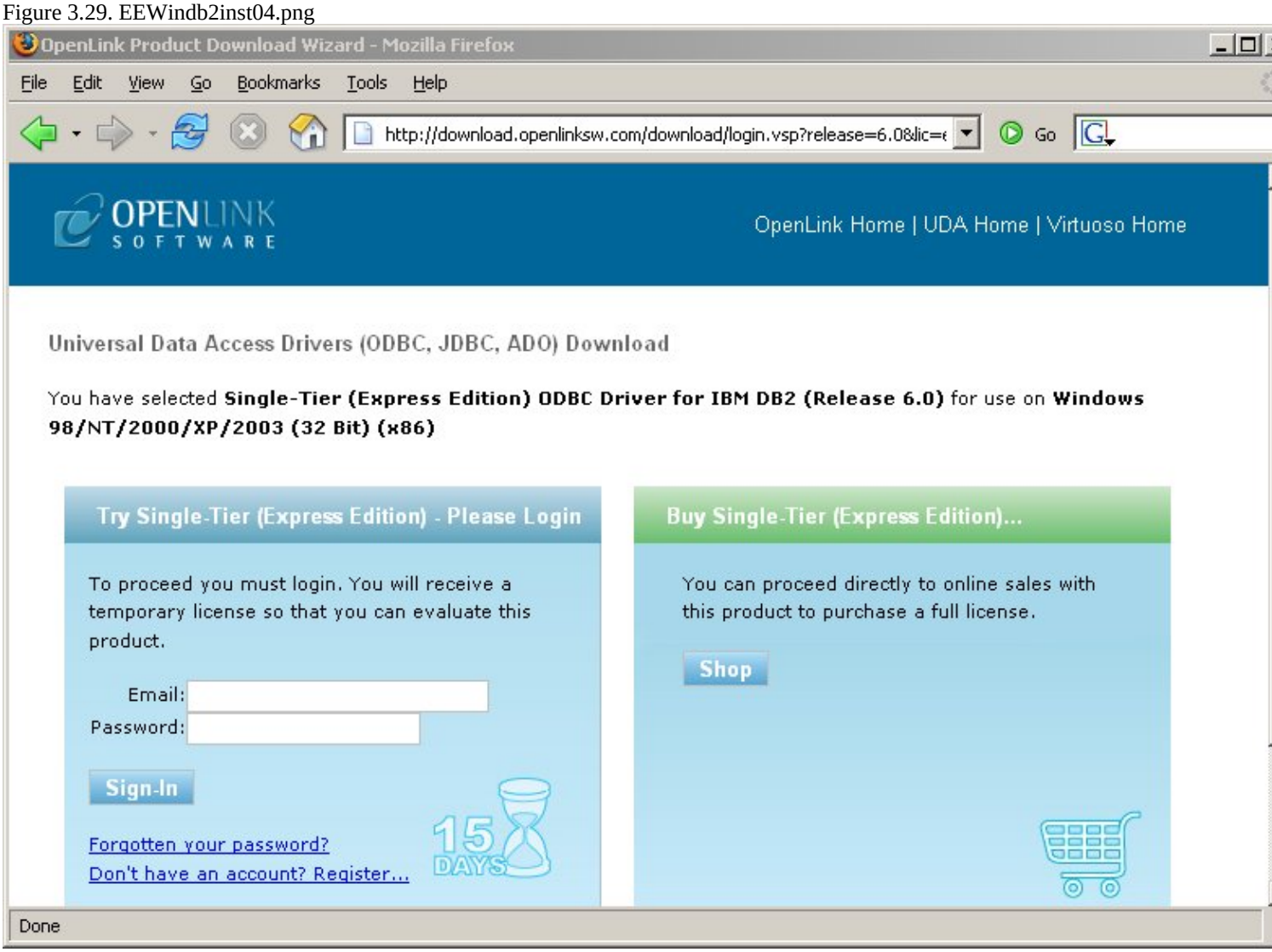
Figure 3.28. EEWindb2inst03.png



To obtain the trial license, you must be a registered user on the OpenLinkWeb site and login with the username (e-mail address) and password for that user name. Click on the 'Shop' link to visit OpenLink's online shop cart to purchase a full license, if required.

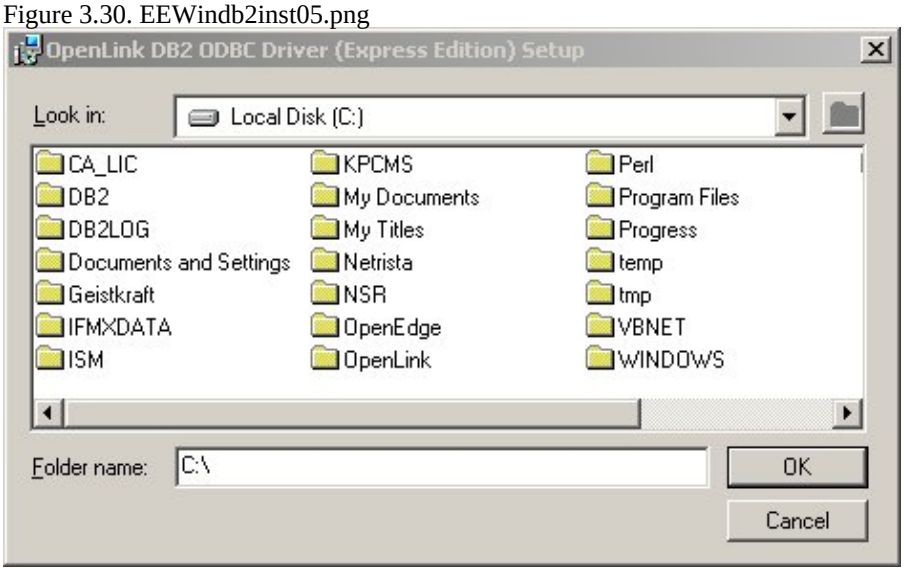
Click on the 'download license' button to immediately obtain the license file and save it to your desktop. Alternatively, an auto-generated e-mail will be sent to your registered user e-mail address with a link to your OpenLinkData Space (ODS), which contains all trial and full licenses in the Briefcase for download at a later date.

Figure 3.29. EEWindb2inst04.png



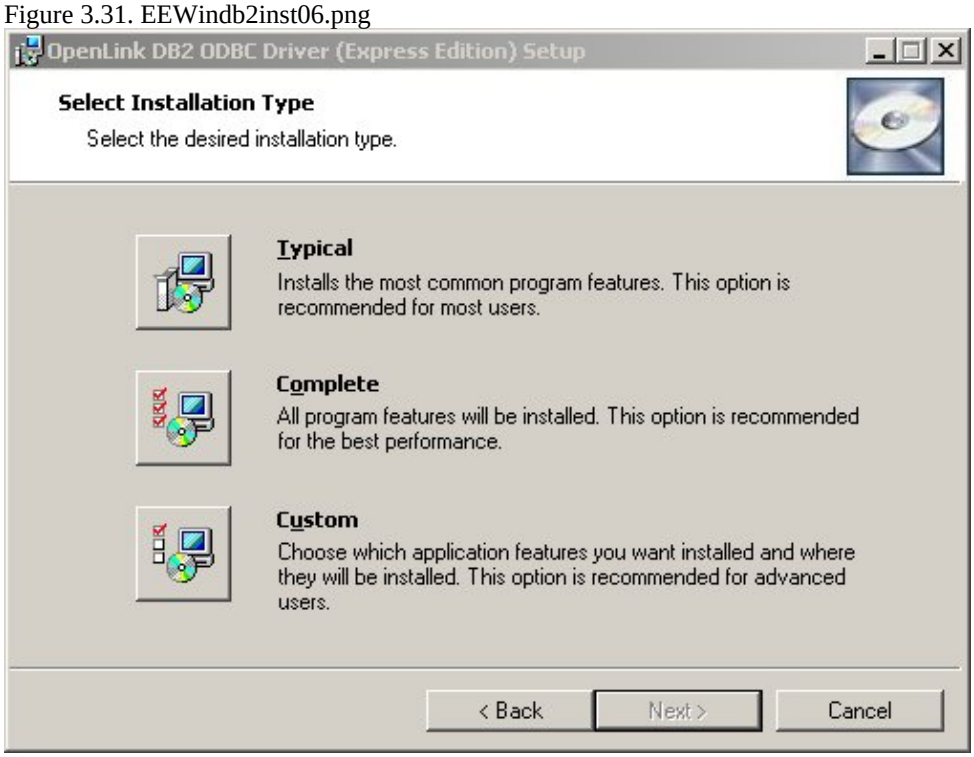
Select the license file to be used for the installation:

Figure 3.30. EEWindb2inst05.png



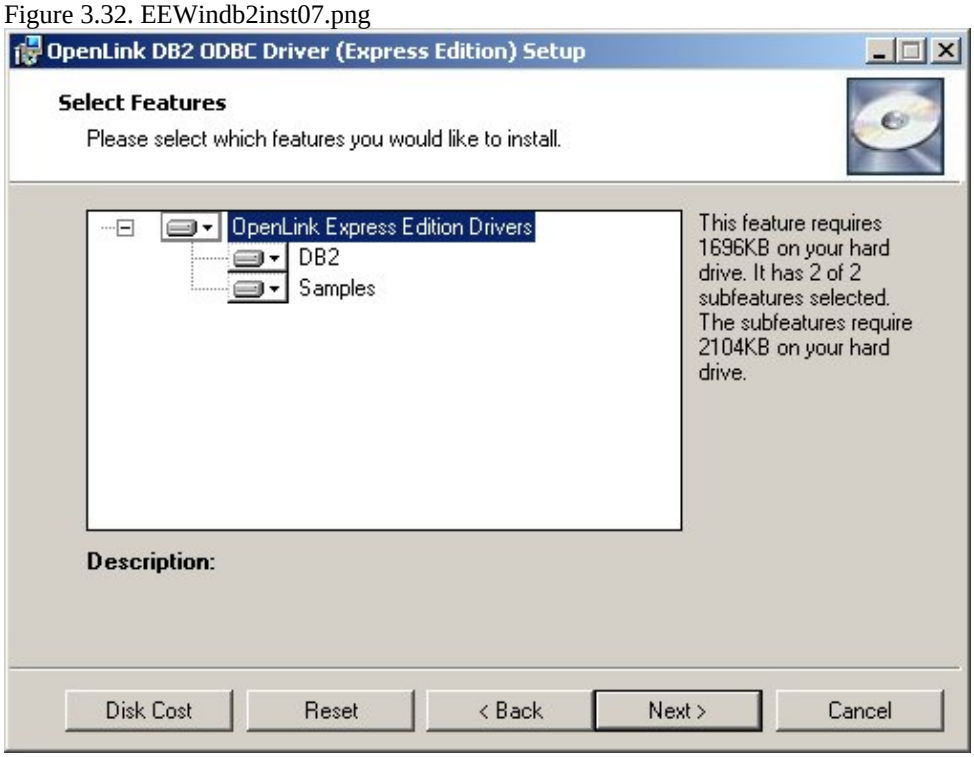
Choose to perform a custom, typical or complete installation of the driver:

Figure 3.31. EEWindb2inst06.png



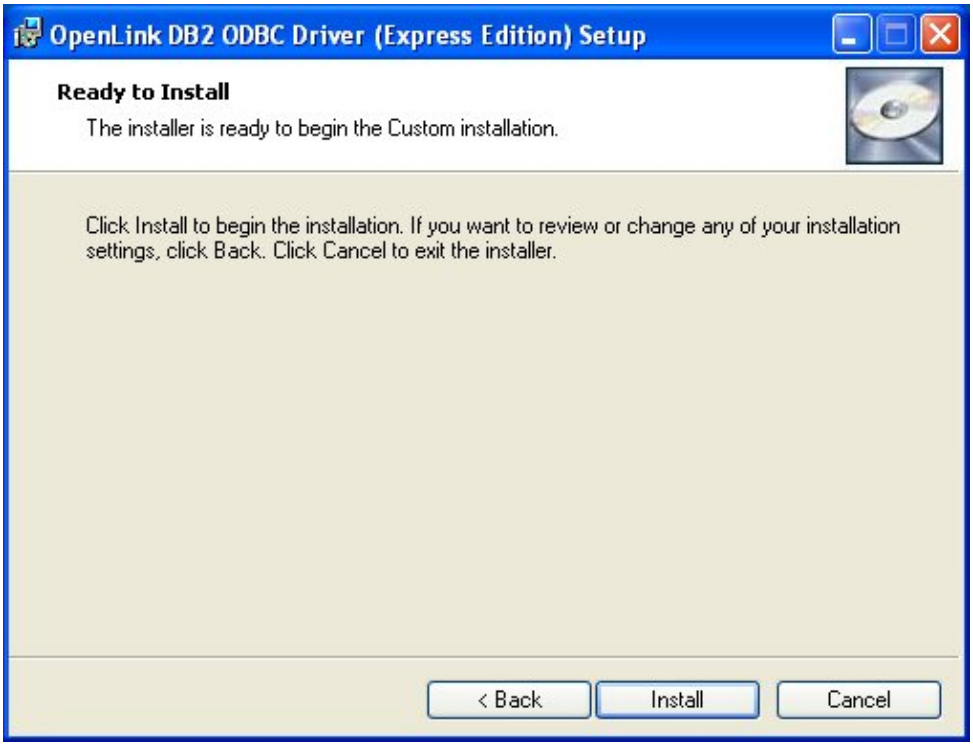
Select the features to be installed:

Figure 3.32. EEWindb2inst07.png



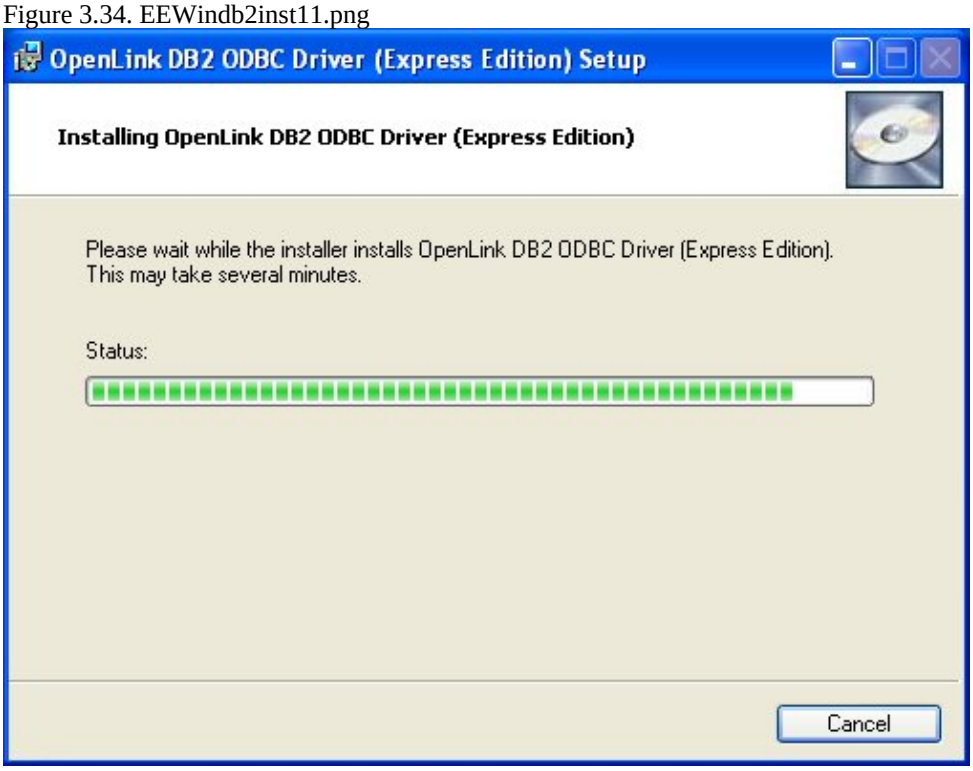
Click the install button to begin installation of the components:

Figure 3.33. EEWindb2inst12.png



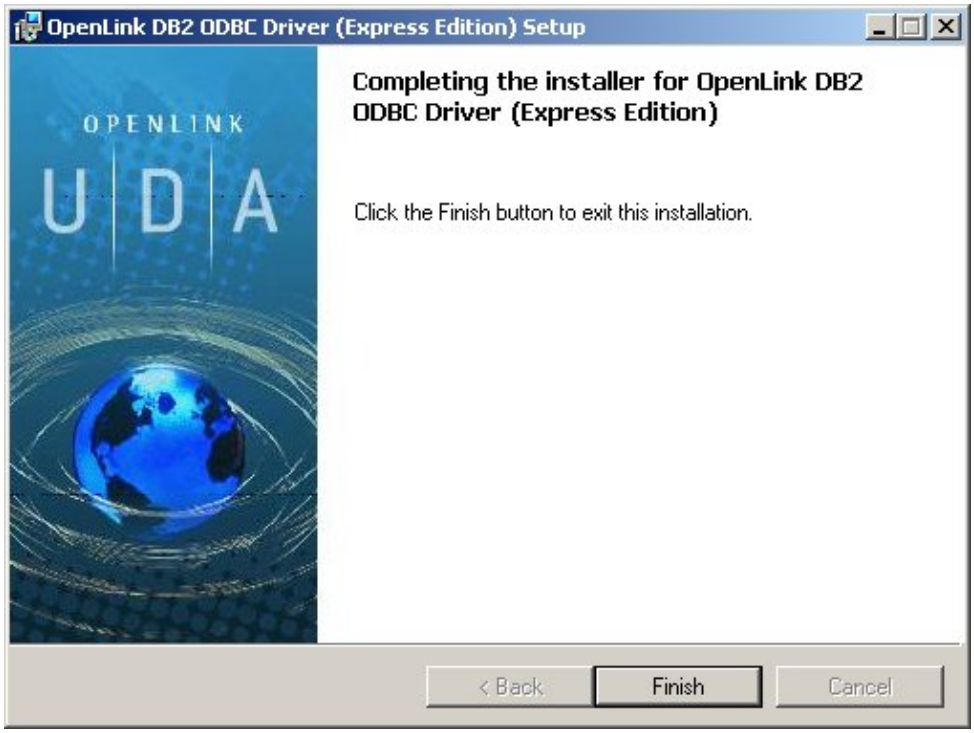
Installation in progress:

Figure 3.34. EEWindb2inst11.png



The software installation is complete and ready for use:

Figure 3.35. EEWindb2inst10.png



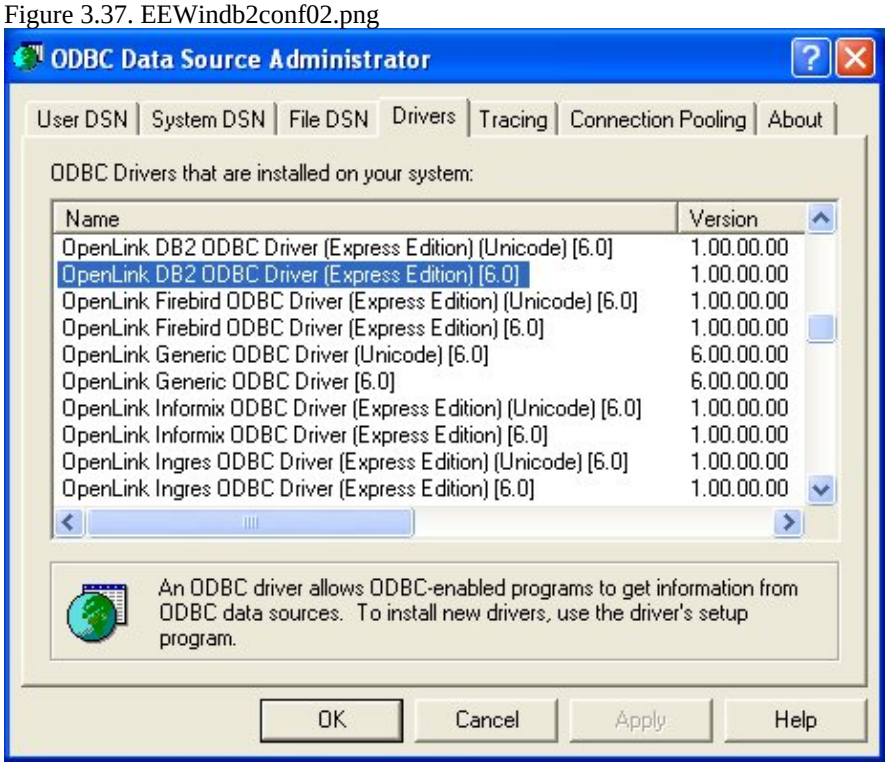
4.2.2 Configuration

To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 3.36. EEWindb2conf01.png

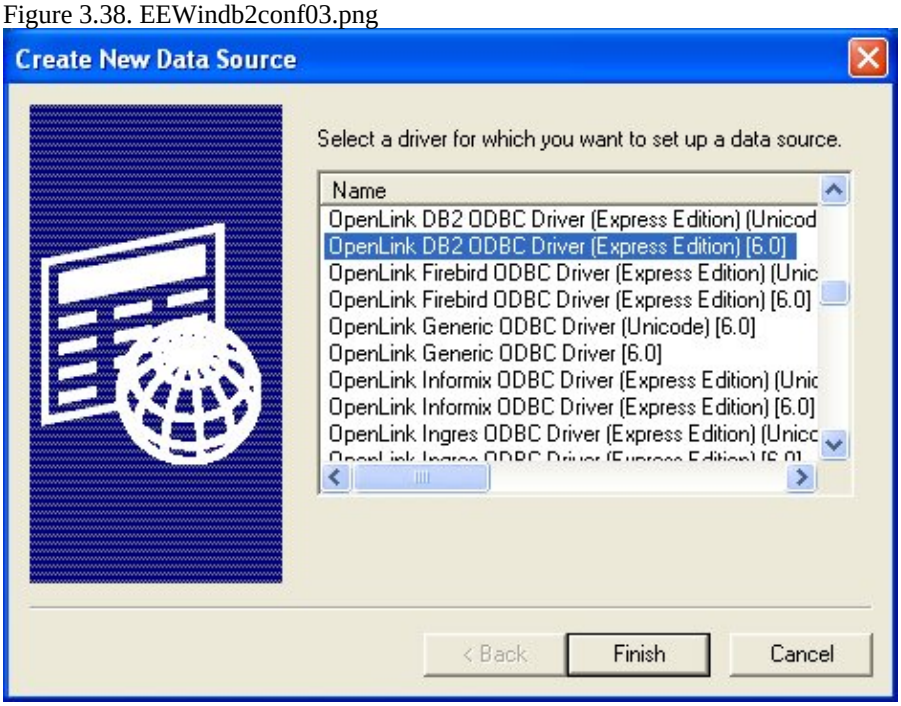
Click on the Drivers tab to confirm the OpenLinkDB2 ODBCDriver [Express Edition][6.0] has been successfully installed:

Figure 3.37. EEWindb2conf02.png



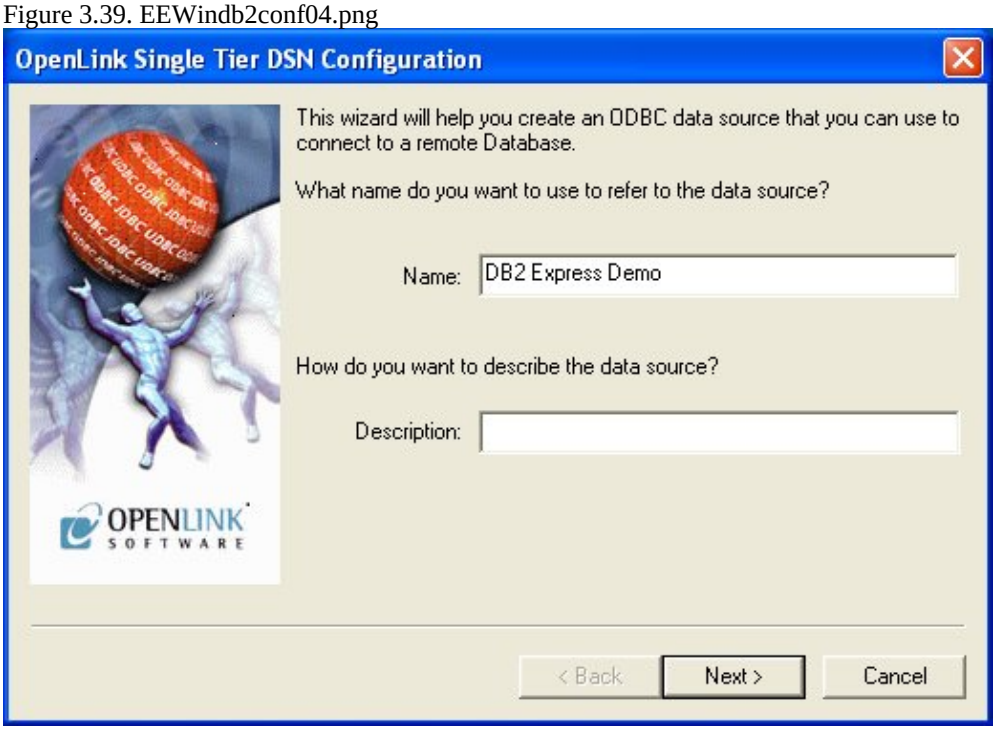
From either the User or System DSN tabs, click on the Add button and select the OpenLinkDB2 ODBCDriver [Express Edition][6.0] from the list presented:

Figure 3.38. EEWindb2conf03.png



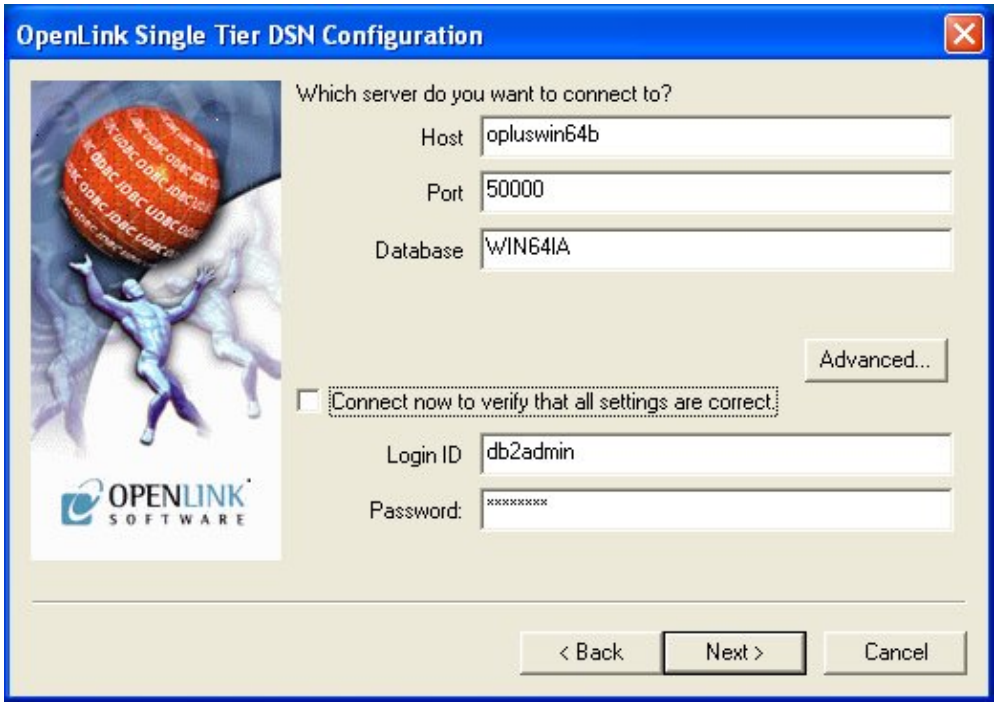
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 3.39. EEWindb2conf04.png



The Connection tab requests the minimum parameters required to make a connection to the target database:

Figure 3.40. EEWindb2conf05.png



- *Host* : This is the fully qualified hostname or IP address of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port on which DB2 is listening
- *Database* : This is the name of a valid DB2 database alias to which you want to connect
- *Login ID* : This is a valid user for the DB2 database
- *Password* : This is a valid password for the DB2 database

Click next to verify that all settings are correct or uncheck the check box to delay testing to a later stage.

The advanced button displays additional optional parameters that can be configured:

Figure 3.41. EEWindb2conf06.png

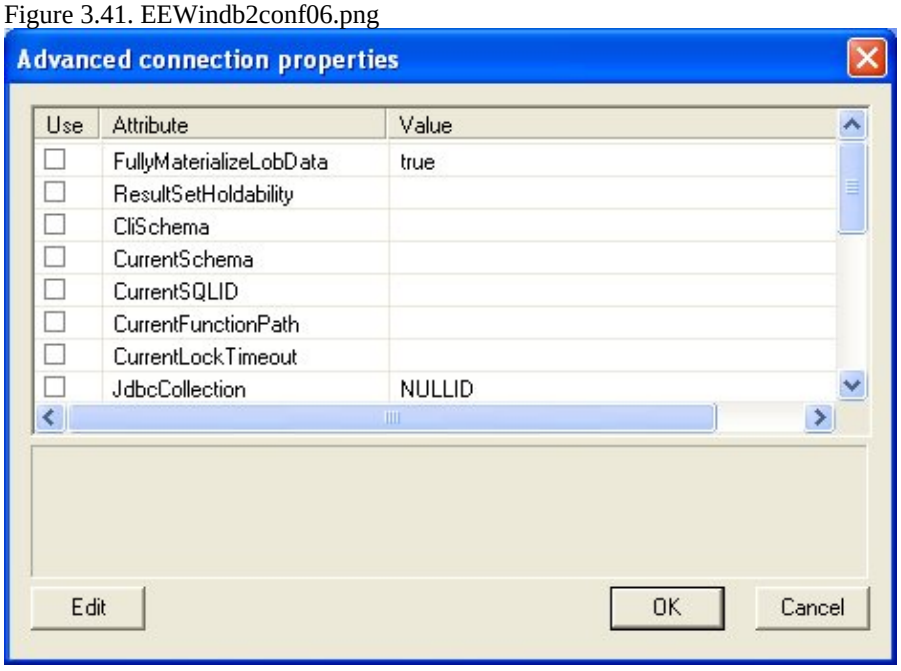


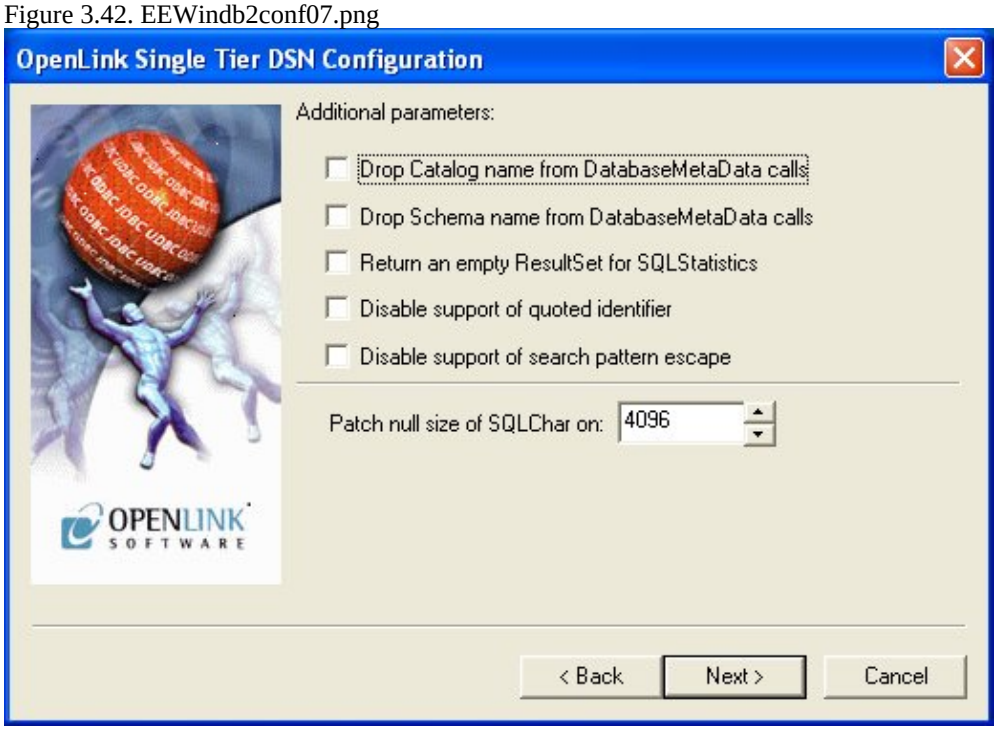
Table 3.2.

FullyMaterializeLobData	Indicates whether the driver retrieves LOB locators for FETCH operations. The data type of this propery is boolean. If the value is true, LOB data is fully materialized within the JDBC driver when a row is fetched. If this value is false, LOB data is streamed.
ResultSetHoldability	Specifies whether cursors remain open after a commit operation. Valid values are 1- HOLD_CURSORS_OVER_COMMIT or 2 - CLOSE_CURSORS_AT_COMMIT.
CLiSchema	Specifies the schema of the DB2 shadow catalog tables or views that are searched when an application invokes a DatabaseMetaData method.
CurrentSchema	Specifies the default schema name that is used to qualify unqualified database objects in dynamically prepared SQL statements. This value of this property sets the value in the CURRENT SCHEMA special register on a server other an a DB2 UDB for z/OS server. Do not set this property for a DB2 UDB for z/OS server.
CurrentSQLID	Specifies the authorization ID that is used for authorization checking on dynamically prepared CREATE, GRANT, and REVOKE SQL statements. The owner of a table space, database, storage group, or synonym that is created by a dynamically issued CREATE statement. The implicit qualifier of all table, view, alias, and index names specified in dynamic SQL statements.
CurrentFunctionPath	Species th SQL path that is used to resolve unqualified data type names and function names in SL statements that are in JDBC programs. The data type of this property is String. For a DB2 UDB for Linux, UNIX, and Windows server, the maximum length is 254 bytes. The value is a comma-separated list of schema names. Those names can be ordinary or delimited identifiers.
CurrentLockTimeout	Directs DB2 UDB for Linux, UNIX, and Windows servers to wait indefinitely for a lock or to wait for the specified number of seconds for a lock when the lock cannot be obtained immediately. The data type of this property is Int. A value of zero means no wait. A value of -1 means to wait indefinitely. A postive integer indicates the number of seconds to wait for a lock.
JdbcCollection	Specifies the collection ID for the packages that are used by an instance of the DB2 Universal JDBC Driver at run time. The data type of jdbcCollection is String. The default is NULLID.
CurrentPackageSet	Specifies the collection ID to search for DB2 packages for the DB2 Universal JDBC Driver. The data type of this property is String. The default is NULLID. If currentPackageSet is set, its value overrides the value of jdbcCollection.
CurrentPackagePath	Species a comma-separated list of collections on the server. The DB2 server searches these collections for the DB2 packages for the DB2 Universal JDBC Driver. The precedence rules for the currentPackagePath and currentPackageSet properties follow the precedence rules for the DB2 CURRENT PACKAGESET and CURRENT PACKAGE PATH special registers.
SecurityMechanism	Specifies theDRDA security mechanism. Possible values are: 3 - User ID and password, 4 - User ID only, 7 - User ID, encrypted password, 9 - Encrypted user ID and password, 11 - Kerberos. If this property is specified, the specified security mechanism is the only mechanism that is used. If the security mechanism is not supported by the connection, an exception is thrown.
KerberosServerPrincipal	For a data source that uses Kerberos security, this specifies the name that is used for the data source when it is registered with the Kerberos Key Distribution Center (KDC).
DeferPrepares	Specifies whether to defer prepare operations until run time. The data type of this property is boolean.
ClientUser	Specifies the current client user name for the connection. This information is for client accounting purposes. Unlike the connection user name, this value can change during a connection. For a DB2 UDB for Linux, UNIX, and Windows servers, the maximum length is 255 bytes.
ClientWorkstation	Specifies the workstation name for the current client for the connection. This information is for client accounting purposes. This value can change during a connection. The data type of this property is String. For a DB2 UDB for Linux, UNIX, and Windows servers, the maximum length is 255 bytes.

ClientApplicationInformation	Specifies the application information for the current client for the connection. This information is for client accounting purposes. This value can change during a connection. The data type of this property is String. For a DB2 UDB for Linux, UNIX, and Windows servers, the maximum length is 255 bytes.
ClientAccountingInformation	Specifies accounting information for the current client for the connection. This information is for client accounting purposes. This value can change during a connection. The data type of this property is String. For a DB2 UDB for Linux, UNIX, and Windows servers, the maximum length is 255 bytes.

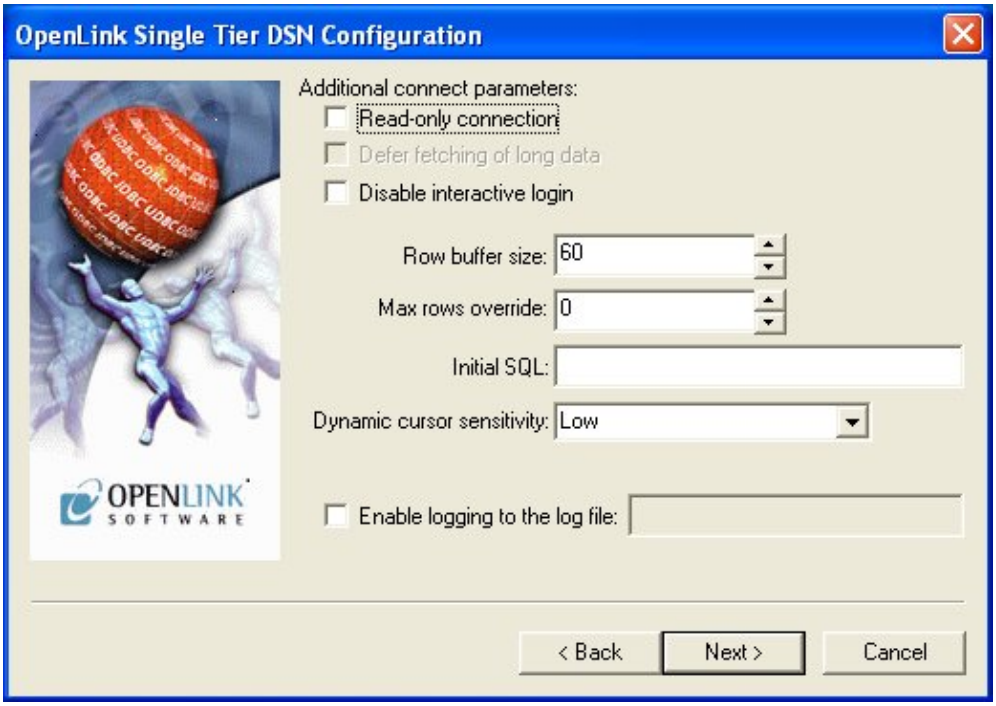
As indicated above, the parameters on the options and preferences tabs are not required for a basic connection.

Figure 3.42. EEWindb2conf07.png



- *Drop Catalog name from DatabaseMetaData calls* - Enable this option to have the catalog name not appear for tables, views, and procedures when requesting database meta-data.
- *Drop Schema name from DatabaseMetaData calls* - Enable this option to have the schema-name not appear for tables, views, and procedures when requesting database meta-data.
- *Return an empty ResultSet for SQLStatistics* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table, e.g., what indexes there are on it.
- *Disable support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if the DBMS does not support quoted SQL, e.g., select * from "account."
- *Disable support of search pattern escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if the DBMS does not support SQL escape patterns.
- *Patch of NULL size of SQL_CHAR* - If set, this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0, the driver uses the size returned by the database.

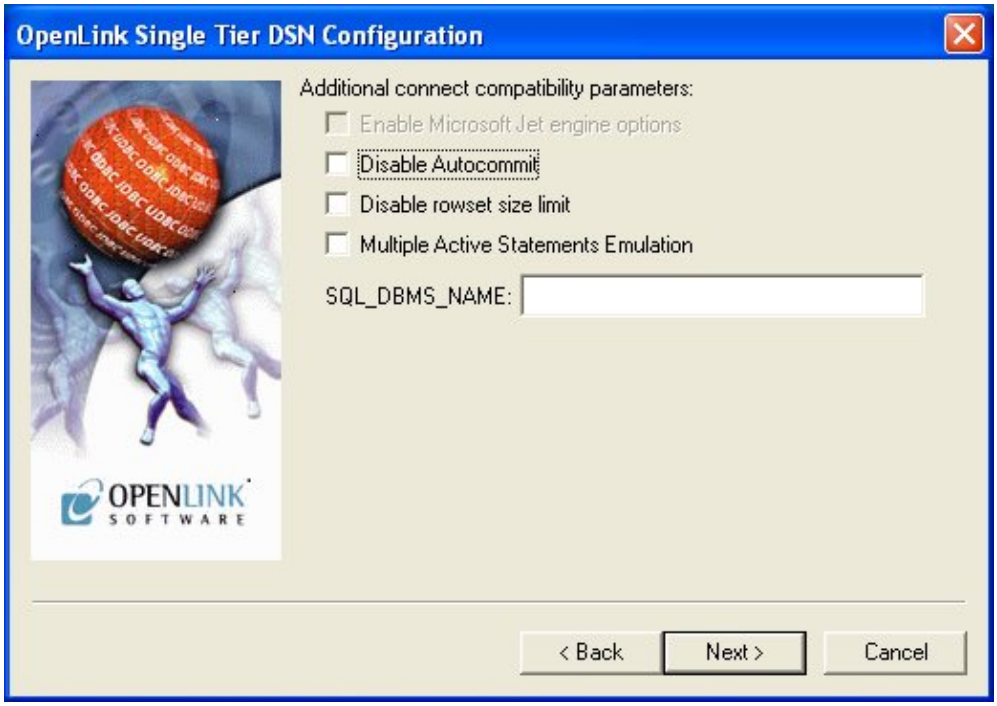
Figure 3.43. EEWindb2conf08.png



- *Read Only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection
- *Disable Interactive Login* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Max rows override* - Allows you to define a limit on the maximum number of rows to be returned from a query. The default value of 0 means no limit.
- *Initial SQL* - Lets you specify a file containing SQL statements that will be automatically run against the database upon connection.
- *Dynamic Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched, and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED, when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows do not appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate OpenLink script for the target database.

* *Enable logging to the log file:*- Specifies the full path to a text file. If the associated checkbox is checked, and a file is passed, the driver will log auto-generate a clientside ODBCtrace.

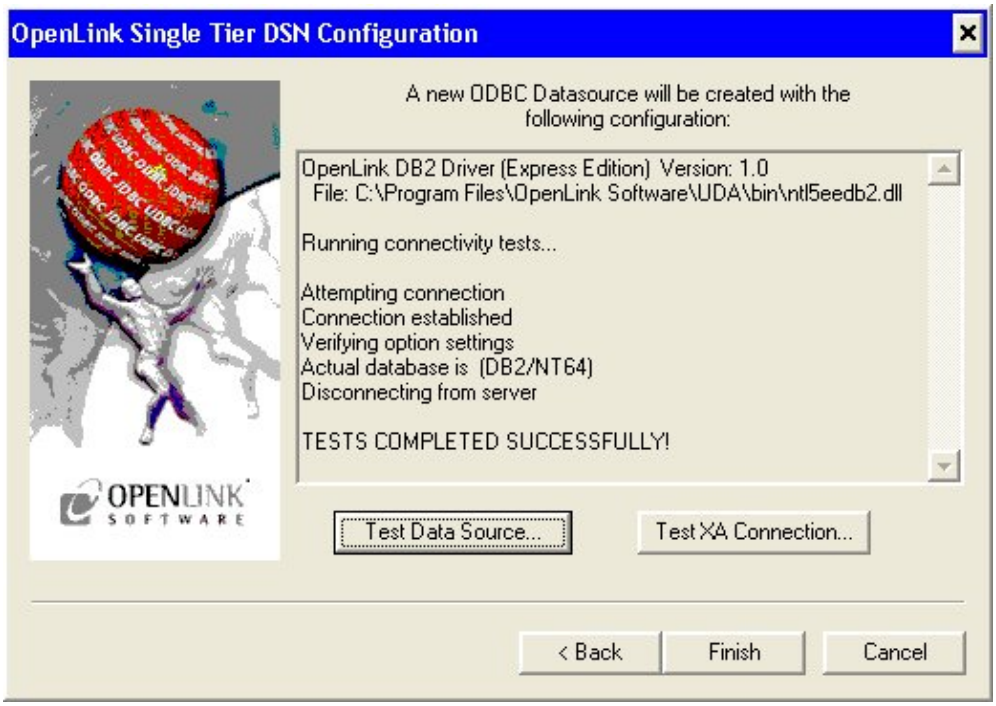
Figure 3.44. EEWindb2conf09.png



- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Driver. The default mode is AutoCommit (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is required for products like Microsoft InfoPath for which the return value must be "SQL Server".

Click on the *Test Data Source*button to verify that a successful connection can be made to the database.

Figure 3.45. EEWindb2conf10.png


OpenLink Single Tier DSN Configuration
A new ODBC Datasource will be created with the following configuration:
OpenLink DB2 Driver (Express Edition) Version: 1.0
File: C:\Program Files\OpenLink Software\UDA\bin\ntl5eedb2.dll
Running connectivity tests...
Attempting connection
Connection established
Verifying option settings
Actual database is (DB2/NT64)
Disconnecting from server
TESTS COMPLETED SUCCESSFULLY!
OPENLINK SOFTWARE
Test Data Source...
Test XA Connection...
< Back
Finish
Cancel

5 Chapter 4. OpenLink ODBC Driver for Firebird (Express Edition)

Table of Contents

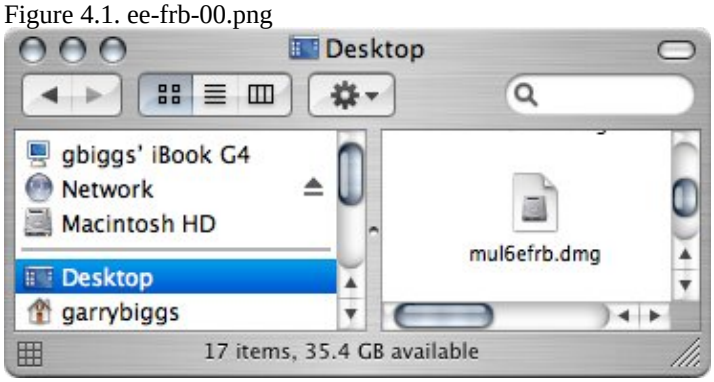
- OpenLink ODBC Driver for Firebird (Express Edition) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for Firebird (Express Edition) for Windows
  - Installation
  - Configuration

5.1 OpenLink ODBC Driver for Firebird (Express Edition) for Mac OS X

5.1.1 Installation Guide

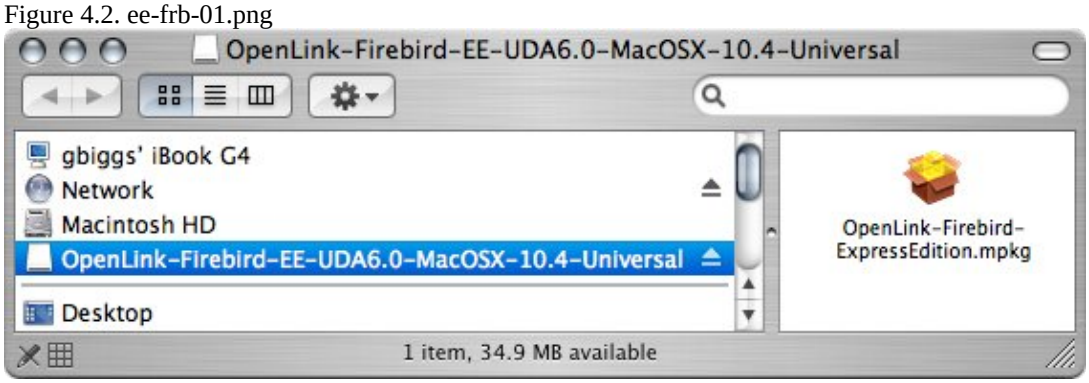
The OpenLink ODBC Driver for Firebird (Express Edition) is distributed as a Disk image (DMG) file. Simply double click on the disk image 'mul6efrb.dmg' to extract the installer mpkg file:

Figure 4.1. ee-frb-00.png



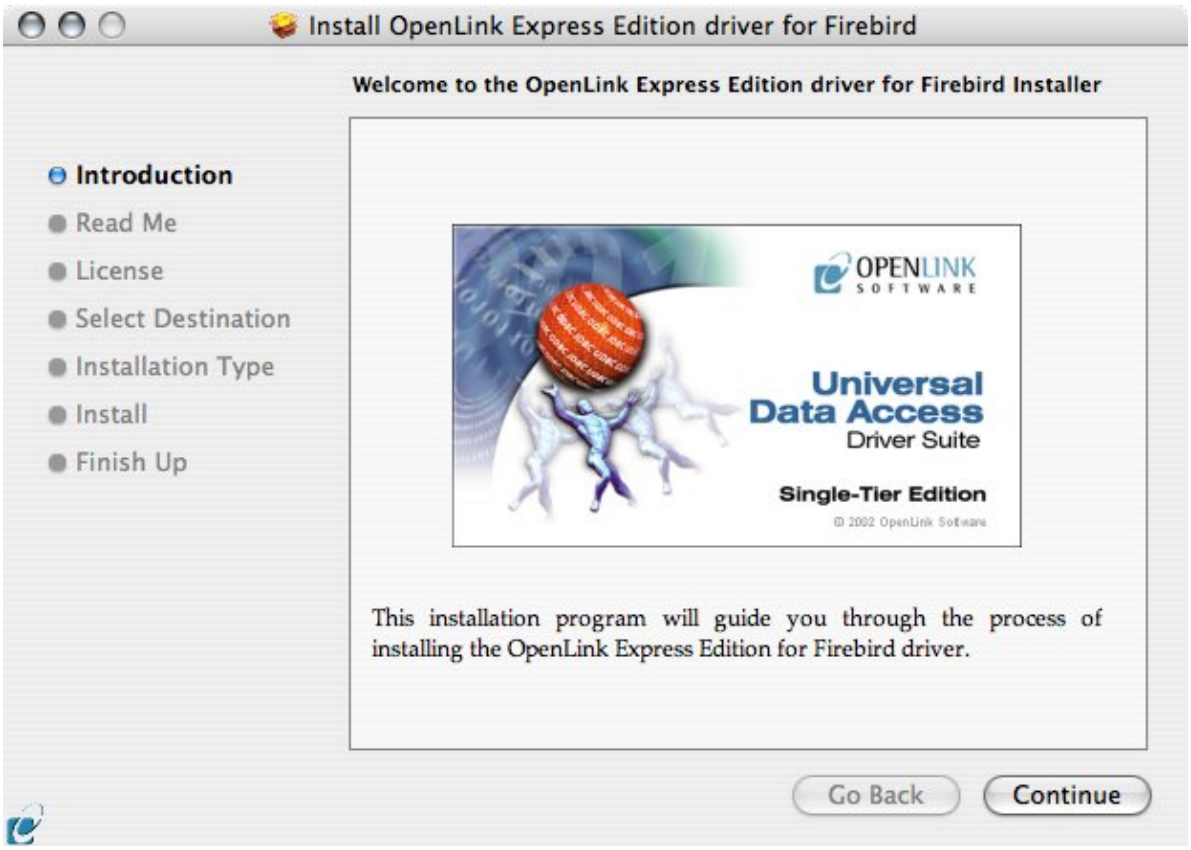
Double click on the mpkg file to run the installer and following the on screen instriuction as indicated below to complete the installation:

Figure 4.2. ee-frb-01.png



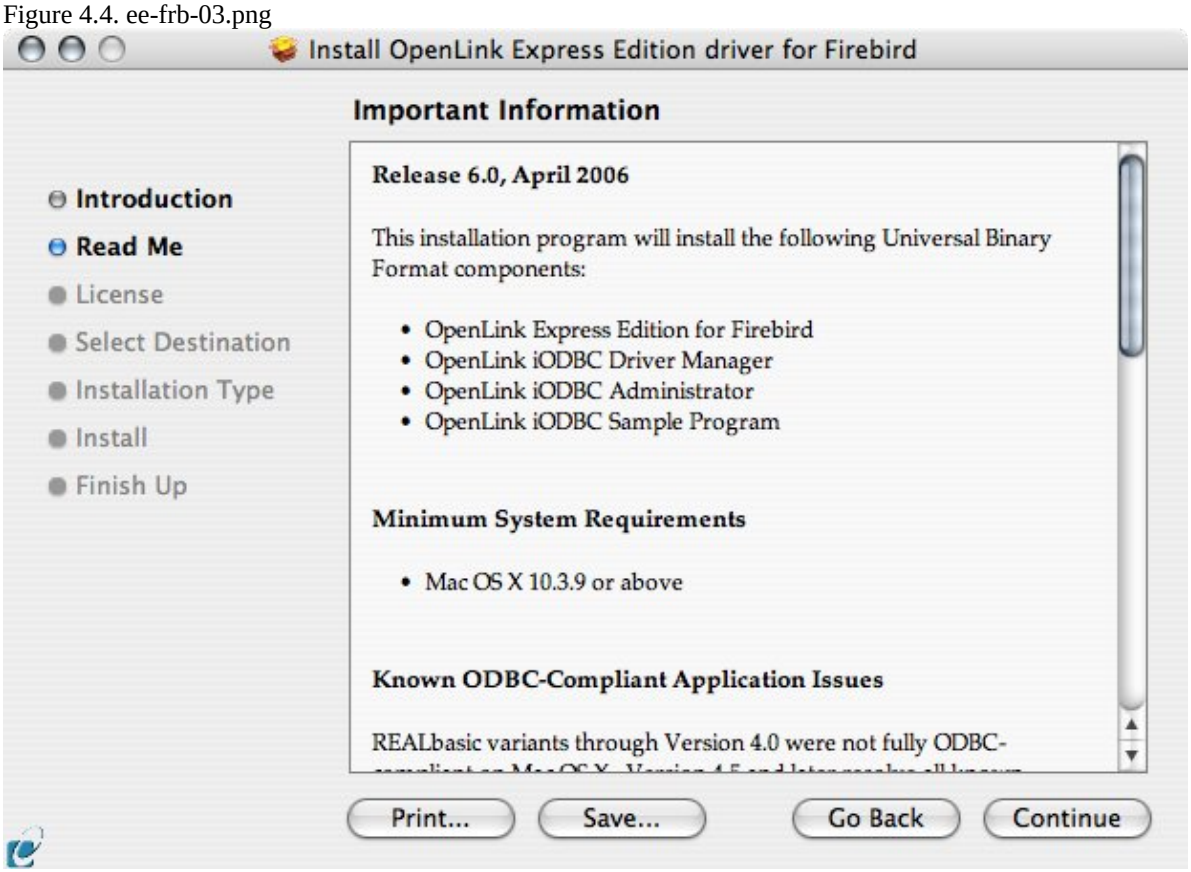
Installer Welcome Dialog for the OpenLink ODBC Driver for Firebird (Express Edition):

Figure 4.3. ee-frb-02.png



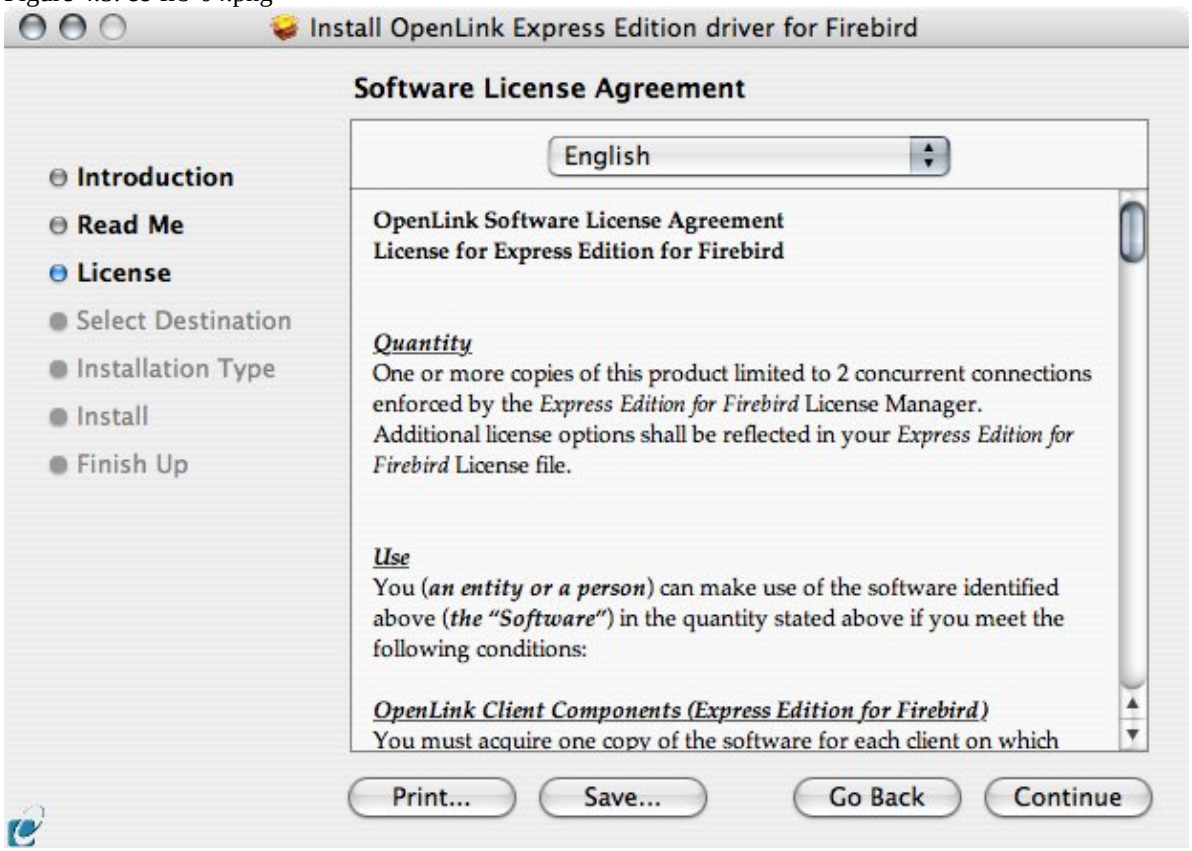
Please review the readme file for installation requirements and known issues:

Figure 4.4. ee-frb-03.png



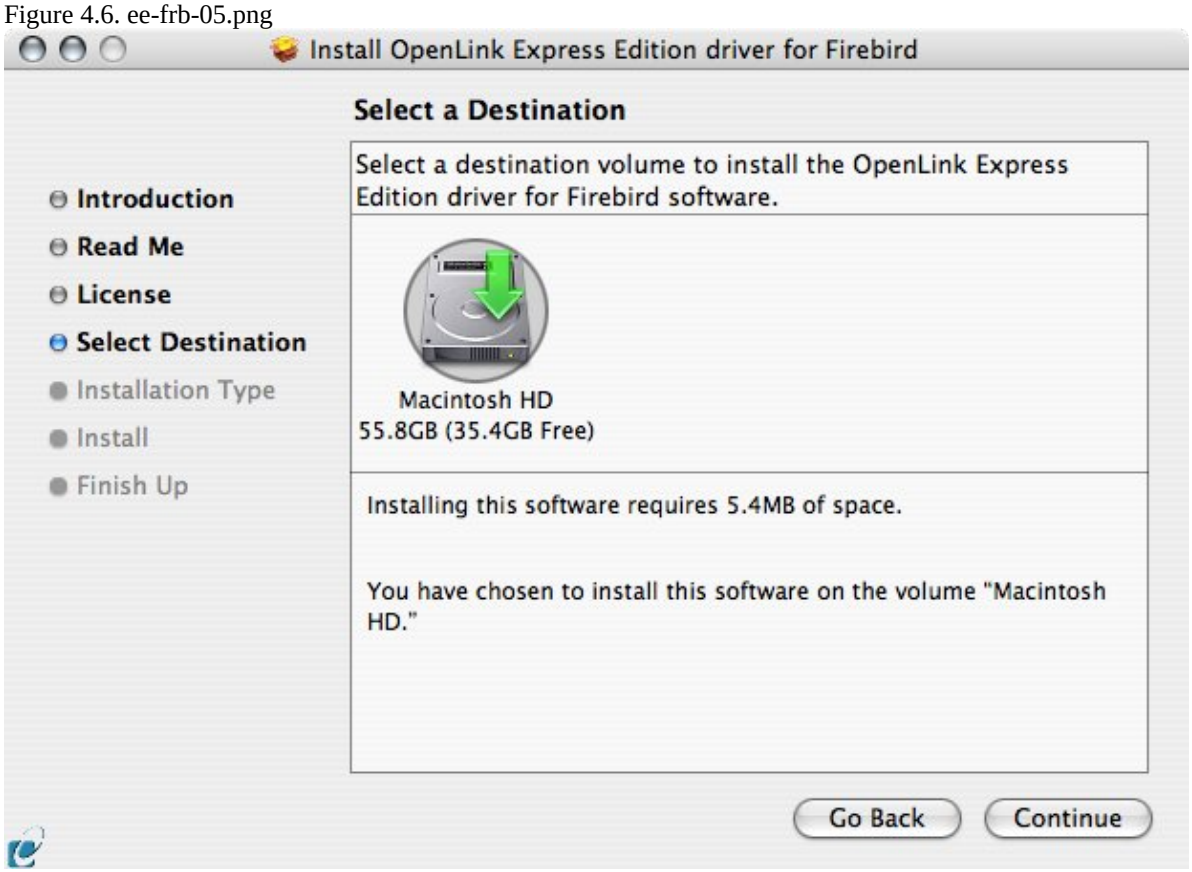
Please read the software license agreement before continuing your installation:

Figure 4.5. ee-frb-04.png



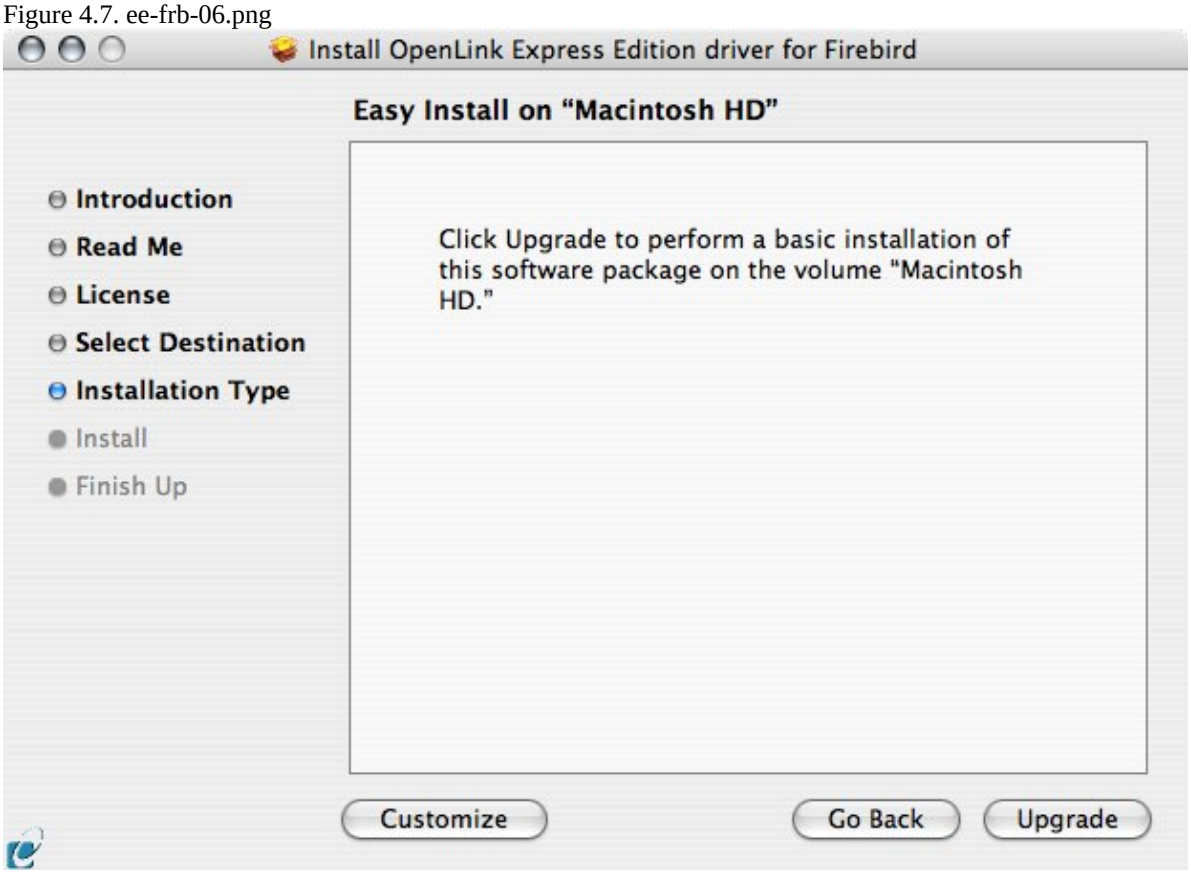
Select destination volume for driver installation:

Figure 4.6. ee-frb-05.png



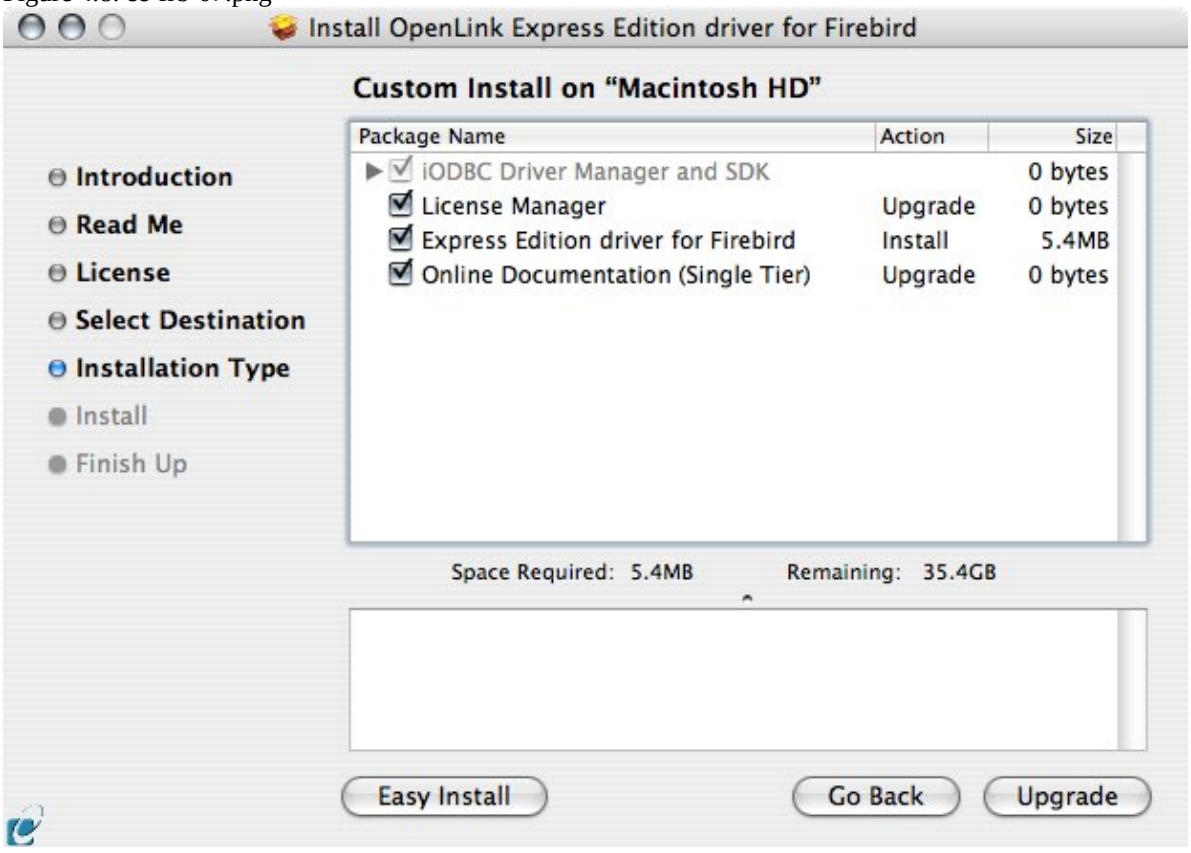
Choose to perform a custome or default installation of the driver:

Figure 4.7. ee-frb-06.png



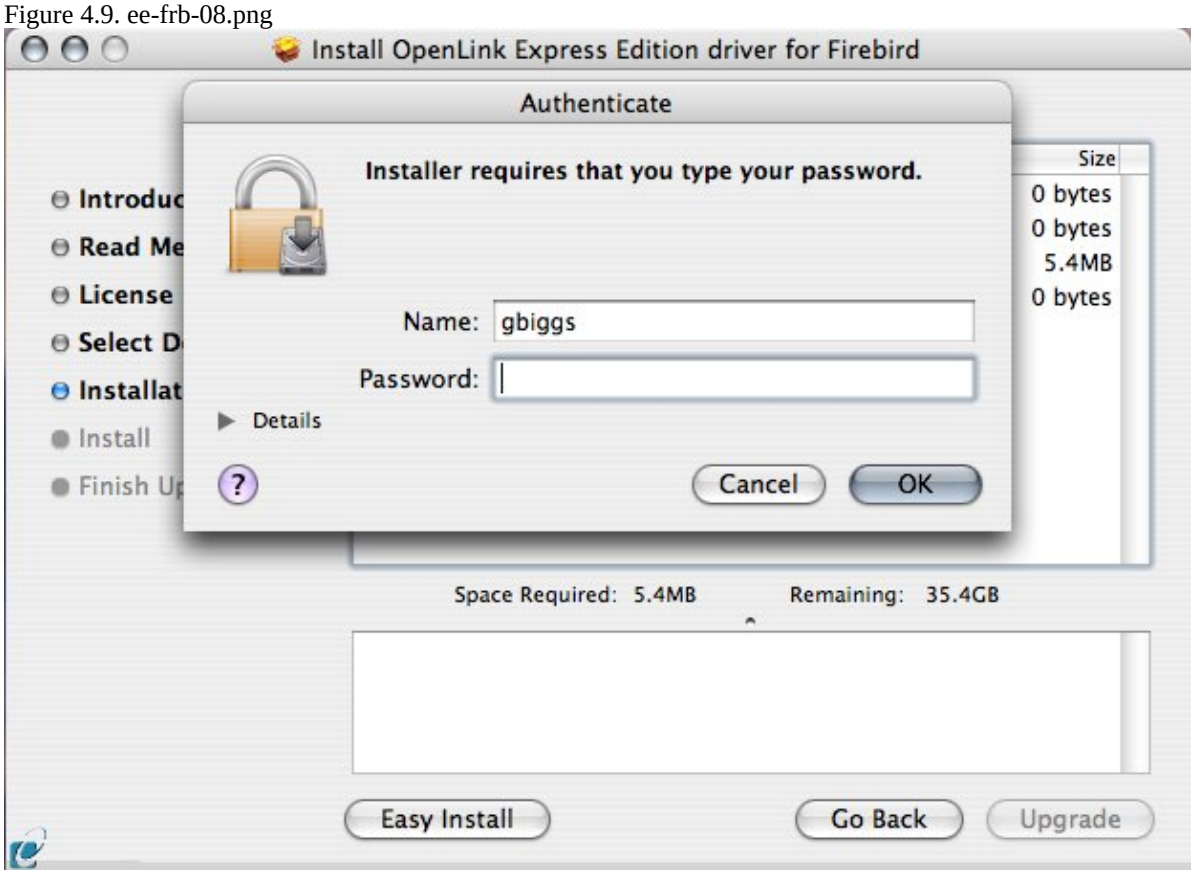
If you chose the custom option select which of the components below are to be installed:

Figure 4.8. ee-frb-07.png



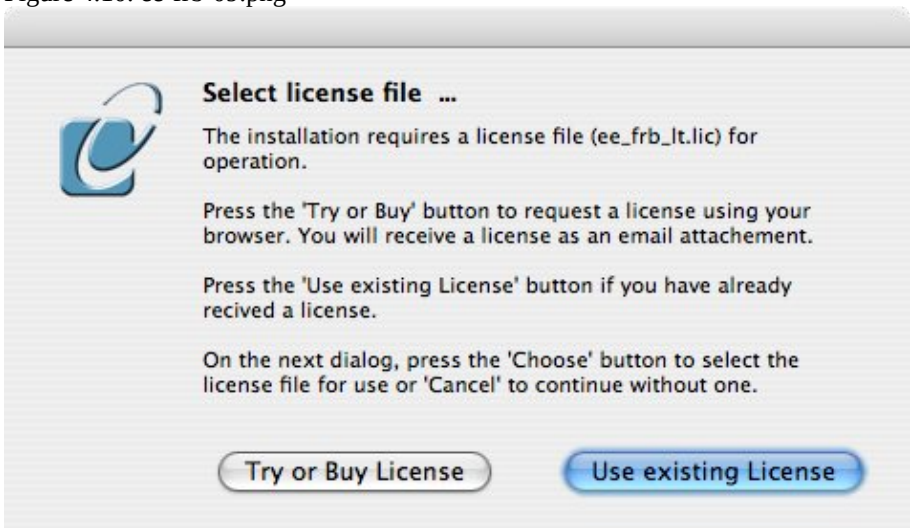
The Software must be installed as a user with Administrative privileges on the machine:

Figure 4.9. ee-frb-08.png



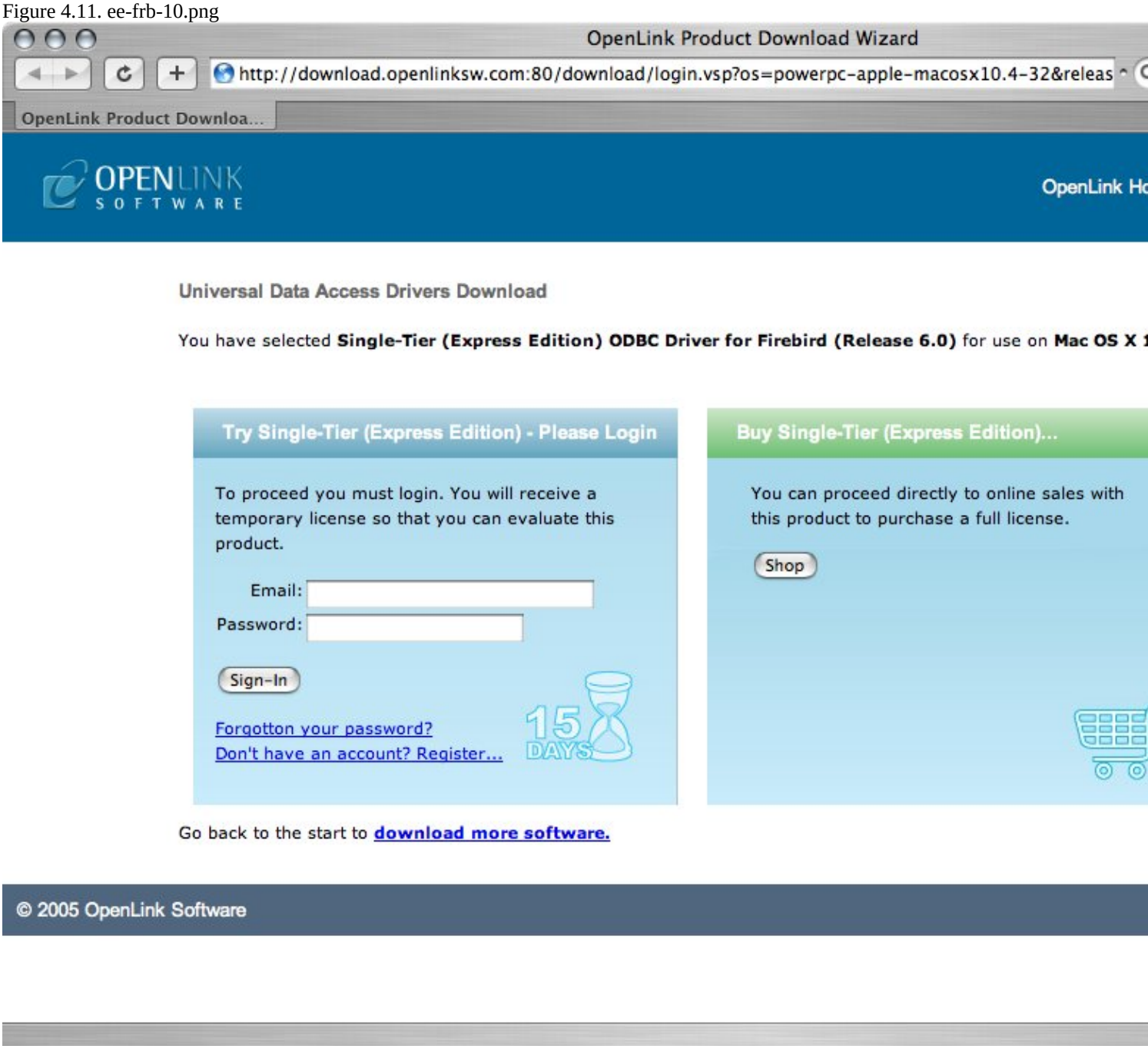
After the driver has been installed you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

Figure 4.10. ee-frb-09.png



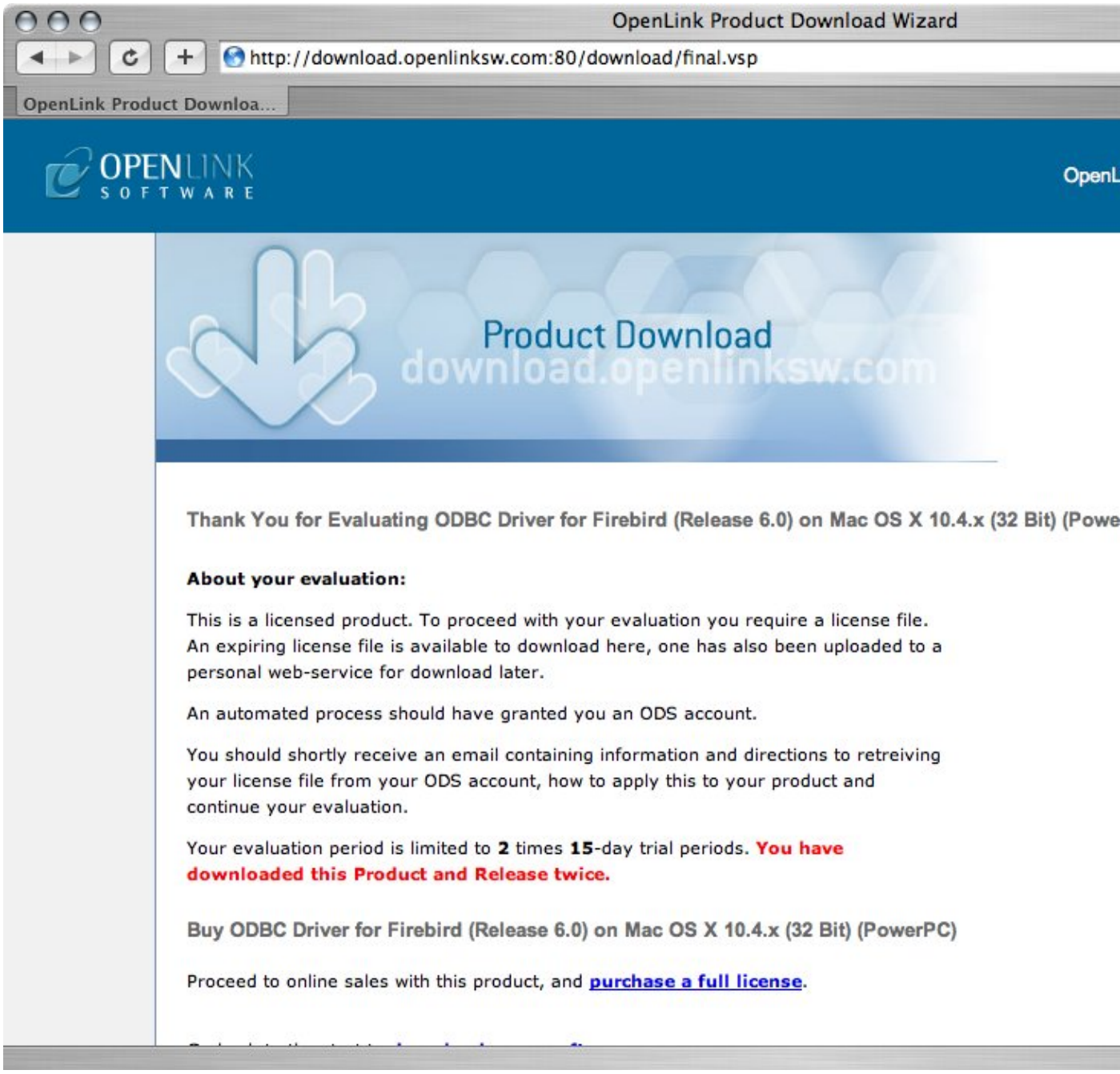
To obtain the trial license you must be a registered user on the OpenLink Web site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Figure 4.11. ee-frb-10.png



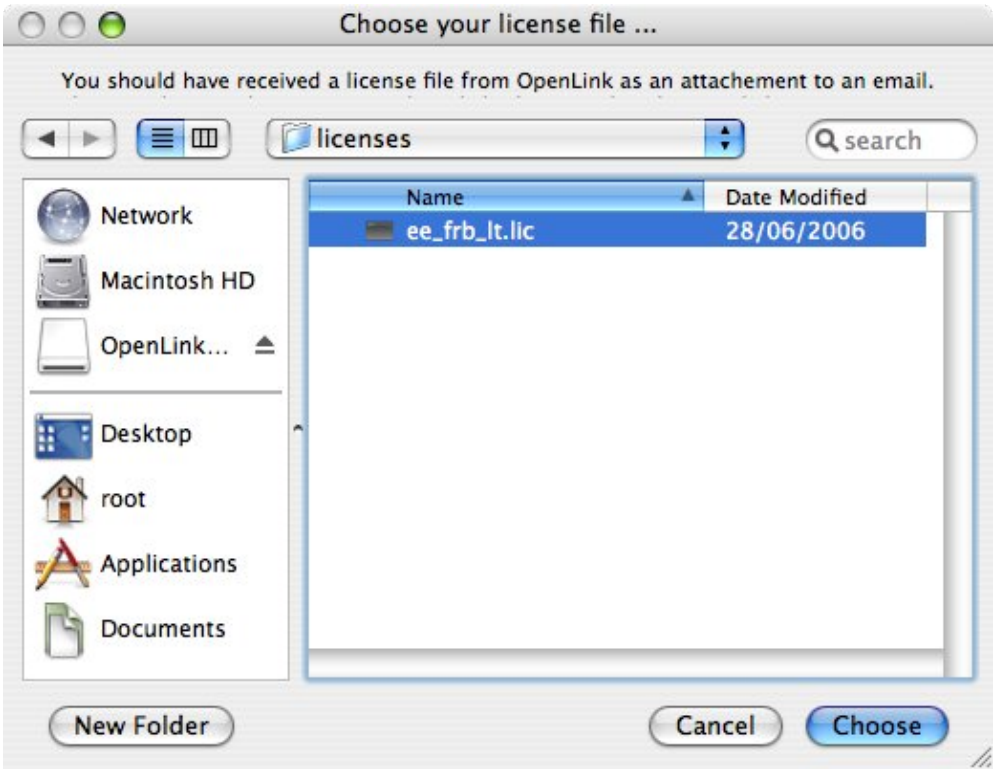
Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLink Data Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 4.12. ee-frb-11.png



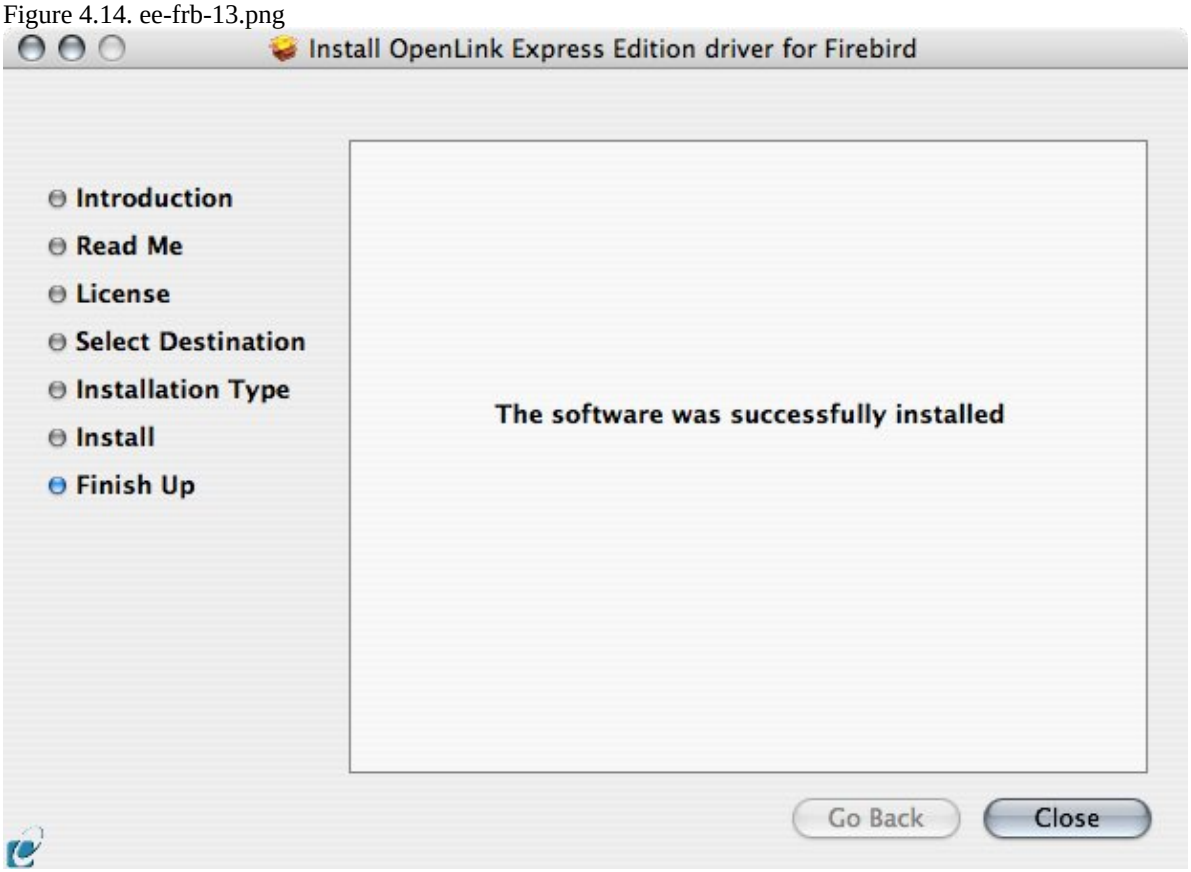
Select the license file to be used for the installation:

Figure 4.13. ee-frb-12.png



Installation is complete:

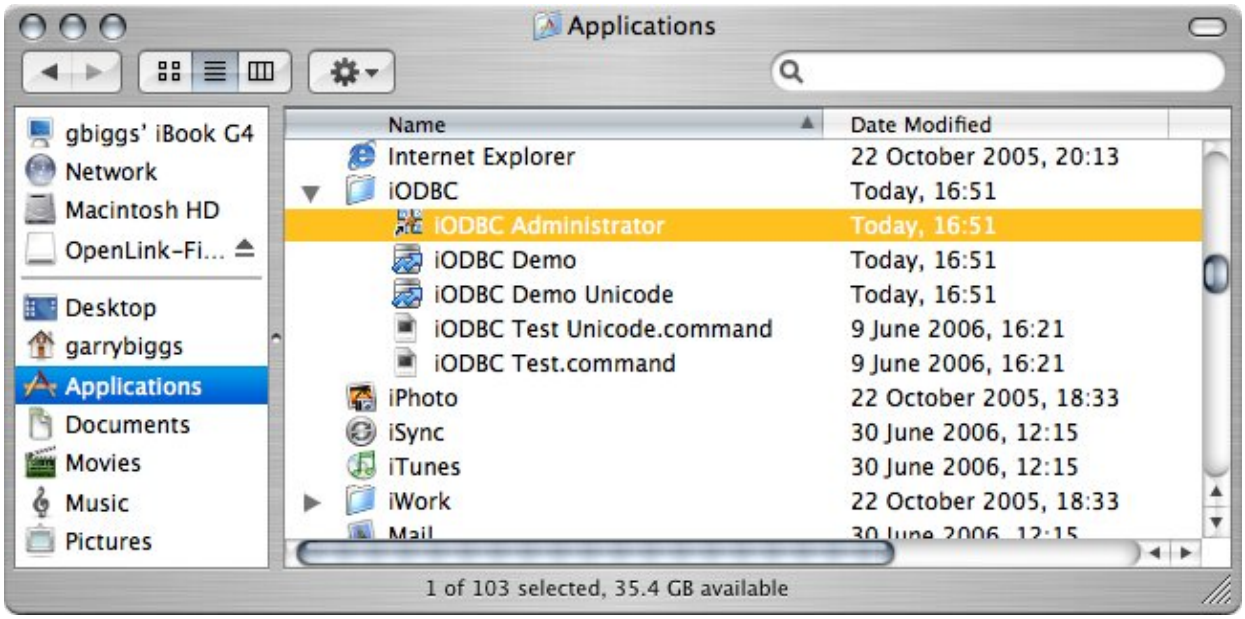
Figure 4.14. ee-frb-13.png



5.1.2 Configuration

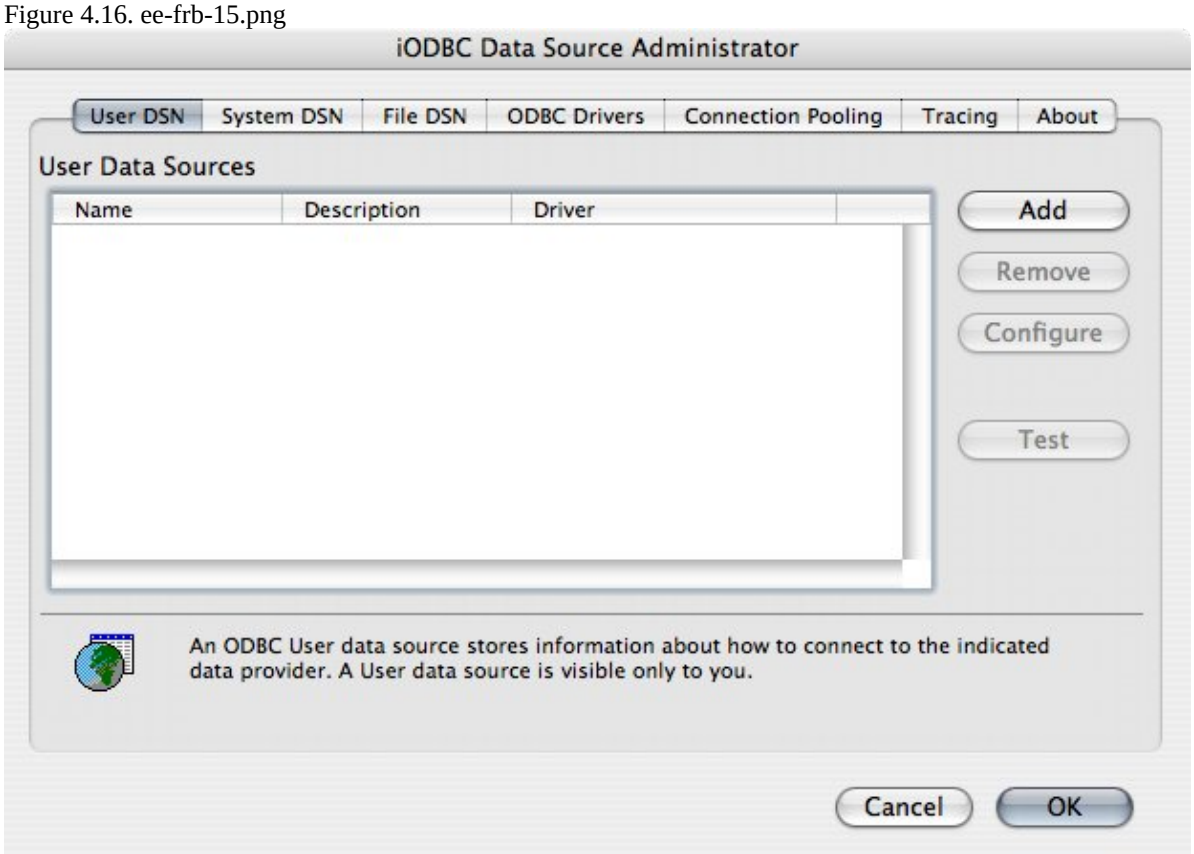
To configure an ODBC DSN, run the OpenLink iODBC Administrator located in the /Applications/iODBC folder:

Figure 4.15. ee-frb-14.png



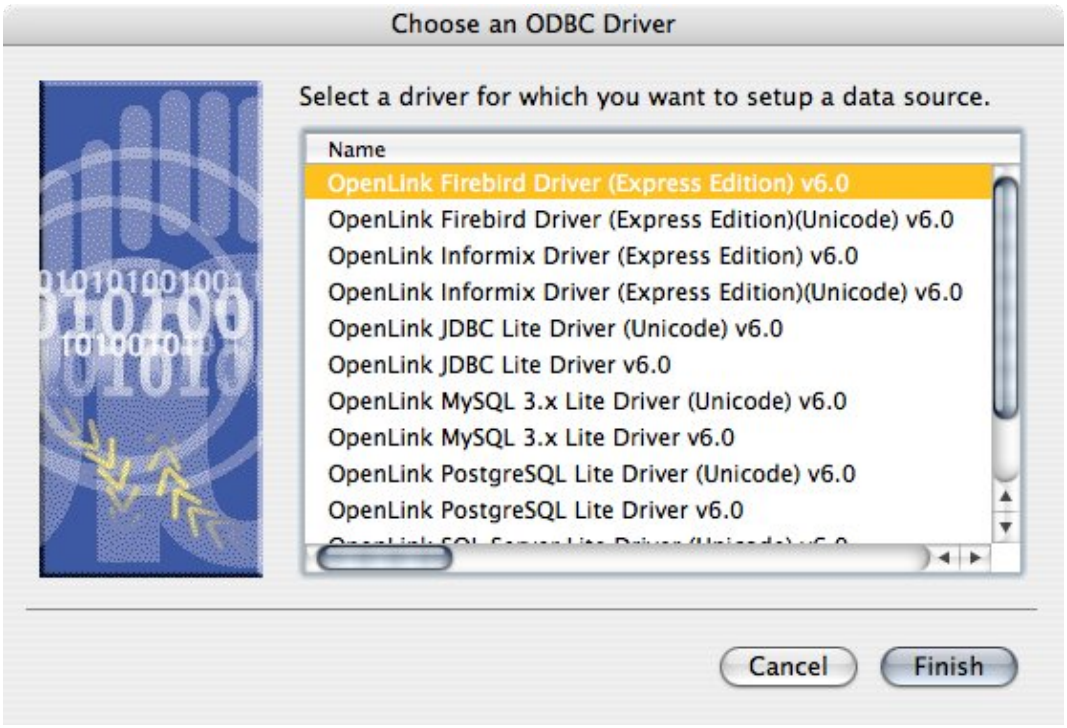
Click on the add button to Choose the ODBC Driver the DSN should be created for:

Figure 4.16. ee-frb-15.png



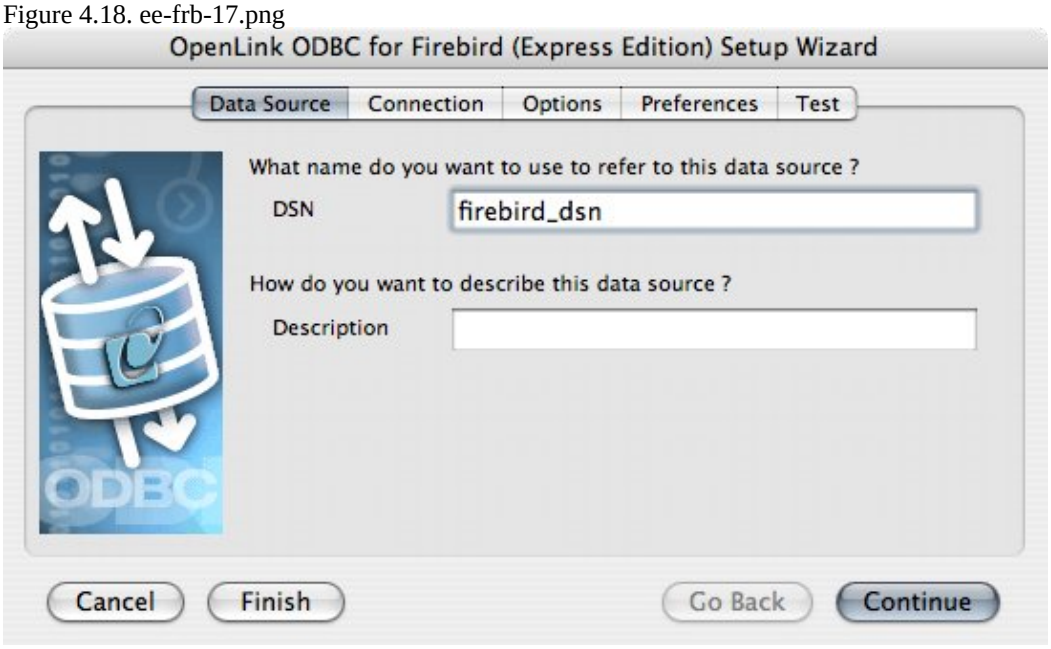
Choose the OpenLink Firebird Driver (Express Edition) v6.0 from the list of available drivers:

Figure 4.17. ee-frb-16.png



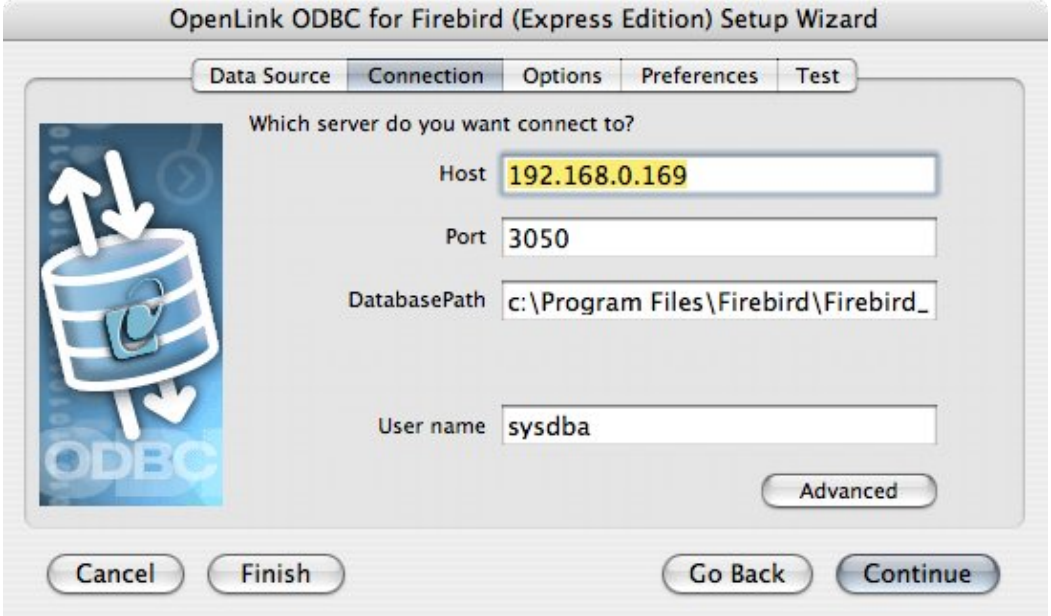
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 4.18. ee-frb-17.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 4.19. ee-frb-18.png



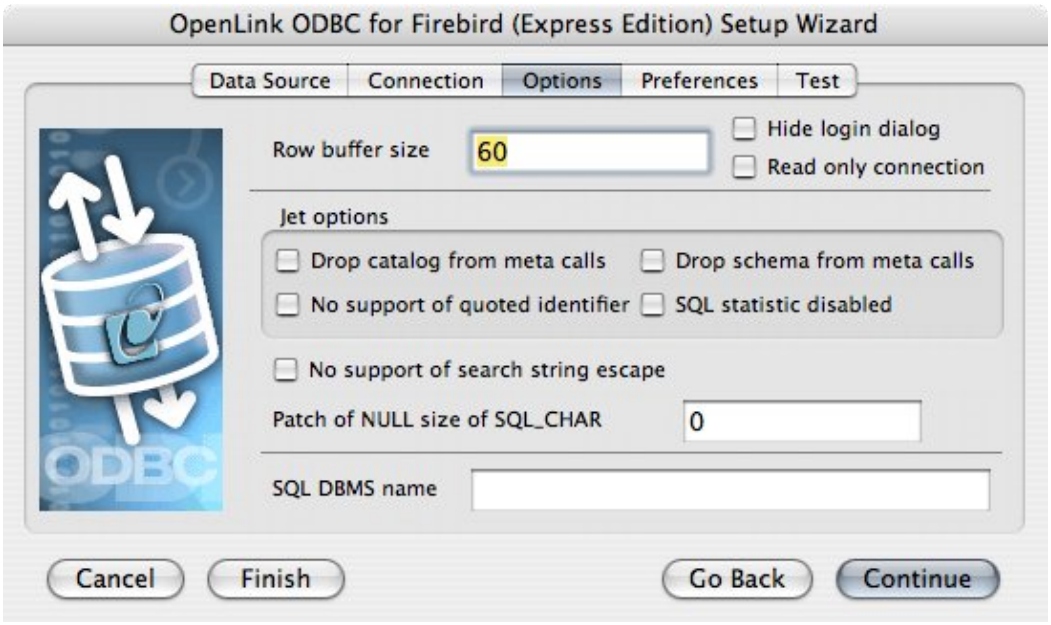
- Hostname - the hostname of the server on which Firebird is running
- PortName - the port on whcih the Firebird instance listens
- Database - the name of a valid database
- Username - the name of a valid Firebird user
- Advanced - additional optional configuration parameters:

Table 4.1.

BlobBufferLength	Set BLOB buffer length. This value influences the performance when working with BLOB fields.
BlobBufferSize	Size of the BLOB buffer in bytes.
BuffersNumber	Number of cache buffers that should be allocated for this connection, should be specified for ClassicServer instances; SuperServer has a server-wide configuration parameter.
DefaultIsolation	Set the default transaction isolation level as string. Following strings are allowed: 'TRANSACTION_READ_COMMITTED', 'TRANSACTION_REPEATABLE_READ', 'TRANSACTION_SERIALIZABLE'
Encoding	Set encoding for connections produced by this data source.
LoginTimeout	Set login timeout for this datasource in seconds.
RoleName	SQL role to use.
SocketBufferSize	The socket buffer-size in bytes.
SqlDialect	SQL dialect of the client.
TimestampUsesLocalTimezone	'true' if the JayBird 1.0 handling of the calendar in corresponding setters. This is also compatible with MySQL calendar treatment.
UseStandardUdf	'true' if driver should assume that standard UDFs are installed.
UseStreamBlobs	'true' if stream blobs should be created, otherwise 'false'
UseTranslation	Path to the character translation table.
CharSet	Character set for the connection. Similar to encoding property, but accepts Java names instead of Firebird ones.

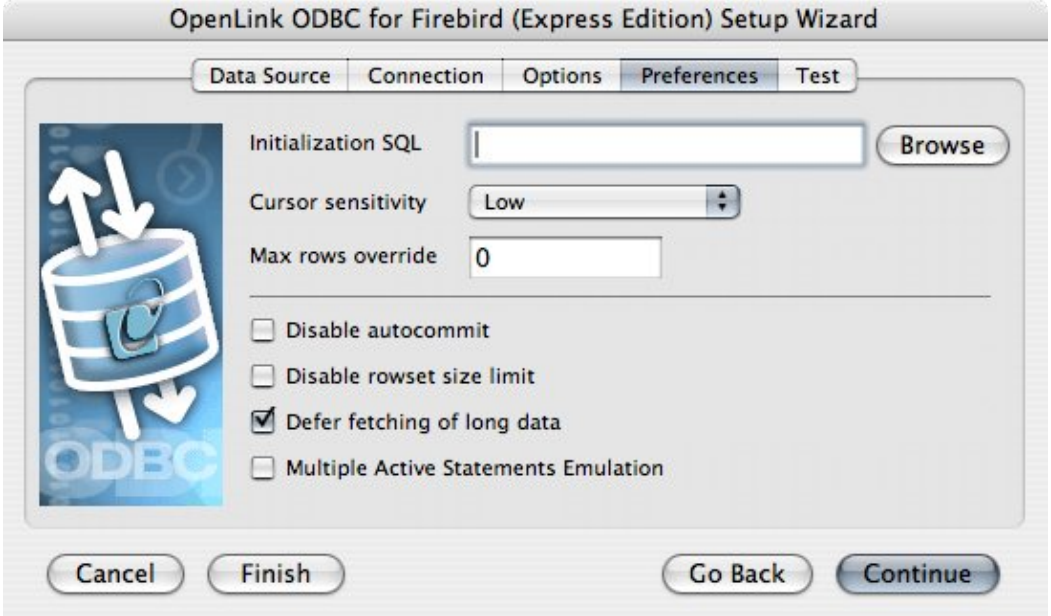
As indiacted above the paramters of the options and preferences tabs are not required for a basic connection:

Figure 4.20. ee-frb-19.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be read-only. Make sure the checkbox is unchecked to request a read/write connection.
- *Drop Catalog from meta-calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL like select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

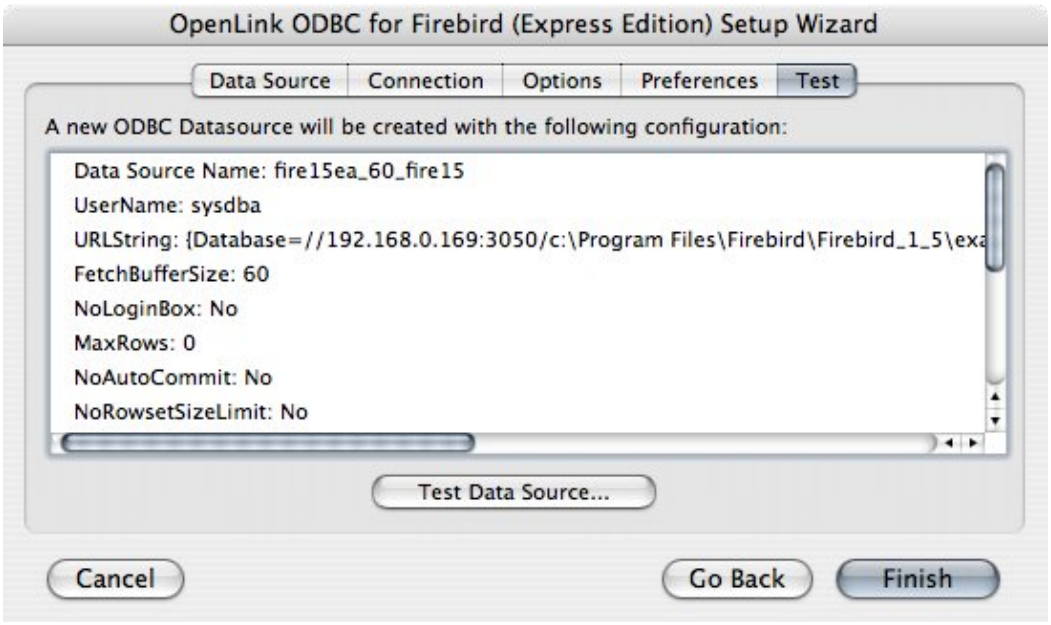
Figure 4.21. ee-frb-20.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

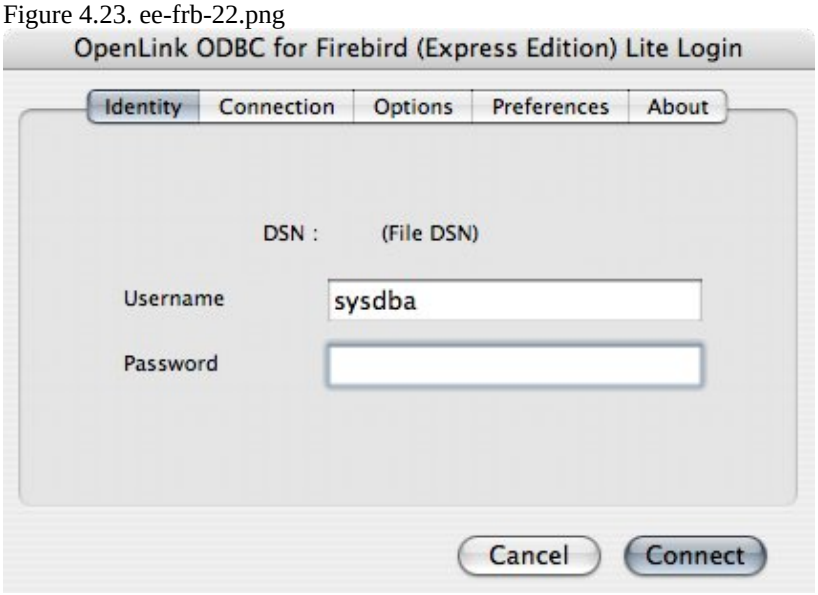
Click on the 'Test Data Source' button to make a connection to the database to verify connectivity:

Figure 4.22. ee-frb-21.png



Enter a vaild username and pasword for the database:

Figure 4.23. ee-frb-22.png



A successful connection to the database has been made:

Figure 4.24. ee-frb-23.png

5.2 OpenLink ODBC Driver for Firebird (Express Edition) for Windows

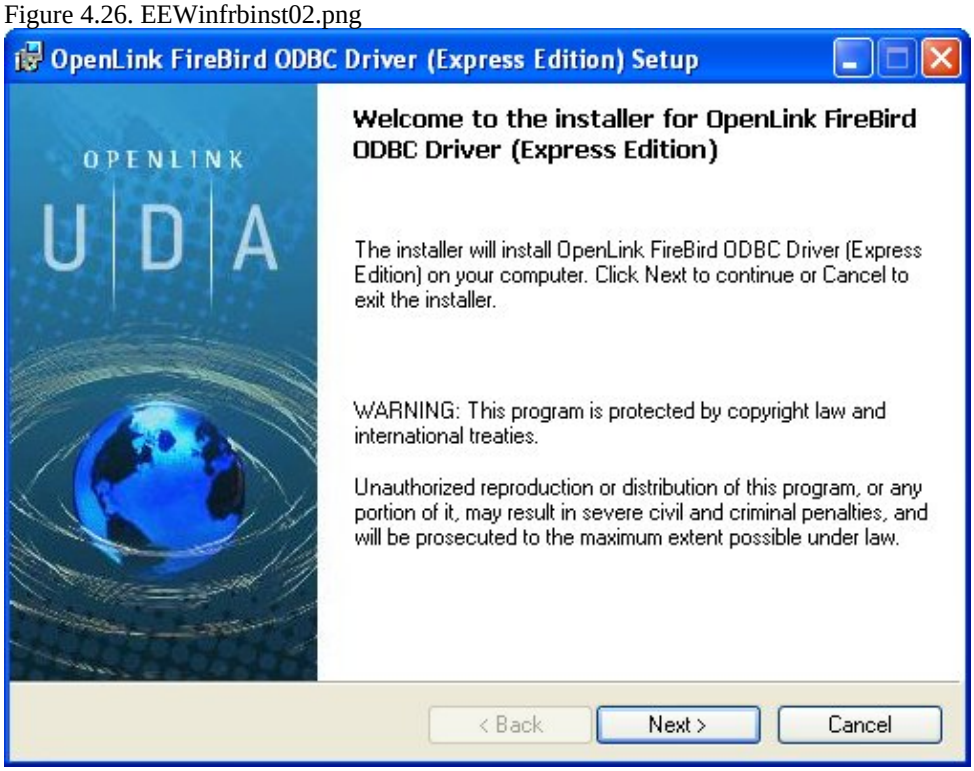
5.2.1 Installation

The OpenLink ODBCDriver for Firebird (Express Edition) is a distributed as a Windows MSI installer. Simply double click on the installer 'ntl6efrb.msi' to commence the installation:

Figure 4.25. EEWinfrbinst01.png

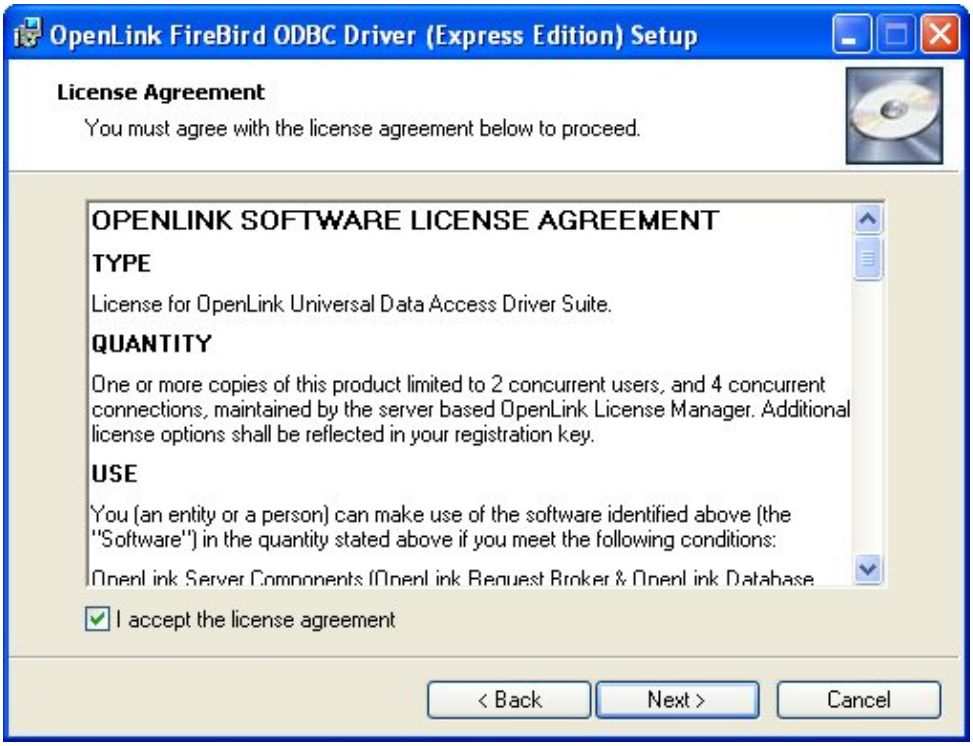
Installer Welcome Dialog for the OpenLink ODBCDriver for Firebird (Express Edition):

Figure 4.26. EEWinfrbinst02.png



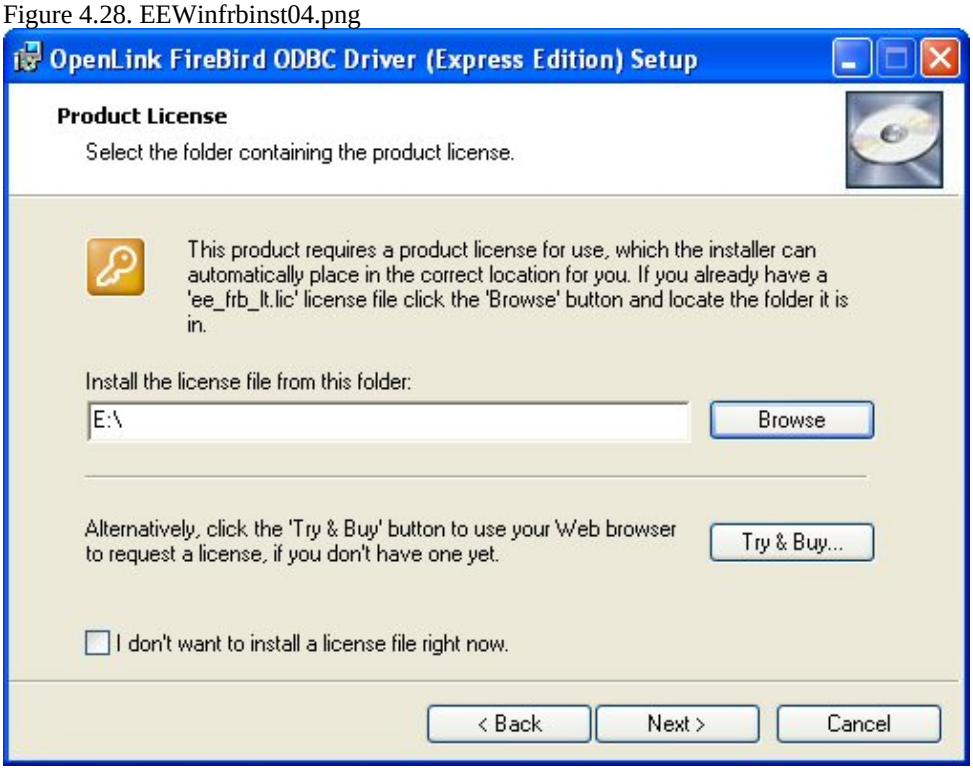
Please read the software license agreement and accept before continuing your installation:

Figure 4.27. EEWinfrbinst03.png



Before installation you will be prompted for a license file. If a license file already exists on the machine then select the 'use existing file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

Figure 4.28. EEWinfrbinst04.png

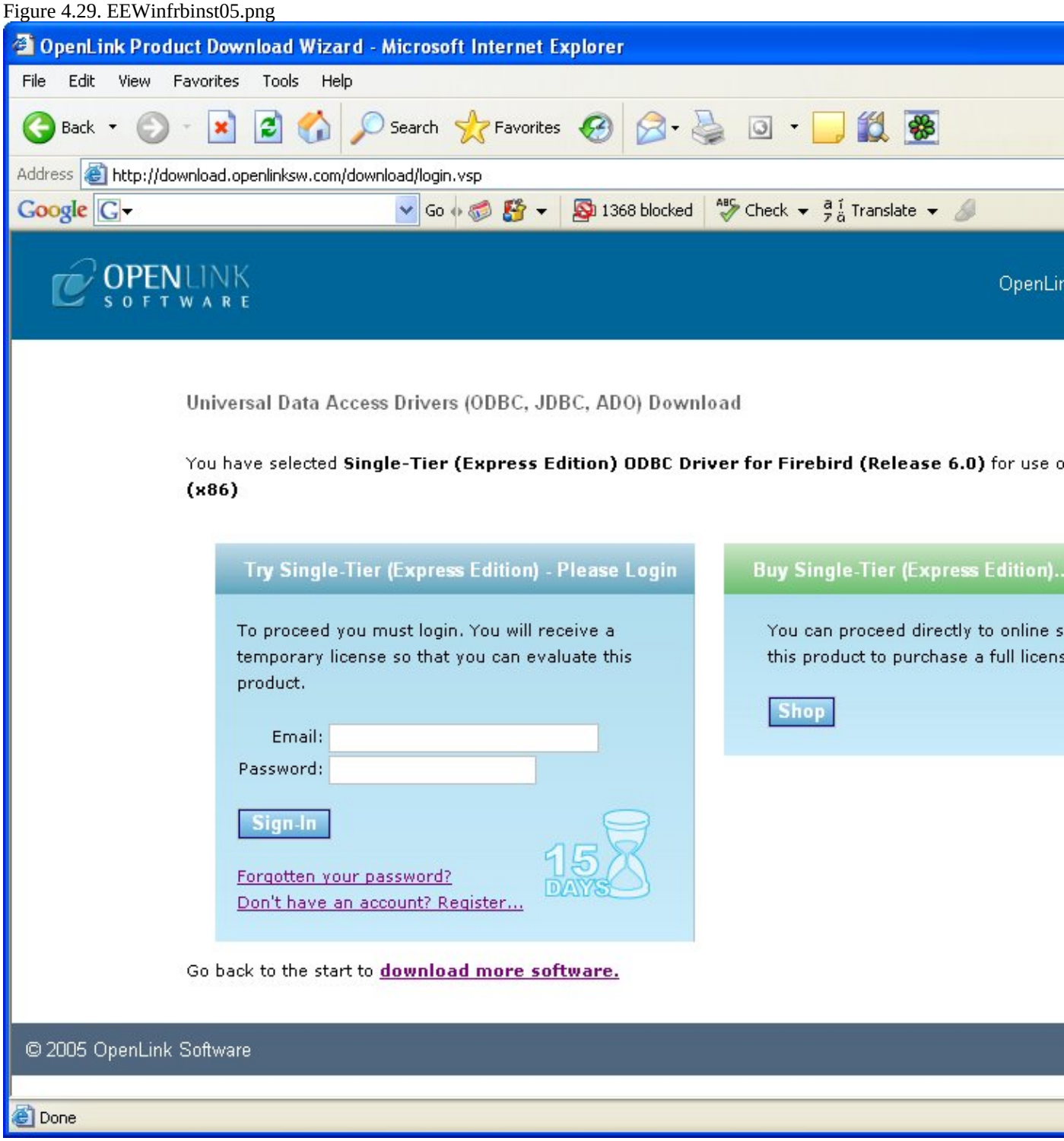


To obtain the trial license you must be a registered user on the OpenLinkWeb site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLinkData Space (ODS) where all

trial and full license files will be stored in the Briefcase for download at a later date.

Figure 4.29. EEWinfrbinst05.png

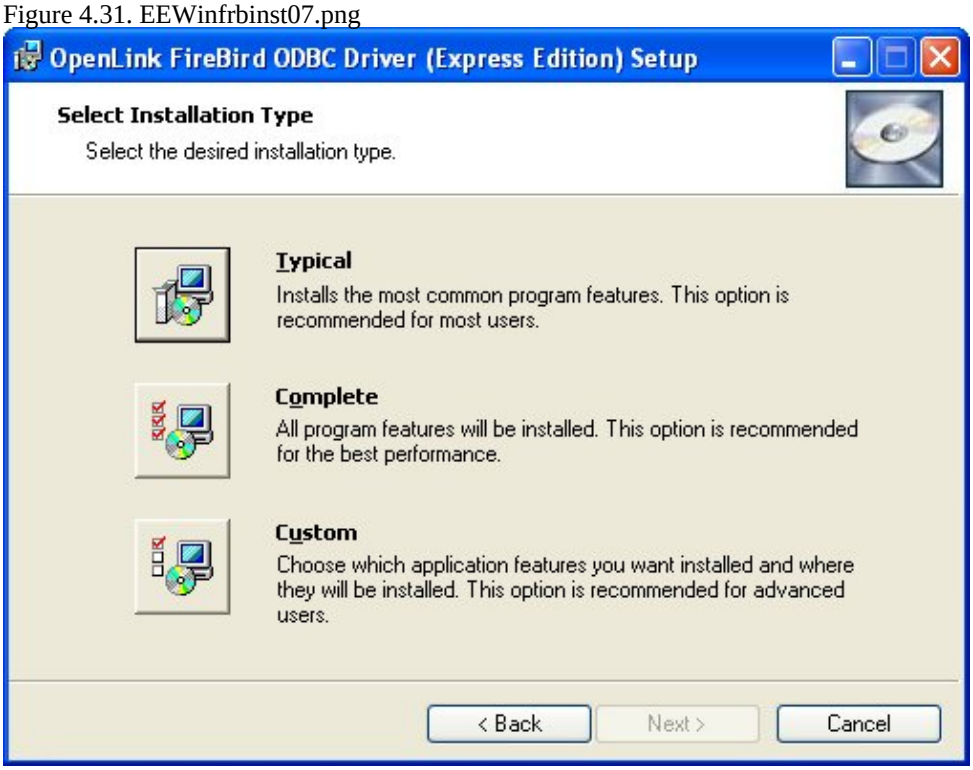


Select the license file to be used for the installation:

Figure 4.30. EEWinfrbinst06.png

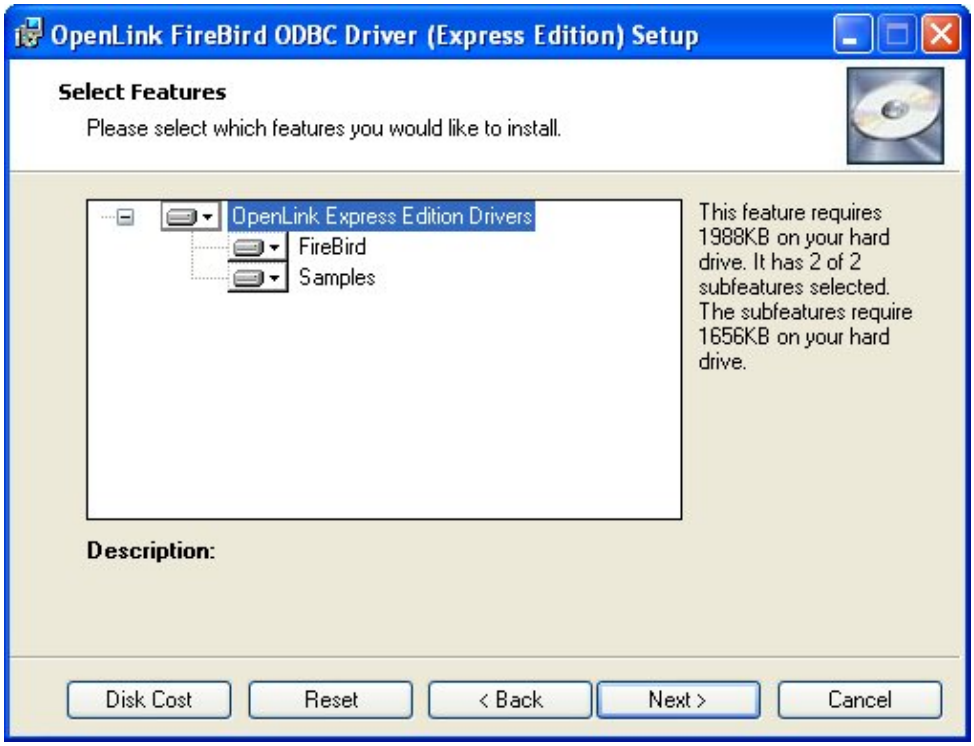
Choose to perform a custom, typical or complete installation of the driver:

Figure 4.31. EEWinfrbinst07.png



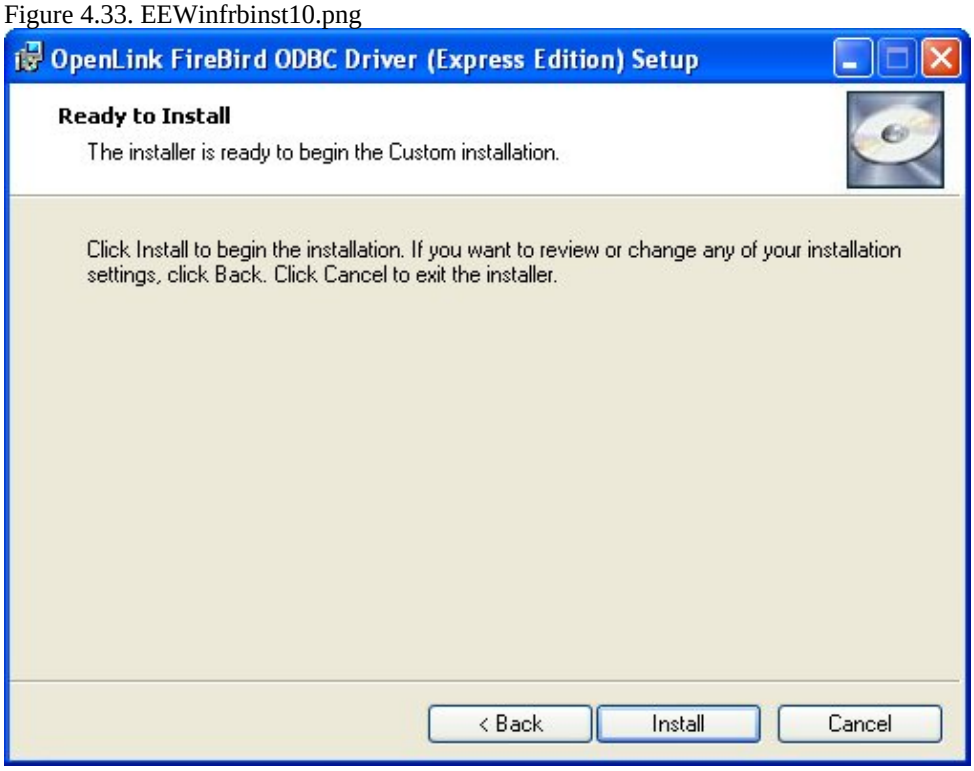
Select the features to be installed:

Figure 4.32. EEWinfrbinst09.png



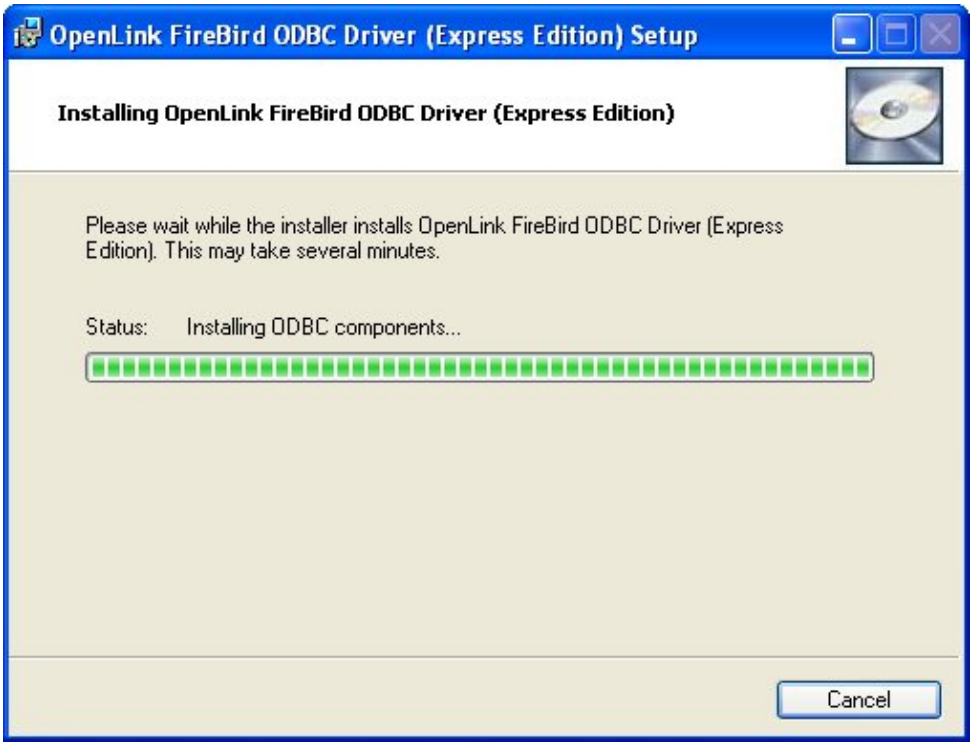
Click the install button to begin the installation of components:

Figure 4.33. EEWinfrbinst10.png



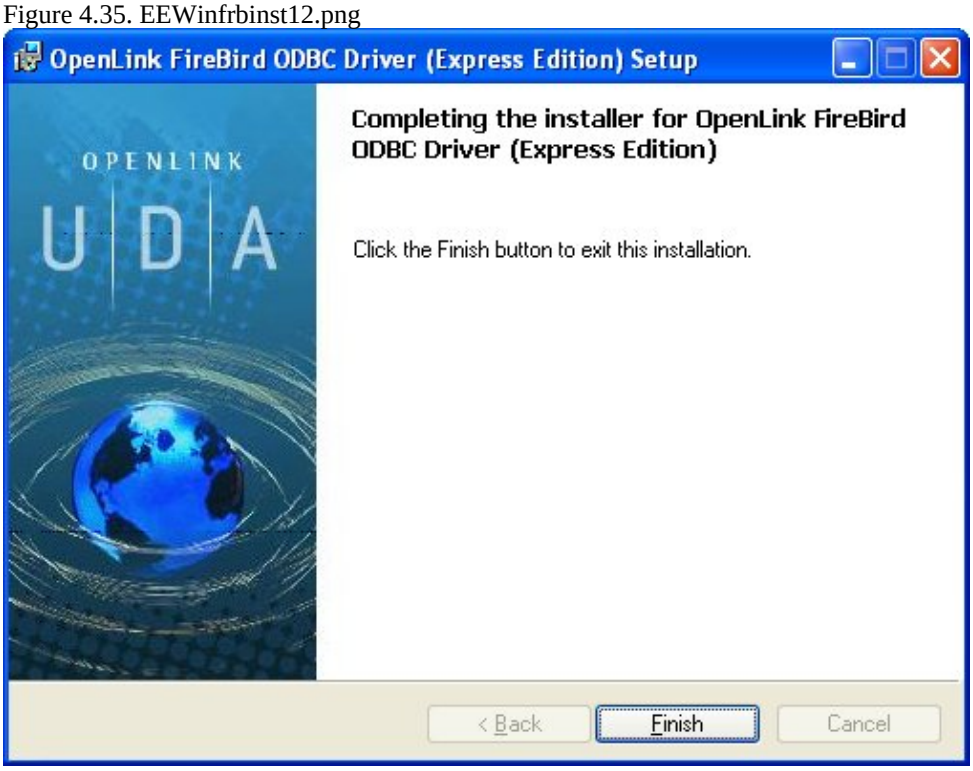
Installation in progress:

Figure 4.34. EEWinfrbinst11.png



The Software installation is complete and ready for use:

Figure 4.35. EEWinfrbinst12.png



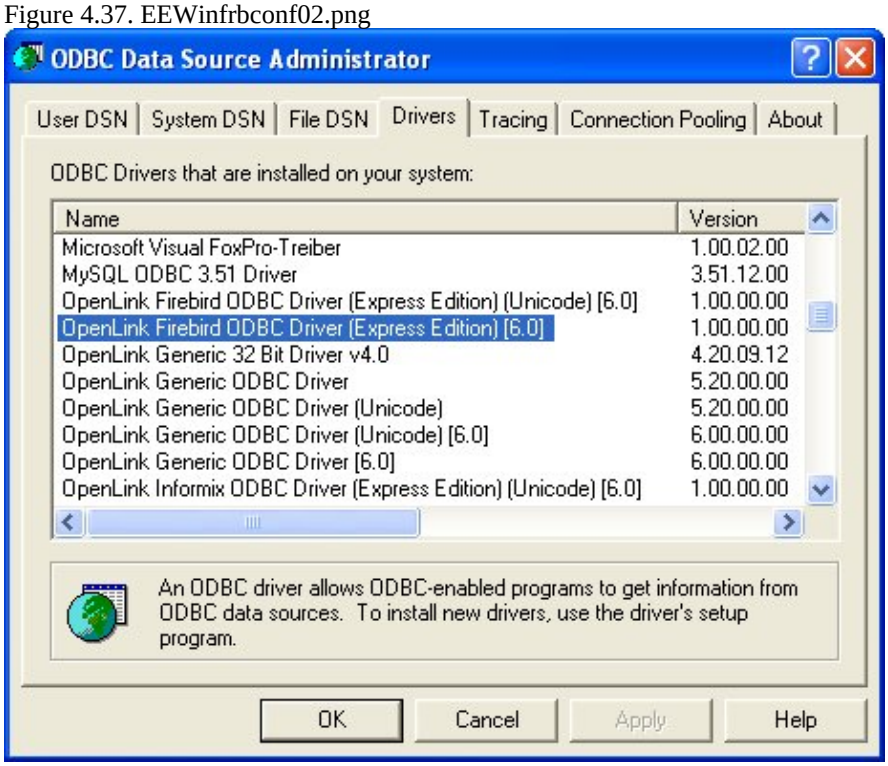
5.2.2 Configuration

To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 4.36. EEWinfrbconf01.png

Click on the drivers Tab to confirm the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] has been successfully installed

Figure 4.37. EEWinfrbconf02.png

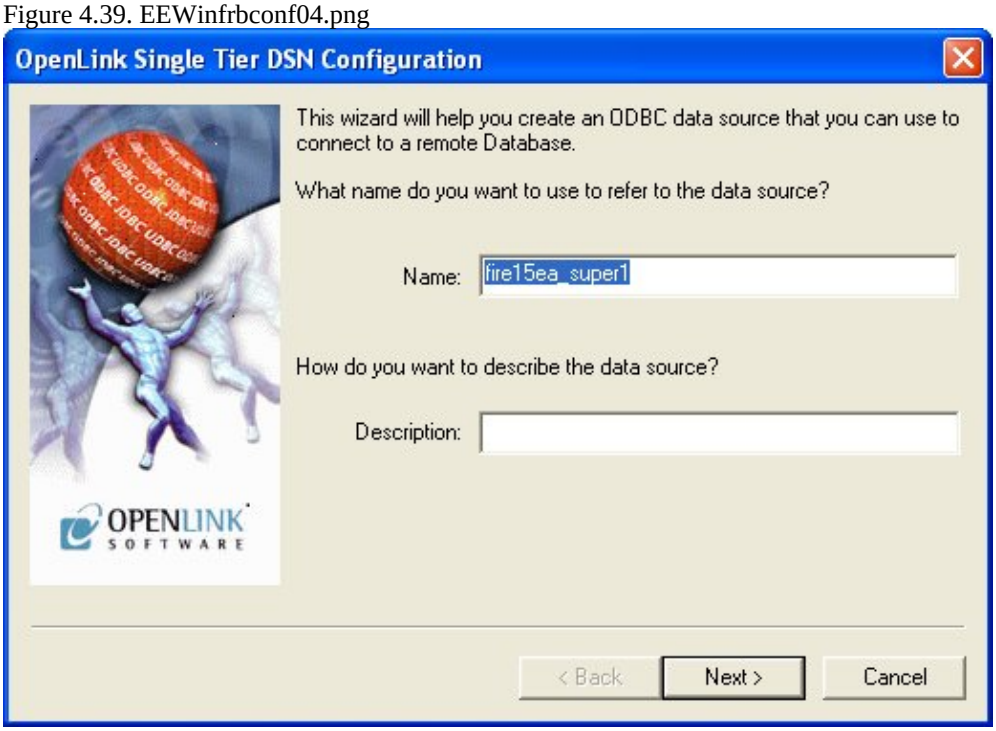


From either the User or System DSN tabs click on the Add button and select the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] from the list presented to create an ODBCDSN :

Figure 4.38. EEWinfrbconf03.png

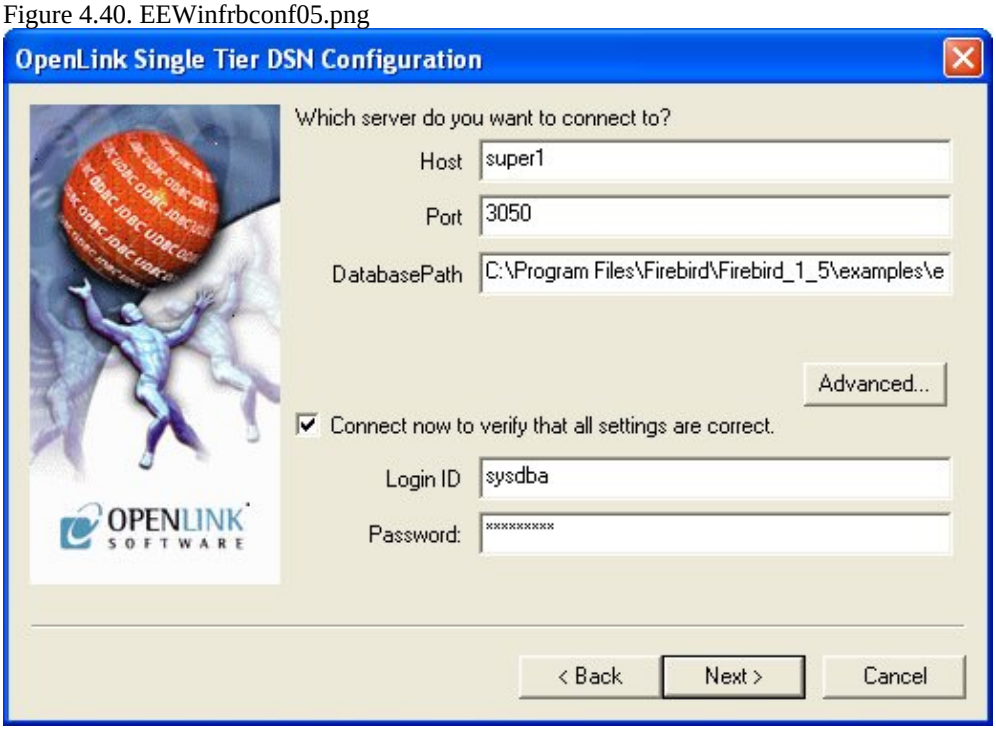
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 4.39. EEWinfrbconf04.png



The Connection Tab request the minimum parameters required to make a connection to the target database:

Figure 4.40. EEWinfrbconf05.png



- *Host* : This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port that Firebird is listening on
- *DatabasePath* : This is the path and filename of the database file (.fdb) you want to connect to

- *Login ID* : This is a valid user on for the Firebird Database
- *Password* : Enter valid password and click next to verify that all settings are correct or uncheck check box to delay this to a later stage.

The advanced button displays additional optional parameters that can be configured:

Figure 4.41. EEWinfrbconf06.png

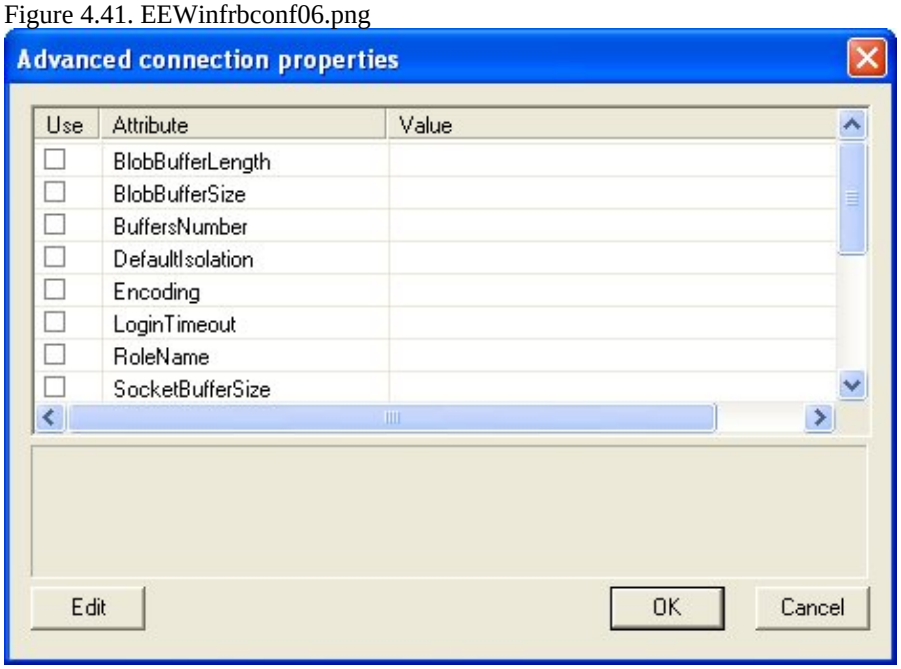
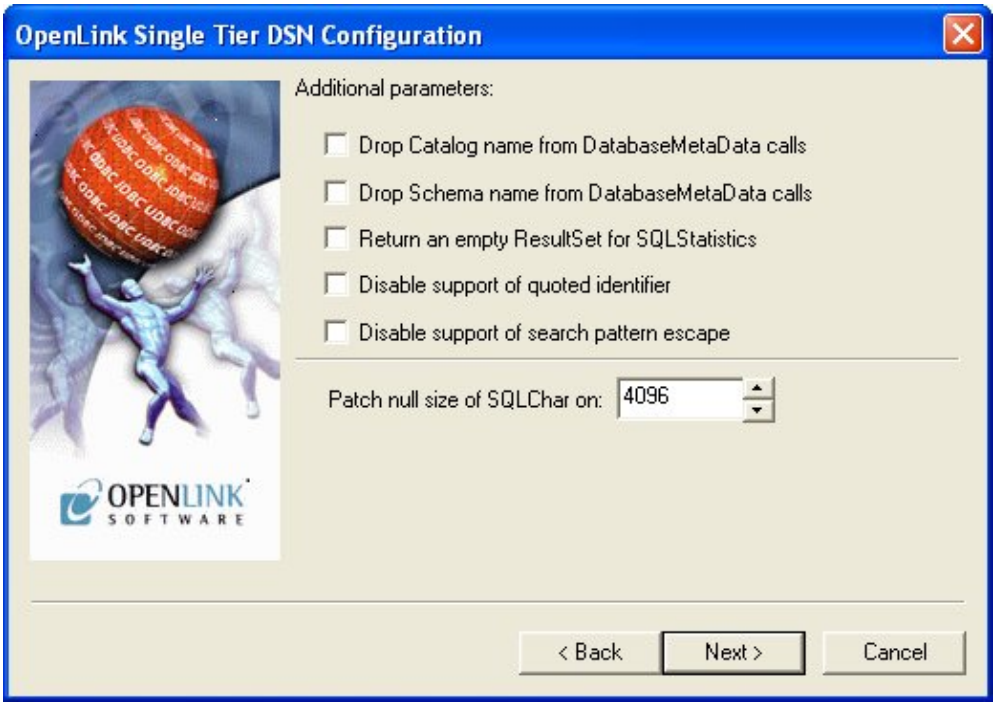


Table 4.2.

BlobBufferLength	Set BLOB buffer length. This value influences the performance when working with BLOB fields.
BlobBufferSize	Size of the BLOB buffer in bytes.
BuffersNumber	Number of cache buffers that should be allocated for this connection, should be specified for ClassicServer instances, SuperServer has a server-wide configuration parameter.
DefaultIsolation	Set the default transaction isolation level as string. Following strings are allowed: 'TRANSACTION_READ_COMMITTED', 'TRANSACTION_REPEATABLE_READ', 'TRANSACTION_SERIALIZABLE'
Encoding	Set encoding for connections produced by this data source.
LoginTimeout	Set login timeout for this datasource in seconds.
RoleName	SQL role to use.
SocketBufferSize	Socket buffer size in bytes.
SqlDialect	SQL dialect of the client.
TimestampUsesLocalTimezone	'true' if the JayBird 1.0 handling of the calendar in corresponding setters. This is also compatible with MySQL calendar treatment.
UseStandardUdf	'true' if driver should assume that standard UDF are installed.
UseStreamBlobs	'true' if stream blobs should be created, otherwise 'false'
UseTranslation	Path to the character translation table.
CharSet	Character set for the connection. Similar to encoding property, but accepts Java names instead of Firebird ones.

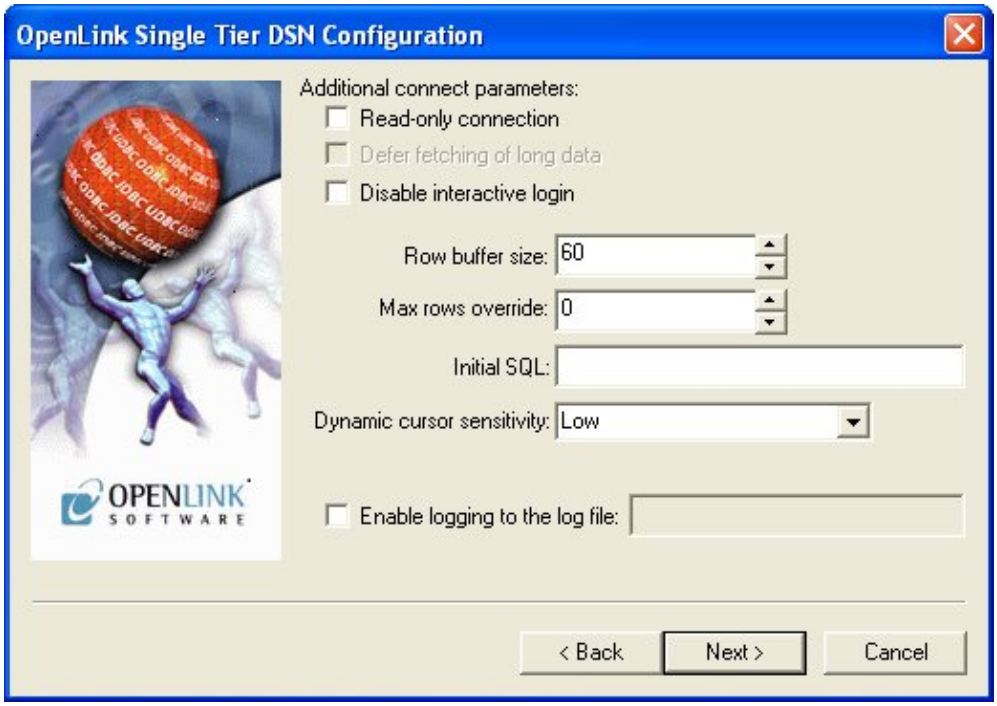
As indicated above the paramters of the options and preferences tabs are not required for a basic connection.

Figure 4.42. EEWinfrbconf07.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL like select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

Figure 4.43. EEWinfrbconf08.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.

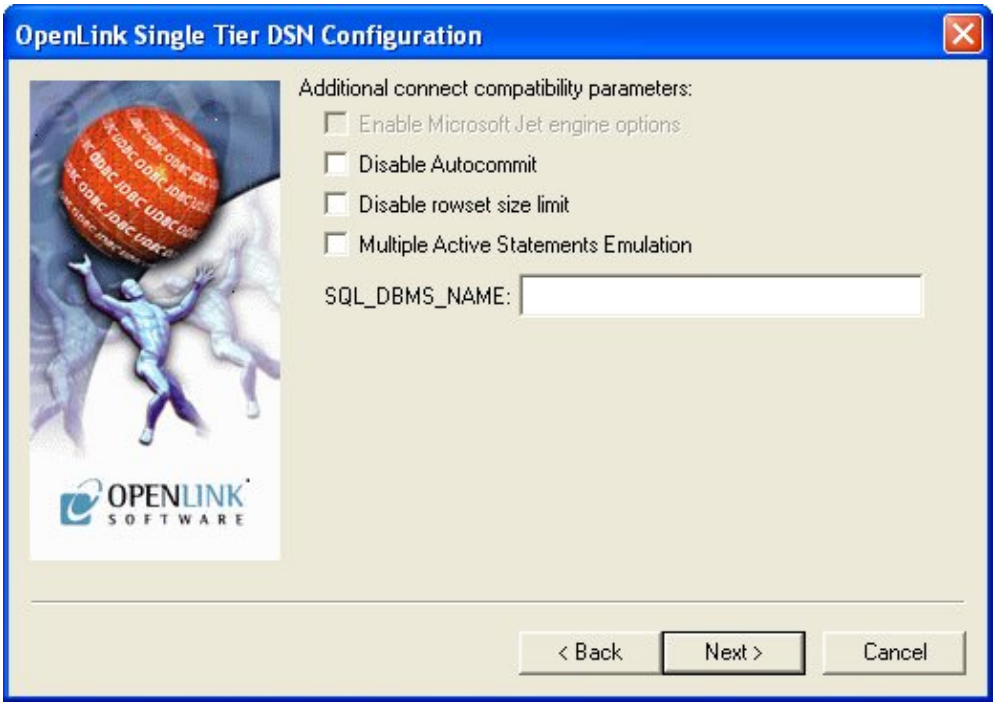
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.

- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.

- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.

- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

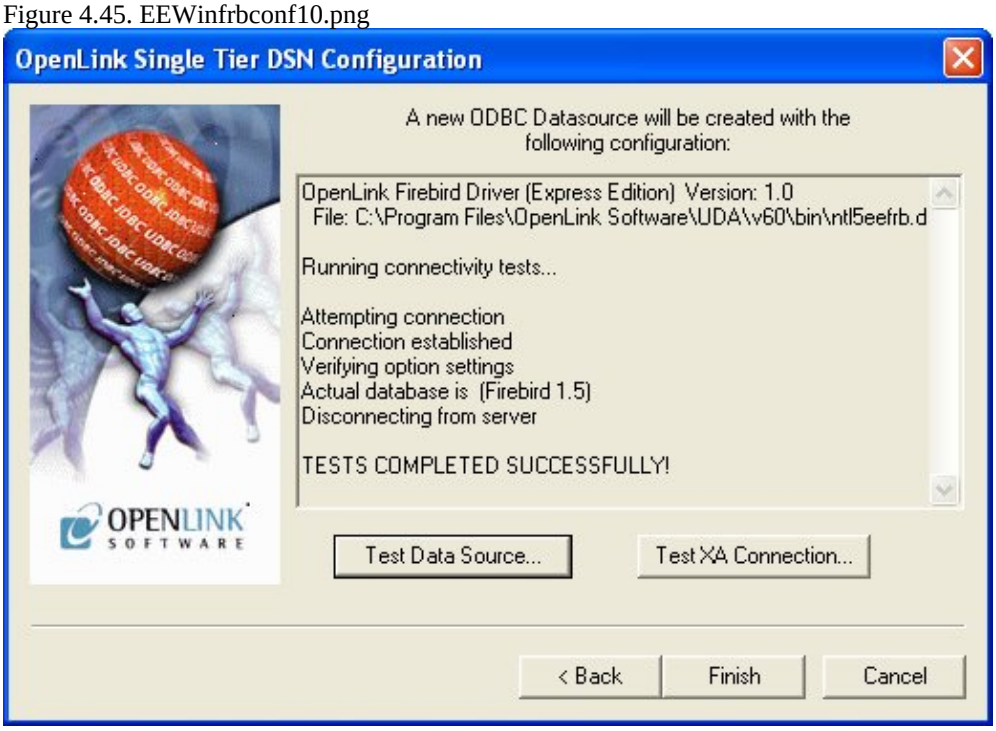
Figure 4.44. EEWinfrbconf09.png



- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

Click on the *Test Data Source*button to verify successful connection can be made to the database.

Figure 4.45. EEWinfrbconf10.png



6 Chapter 5. OpenLink ODBC Driver for Informix (Express Edition)

Table of Contents

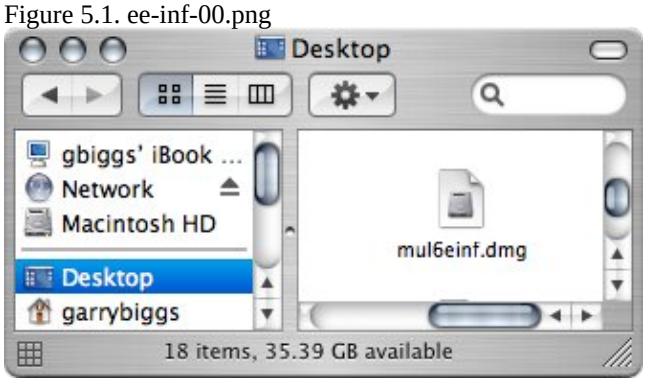
- OpenLink ODBC Driver for Informix (Express Edition) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for Informix (Express Edition) for Windows
  - Installation
  - Configuration

6.1 OpenLink ODBC Driver for Informix (Express Edition) for Mac OS X

6.1.1 Installation Guide

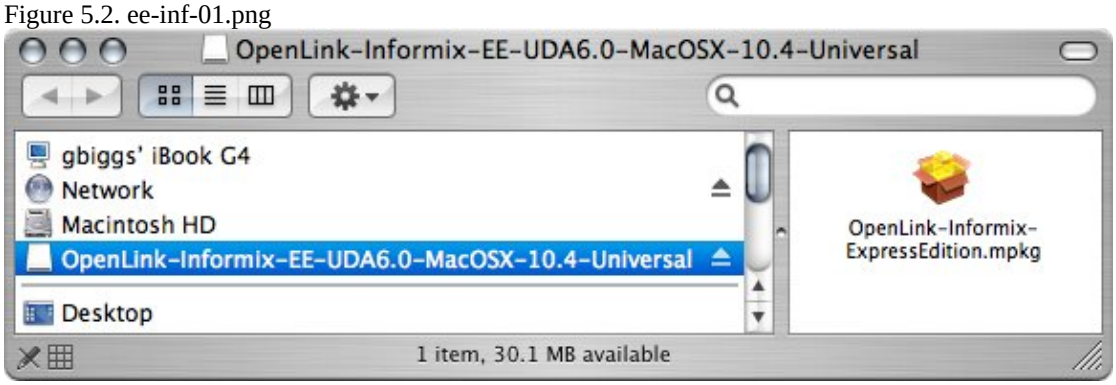
The OpenLink ODBC Driver for Informix (Express Edition) is distributed as a Disk image (DMG) file. Simply double click on the disk image 'mul6efrb.dmg' to extract the installer mpkg file:

Figure 5.1. ee-inf-00.png



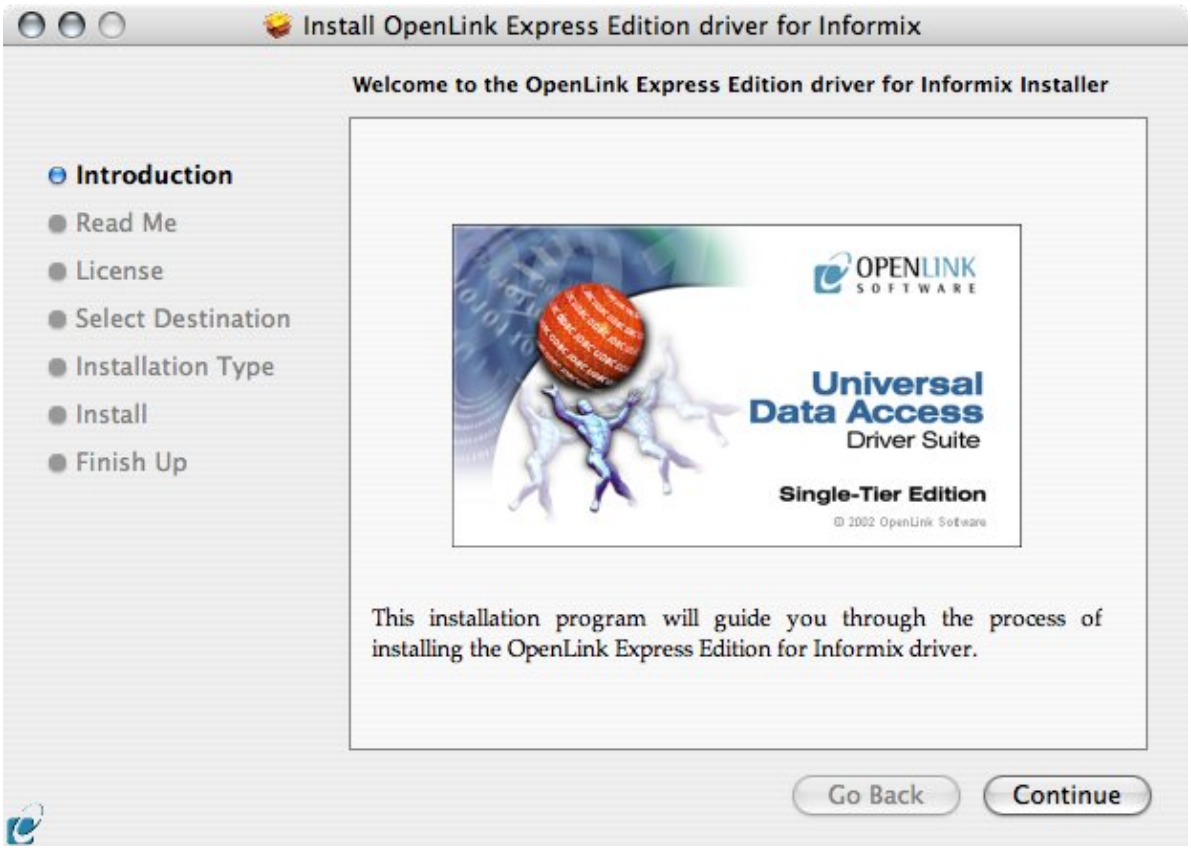
Double-click on the mpkg file to run the installer and following the on screen instriuction as indicated below to complete the installation:

Figure 5.2. ee-inf-01.png



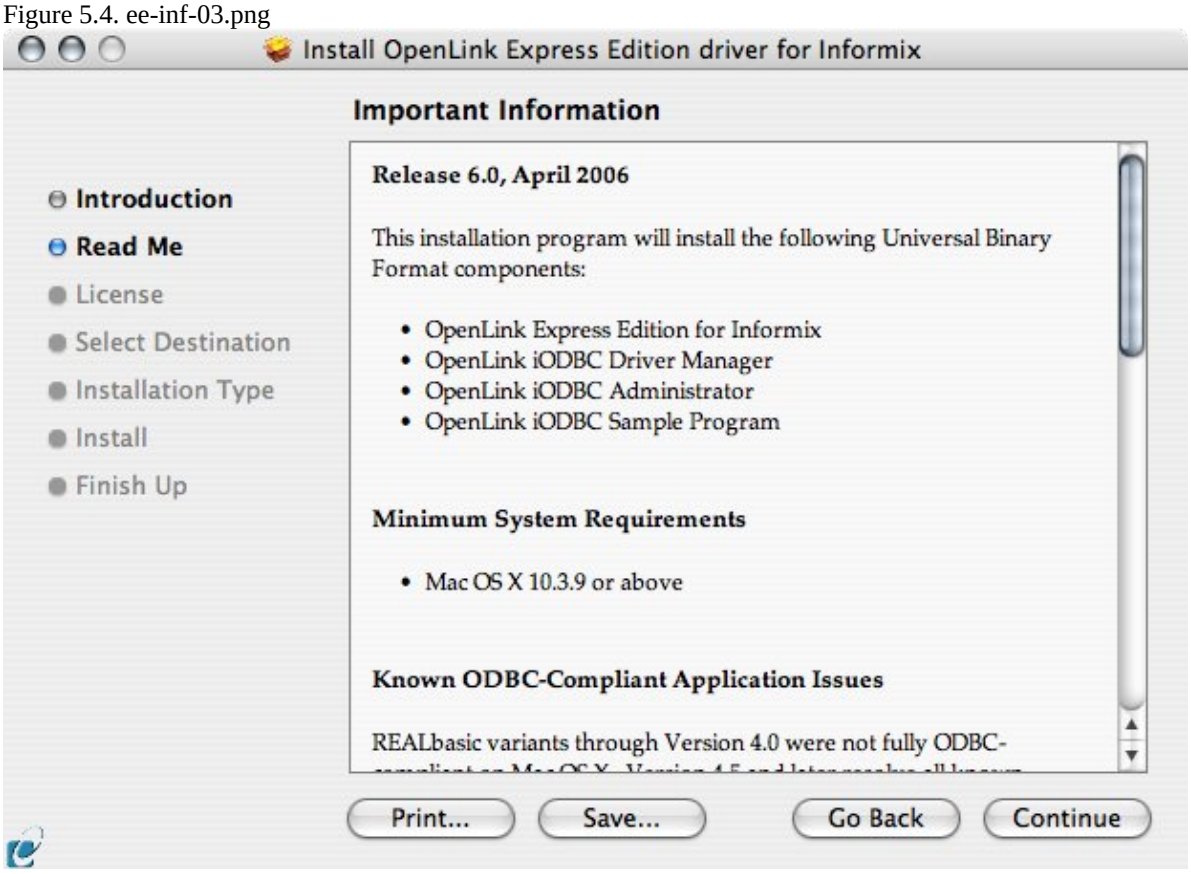
Installer Welcome Dialog for the OpenLink ODBC Driver for Informix (Express Edition):

Figure 5.3. ee-inf-02.png



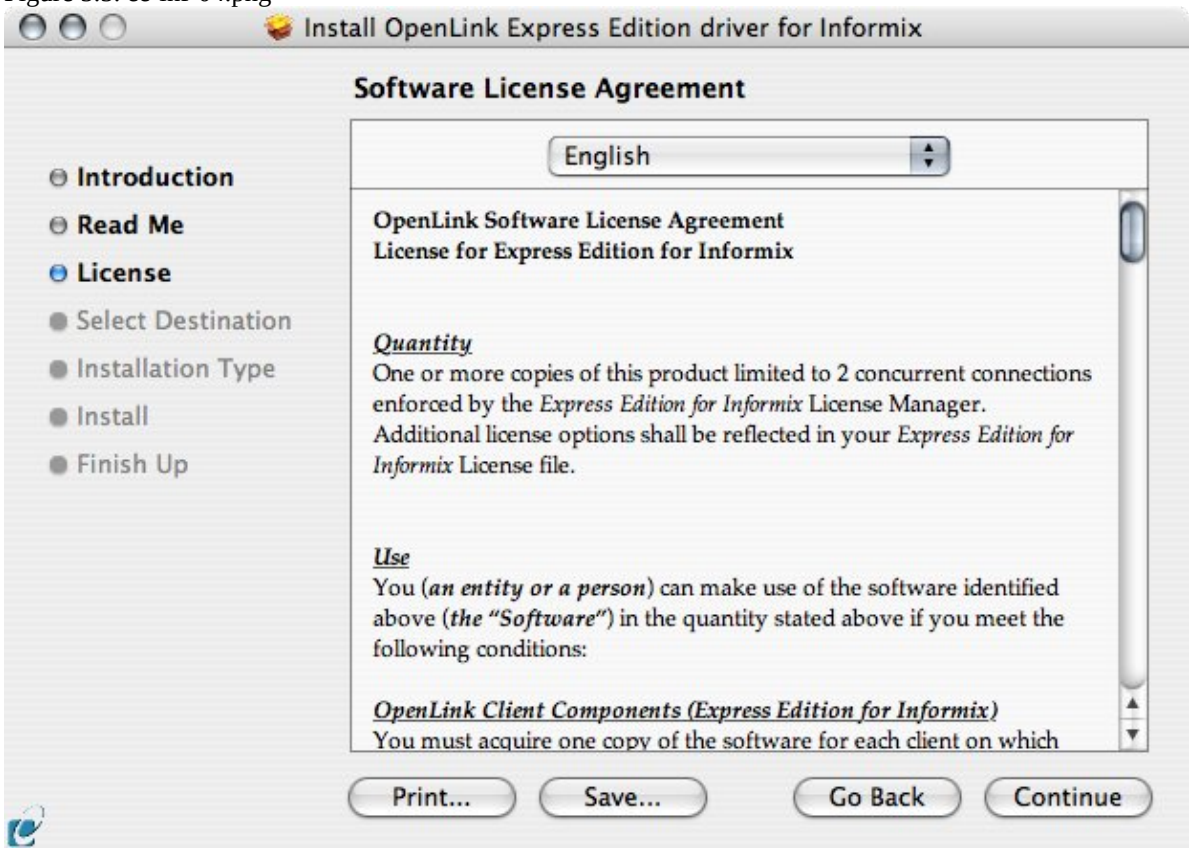
Please review the readme file for installation requirements and known issues:

Figure 5.4. ee-inf-03.png



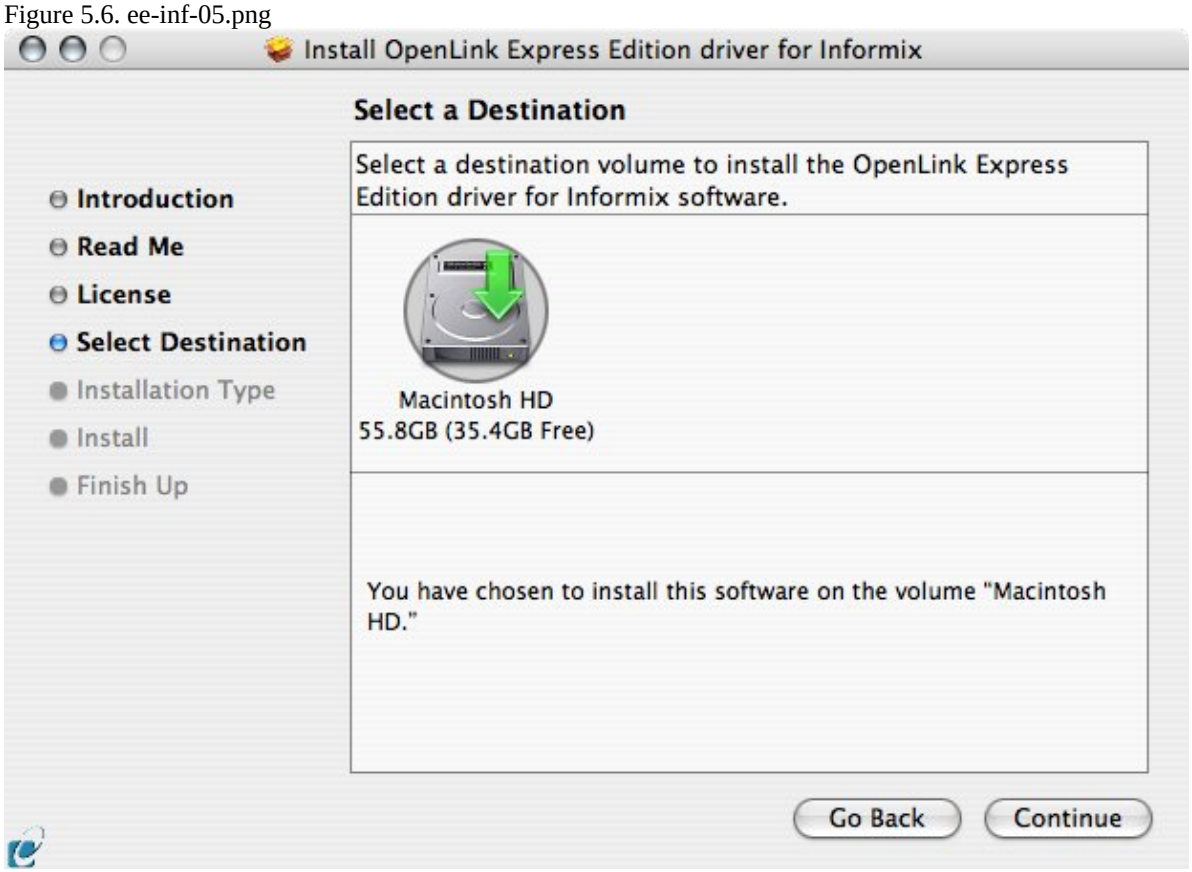
Please read the software license agreement before continuing your installation:

Figure 5.5. ee-inf-04.png



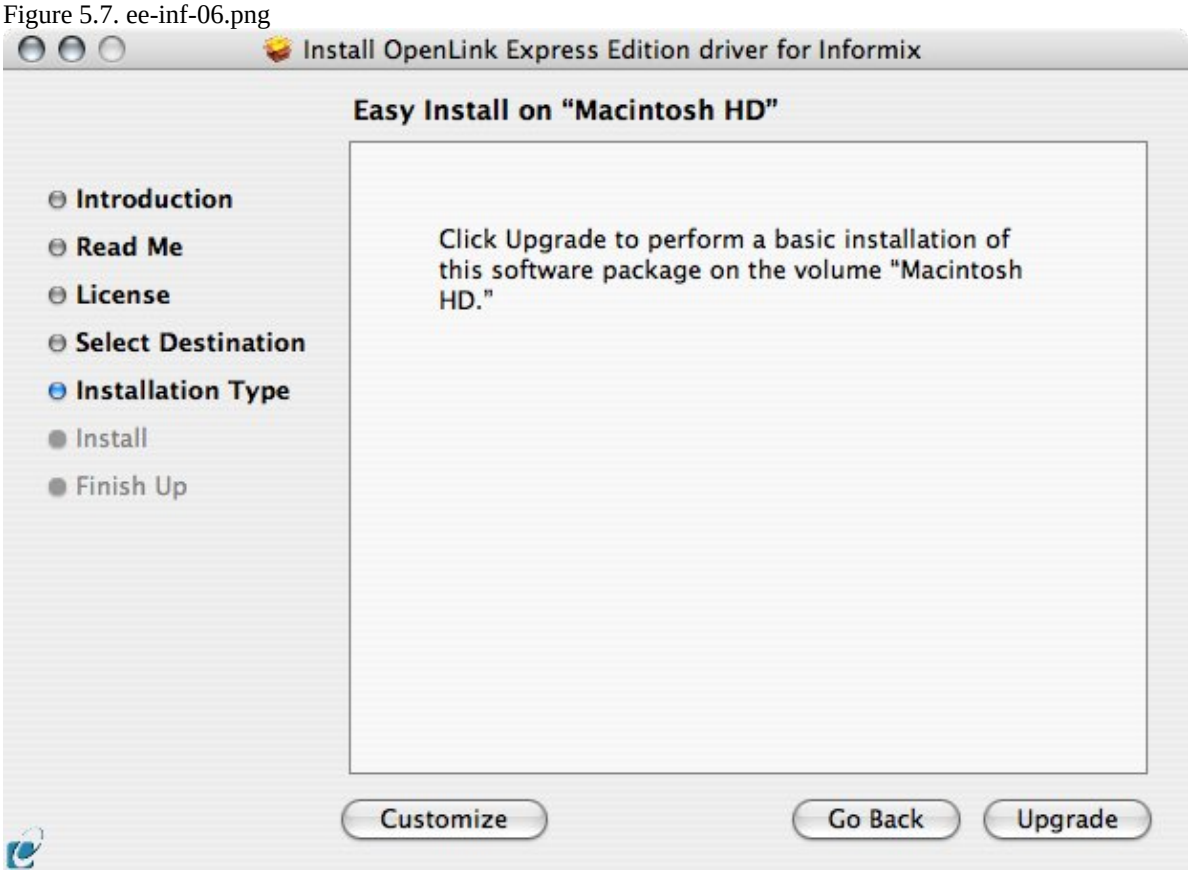
Select destination volume for driver installation:

Figure 5.6. ee-inf-05.png



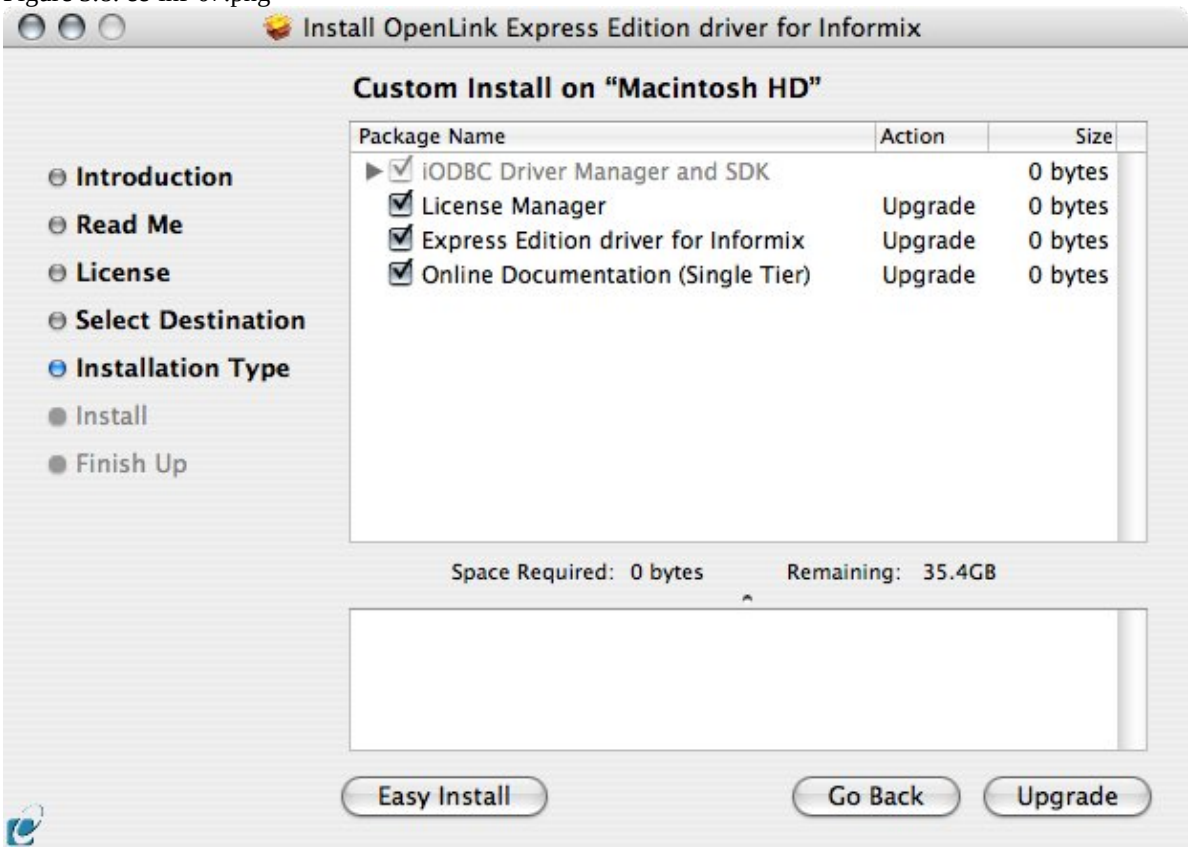
Choose to perform a custome or default installation of the driver:

Figure 5.7. ee-inf-06.png



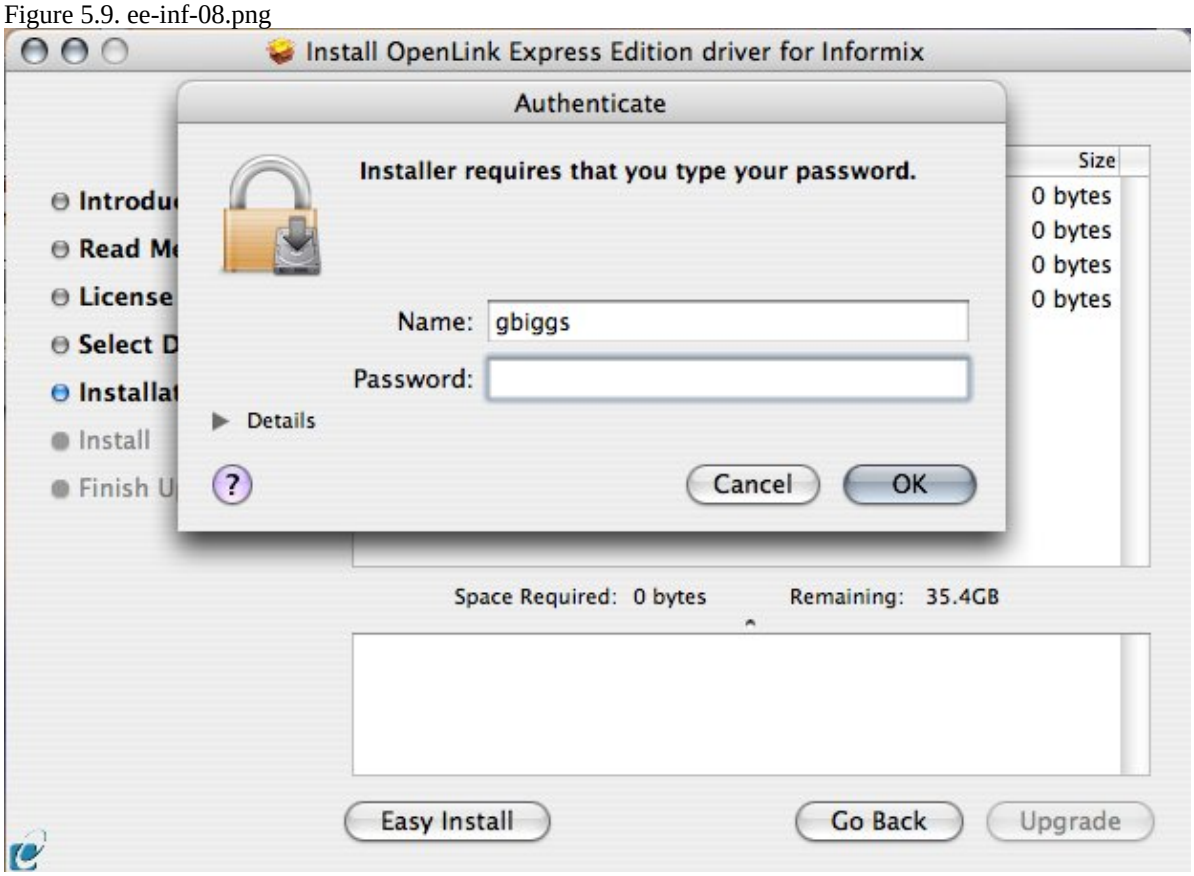
If you chose the custom option select which of the components below are to be installed:

Figure 5.8. ee-inf-07.png



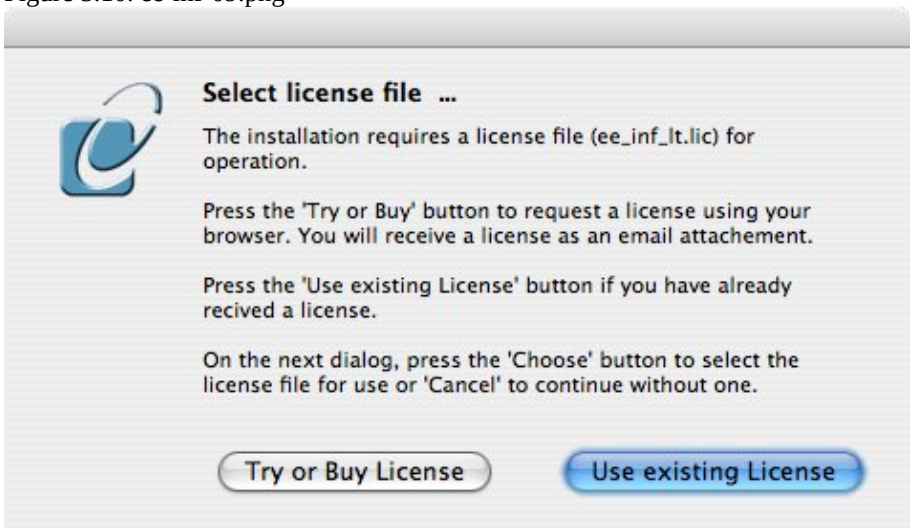
The Software must be installed as a user with Administrative privileges on the machine:

Figure 5.9. ee-inf-08.png



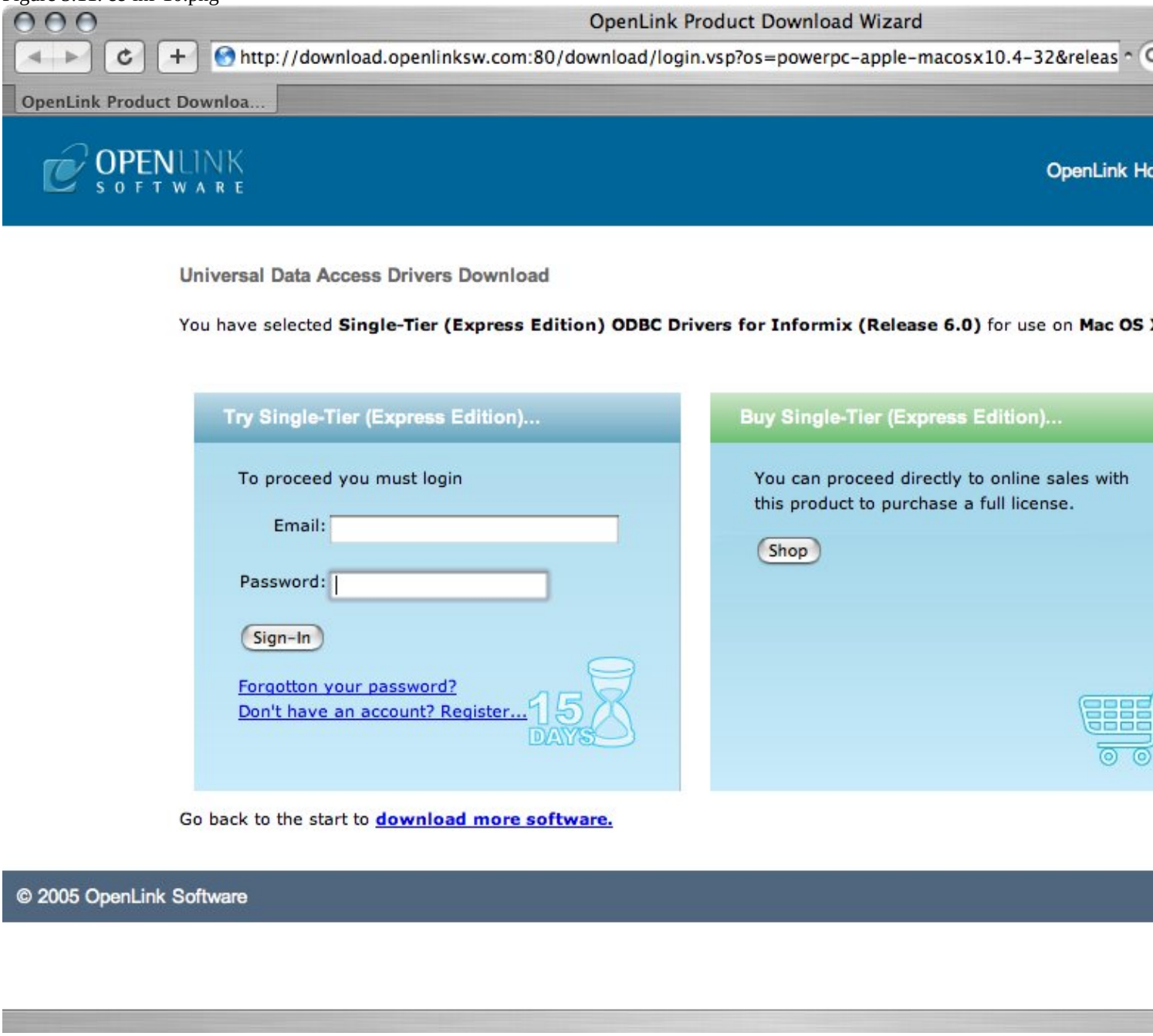
After the driver has been installed you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

Figure 5.10. ee-inf-09.png



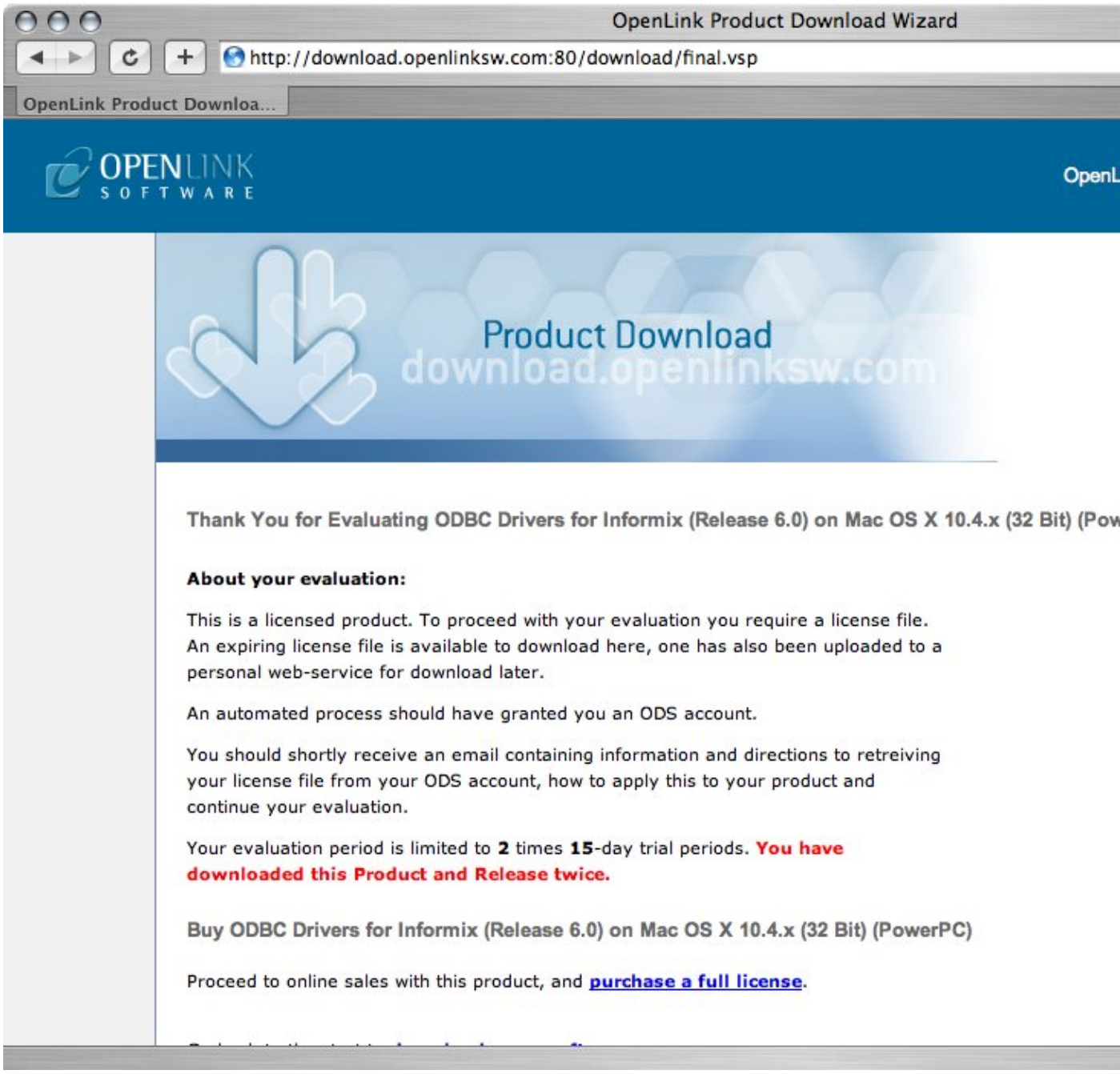
To obtain the trial license you must be a registered user on the OpenLink Web site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Figure 5.11. ee-inf-10.png



Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLink Data Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 5.12. ee-inf-11.png

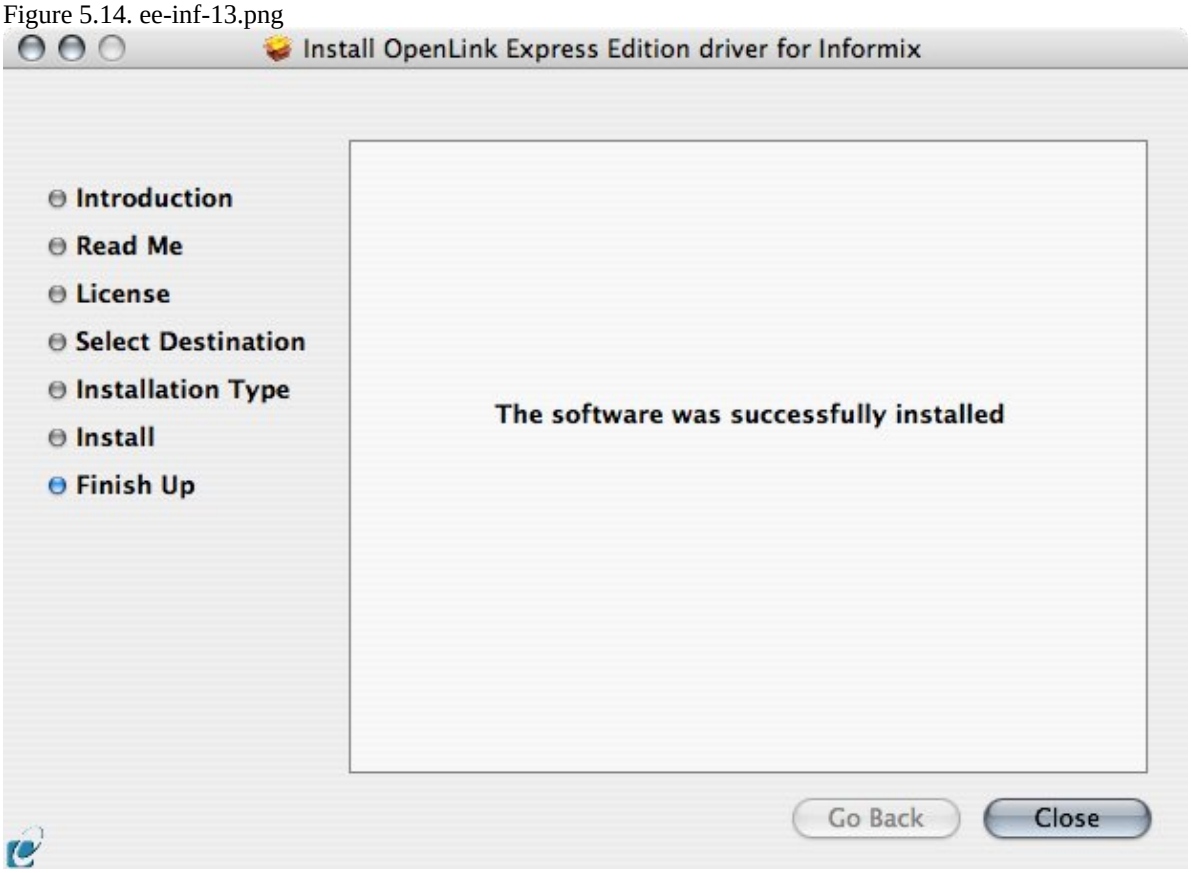


Select the license file to be used for the installation:

Figure 5.13. ee-inf-12.png

Installation is complete:

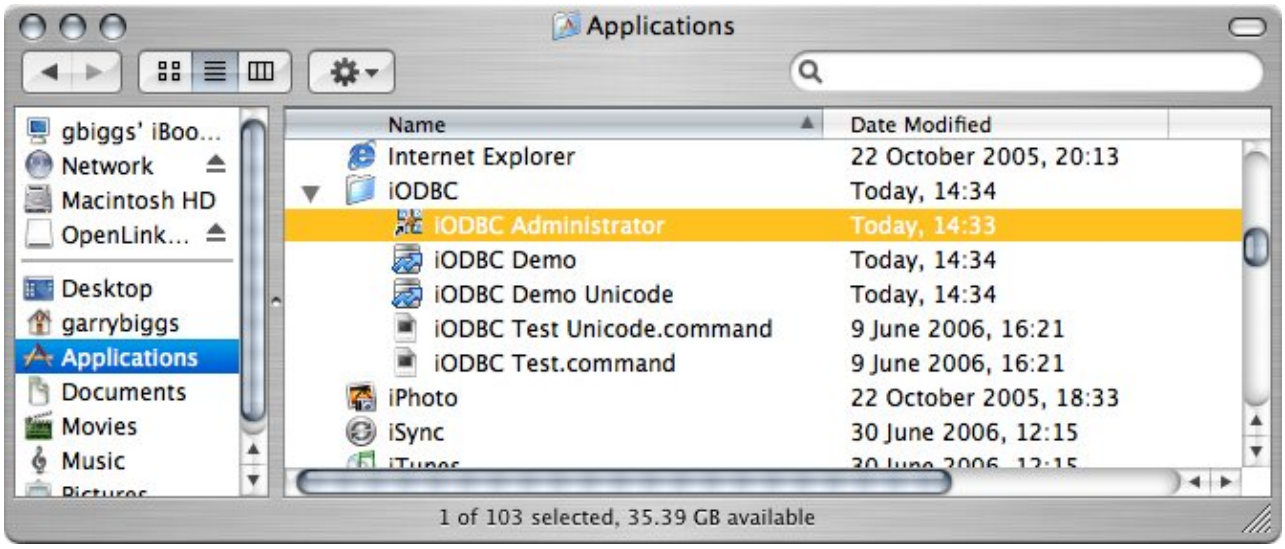
Figure 5.14. ee-inf-13.png



6.1.2 Configuration

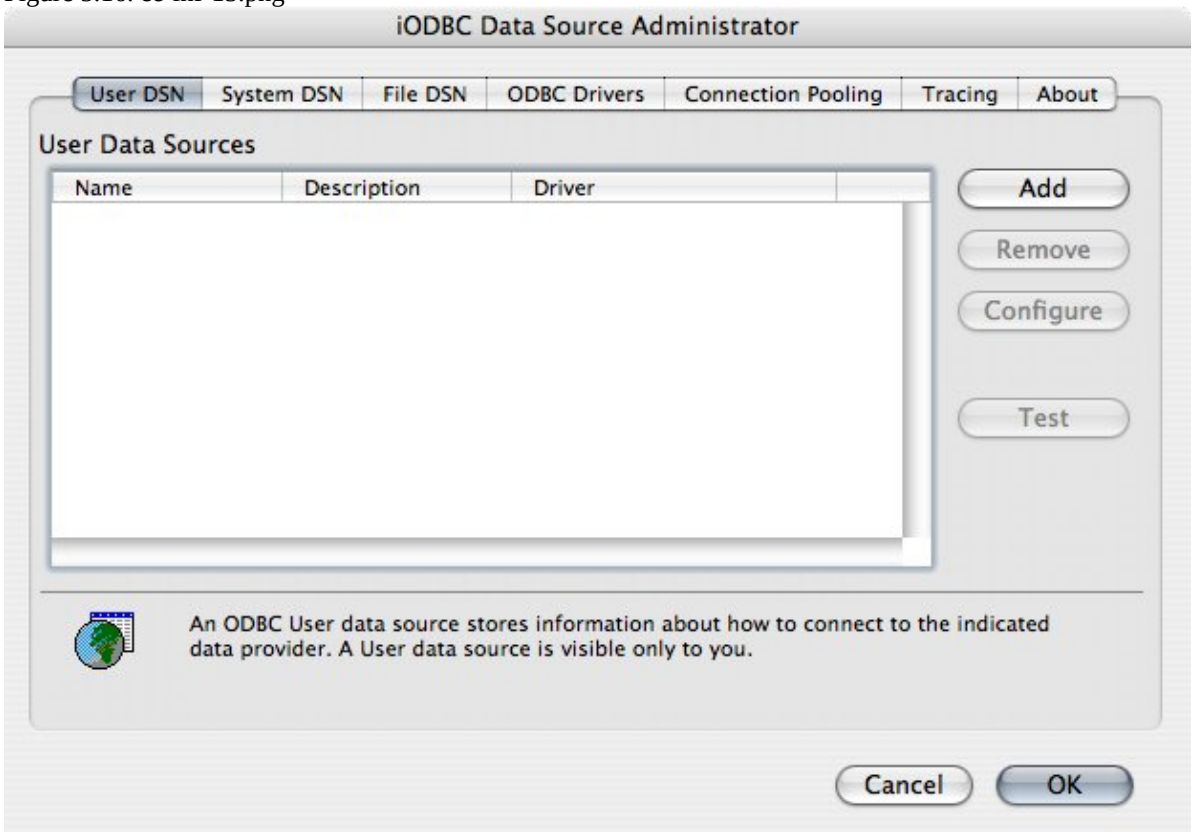
To configure an ODBC DSN, run the OpenLink iODBC Administrator located in the /Applications/iODBC folder:

Figure 5.15. ee-inf-14.png



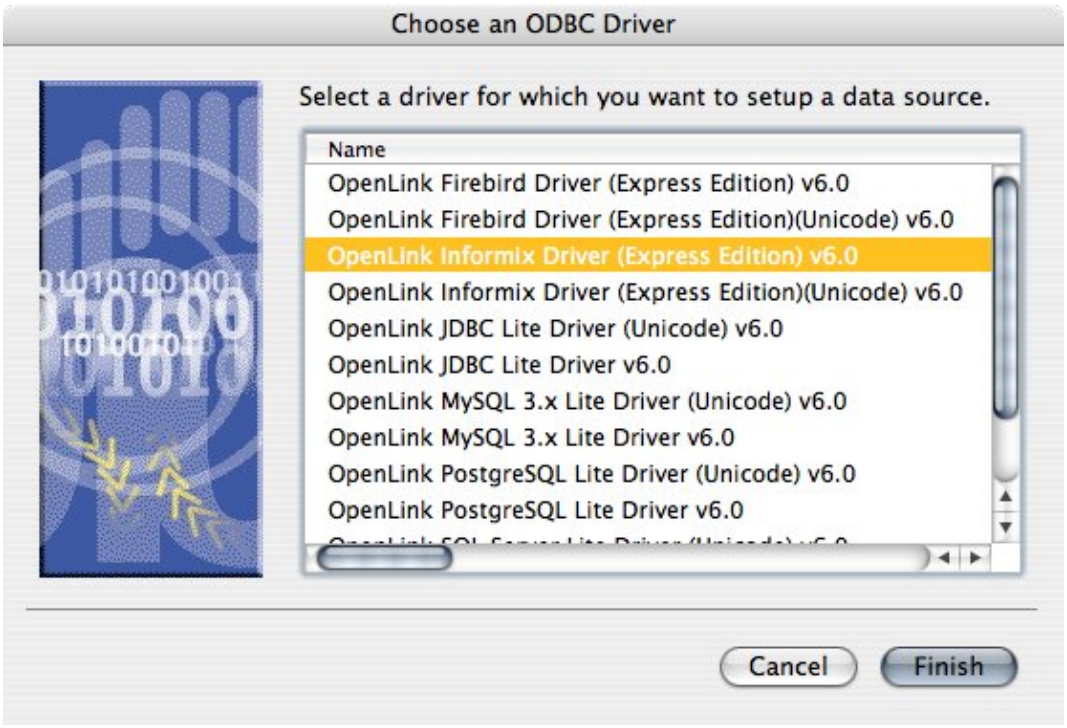
Click on the `add' button to Choose the ODBC Driver the DSN should be created for:

Figure 5.16. ee-inf-15.png



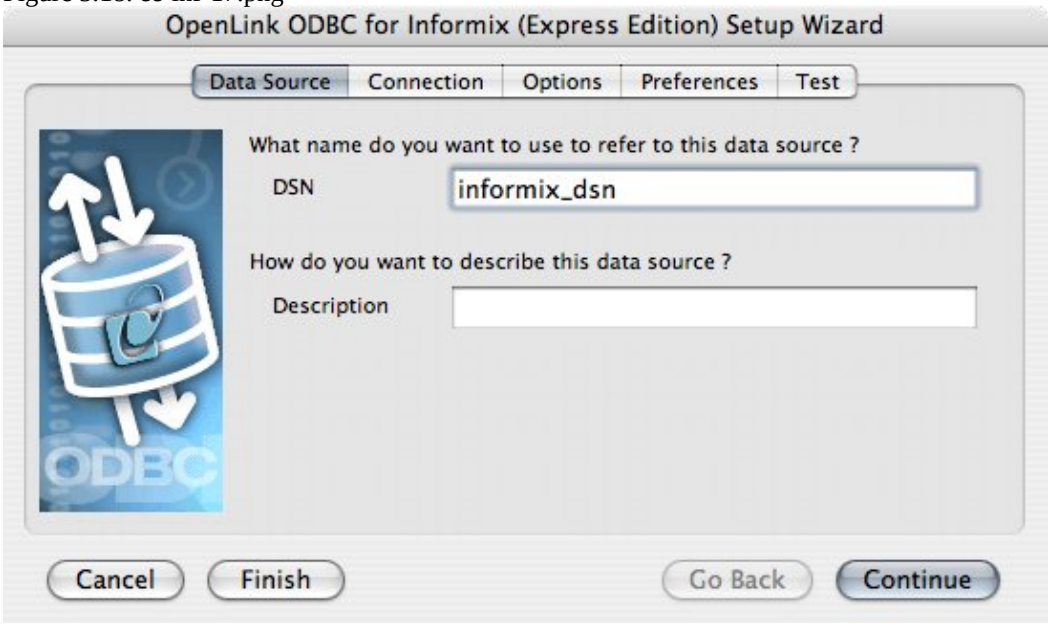
Choose the OpenLink Informix Driver (Express Edition) v6.0 from the list of available drivers:

Figure 5.17. ee-inf-16.png



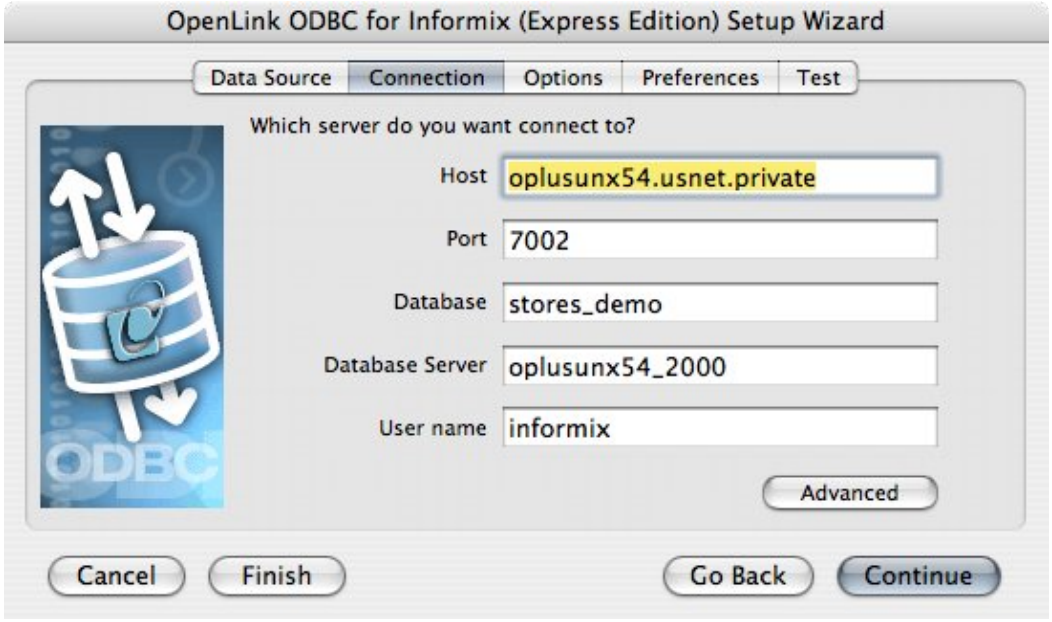
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 5.18. ee-inf-17.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 5.19. ee-inf-18.png



- Host - the hostname of the server on which Informix is running
- Port - the port on which the Informix instance listens
- Database - the name of a valid database
- Database Server - the name of the Informix Server running on a given Host
- Username - the name of a valid Informix user
- Advanced - additional optional configuration parameters:

Table 5.1.

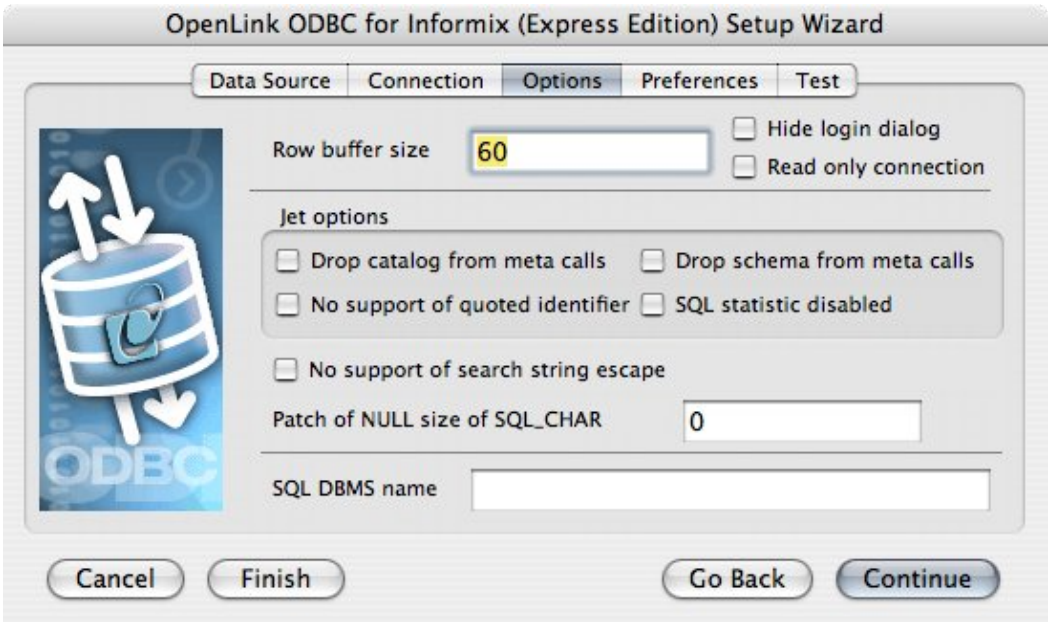
IfxPORTNO_SECONDARY	Specifies the port number of the secondary database server in an HDR pair. The port number is listed in the /etc/services file.
IfxIFXHOST_SECONDARY	Sets the secondary host name or host IP address for HDR connection redirection
IfxINFORMIXSERVER_SECONDARY	Specifies the secondary database server in an HDR pair to which an explicit or implicit connection is made by a client application if the primary database server is unavailable
IfxENABLE_HDRSWITCH	When set to 'true', secondary server properties are used to connect to the secondary server in an HDR pair, if the primary server is unavailable.
IfxJDBCTEMP	Specifies where temporary files for handling smart large objects are created. You must supply an absolute pathname.
IfxSECURITY	Uses 56-bit encryption to send the password to the server. If 'PASSWORD' is specified, the user-provided password is encrypted using 56-bit encryption when it is passed from the client to the database server. There is no default setting. The setting is supported in the 7.31, 8.3 and later, and 9.x and later versions of the Informix database server.
IfxPROXY	Specifies an HTTP proxy server.
IfxSQLH_TYPE	When set to 'FILE', specifies that database information (such as host-name, port-number, user, and password) is specified in an sqlhosts file. When set to 'LDAP', specifies that this information is specified in an LDAP server
IfxSQLH_FILE	Example:http://host-name:port-number/sqlhosts.ius file://D:/local/myown/sqlhosts.ius
IfxLDAP_URL	Example: ldap://host-name:port-number
IfxLDAP_IFXBASE	Example: Informix-base-DN
IfxLDAP_USER	
IfxLDAP_PASSWD	
IfxSQLH_LOC	
IfxFET_BUF_SIZE	Overrides the default setting for the size of the fetch buffer for all data except large objects. The default size is 4096 bytes.

IfxBIG_FET_BUF_SIZE	In IBM Informix Extended Parallel Server, Version 8.4, overrides the default size of the tuple buffer and allows it to be increased up to 2GB.
IfxUSEV5SERVER	When set to 1, specifies that the Java program is connecting to an IBM Informix OnLine 5.x or IBM Informix SE 5.x or IBM Informix SE 7.x database server. This environment variable is mandatory if you are connecting to an IBM Informix OnLine 5.x or IBM Informix SE 5.x or IBM Informix SE 7.x database server.
IfxLOBCACHE	Determines the buffer size for large object data that is fetched from the database server Possible values are: v A number greater than 0. The maximum number of bytes is allocated in memory to hold the data. If the data size exceeds the LOBCACHE value, the data is stored in a temporary file; if a security violation occurs during creation of this file, the data is stored in memory. v Zero (0). The data is always stored in a file. If a security violation occurs, the driver makes no attempt to store the data in memory. v A negative number. The data is always stored in memory. If the required amount of memory is not available, an error occurs.
IfxIFX_USEPUT	When set to 1, enables bulk inserts.
IfxDELIMIDENT	When set to true, specifies that strings set off by double quotes are delimited identifiers
IfxINFORMIXSTACKSIZE	Specifies the stack size, in kilobytes, that the database server uses for a particular client session
IfxDBSPACETEMP	Specifies the dbspaces in which temporary tables are built
IfxDB_LOCALE	Specifies the locale of the databaseIBM Informix JDBC Driver uses this variable to perform code-set conversion between Unicode and the database locale. Together with the CLIENT_LOCALE variable, the database server uses this variable to establish the server processing locale. The DB_LOCALE and CLIENT_LOCALE values must be the same, or their code sets must be convertible.
IfxCLIENT_LOCALE	Specifies the locale of the client that is accessing the database Provides defaults for user-defined formats such as the GL_DATE format User-defined data types can use it for code-set conversion. Together with the DB_LOCALE variable, the database server uses this variable to establish the server processing locale. The DB_LOCALE and CLIENT_LOCALE values must be the same, or their code sets must be convertible.
IfxDBDATE	Specifies the end-user formats of values in DATE columns Supported for backward compatibility; GL_DATE is preferred.
IfxGL_DATE	Specifies the end-user formats of values in DATE columns This variable is supported in Informix database server versions 7.2x, 8.x, 9.x, and 10.x.
IfxDBCENTURY	Enables you to specify the appropriate expansion for one- or two-digit year DATE values
IfxSTMT_CACHE	When set to 1, enables the use of the shared-statement cache in a session. This feature can reduce memory consumption and speed query processing among different user sessions. The driver does not use this variable; it just passes the value to the server.
IfxNODEFDAC	When set to YES, prevents default table and routine privileges from being granted to the PUBLIC user when a new table or routine is created in a database that is not ANSI compliant. Default is NO.
IfxDBTEMP	Specifies the full pathname of the directory into which you want IBM Informix Enterprise Gateway products to place their temporary files and temporary tables. The driver does not use this variable; it just passes the value to the server.
IfxPSORT_DBTEMP	Specifies one or more directories to which the database server writes the temporary files it uses when performing a sort
IfxPSORT_NPROCS	Enables the database server to improve the performance of the parallel-process sorting package by allocating more threads for sorting
IfxDBUPSPACE	Specifies the amount of system disk space that the UPDATE STATISTICS statement can use when it simultaneously constructs multiple-column

	distributions
IfxPDQPRIORITY	Determines the degree of parallelism used by the database server
IfxIFX_DIRECTIVES	Determines whether the optimizer allows query optimization directives from within a query. This variable is set on the client. The driver does not use this variable; it just passes the value to the server.
IfxIFX_EXTDIRECTIVES	Specifies whether the query optimizer allows external query optimization directives from the sysdirectives system catalog table to be applied to queries in existing applications. The default is OFF. Possible values: ON External optimizer directives accepted OFF External optimizer directives not accepted 1 External optimizer directives accepted 0 External optimizer directives not accepted
IfxOPTCOMPIND	Specifies the join method that the query optimizer uses
IfxINFORMIXCONRETRY	Specifies the maximum number of additional connection attempts that can be made to each database server by the client during the time limit specified by the value of INFORMIXCONTIME
IfxINFORMIXCONTIME	Sets the timeout period for an attempt to connect to the database server. If a connection attempt does not succeed in this time, the attempt is aborted and a connection error is reported. The default value is 0 seconds. This variable adds timeouts for blocking socket methods and for socket connections.
IfxINFORMIXOPCACHE	Specifies the size of the memory cache for the staging-area blobspace of the client application
IfxPLCONFIG	Specifies the name of the configuration file used by the high-performance loader
IfxPATH	Specifies the directories that should be searched for executable programs
IfxPLOAD_LO_PATH	Specifies the pathname for smart-large-object handles (which identify the location of smart large objects such as BLOB, CLOB, and BOOLEAN data types). The driver does not use this variable; it just passes the value to the server.
IfxOPT_GOAL	Specifies the query performance goal for the optimizer. Set this variable in the user environment before you start an application. The driver does not use this variable; it just passes the value to the server.
IfxDBANSIWARN	When set to 1, checks for Informix extensions to ANSI-standard syntax
IfxIFX_CODESETLOB	The value of this variable determines whether code-set conversion is done in memory in or in temporary files. If set to 0, code-set conversion uses temporary files. If set to a value greater than 0, code-set conversion occurs in the memory of the client computer, and the value represents the number of bytes of memory allocated for the conversion.
IfxIFX_LOCK_MODE_WAIT	The default value is 0 (do not wait for the lock). Sets the value of Informix-specific variable IFX_LOCK_MODE_WAIT. Possible values: '-1' WAIT until the lock is released. '0' DO NOT WAIT, end the operation, and return with error. 'nn' WAIT for nn seconds for the lock to be released.
IfxIFX_ISOLATION_LEVEL	Sets the value of Informix-specific variable IFX_ISOLATION_LEVEL. Possible values: '1' - Dirty Read (equivalent to TRANSACTION_READ_UNCOMMITTED), '2' - Committed Read (equivalent to TRANSACTION_READ_COMMITTED), '3' - Cursor Stability (equivalent to TRANSACTION_READ_COMMITTED), '4' - Repeatable Read (equivalent to TRANSACTION_REPEATABLE_READ)

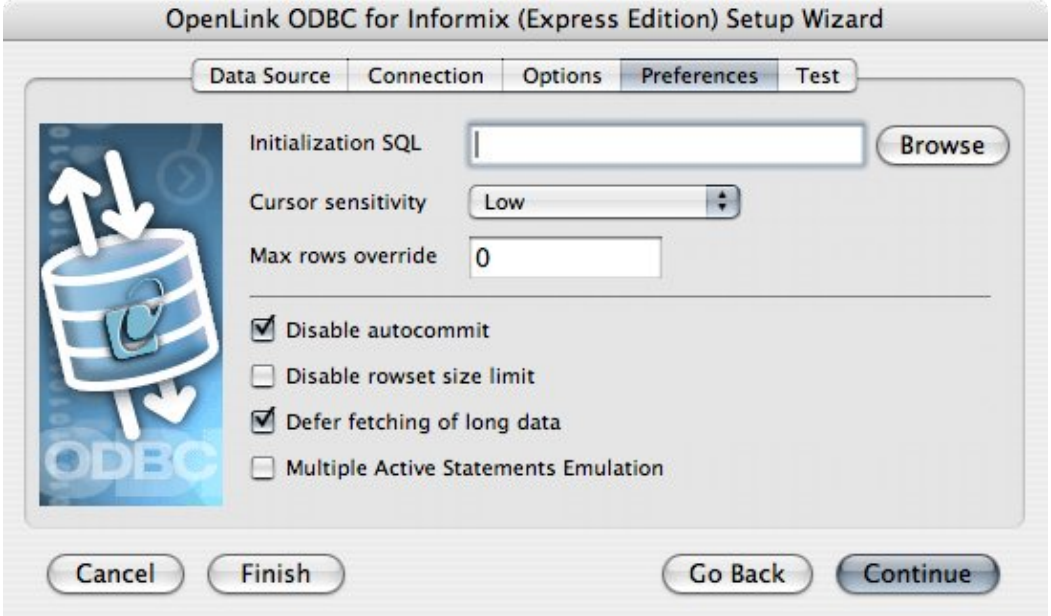
As indicated above the paramters of the options and preferences tabs are not required for a basic connection:

Figure 5.20. ee-inf-19.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC-compliant application.
- *Read-only connection* - Specify whether the connection is to be read-only. Make sure the checkbox is unchecked to request a read/write connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL such as select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo() for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

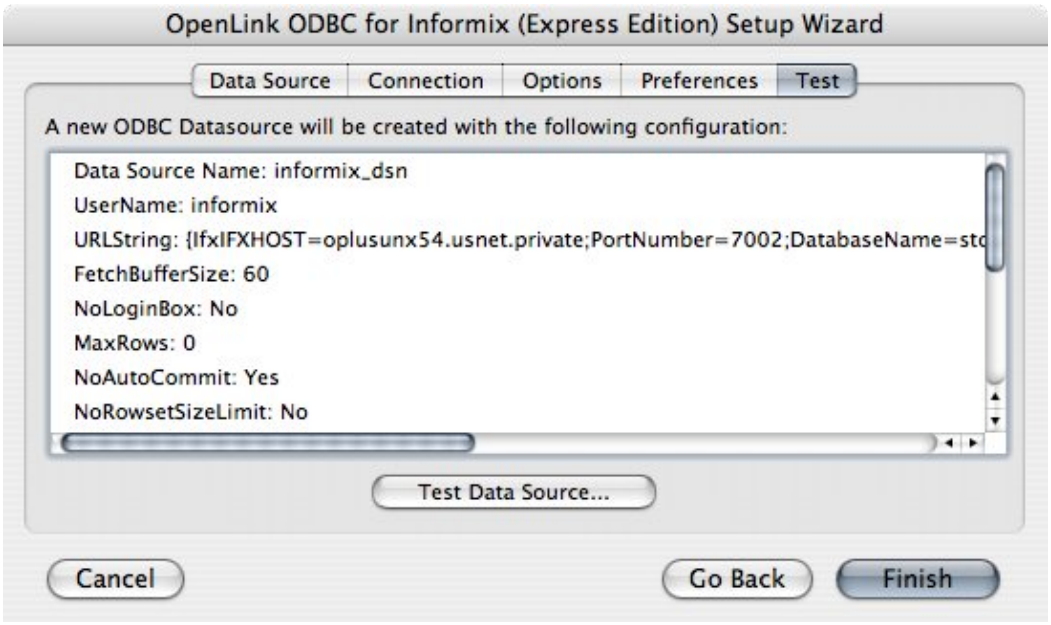
Figure 5.21. ee-inf-20.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

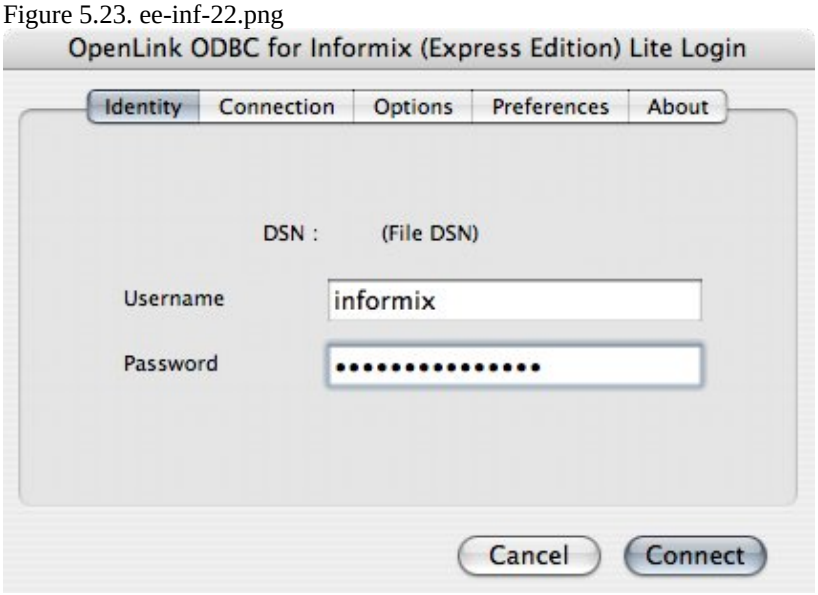
Click on the 'Test Data Source' button to make a connection to the database to verify connectivity:

Figure 5.22. ee-inf-21.png



Enter a vaild username and pasword for the database:

Figure 5.23. ee-inf-22.png



A successful connection to the database has been made:

Figure 5.24. ee-inf-23.png

6.2 OpenLink ODBC Driver for Informix (Express Edition) for Windows

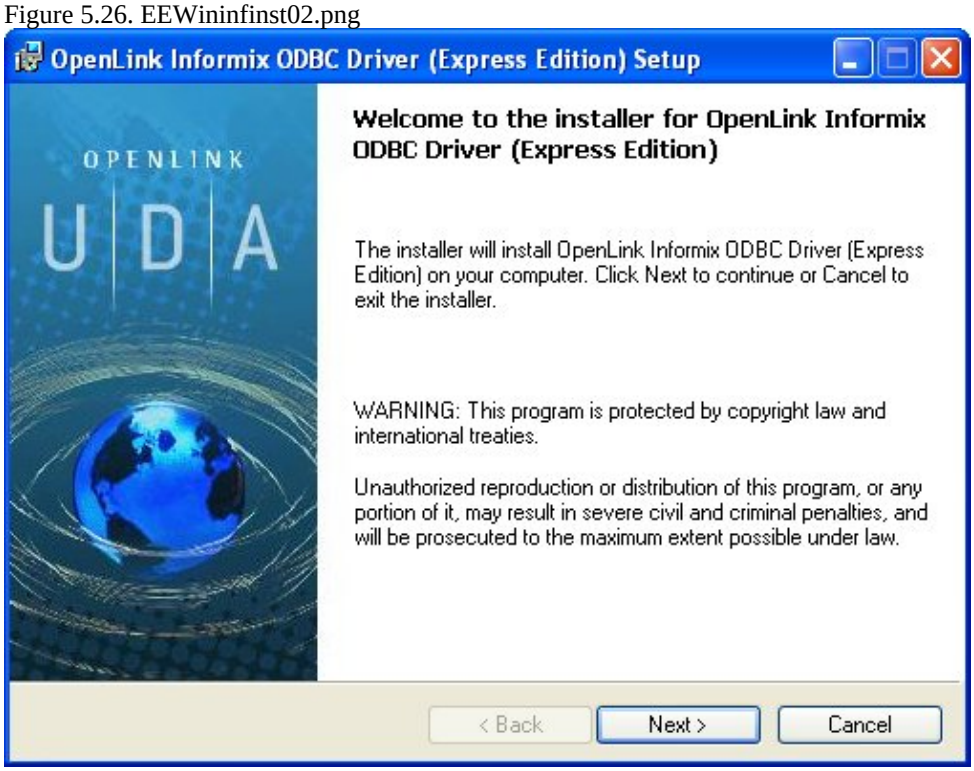
6.2.1 Installation

The OpenLink ODBCDriver for Informix (Express Edition) is a distributed as a Windows MSI installer. Simply double click on the installer 'ntl6einf.msi' to commence the installation:

Figure 5.25. EEWininfinst01.png

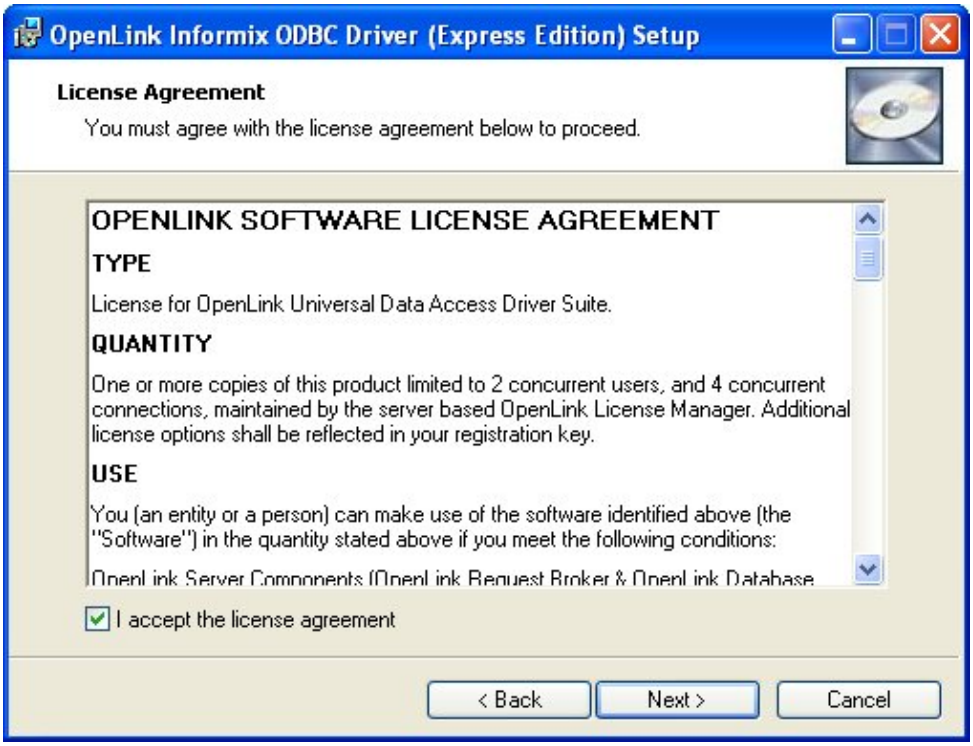
Installer Welcome Dialog for the OpenLink ODBCDriver for Informix (Express Edition):

Figure 5.26. EEWininfinst02.png



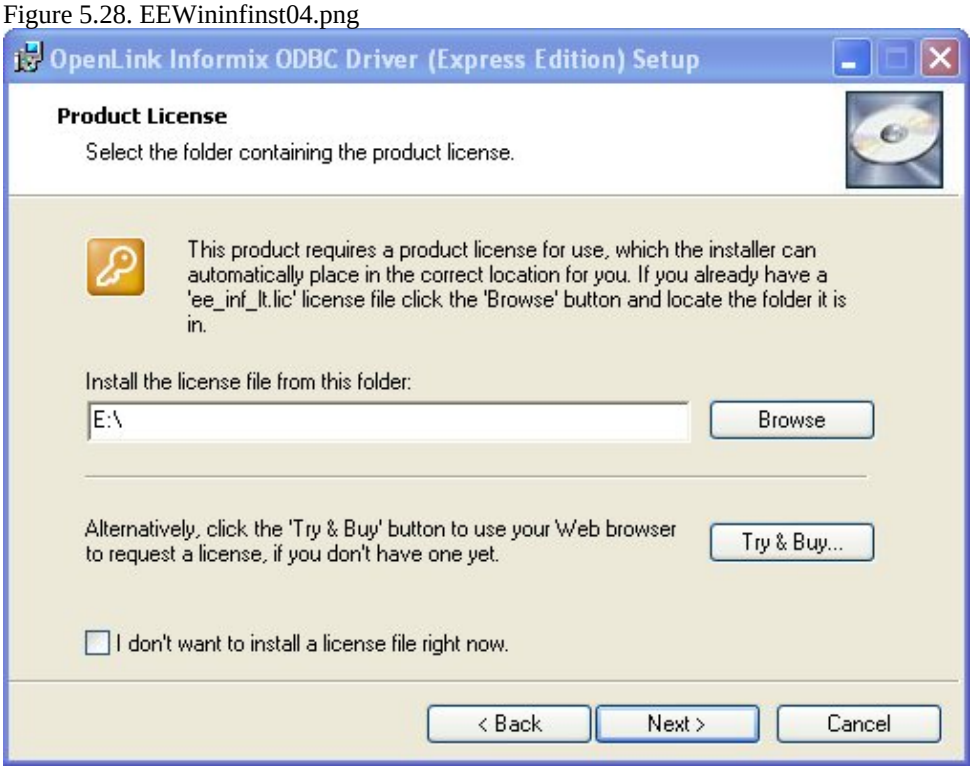
Please read the software license agreement and accept before continuing your installation:

Figure 5.27. EEWininfinst03.png



Before installation you will be prompted for a license file. If a license file already exists on the machine then select the 'use existing file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

Figure 5.28. EEWininfinst04.png

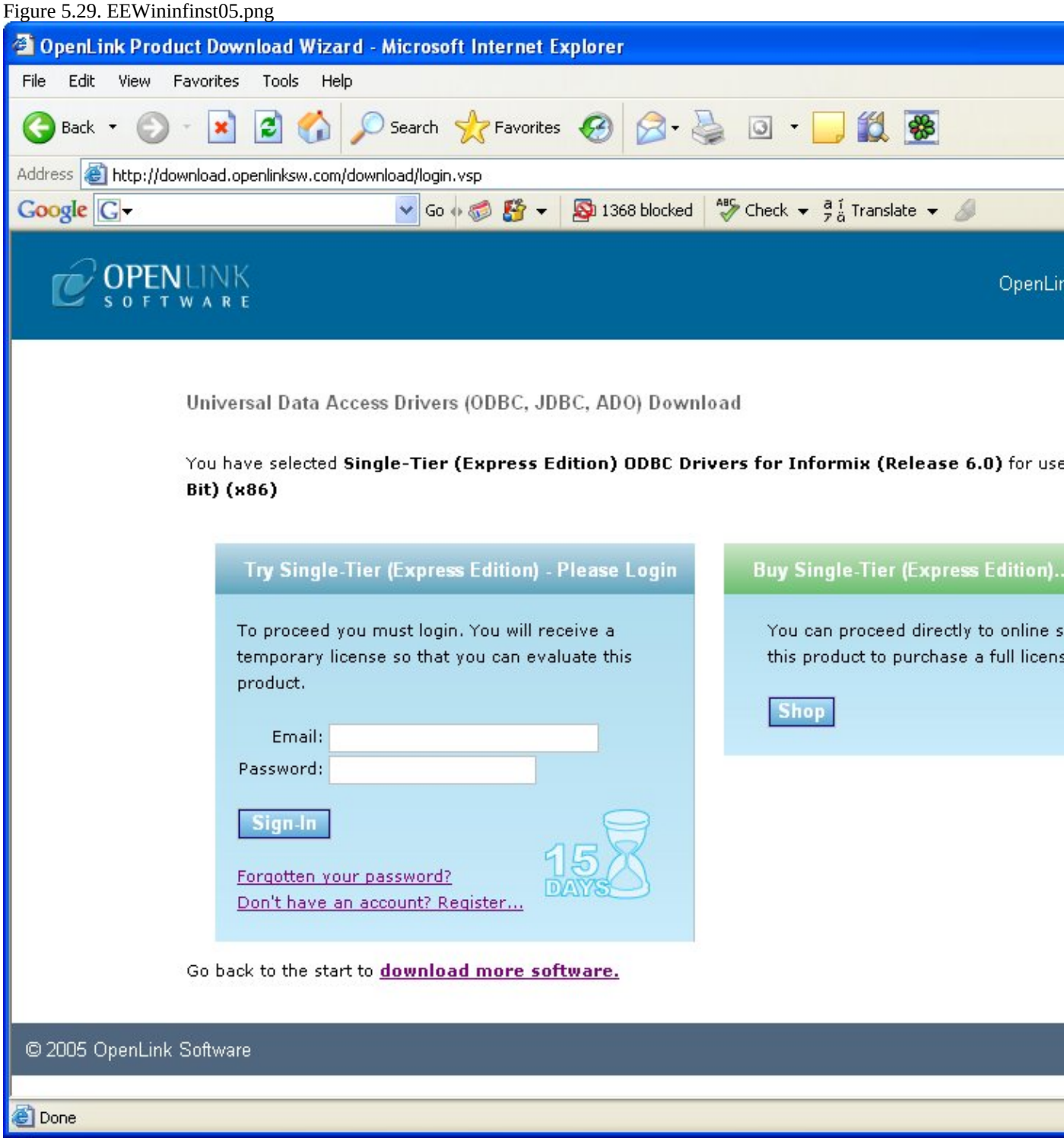


To obtain the trial license you must be a registered user on the OpenLinkWeb site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLinkData Space (ODS) where all

trial and full license files will be stored in the Briefcase for download at a later date.

Figure 5.29. EEWininfinst05.png

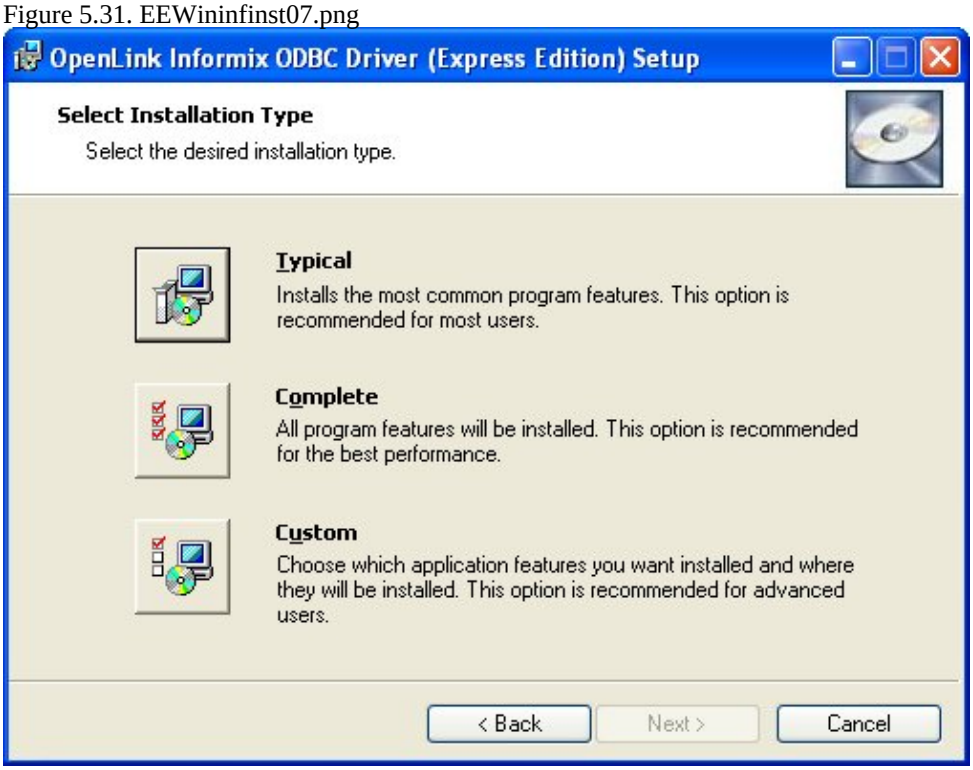


Select the license file to be used for the installation:

Figure 5.30. EEWininfinst06.png

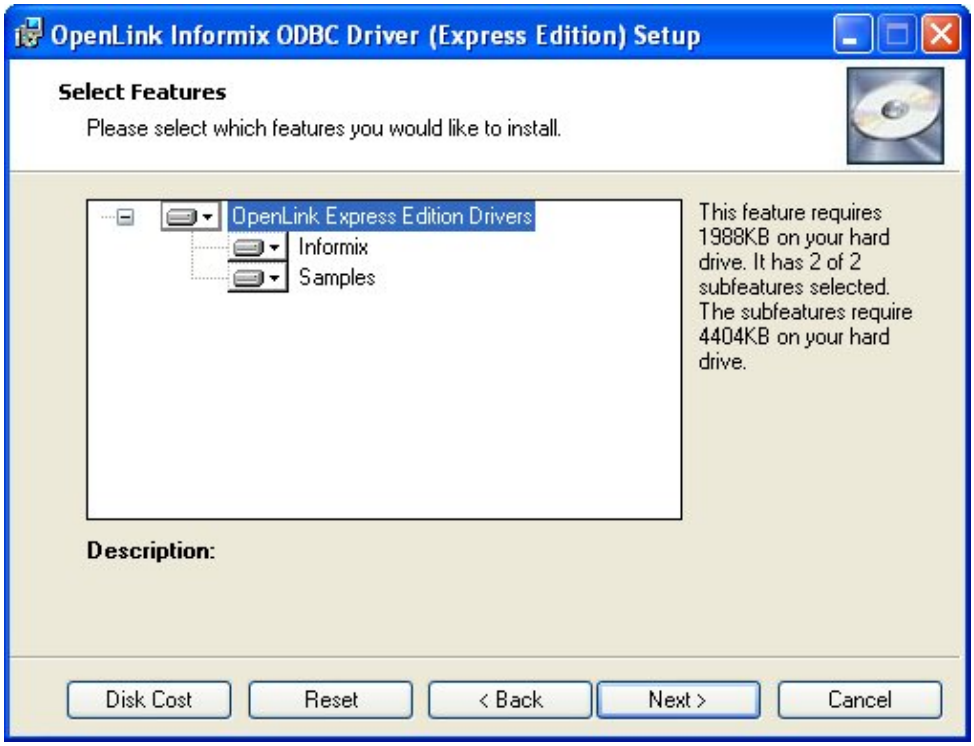
Choose to perform a custom, typical or complete installation of the driver:

Figure 5.31. EEWininfinst07.png



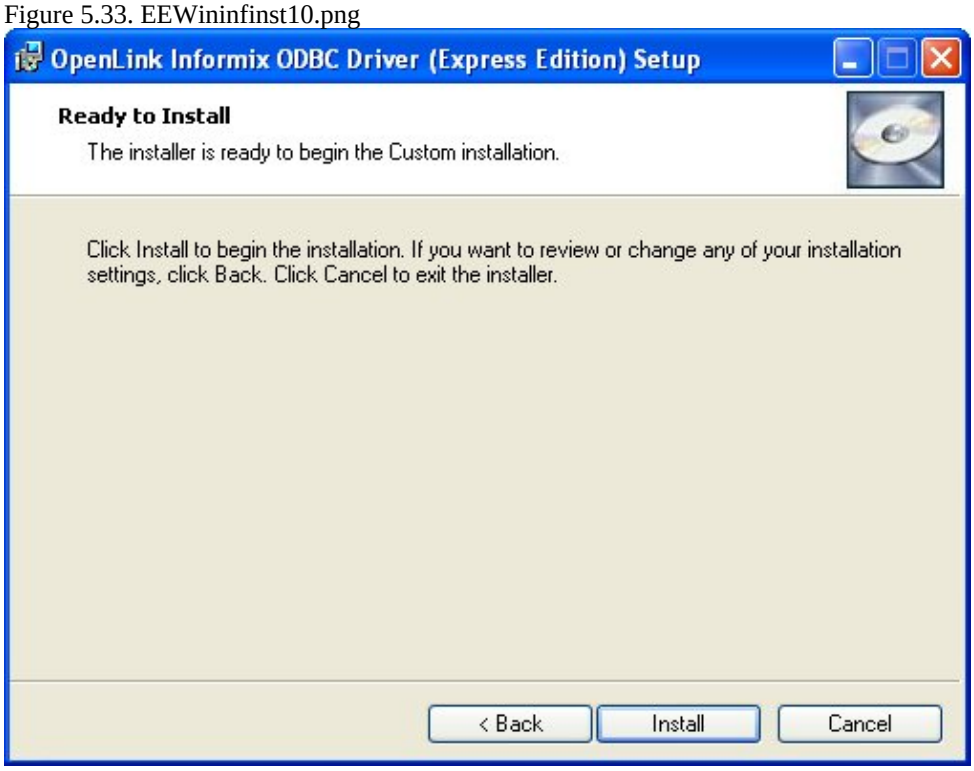
Select the features to be installed:

Figure 5.32. EEWininfinst09.png



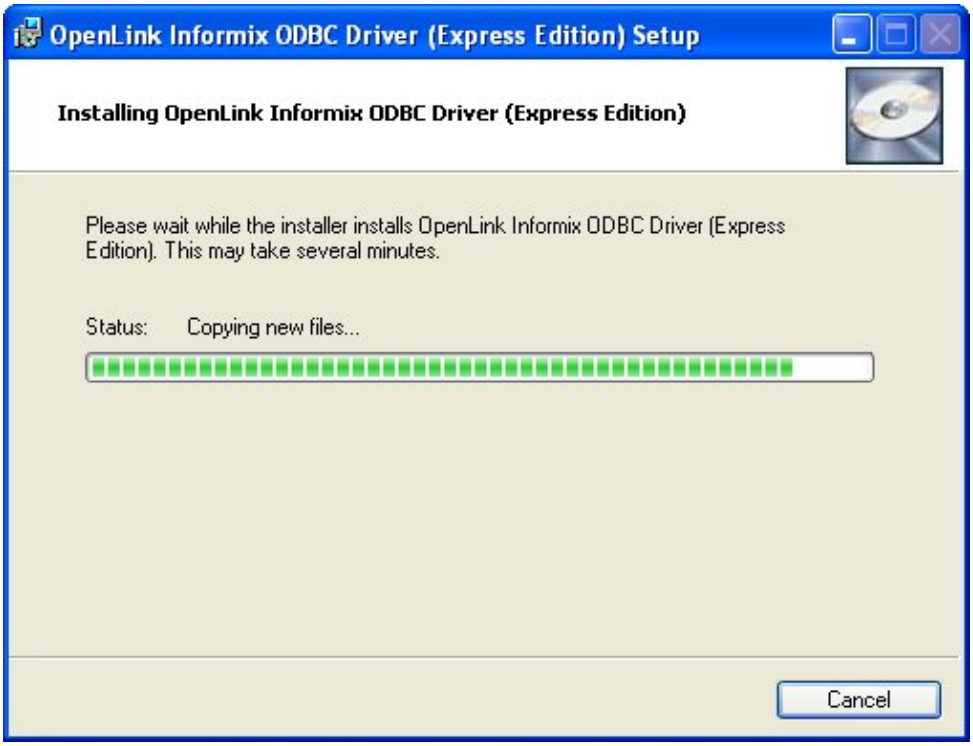
Click the install button to begin the installation of components:

Figure 5.33. EEWininfinst10.png



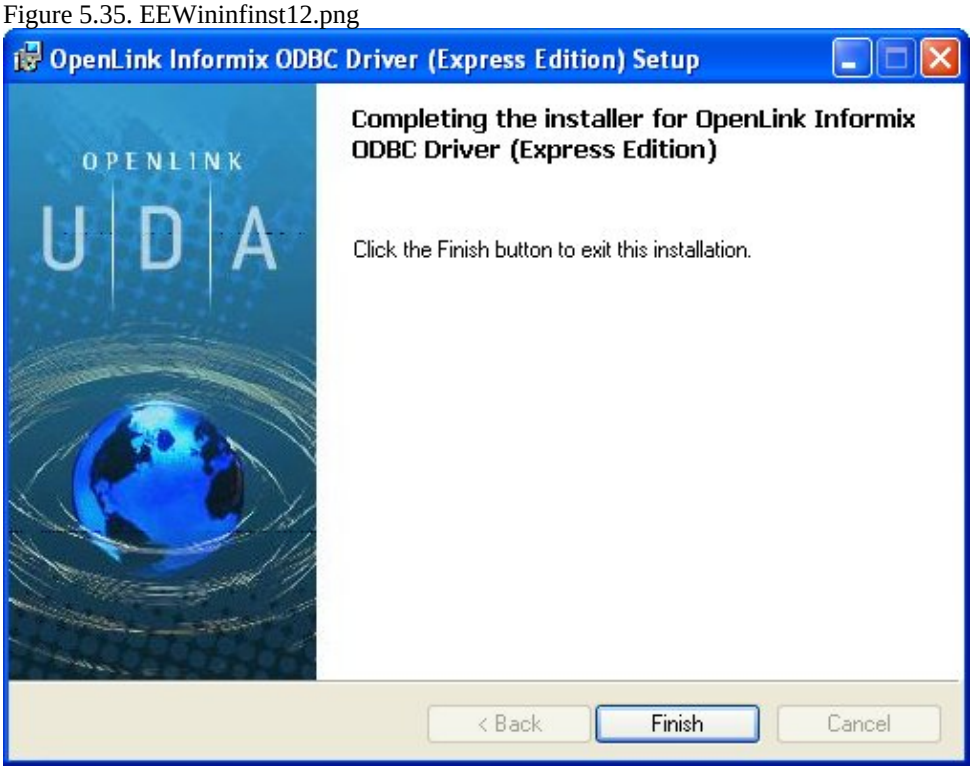
Installation in progress:

Figure 5.34. EEWininfinst11.png



The Software installation is complete and ready for use:

Figure 5.35. EEWininfinst12.png



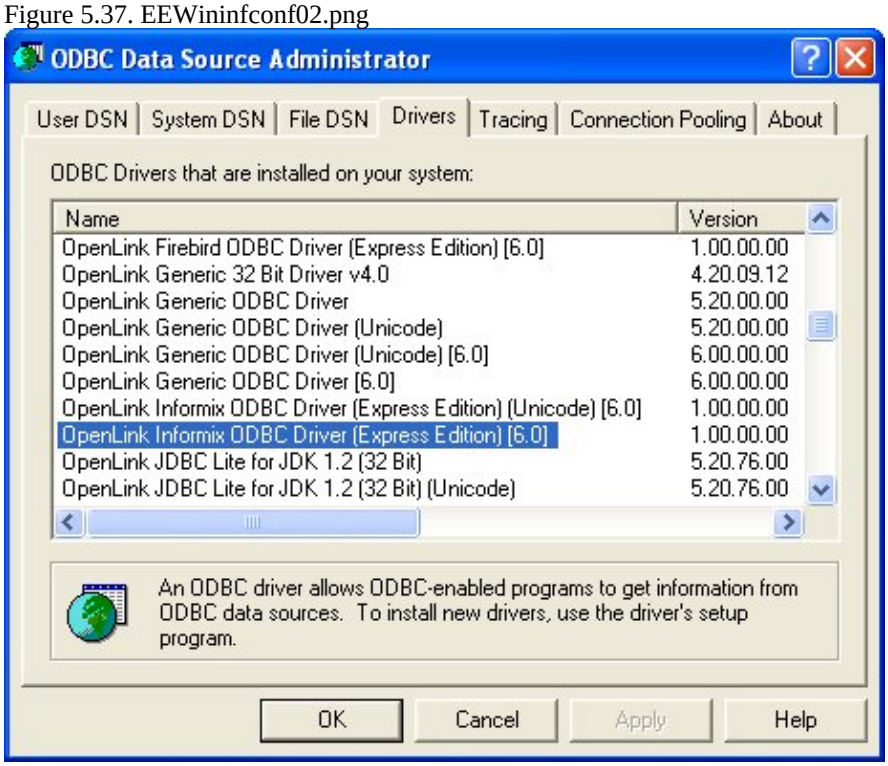
6.2.2 Configuration

To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 5.36. EEWininfconf01.png

Click on the drivers Tab to confirm the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] has been successfully installed

Figure 5.37. EEWininfconf02.png

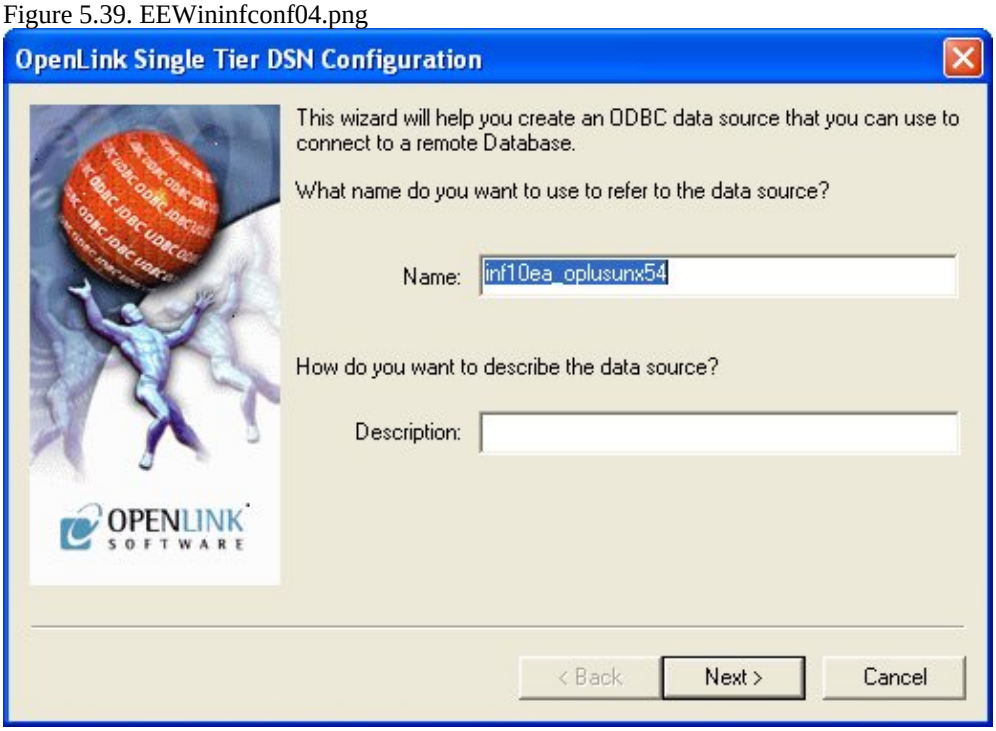


From either the User or System DSN tabs click on the Add button and select the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] from the list presented to create an ODBCDSN :

Figure 5.38. EEWininfconf03.png

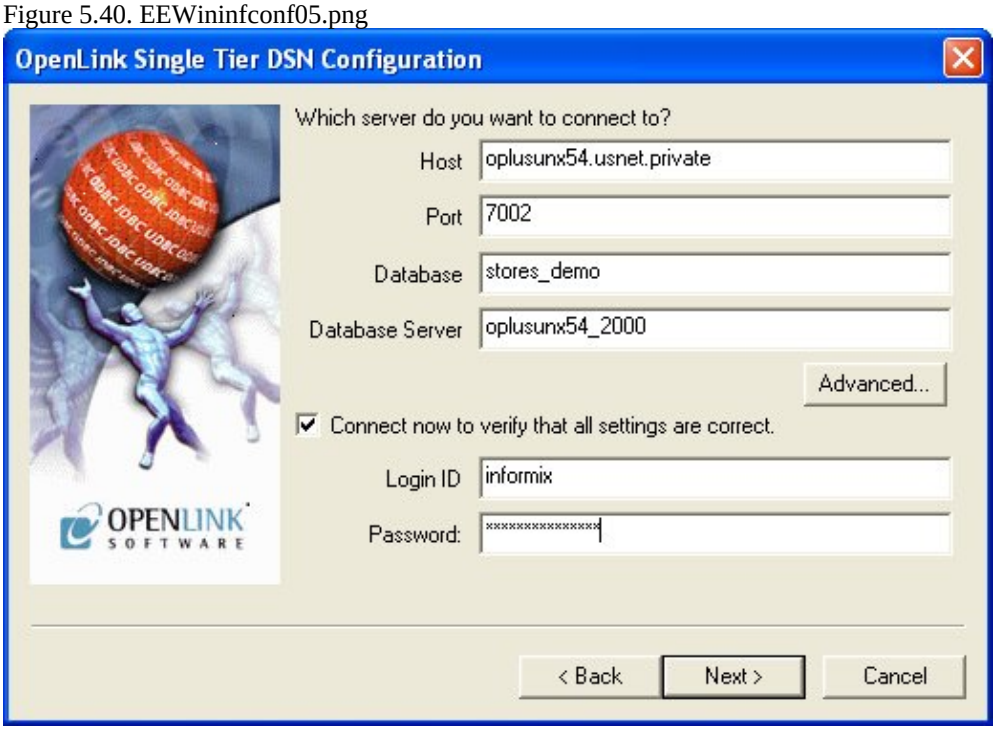
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 5.39. EEWininfconf04.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 5.40. EEWininfconf05.png



- *Host* : This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port that Informix is listening on
- *Database* : This is the name of the database

- *Database Server* : This is the name of the database server
- *Login ID* : This is a valid user on for the Informix Database
- *Password* : Enter valid password and click next to verify that all settings are correct or uncheck check box to delay this to a later stage.

The advanced button displays additional optional parameters that can be configured:

Figure 5.41. EEWininfconf06.png

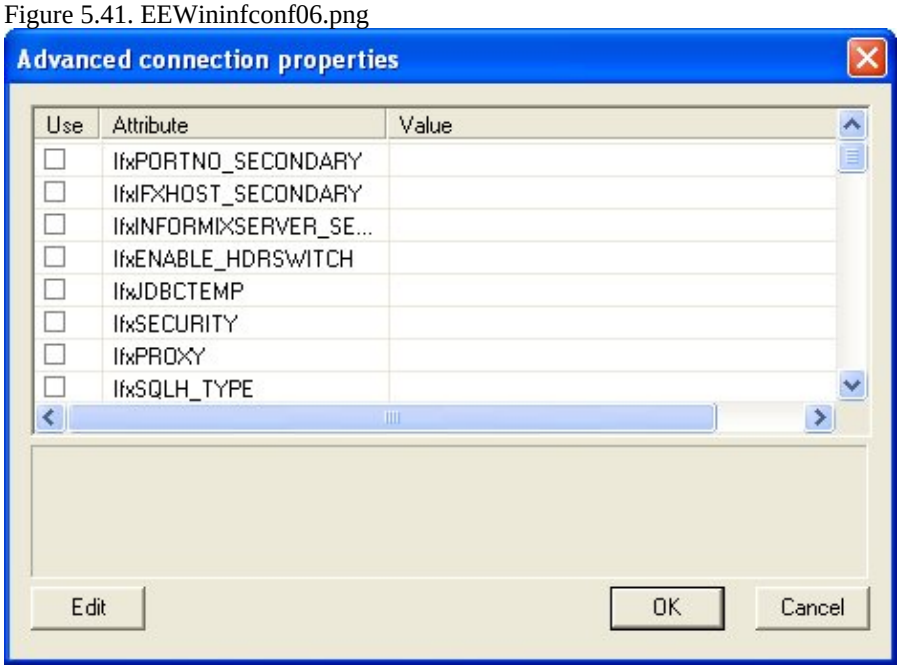


Table 5.2.

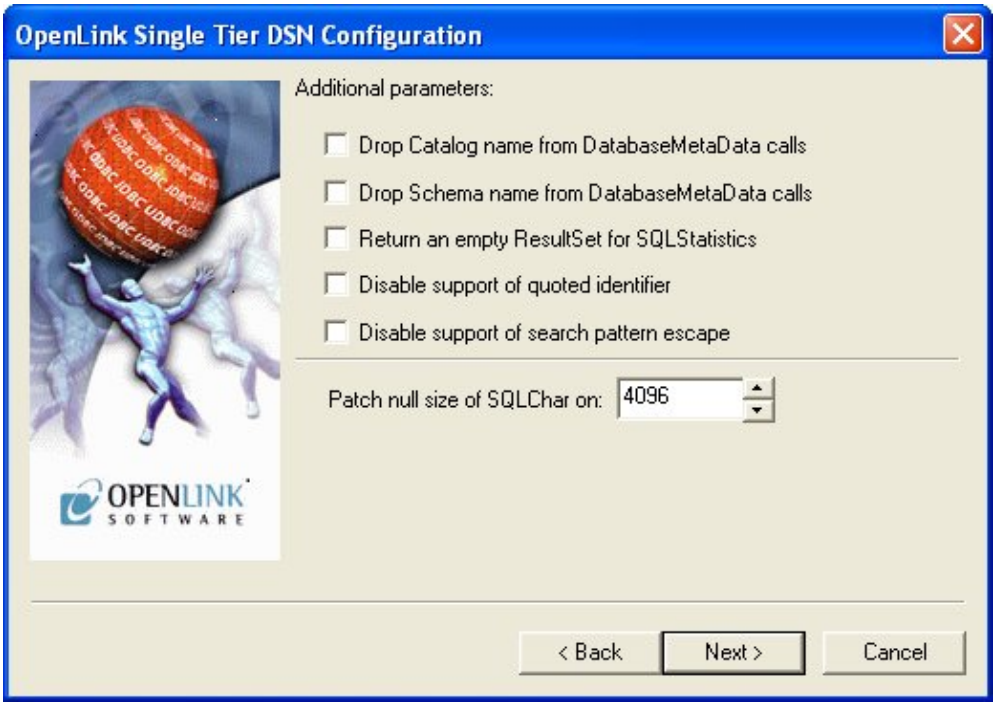
IfxPORTNO_SECONDARY	Specifies the port number of the secondary database server in an HDR pair. The port number is listed in the /etc/services file.
IfxIFXHOST_SECONDARY	Sets the secondary host name or host IP address for HDR connection redirection
IfxINFORMIXSERVER_SECONDARY	Specifies the secondary database server in an HDR pair to which an explicit or implicit connection is made by a client application if the primary database server is unavailable
IfxENABLE_HDRSWITCH	When set to 'true', secondary server properties are used to connect to the secondary server in an HDR pair, if the primary server is unavailable.
IfxJDBCTEMP	Specifies where temporary files for handling smart large objects are created. You must supply an absolute pathname.
IfxSECURITY	Uses 56-bit encryption to send the password to the server. If 'PASSWORD' is specified, the user-provided password is encrypted using 56-bit encryption when it is passed from the client to the database server. There is no default setting. The setting is supported in the 7.31, 8.3 and later, and 9.x and later versions of the Informix database server.
IfxPROXY	Specifies an HTTP proxy server.
IfxSQLH_TYPE	When set to 'FILE', specifies that database information (such as host-name, port-number, user, and password) is specified in an sqlhosts file. When set to 'LDAP', specifies that this information is specified in an LDAP server
IfxSQLH_FILE	Example: http://host-name:port-number/sqlhosts.ius or file://D:/local/myown/sqlhosts.ius
IfxLDAP_URL	Example: ldap://host-name:port-number
IfxLDAP_IFXBASE	Example: Informix-base-DN
IfxLDAP_USER	
IfxLDAP_PASSWD	

IfxSQLH_LOC	
IfxFET_BUF_SIZE	Overrides the default setting for the size of the fetch buffer for all data except large objects. The default size is 4096 bytes.
IfxBIG_FET_BUF_SIZE	In IBM Informix Extended Parallel Server, Version 8.4, overrides the default size of the tuple buffer and allows it to be increased up to 2GB.
IfxUSEV5SERVER	When set to 1, specifies that the Java program is connecting to an IBM Informix OnLine 5.x or IBM Informix SE 5.x or IBM Informix SE 7.x database server. This environment variable is mandatory if you are connecting to an IBM Informix OnLine 5.x or IBM Informix SE 5.x or IBM Informix SE 7.x database server.
IfxLOBCACHE	Determines the buffer size for large object data that is fetched from the database server Possible values are: v A number greater than 0. The maximum number of bytes is allocated in memory to hold the data. If the data size exceeds the LOBCACHE value, the data is stored in a temporary file; if a security violation occurs during creation of this file, the data is stored in memory. v Zero (0). The data is always stored in a file. If a security violation occurs, the driver makes no attempt to store the data in memory. v A negative number. The data is always stored in memory. If the required amount of memory is not available, an error occurs.
IfxIFX_USEPUT	When set to 1, enables bulk inserts.
IfxDELIMIDENT	When set to true, specifies that strings set off by double quotes are delimited identifiers
IfxINFORMIXSTACKSIZE	Specifies the stack size, in kilobytes, that the database server uses for a particular client session
IfxDBSPACETEMP	Specifies the dbspaces in which temporary tables are built
IfxDB_LOCALE	Specifies the locale of the databaseIBM Informix JDBC Driver uses this variable to perform code-set conversion between Unicode and the database locale. Together with the CLIENT_LOCALE variable, the database server uses this variable to establish the server processing locale. The DB_LOCALE and CLIENT_LOCALE values must be the same, or their code sets must be convertible.
IfxCLIENT_LOCALE	Specifies the locale of the client that is accessing the database Provides defaults for user-defined formats such as the GL_DATE format User-defined data types can use it for code-set conversion. Together with the DB_LOCALE variable, the database server uses this variable to establish the server processing locale. The DB_LOCALE and CLIENT_LOCALE values must be the same, or their code sets must be convertible.
IfxDBDATE	Specifies the end-user formats of values in DATE columns Supported for backward compatibility; GL_DATE is preferred.
IfxGL_DATE	Specifies the end-user formats of values in DATE columns This variable is supported in Informix database server versions 7.2x, 8.x, 9.x, and 10.x.
IfxDBCENTURY	Enables you to specify the appropriate expansion for one- or two-digit year DATE values
IfxSTMT_CACHE	When set to 1, enables the use of the shared-statement cache in a session. This feature can reduce memory consumption and speed query processing among different user sessions. The driver does not use this variable; it just passes the value to the server.
IfxNODEFDAC	When set to YES, prevents default table and routine privileges from being granted to the PUBLIC user when a new table or routine is created in a database that is not ANSI compliant. Default is NO.
IfxDBTEMP	Specifies the full pathname of the directory into which you want IBM Informix Enterprise Gateway products to place their temporary files and temporary tables. The driver does not use this variable; it just passes the value to the server.
IfxPSORT_DBTEMP	Specifies one or more directories to which the database server writes the temporary files it uses when performing a sort

IfxPSORT_NPROCS	Enables the database server to improve the performance of the parallel-process sorting package by allocating more threads for sorting
IfxDBUPSPACE	Specifies the amount of system disk space that the UPDATE STATISTICS statement can use when it simultaneously constructs multiple-column distributions
IfxPDQPRIORITY	Determines the degree of parallelism used by the database server
IfxIFX_DIRECTIVES	Determines whether the optimizer allows query optimization directives from within a query. This variable is set on the client. The driver does not use this variable; it just passes the value to the server.
IfxIFX_EXTDIRECTIVES	Specifies whether the query optimizer allows external query optimization directives from the sysdirectives system catalog table to be applied to queries in existing applications. The default is OFF. Possible values: ON External optimizer directives accepted OFF External optimizer directives not accepted 1 External optimizer directives accepted 0 External optimizer directives not accepted
IfxOPTCOMPIND	Specifies the join method that the query optimizer uses
IfxINFORMIXCONRETRY	Specifies the maximum number of additional connection attempts that can be made to each database server by the client during the time limit specified by the value of INFORMIXCONTIME
IfxINFORMIXCONTIME	Sets the timeout period for an attempt to connect to the database server. If a connection attempt does not succeed in this time, the attempt is aborted and a connection error is reported. The default value is 0 seconds. This variable adds timeouts for blocking socket methods and for socket connections.
IfxINFORMIXOPCACHE	Specifies the size of the memory cache for the staging-area blobspace of the client application
IfxPLCONFIG	Specifies the name of the configuration file used by the high-performance loader
IfxPATH	Specifies the directories that should be searched for executable programs
IfxPLOAD_LO_PATH	Specifies the pathname for smart-large-object handles (which identify the location of smart large objects such as BLOB, CLOB, and BOOLEAN data types). The driver does not use this variable; it just passes the value to the server.
IfxOPT_GOAL	Specifies the query performance goal for the optimizer. Set this variable in the user environment before you start an application. The driver does not use this variable; it just passes the value to the server.
IfxDBANSIWARN	When set to 1, checks for Informix extensions to ANSI-standard syntax
IfxIFX_CODESETLOB	The value of this variable determines whether code-set conversion is done in memory in or in temporary files. If set to 0, code-set conversion uses temporary files. If set to a value greater than 0, code-set conversion occurs in the memory of the client computer, and the value represents the number of bytes of memory allocated for the conversion.
IfxIFX_LOCK_MODE_WAIT	The default value is 0 (do not wait for the lock). Sets the value of Informix-specific variable IFX_LOCK_MODE_WAIT. Possible values: '-1' WAIT until the lock is released. '0' DO NOT WAIT, end the operation, and return with error. 'nn' WAIT for nn seconds for the lock to be released.
IfxIFX_ISOLATION_LEVEL	Sets the value of Informix-specific variable IFX_ISOLATION_LEVEL. Possible values: '1' - Dirty Read (equivalent to TRANSACTION_READ_UNCOMMITTED), '2' - Committed Read (equivalent to TRANSACTION_READ_COMMITTED), '3' - Cursor Stability (equivalent to TRANSACTION_READ_COMMITTED), '4' - Repeatable Read (equivalent to TRANSACTION_REPEATABLE_READ)

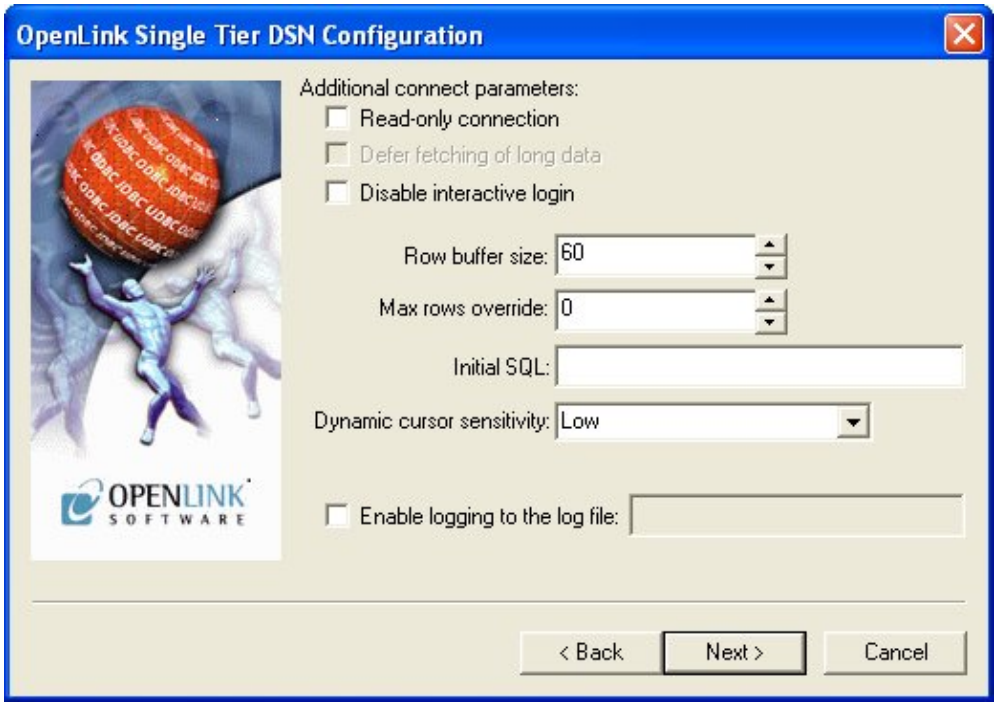
As indicated above the paramters of the options and preferences tabs are not required for a basic connection.

Figure 5.42. EEWininfconf07.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL like select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

Figure 5.43. EEWininfconf08.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.

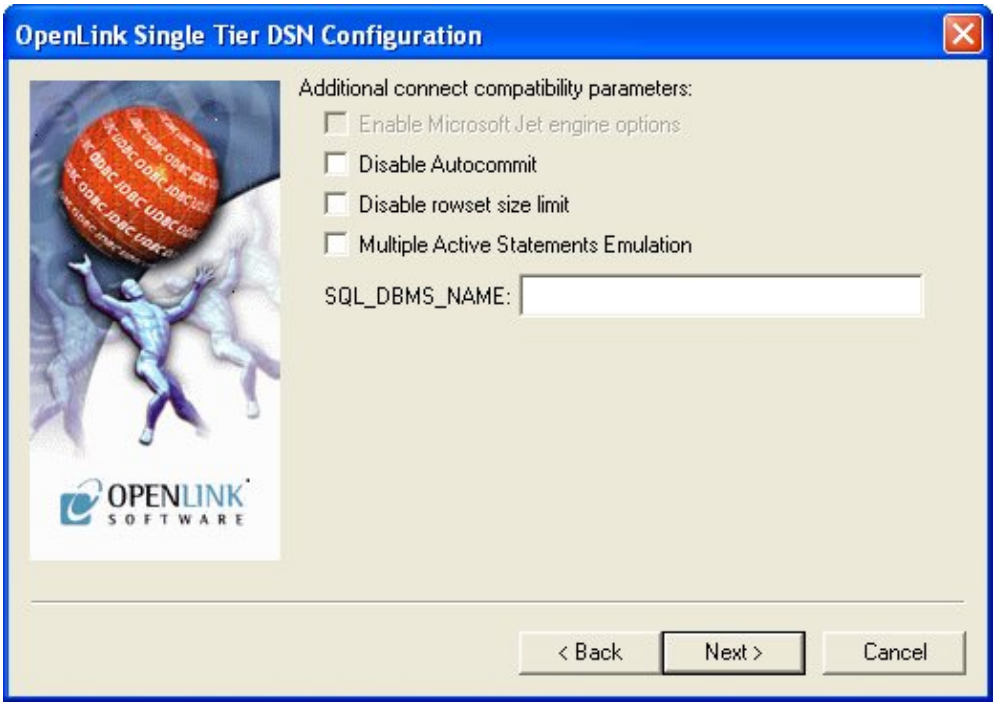
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.

- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.

- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.

- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

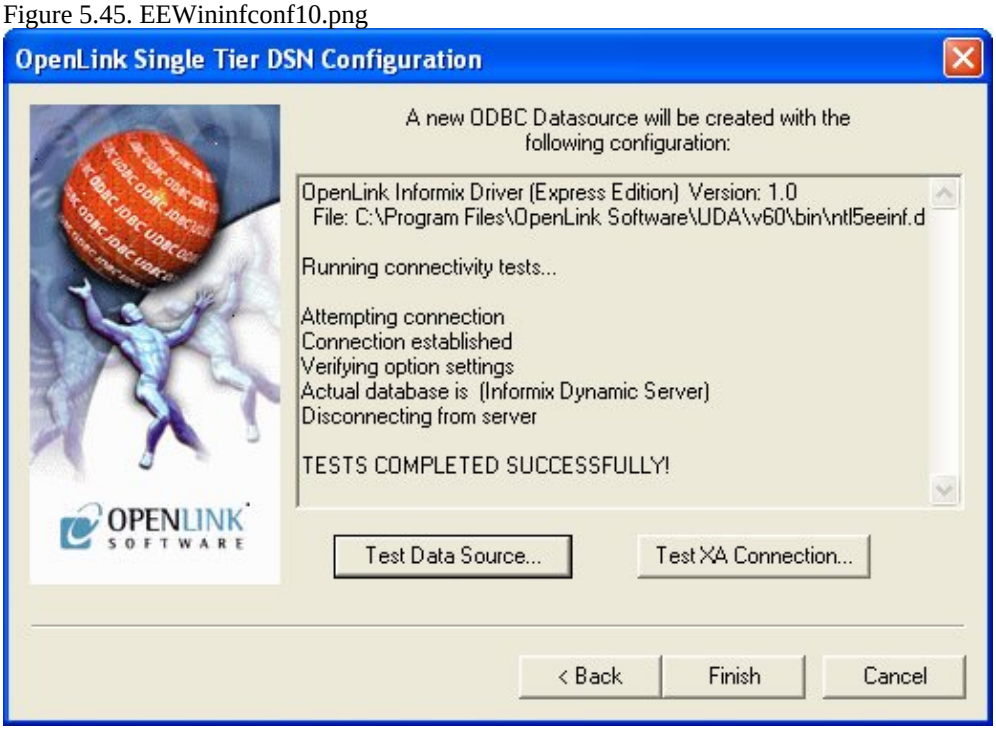
Figure 5.44. EEWininfconf09.png



- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

Click on the *Test Data Source*button to verify successful connection can be made to the database.

Figure 5.45. EEWininfconf10.png



7 Chapter 6. OpenLink ODBC Driver for Ingres (Express Edition)

Table of Contents

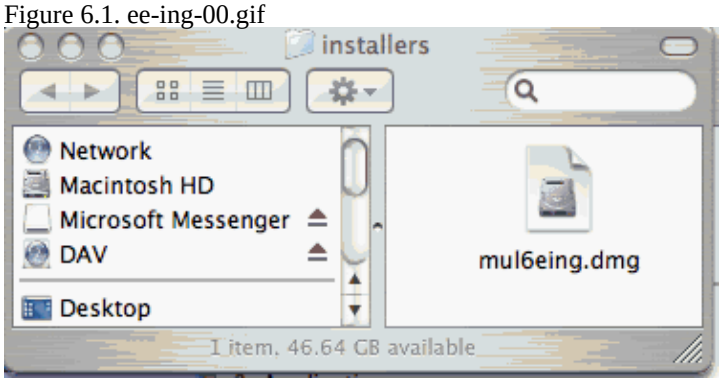
- OpenLink ODBC Driver for Ingres (Express Edition) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for Ingres (Express Edition) for Windows
  - Installation
  - Configuration

7.1 OpenLink ODBC Driver for Ingres (Express Edition) for Mac OS X

7.1.1 Installation Guide

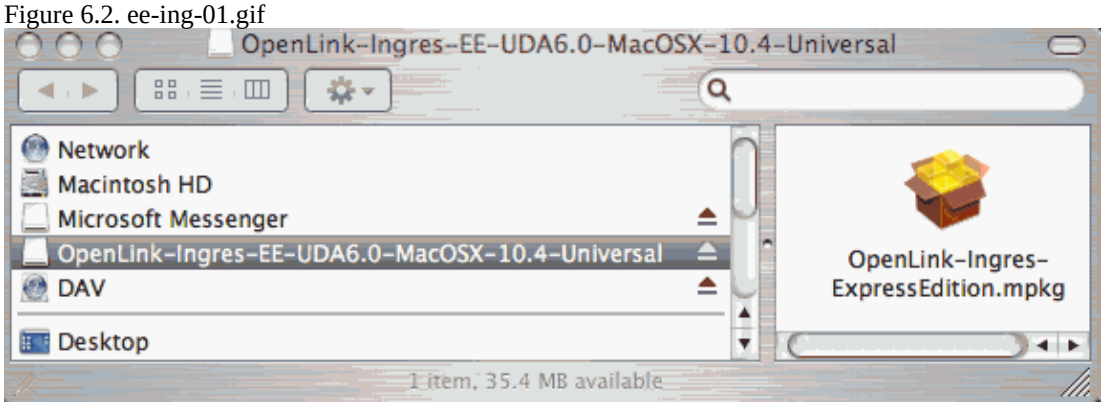
The OpenLink ODBC Driver for Ingres (Express Edition) is distributed as a Disk image (DMG) file. Simply double click on the disk image 'mul6eing.dmg' to extract the installer mpkg file:

Figure 6.1. ee-ing-00.gif



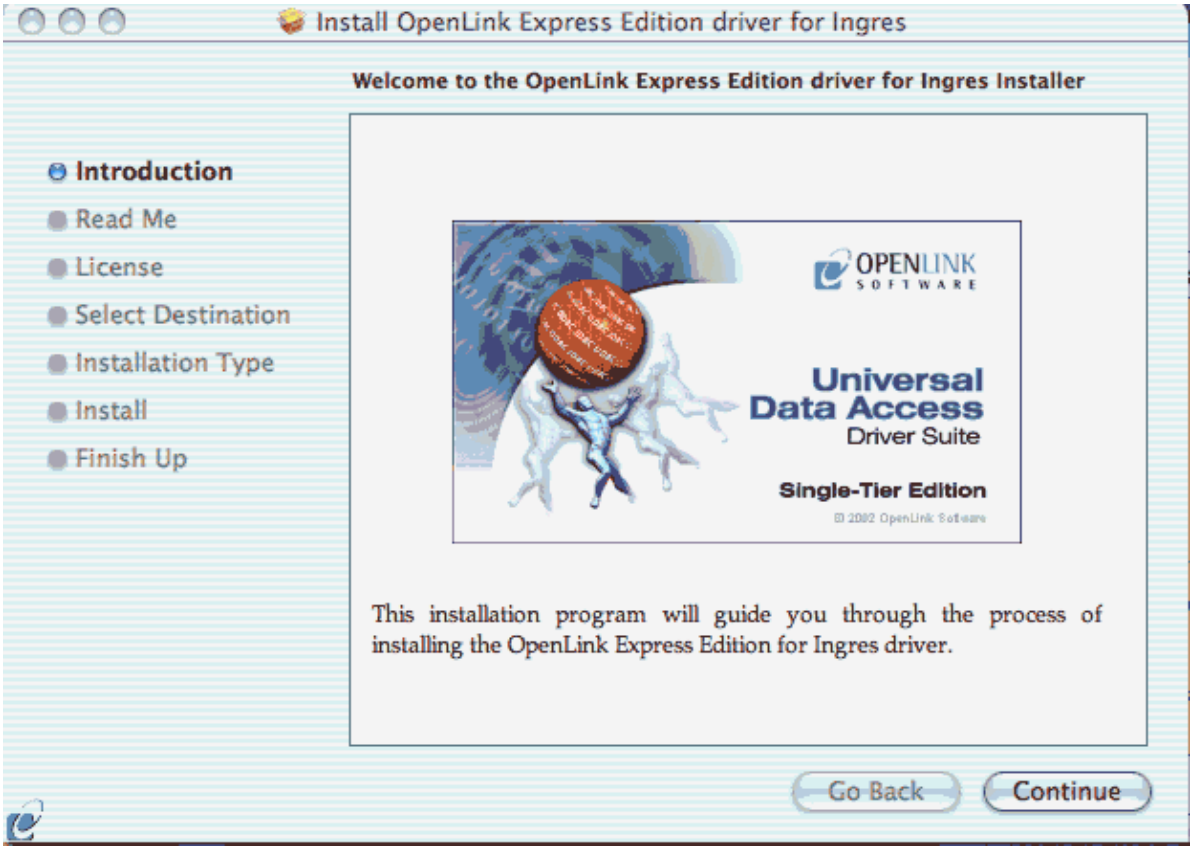
Double click on the mpkg file to run the installer and following the on screen instriuction as indicated below to complete the installation:

Figure 6.2. ee-ing-01.gif



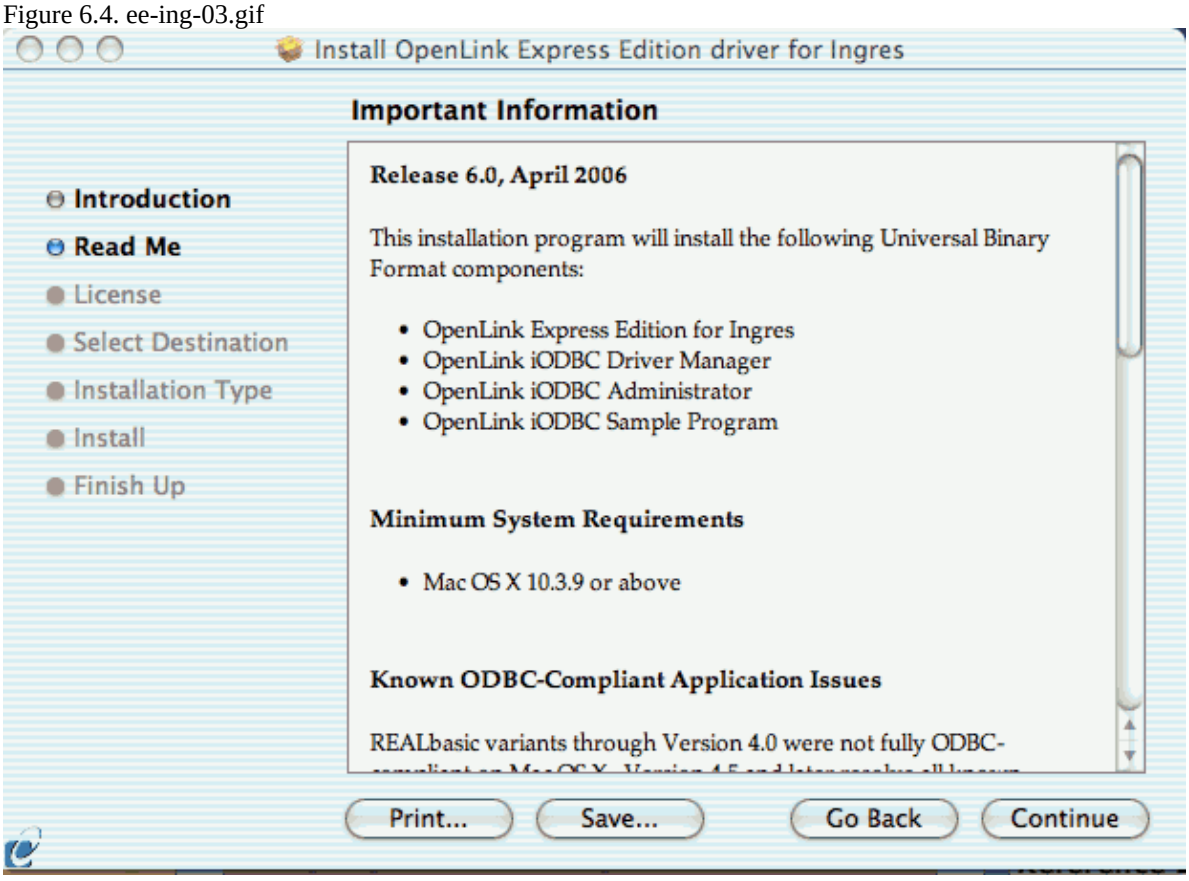
Installer Welcome Dialog for the OpenLink ODBC Driver for Ingres (Express Edition):

Figure 6.3. ee-ing-02.gif



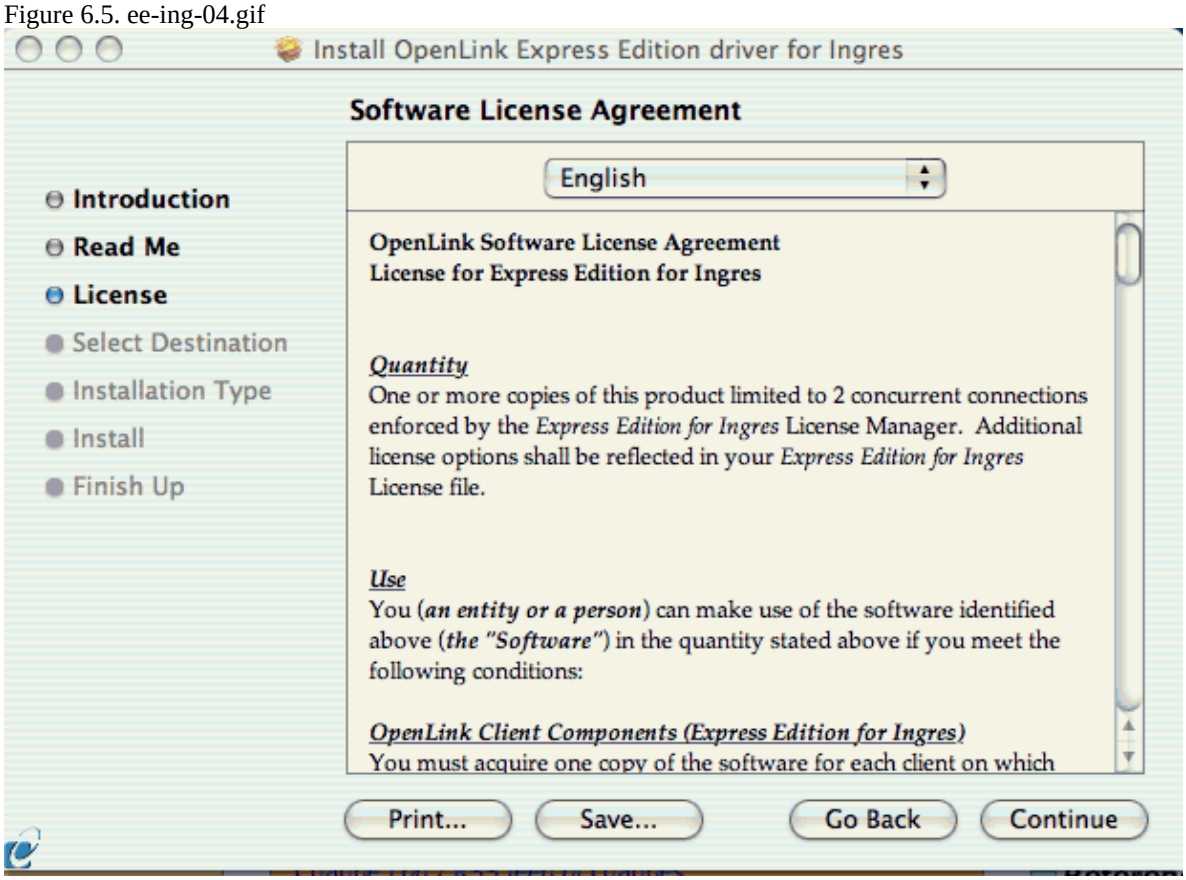
Please review the readme file for installation requirements and known issues:

Figure 6.4. ee-ing-03.gif



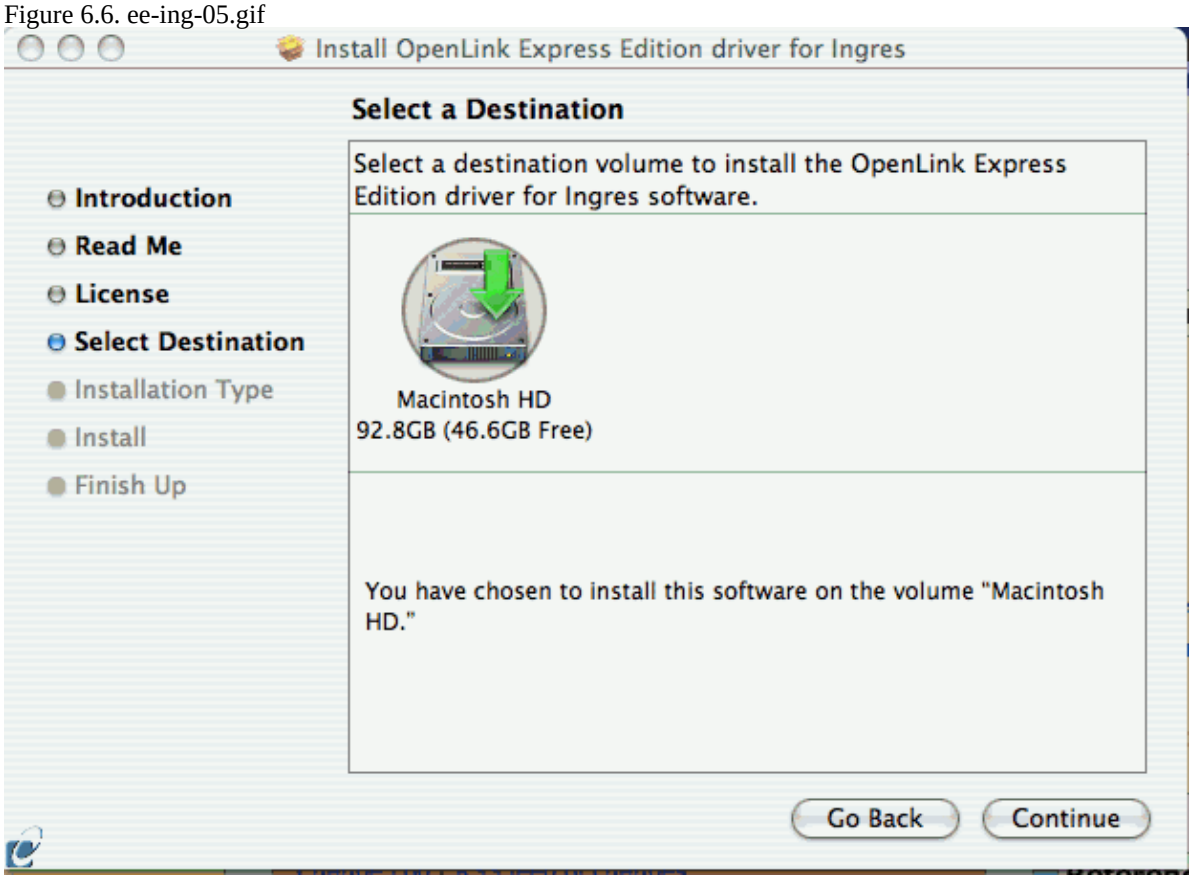
Please read the software license agreement before continuing your installation:

Figure 6.5. ee-ing-04.gif



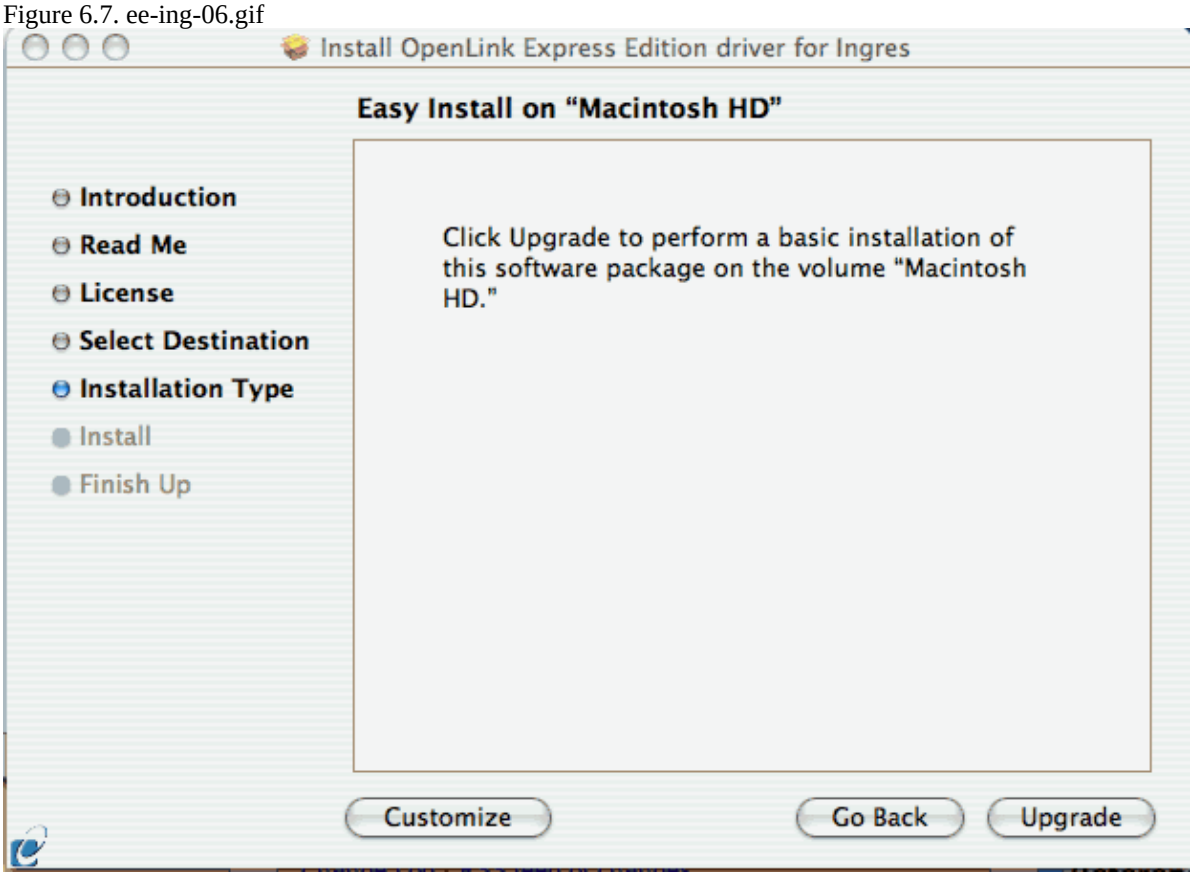
Select destination volume for driver installation:

Figure 6.6. ee-ing-05.gif



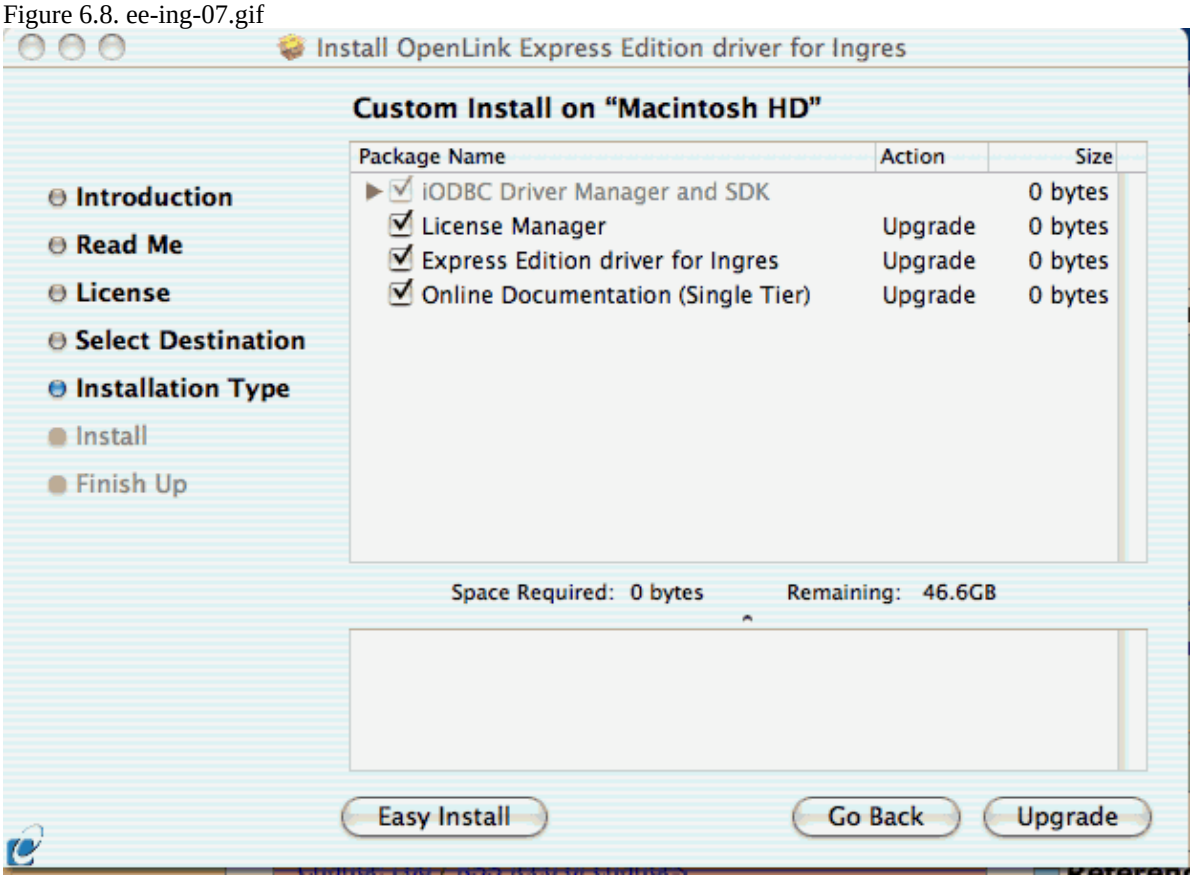
Choose to perform a custome or default installation of the driver:

Figure 6.7. ee-ing-06.gif



If you chose the custom option select which of the components below are to be installed:

Figure 6.8. ee-ing-07.gif

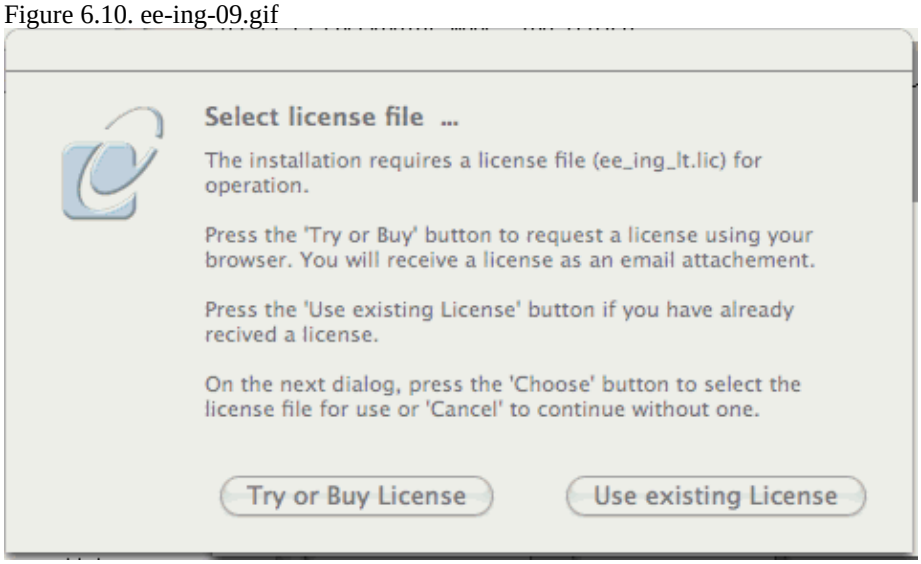


The Software must be installed as a user with Administrative privileges on the machine:

Figure 6.9. ee-ing-08.gif

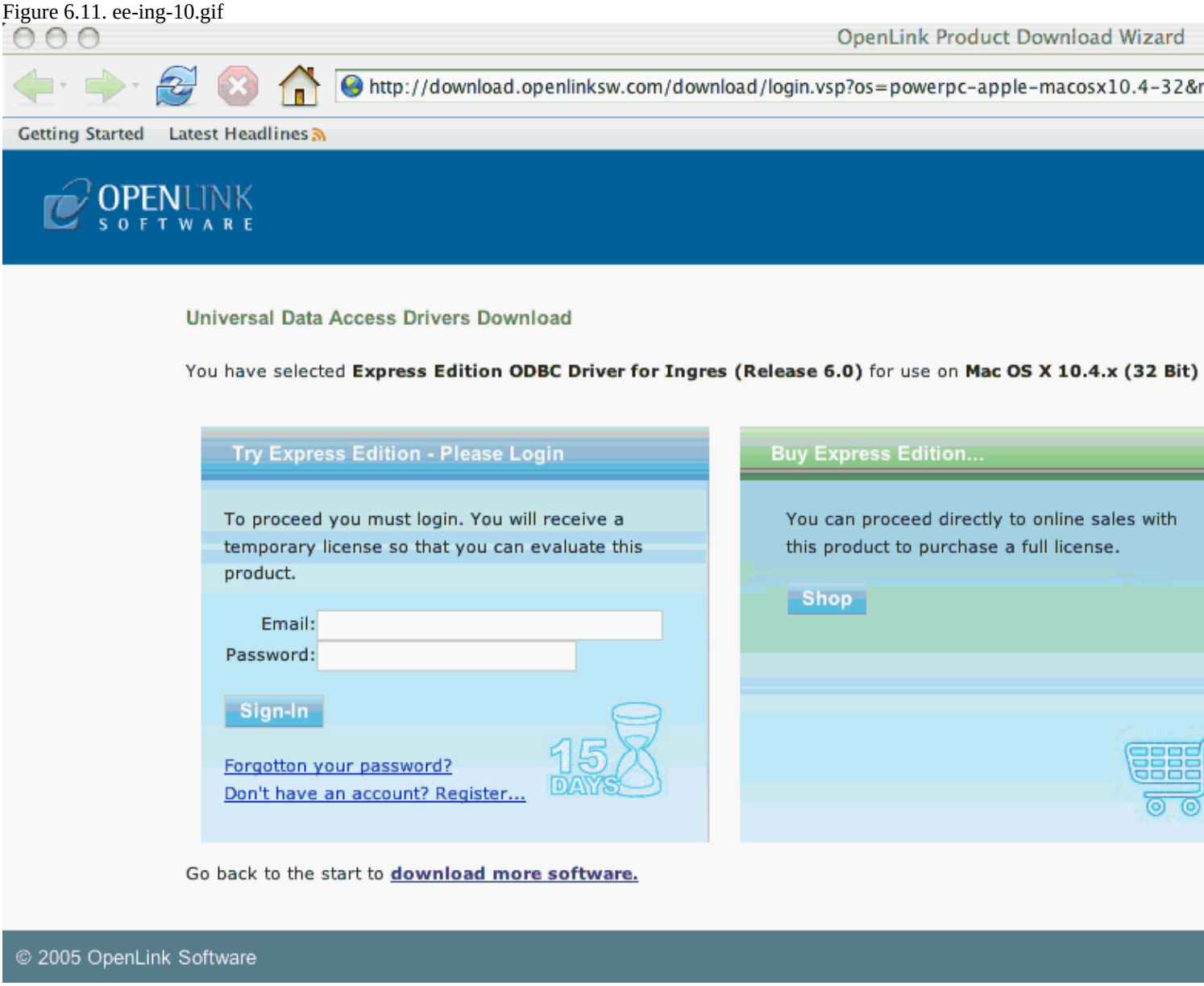
After the driver has been installed you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

Figure 6.10. ee-ing-09.gif



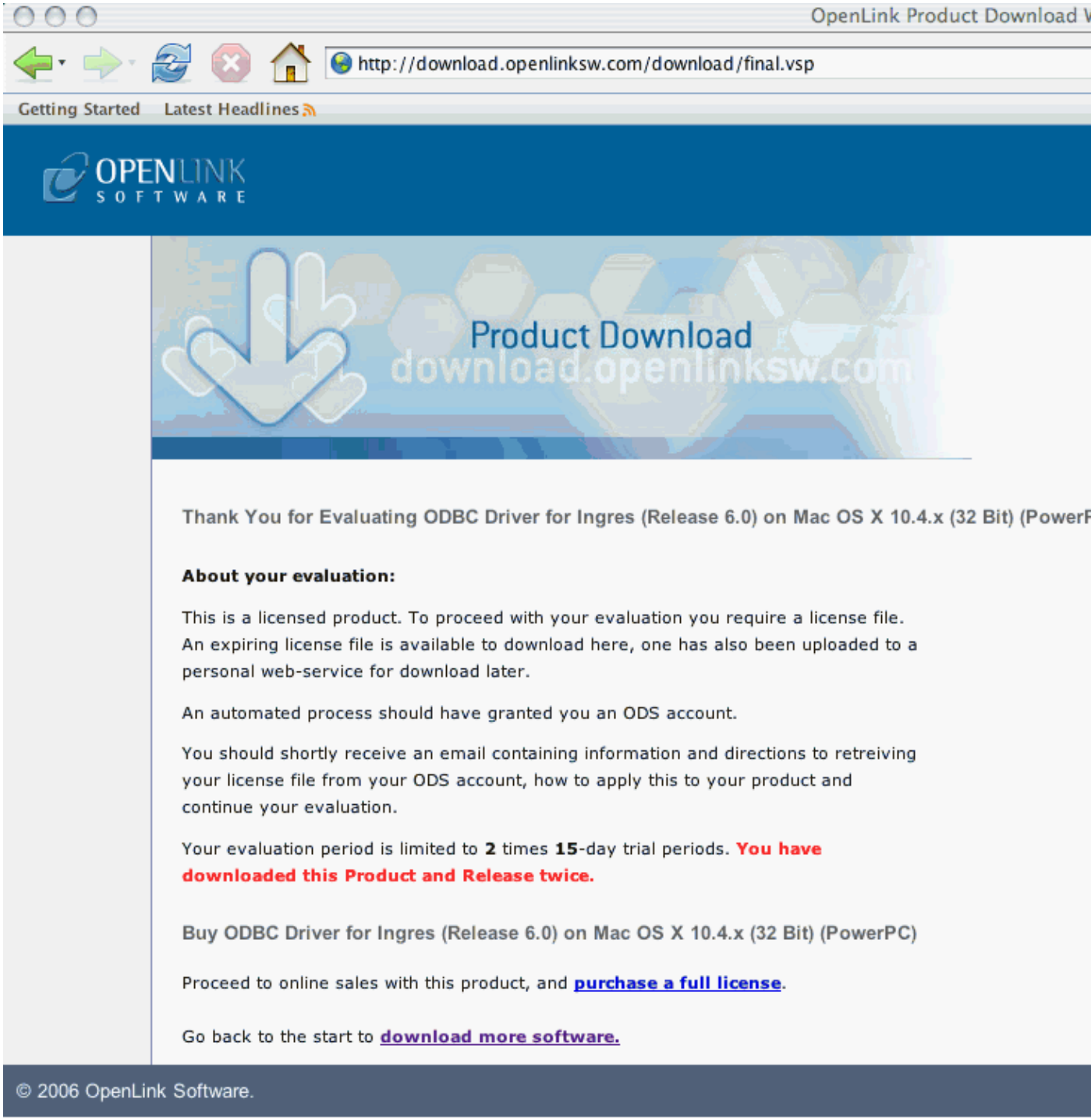
To obtain the trial license you must be a registered user on the OpenLink Web site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Figure 6.11. ee-ing-10.gif



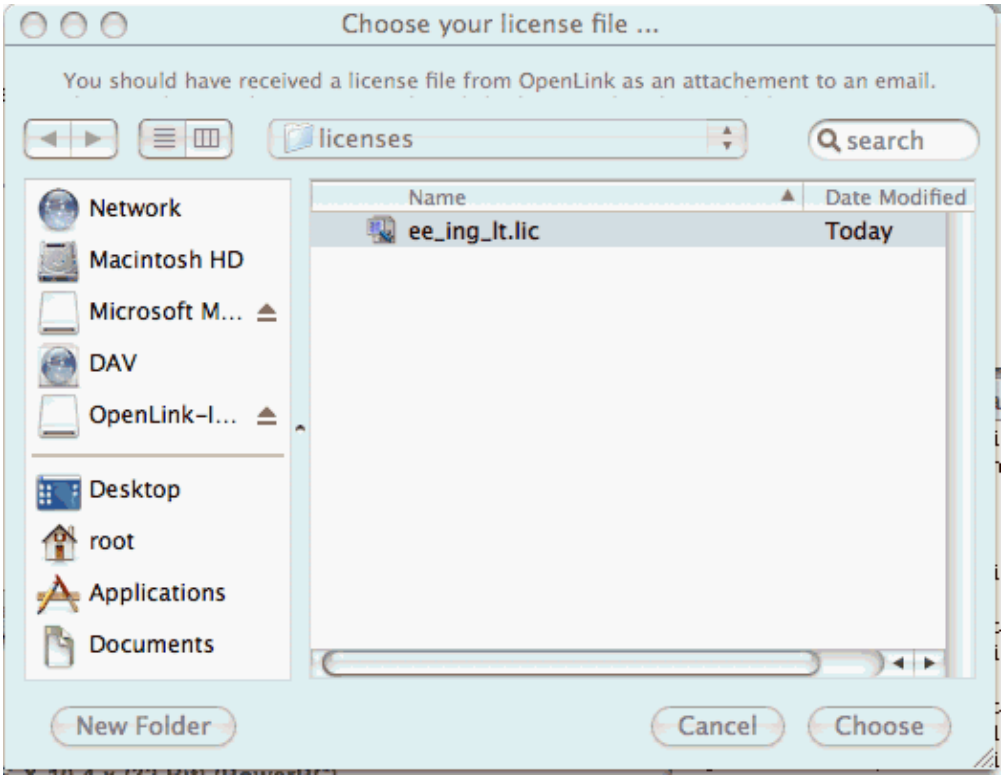
Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLink Data Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 6.12. ee-ing-11.gif



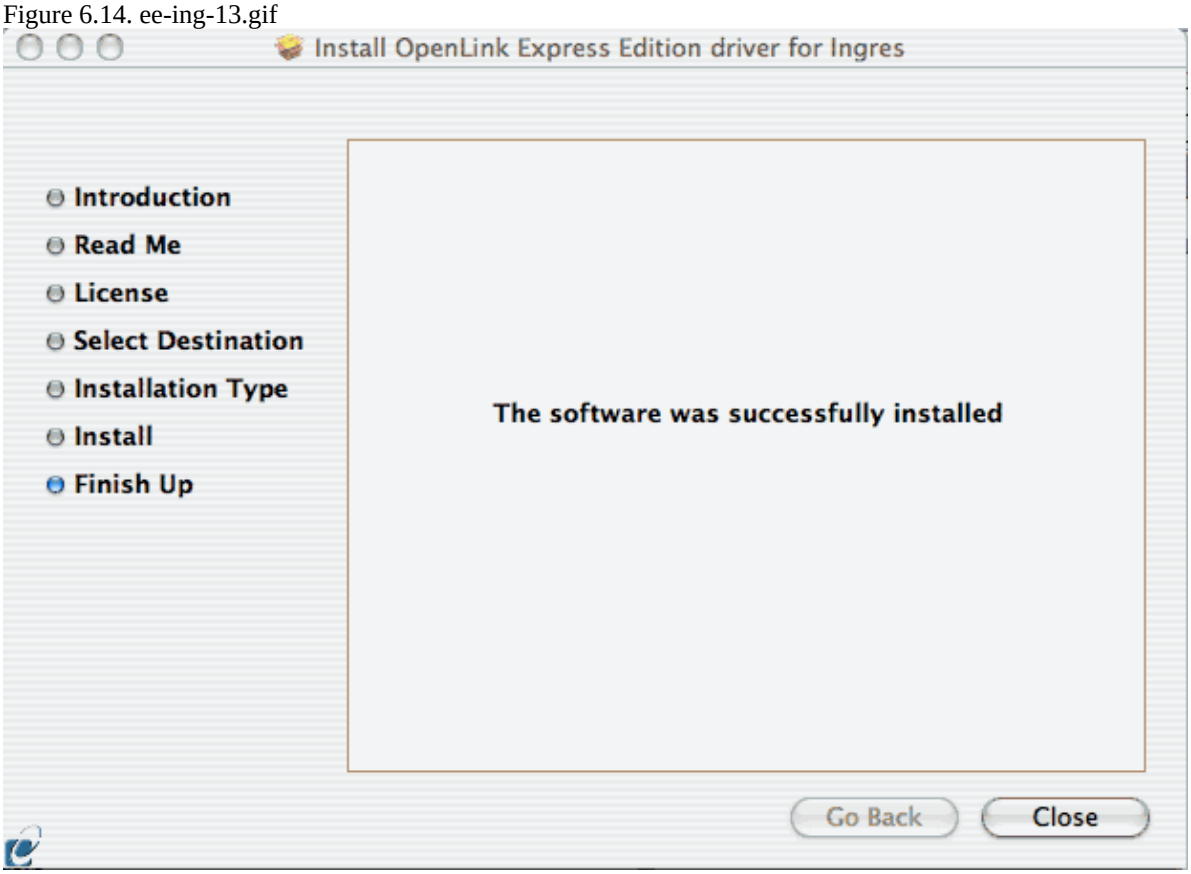
Select the license file to be used for the installation:

Figure 6.13. ee-ing-12.gif



Installation is complete:

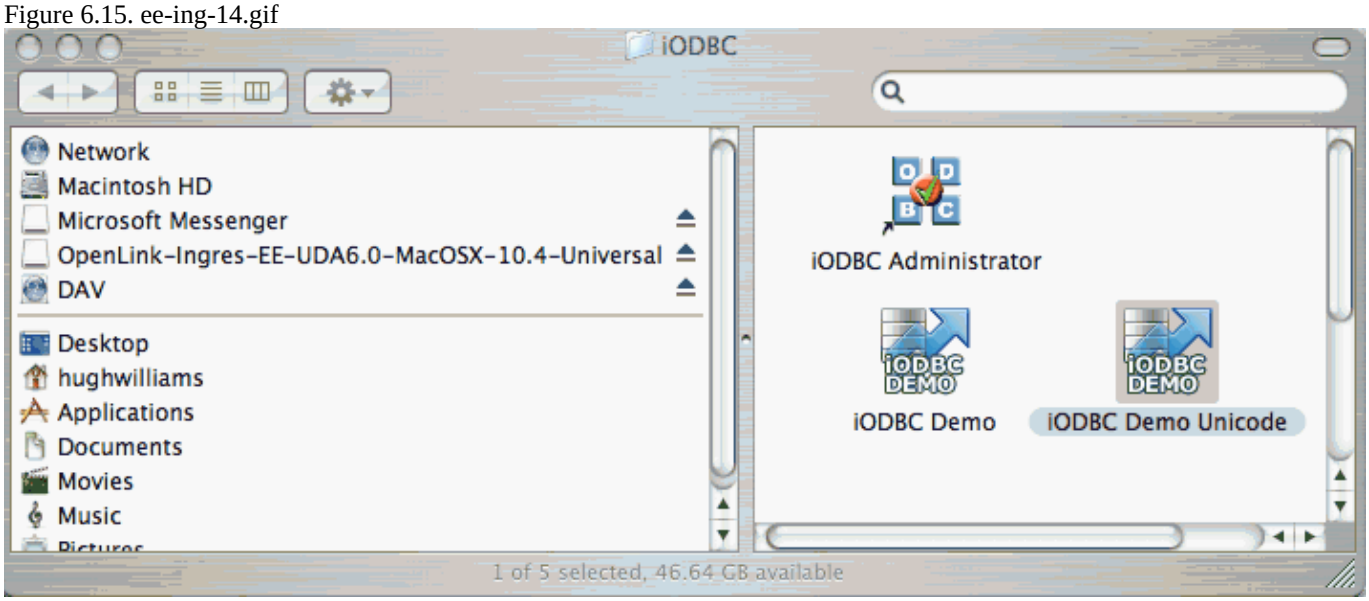
Figure 6.14. ee-ing-13.gif



7.1.2 Configuration

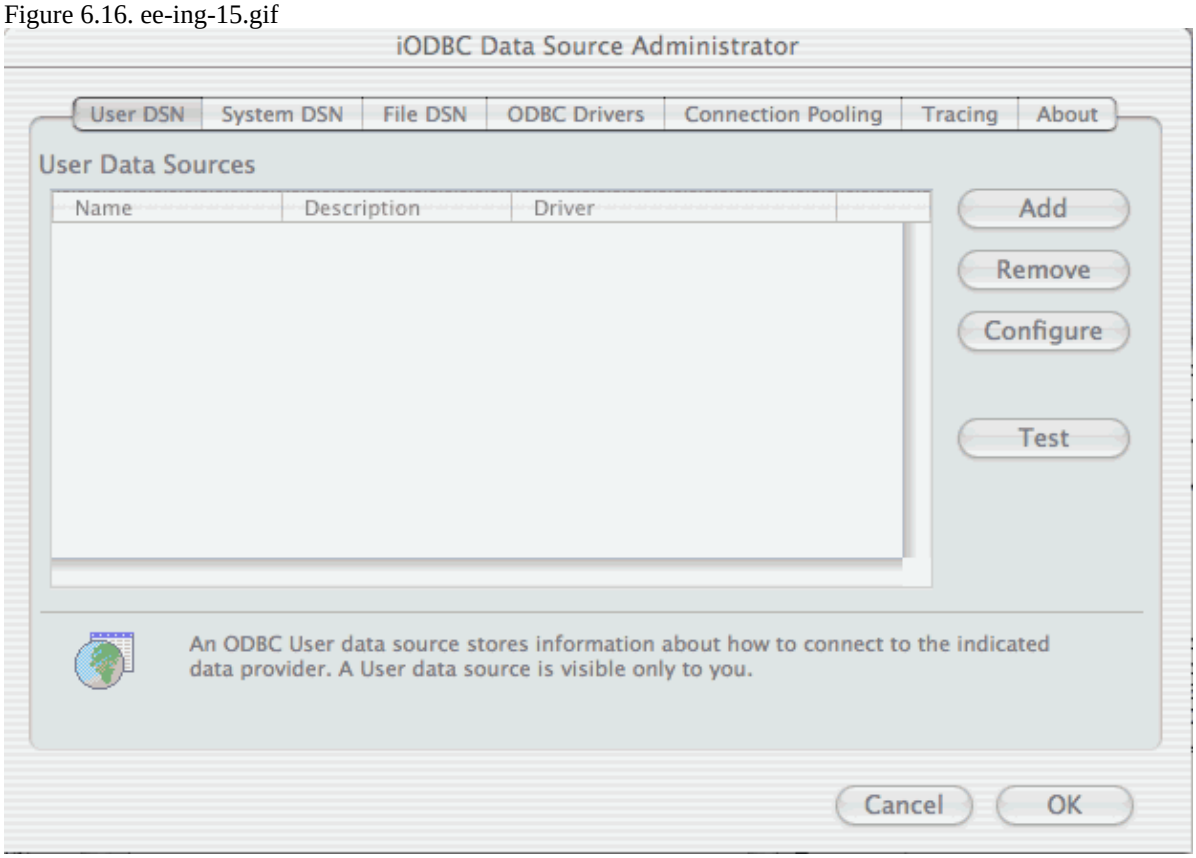
To configure an ODBC DSN, run the OpenLink iODBC Administrator located in the /Applications/iODBC folder:

Figure 6.15. ee-ing-14.gif



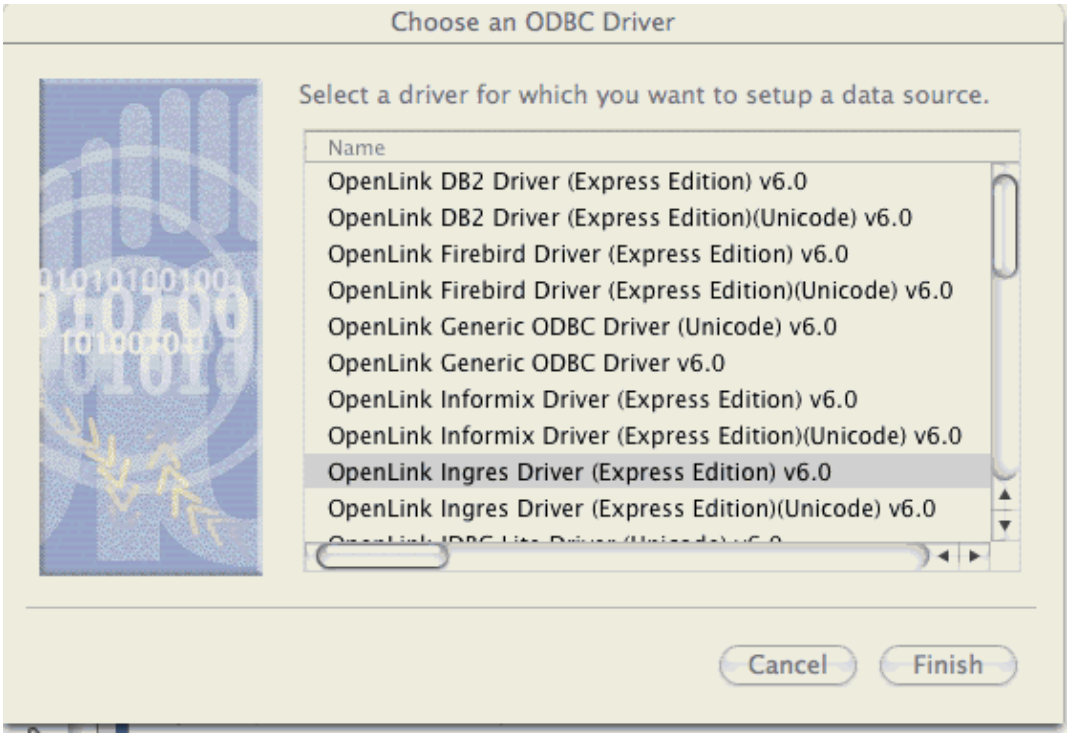
Click on the add button to Choose the ODBC Driver the DSN should be created for:

Figure 6.16. ee-ing-15.gif



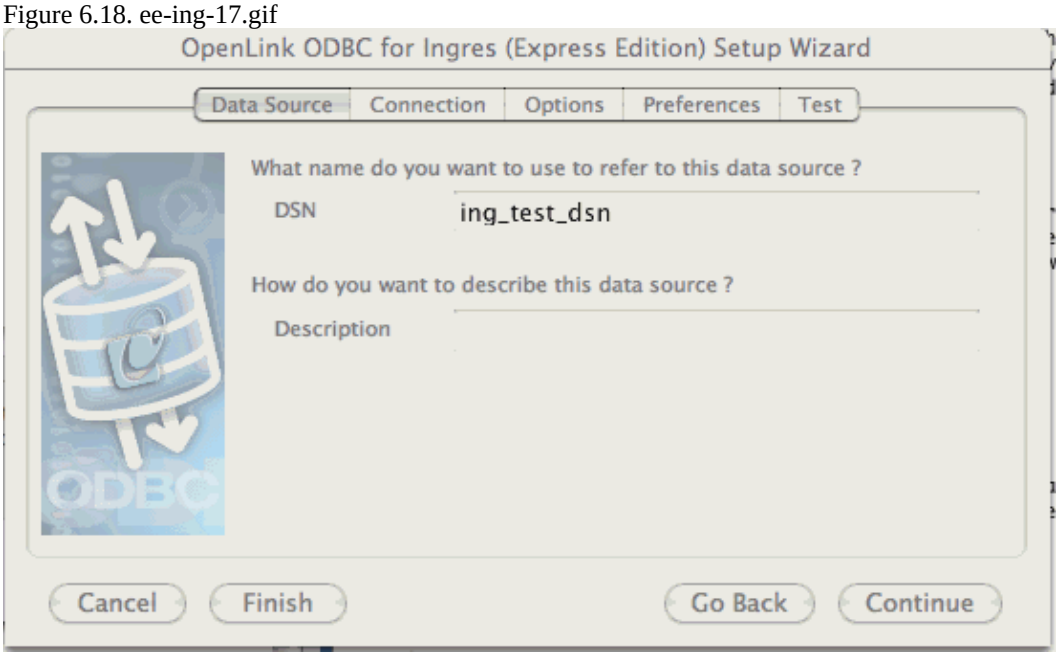
Choose the OpenLink Ingres Driver (Express Edition) v6.0 from the list of available drivers:

Figure 6.17. ee-ing-16.gif



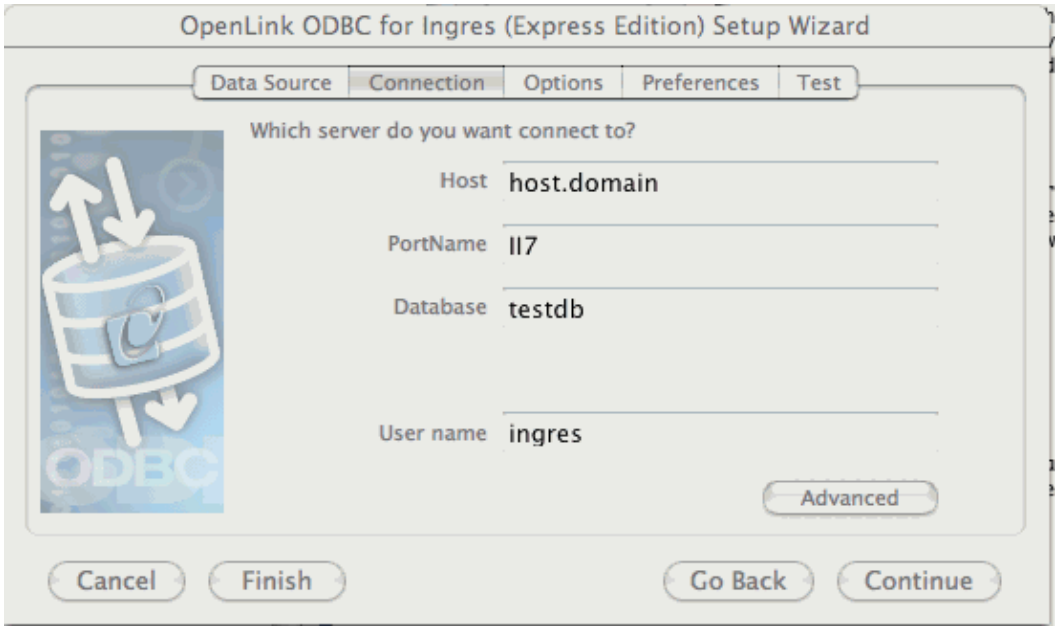
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 6.18. ee-ing-17.gif



The Connection Tab requests the minimum paramters required to make a connection to the target database:

Figure 6.19. ee-ing-18.gif



- *Hostname* - the hostname of the server on which the Ingres Node is running
- *PortName* - the Ingres instance Node name
- *Database* - the ase name of a valid database on the Node
- *Username* - the name of a valid Ingres user
- *Advanced* - additional optional configuration parameters:

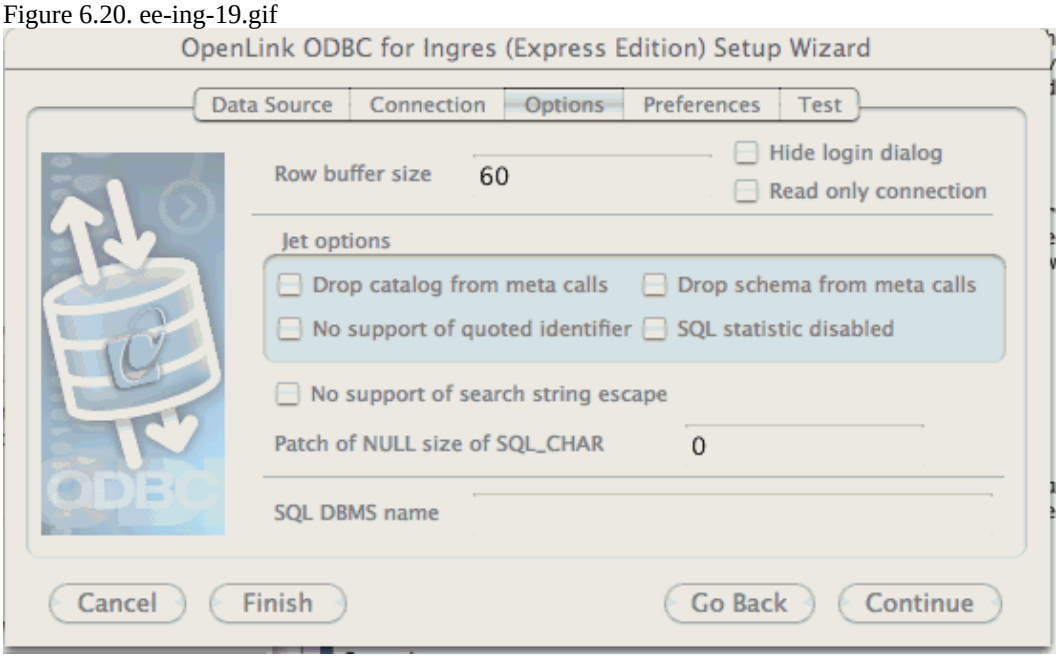
Table 6.1.

RoleName	Role used in DBMS.
GroupName	Group used in DBMS.
DbmsUser	User ID for the DBMS session (-u flag).
DbmsPassword	User's DBMS password.
ConnectionPool	Use pooled connection: 'off' or 'on'.
AutocommitMode	Autocommit cursor handling: 'dbms', 'single', 'multi'.
SelectLoops	Select loop processing: 'off' or 'on'.
CursorMode	Default cursor concurrency mode, which determines the concurrency of cursors that have no concurrency explicitly assigned. Available options are: 'dbms', 'update', 'readonly'.
VnodeUsage	Allows the JDBC application to control the portions of the vnode information that are used to establish the connection to the remote DBMS server. Available options are: 'connect', 'login'
CharEncode	Specifies the Java character encoding used for conversions between Unicode and character data types. Generally, the character encoding is determined automatically by the driver from the DAS installation character set. This property allows an alternate character encoding to be specified (if desired) or a valid character encoding to be used when the driver is unable to map the server's character set.
TimeZone	Specifies the Ingres timezone associated with the client's location. Corresponds to the Ingres environment variable II_TIMEZONE_NAME and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of dates.
DecimalChar	Specifies the character to be used as the decimal point in numeric literals. Corresponds to the Ingres environment variable II_DECIMAL and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of query text.
DateFormat	Specifies the Ingres format for date literals. Corresponds to the Ingres environment variable II_DATE_FORMAT and is assigned the same values. This property is not used directly by the driver, but is sent to the DBMS and affects the processing of query text.
MoneyFormat	Specifies the Ingres format for money literals. Corresponds to the Ingres environment variable II_MONEY_FORMAT and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of query text.
MoneyPrecision	

Specifies the precision of money data values. Corresponds to the Ingres environment variable II_MONEY_PREC and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of money values.

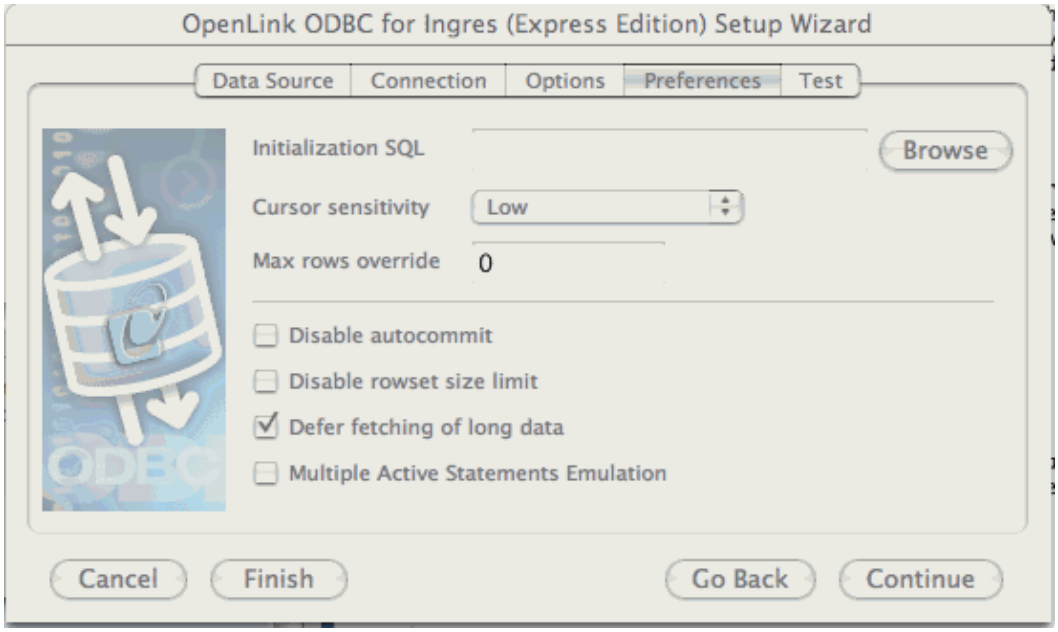
As indiacted above the paramters of the options and preferences tabs are not required for a basic connection:

Figure 6.20. ee-ing-19.gif



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be read-only. Make sure the checkbox is unchecked to request a read/write connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL such as select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space character (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

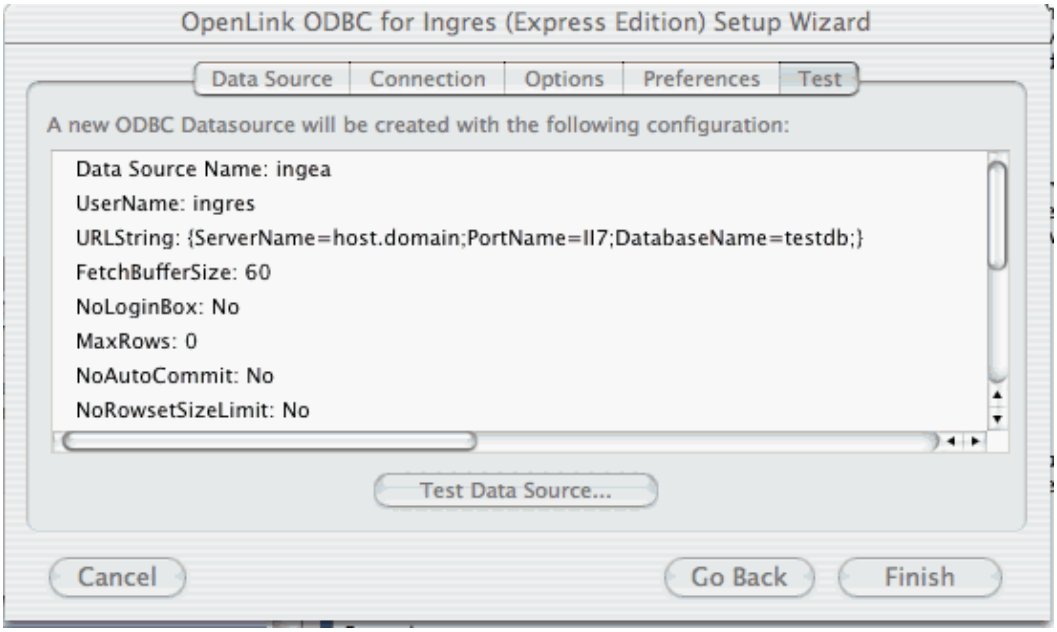
Figure 6.21. ee-ing-20.gif



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

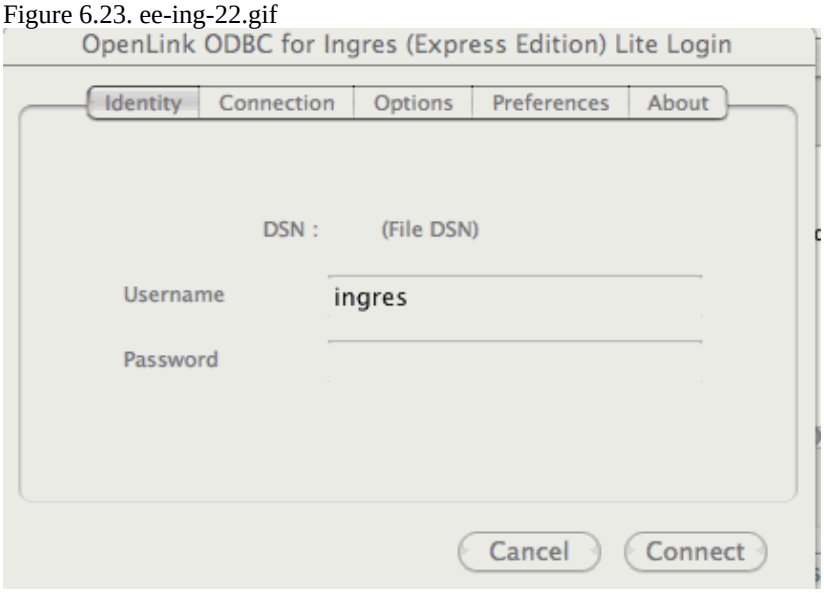
Click on the 'Test Data Source' button to make a connection to the database to verify connectivity:

Figure 6.22. ee-ing-21.gif



Enter a vaild username and pasword for the database:

Figure 6.23. ee-ing-22.gif



A successful connection to the database has been made:

Figure 6.24. ee-ing-23.gif

7.2 OpenLink ODBC Driver for Ingres (Express Edition) for Windows

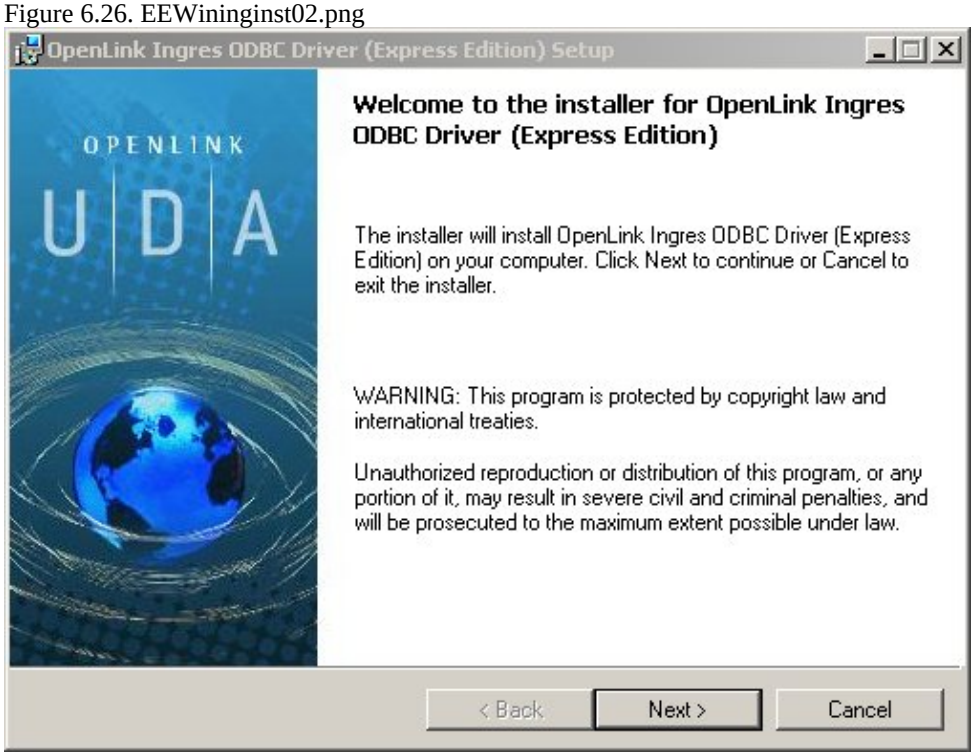
7.2.1 Installation

The OpenLink ODBCDriver for Ingres (Express Edition) is distributed as a Windows MSI installer. Simply double click on the installer 'ntl6eing.msi' to commence the installation:

Figure 6.25. EEWininginst01.png

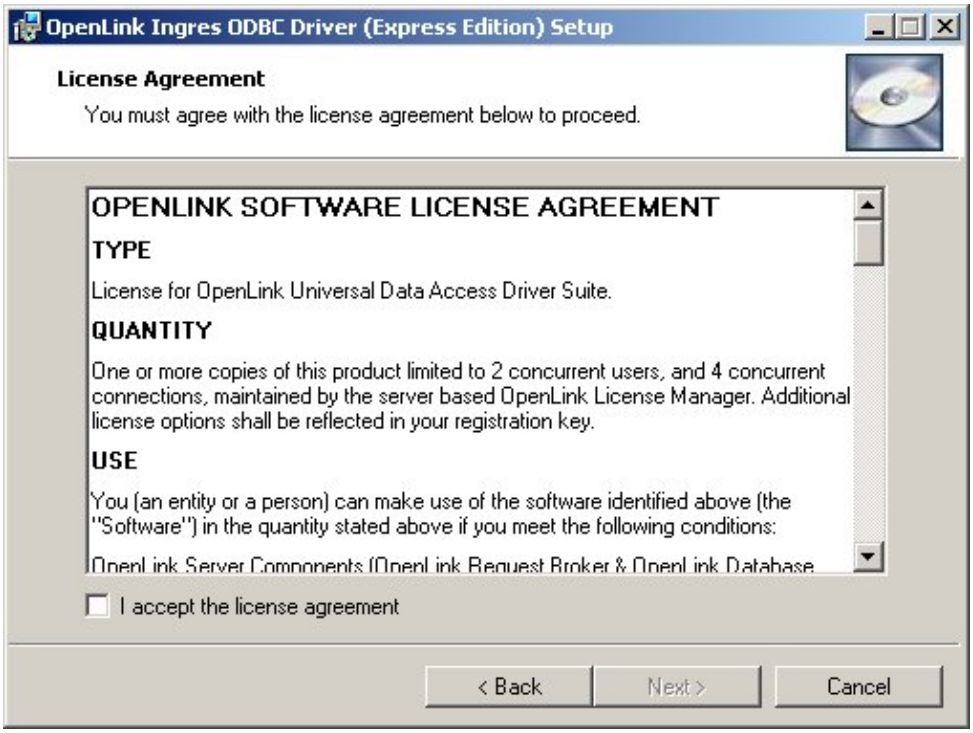
Installer Welcome Dialog for the OpenLink ODBCDriver for Ingres (Express Edition):

Figure 6.26. EEWininginst02.png



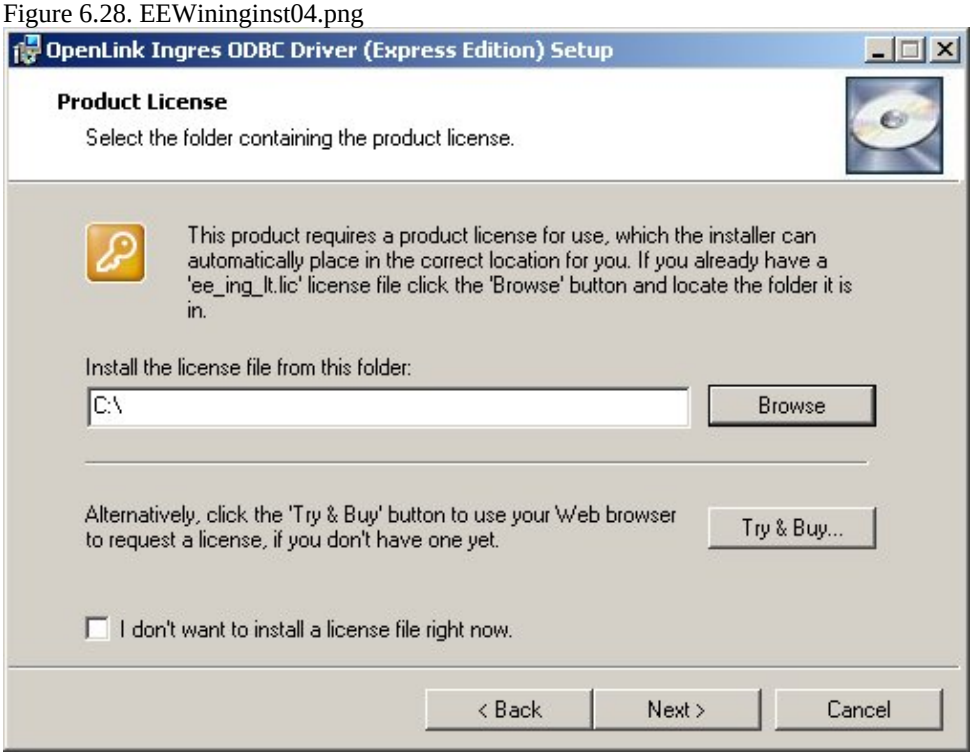
Please read the software license agreement and accept before continuing your installation:

Figure 6.27. EEWininginst03.png



Before installation you will be prompted for a license file. If a license file already exists on the machine, then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtained by selecting the 'try and buy' option, which loads OpenLink's online try and buy web page:

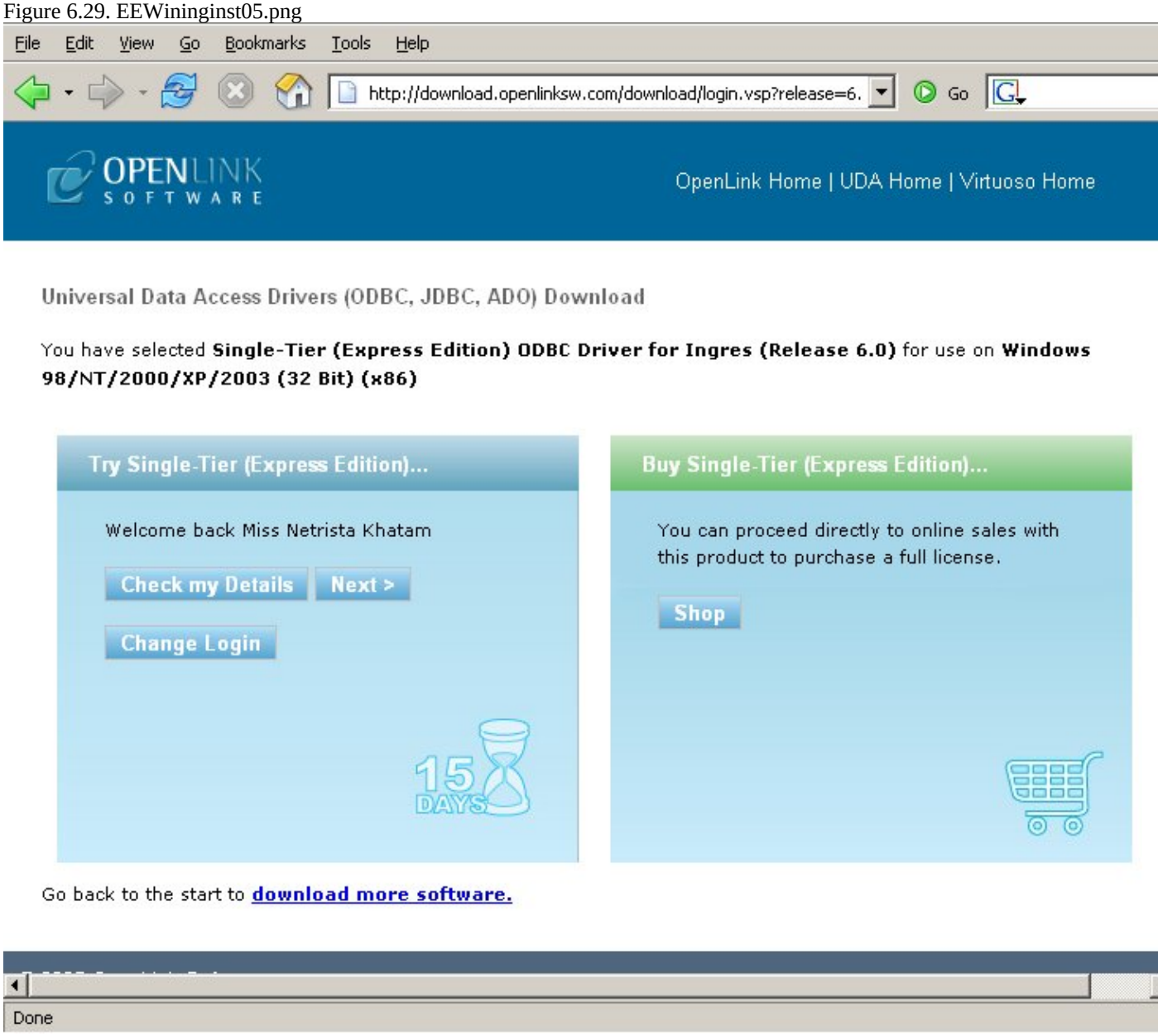
Figure 6.28. EEWininginst04.png



To obtain the trial license, you must be a registered user on the OpenLinkWeb site and login with your username (e-mail address) and password. Click on the 'Shop' link to visit OpenLink's online shop cart to purchase a full license, if required:

Click on the 'download license' button to immediately obtain the license file and save it to your desktop. Alternatively, an auto-generated e-mail will be sent to your registered e-mail address. This email will contain a link to your OpenLinkData Space (ODS). The OpenLInkData Space (ODS) contains copies of all trial and full license files in a Briefcase for download at a later date.

Figure 6.29. EEWininginst05.png

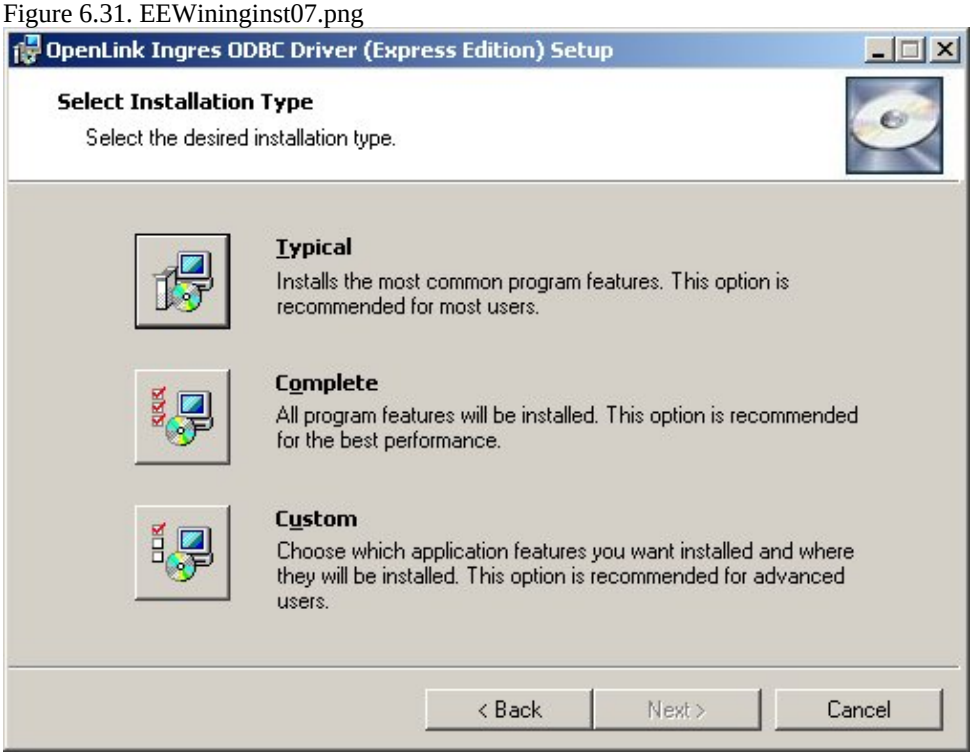


Select the license file to be used for the installation:

Figure 6.30. EEWininginst06.png

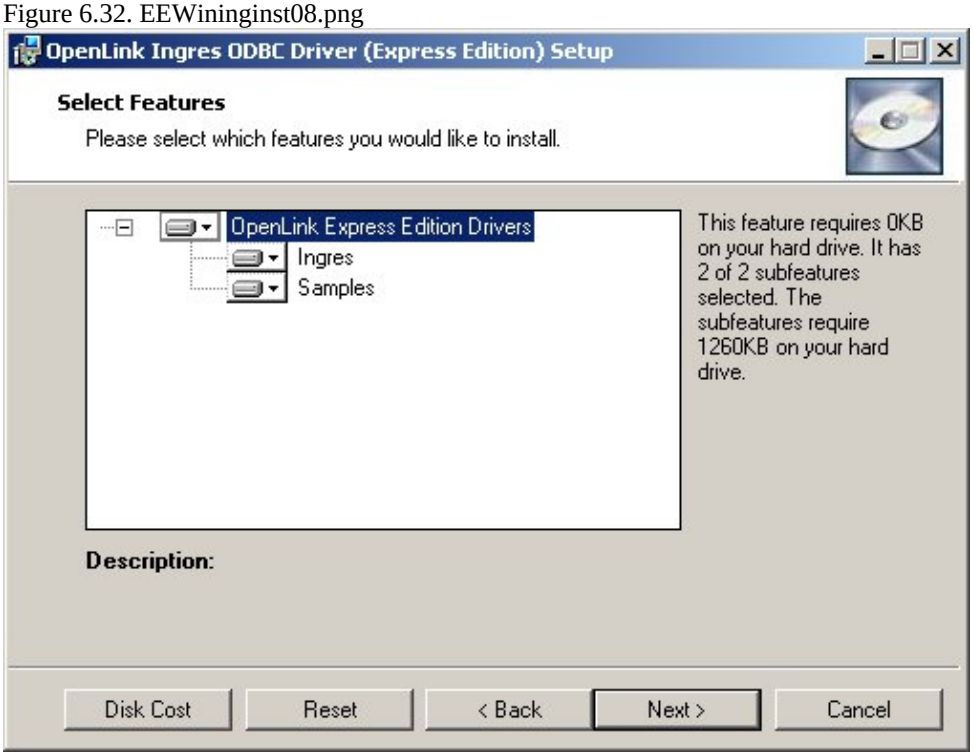
Choose to perform a custom, typical or complete installation of the driver:

Figure 6.31. EEWininginst07.png



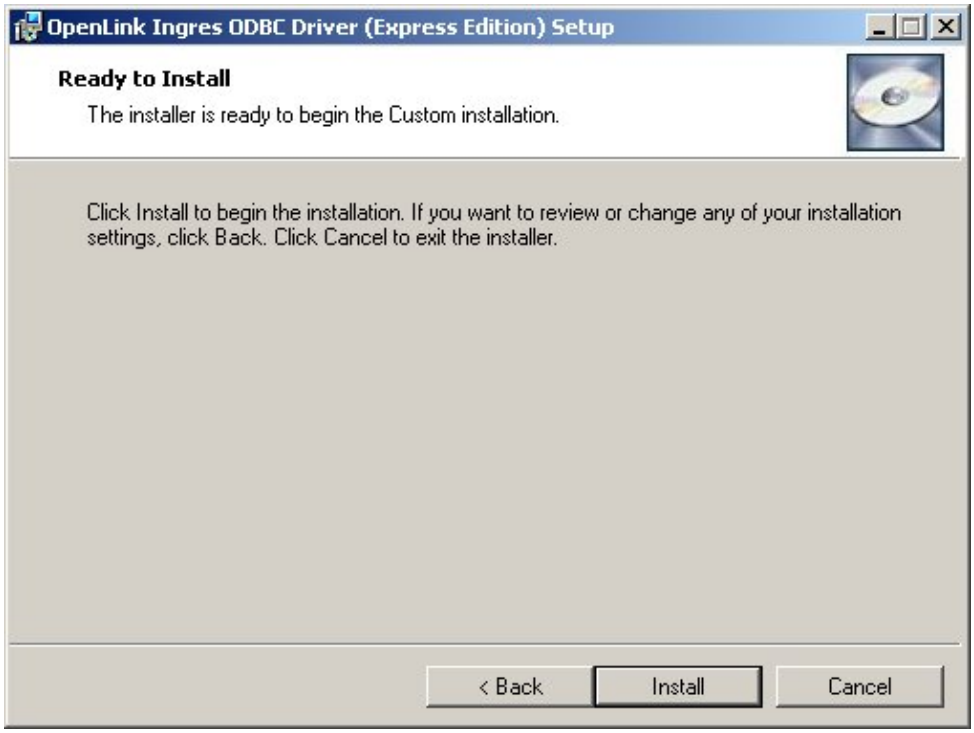
Select the features to be installed:

Figure 6.32. EEWininginst08.png



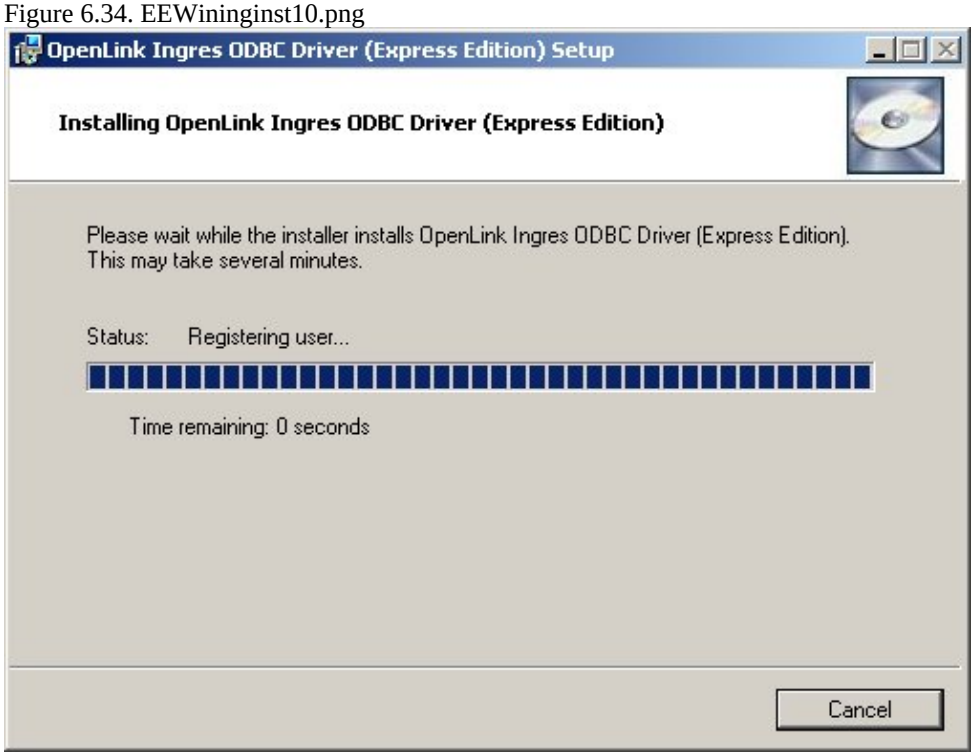
Click the install button to begin the installation of components:

Figure 6.33. EEWininginst09.png



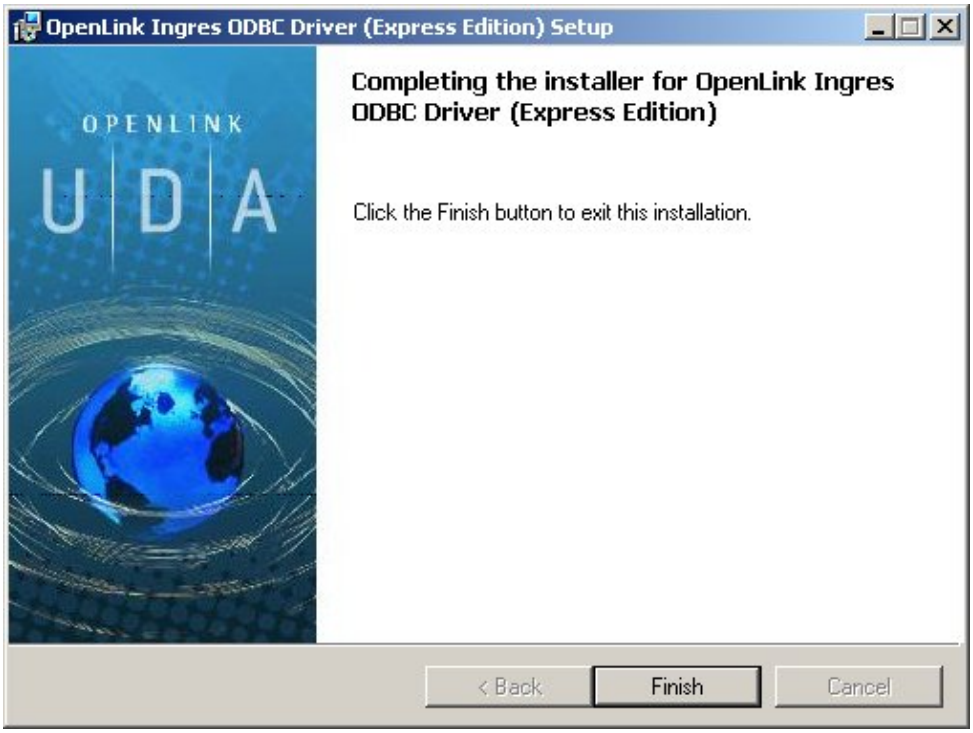
Installation in progress:

Figure 6.34. EEWininginst10.png



The Software installation is complete and ready for use:

Figure 6.35. EEWininginst11.png



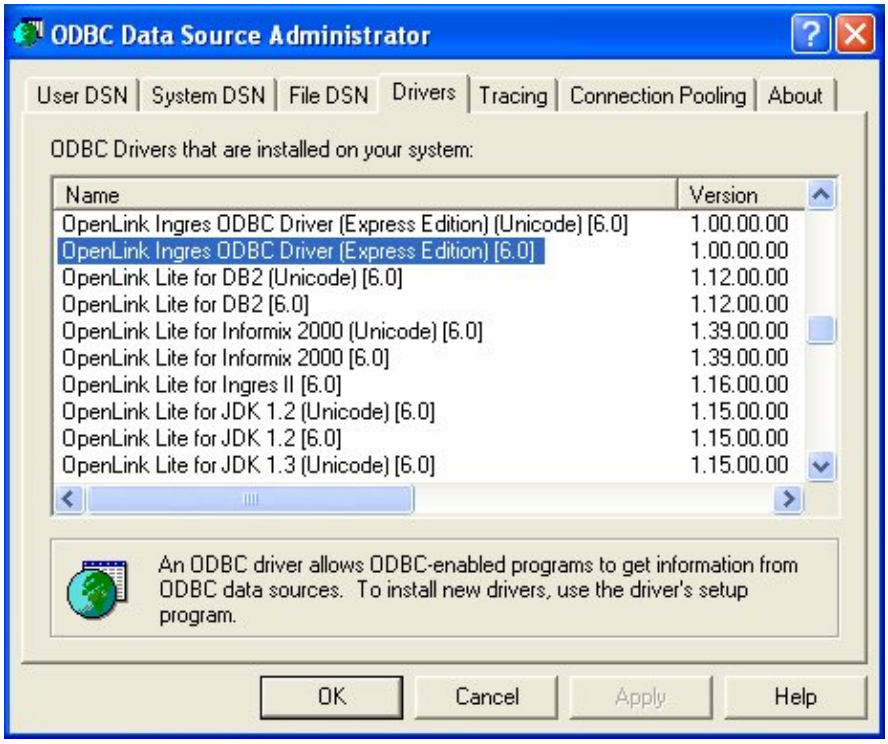
7.2.2 Configuration

To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 6.36. EEWiningconf01.png

Click on the Drivers tab to confirm the OpenLinkIngres ODBCDriver [Express Edition][6.0] has been successfully installed:

Figure 6.37. EEWiningconf02.png

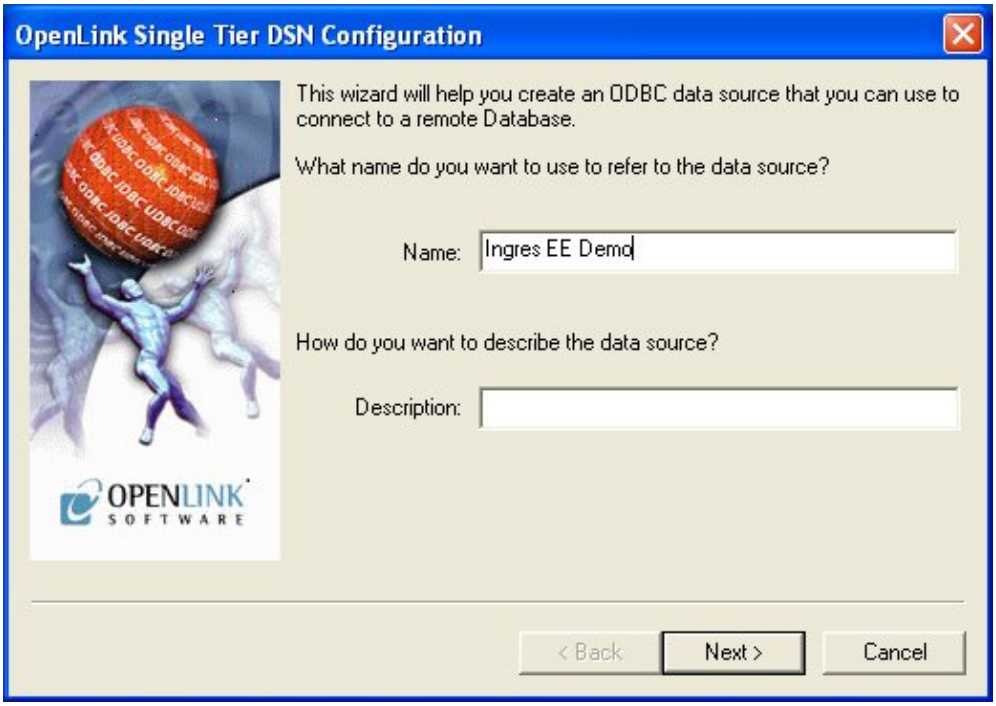


From either the User or System DSN tabs, click on the Add button and select the OpenLinkIngres ODBCDriver [Express Edition][6.0] from the list :

Figure 6.38. EEWiningconf03.png

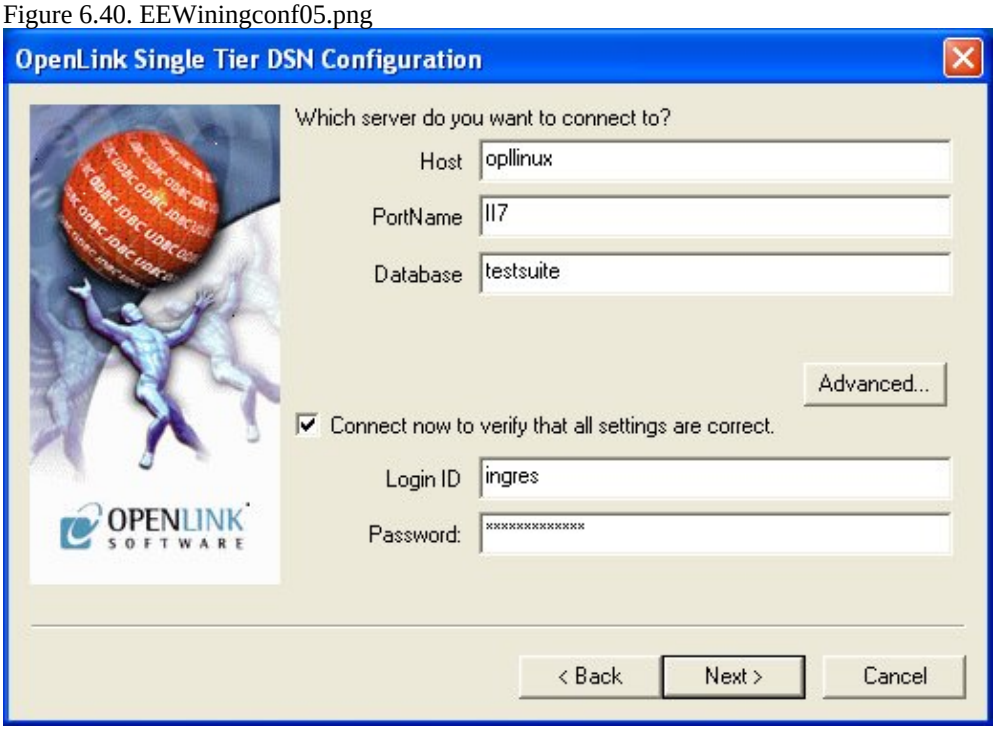
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 6.39. EEWiningconf04.png



The Connection tab requests the minimum parameters required to make a connection to the target database:

Figure 6.40. EEWiningconf05.png



- *Host* : This is the fully qualified hostname or IP address of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *PortName* : This is the port on which Ingres is listening
- *Database* : This is the name of the Ingres database to which you want to connect
- *Login ID* : This is a valid user name for the Ingres database

- *Password* : This is a valid password for the Ingres database

Click next to verify that all settings are correct or uncheck the check box to delay testing to a later stage.

The advanced button displays additional, optional parameters that can be configured:

Figure 6.41. EEWiningconf06.png

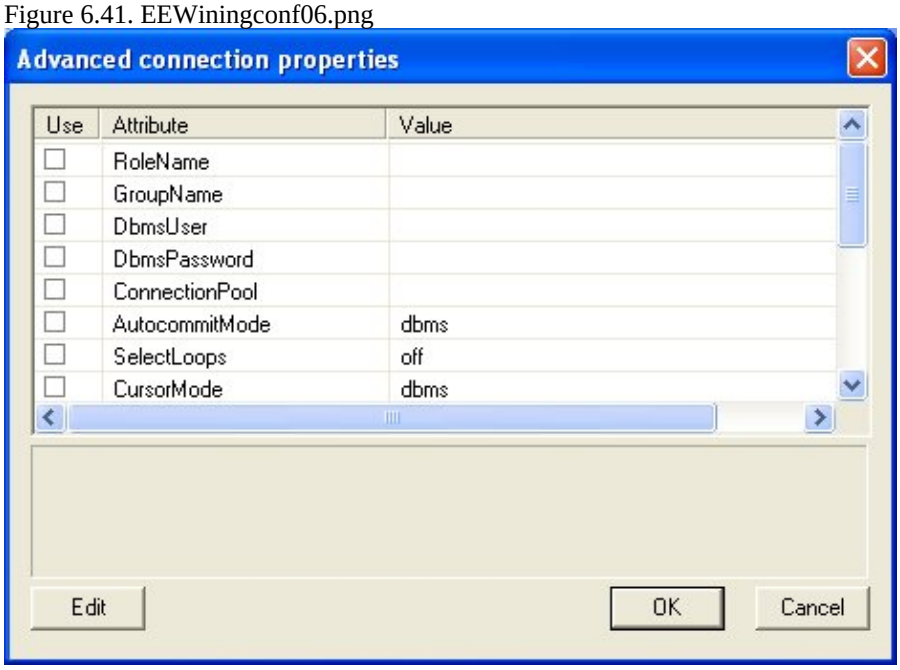


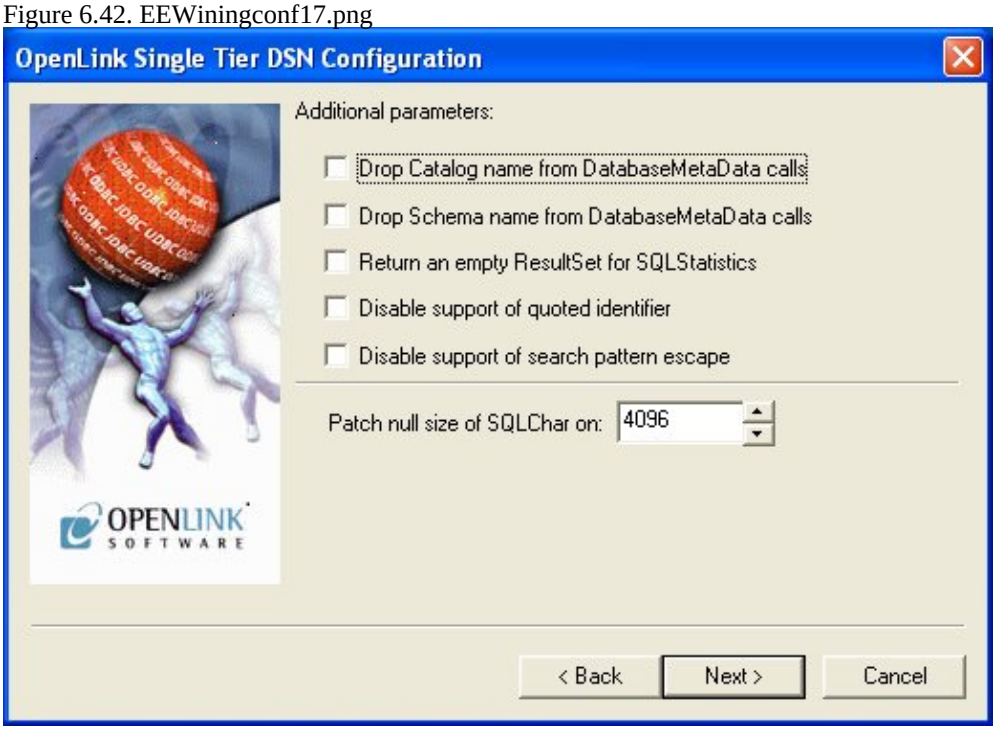
Table 6.2.

RoleName	Role used in DBMS.
GroupName	Group used in DBMS.
DbmsUser	User ID for the DBMS session (-u flag).
DbmsPassword	User's DBMS password.
ConnectionPool	Use pool connectino: 'off' or 'on.'
AutocommitMode	Autocommit cursor handling: 'dbms', 'single', 'multi. (default - 'dbms')
SelectLoops	Select loop processing: 'off' or 'on.' (default - 'off')
CursorMode	Default cursor concurrency mode, which determines the concurrency of cursors that have no concurrency explicitly assigned. Available options are: 'dbms', 'update', 'readonly.' (default - 'dbms')
VnodeUsage	Allows the JDBC application to control the portions of the vnode information that are used to establish the connection to the remote DBMS server. Available options are 'connect','login' (default - 'connect').
CharEncode	Specifies the character encoding for the conversions between Unicode and character data types. Generally, the character encoding is determined automatically by the driver from the DAS installation character set. This property allows an alternate character encoding to be specified (if desired) or a valid character encoding to be used when the driver is unable to map the server's character set.
TimeZone	Specifies the Ingres timezone associated with the client's location. Corresponds to the Ingres environment variable II_TIMEZONE_NAME and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of dates.
DecimalChar	Specifies the character to be used as the decimal point in numeric literals. Corresponds to the Ingres environment variable II_DECIMAL and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of query text.
DateFormat	Specifies the Ingres format for date literals. Corresponds to the Ingres environment variable II_DATE_DECIMAL and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of query text.
MoneyFormat	Specifies the Ingres format for money literals. Corresponds to the Ingres environment variable II_MONEY_FORMAT and is assigned the same values. This property is not used directly by the

	driver but is sent to the DBMS and affects the processing of query text..
MoneyPrecision	Specifies the precision of money data values. Corresponds to the Ingres environment variable II_MONEY_PREC and is assigned the same values. This property is not used directly by the driver but is sent to the DBMS and affects the processing of money values.

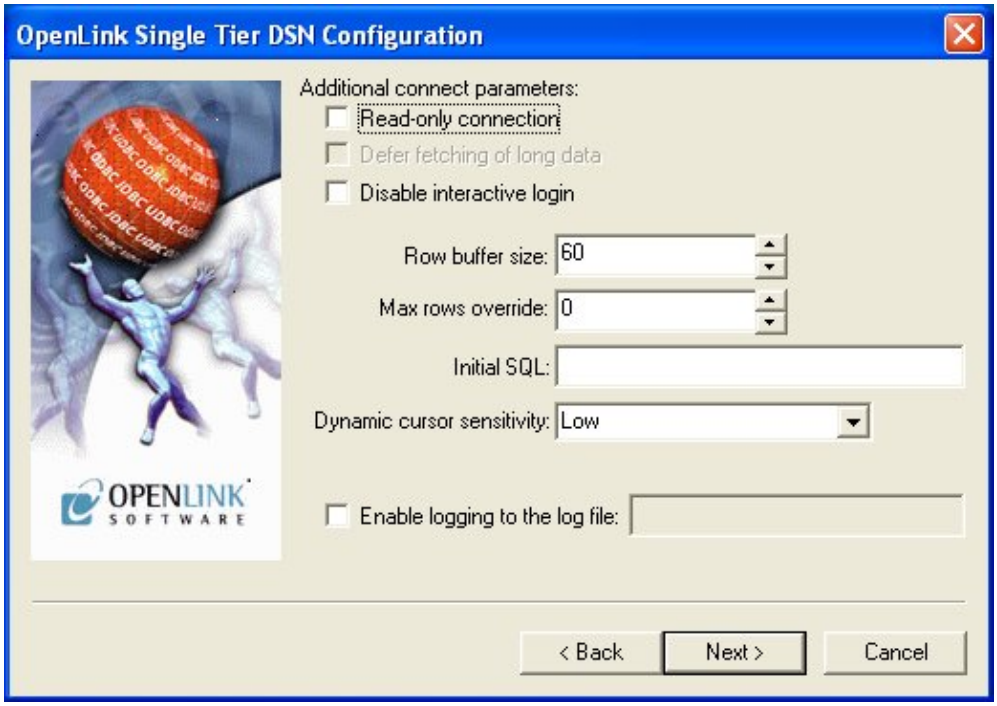
As indicated above, the parameters on the options and preferences tabs are not required for a basic connection.

Figure 6.42. EEWiningconf17.png



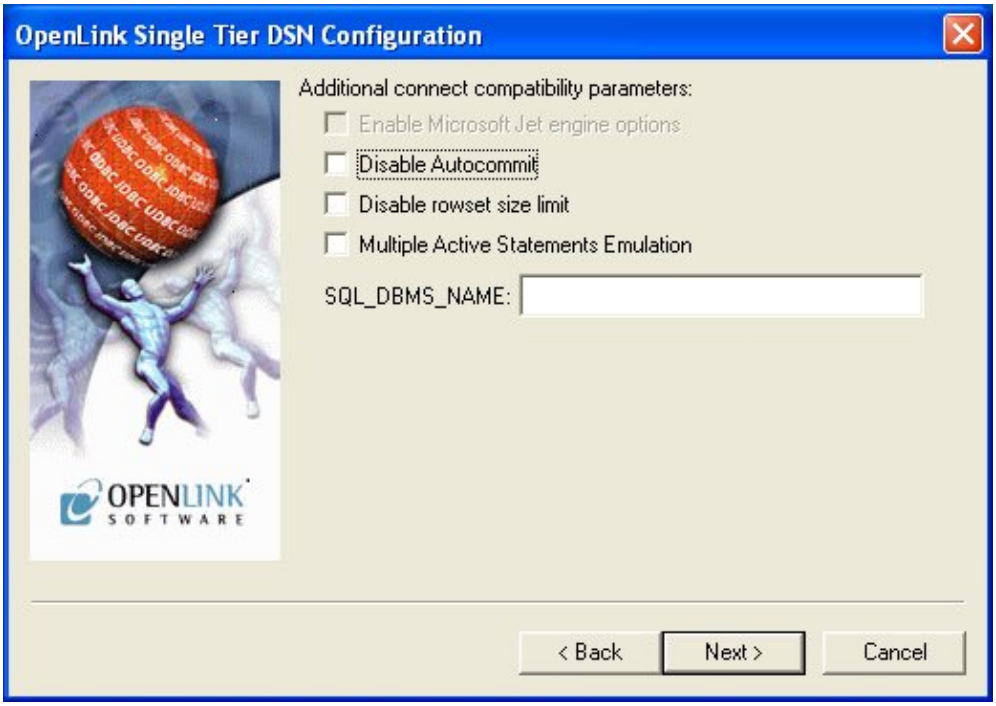
- *Drop Catalog name from DatabaseMetaData calls* - Enable this option to have the catalog name not appear for tables, views, and procedures when requesting database meta-data.
- *Drop Schema name from DatabaseMetaData calls* - Enable this option to have the schema-name not appear for tables, views, and procedures when requesting database meta-data.
- *Return an empty ResultSet for SQLStatistics* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table, e.g., what indexes there are on it.
- *Disable support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if the DBMS does not support quoted SQL, e.g., select * from "account."
- *Disable support of search pattern escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if the DBMS does not support SQL escape patterns.
- *Patch of NULL size of SQL_CHAR* - If set, this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0, the driver uses the size returned by the database.

Figure 6.43. EEWiningconf08.png



- *Disable Interactive Login* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Max rows override* - Allows you to define a limit on the maximum number of rows to be returned from a query. The default value of 0 means no limit.
- *Initial SQL* - Lets you specify a file containing SQL statements that will be automatically run against the database upon connection.
- *Dynamic Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched, and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED, when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows do not appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate OpenLink script for the target database.
- *Enable logging to the log file:* - Specifies the full path to a text file. If the associated checkbox is checked, and a file is passed, the driver will log auto-generate a clientside ODBC trace.

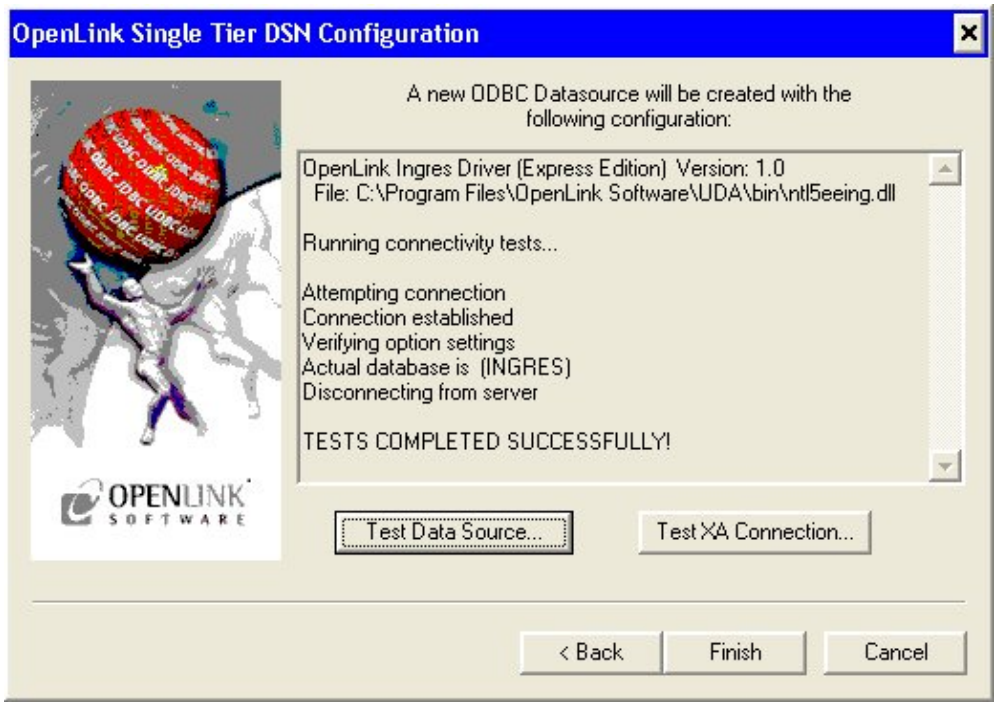
Figure 6.44. EEWiningconf09.png



- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Driver. The default mode is AutoCommit (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is required for products like Microsoft InfoPath for which the return value must be "SQL Server".

Click on the *Test Data Source*button to verify that a successful connection can be made to the database.

Figure 6.45. EEWiningconf10.png


OpenLink Single Tier DSN Configuration
A new ODBC Datasource will be created with the following configuration:
OpenLink Ingres Driver (Express Edition) Version: 1.0
File: C:\Program Files\OpenLink Software\UDA\bin\ntl5eeing.dll
Running connectivity tests...
Attempting connection
Connection established
Verifying option settings
Actual database is (INGRES)
Disconnecting from server
TESTS COMPLETED SUCCESSFULLY!
OPENLINK SOFTWARE
Test Data Source...
Test XA Connection...
< Back
Finish
Cancel

8 Chapter 7. OpenLink ODBC Driver for MySQL (Express Edition)

Table of Contents

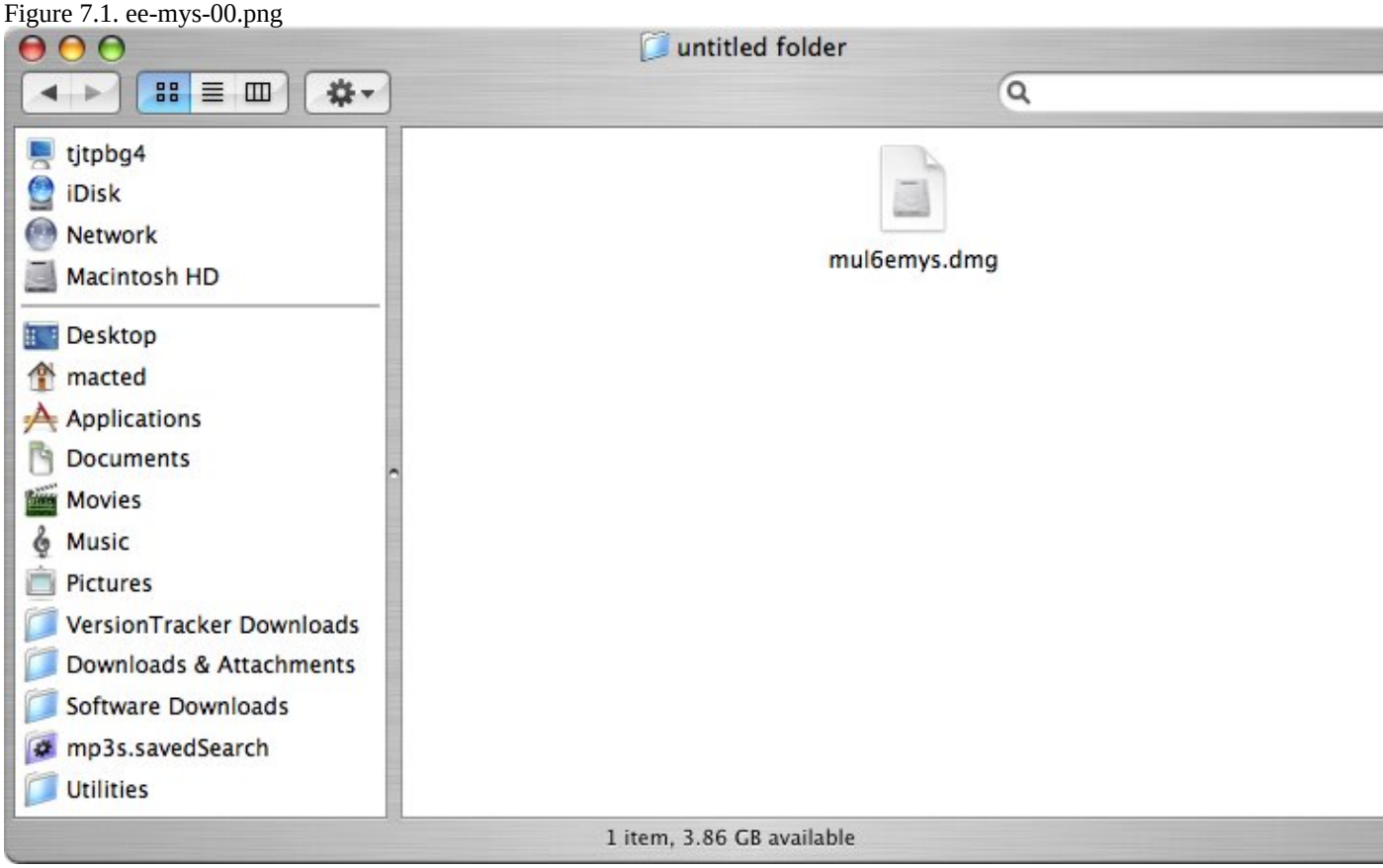
- OpenLink ODBC Driver for MySQL (Express Edition) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for MySQL (Express Edition) for Windows
  - Installation
  - Configuration

8.1 OpenLink ODBC Driver for MySQL (Express Edition) for Mac OS X

8.1.1 Installation Guide

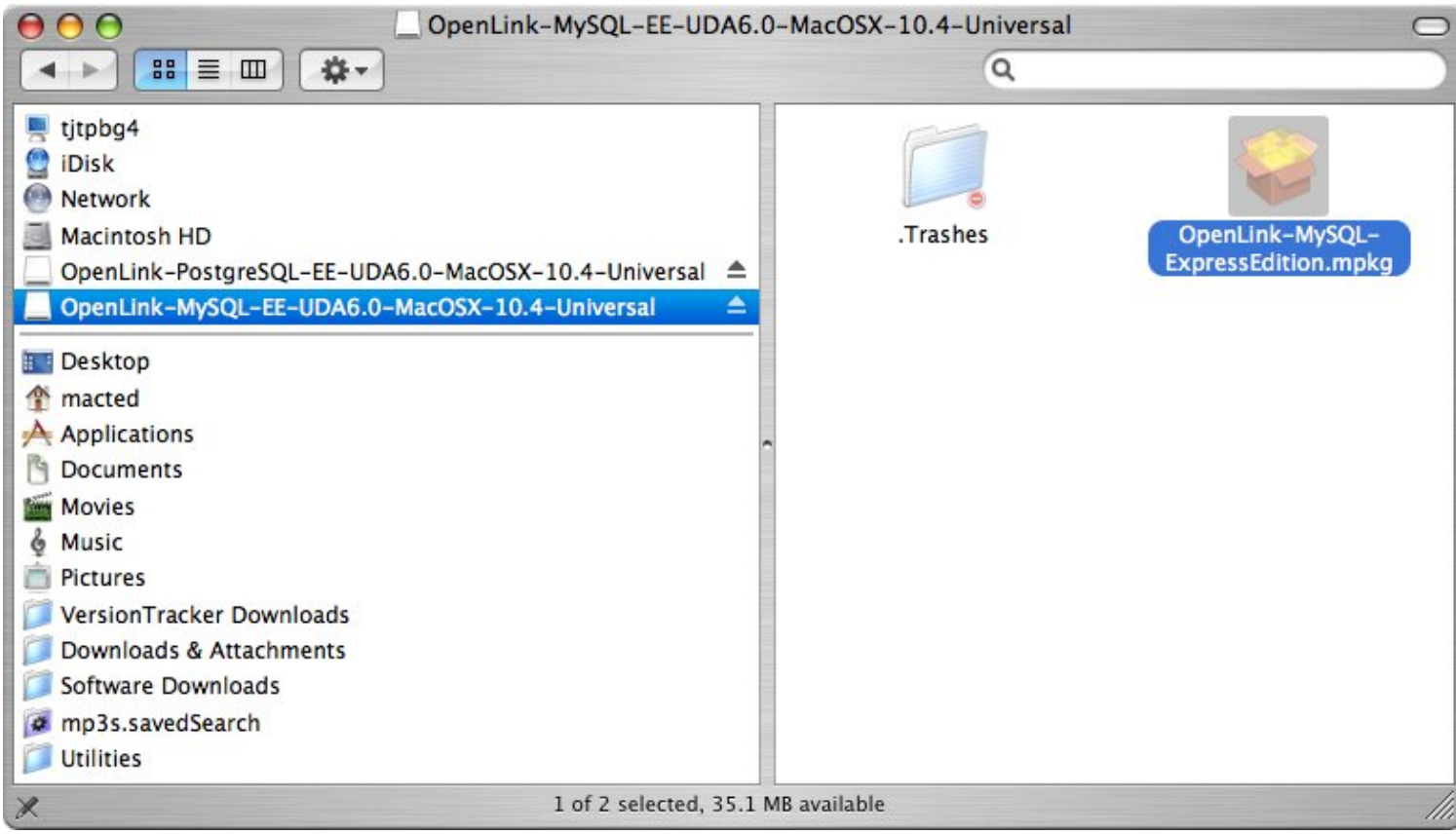
The OpenLink ODBC Driver for MySQL (Express Edition) is distributed as a Disk image (DMG) file. Simply double click on the disk image 'mul6emys.dmg' to extract the installer mpkg file:

Figure 7.1. ee-mys-00.png



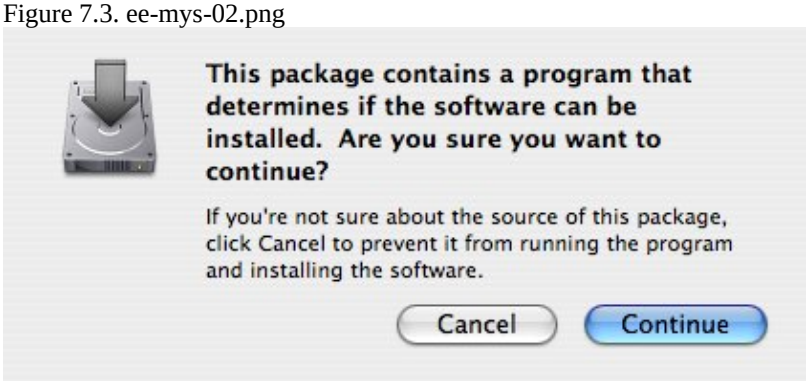
Double-click on the mpkg file to run the installer. Follow the on-screen instructions as indicated below to complete the installation:

Figure 7.2. ee-mys-01.png



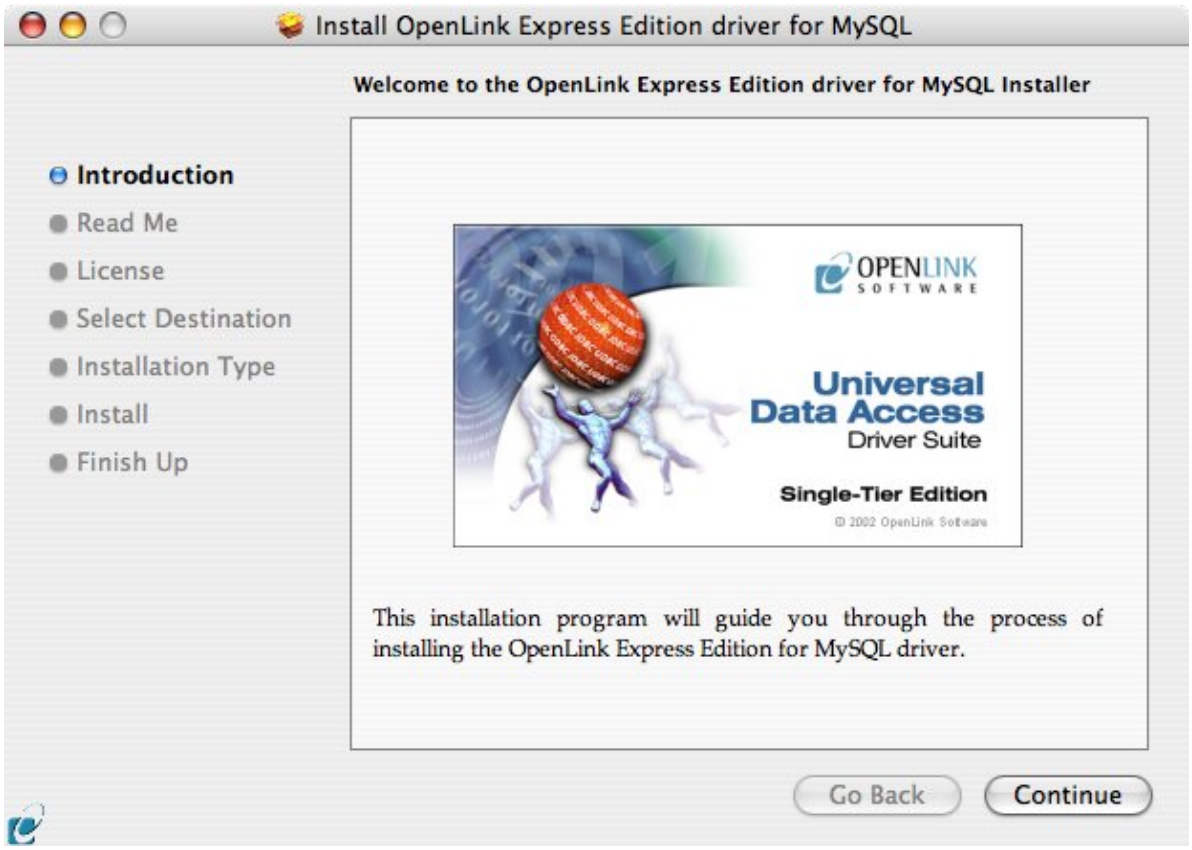
When prompted, permit the verification script to run. This simply checks to see that you are running a version of Mac OS X later than 10.3.0:

Figure 7.3. ee-mys-02.png



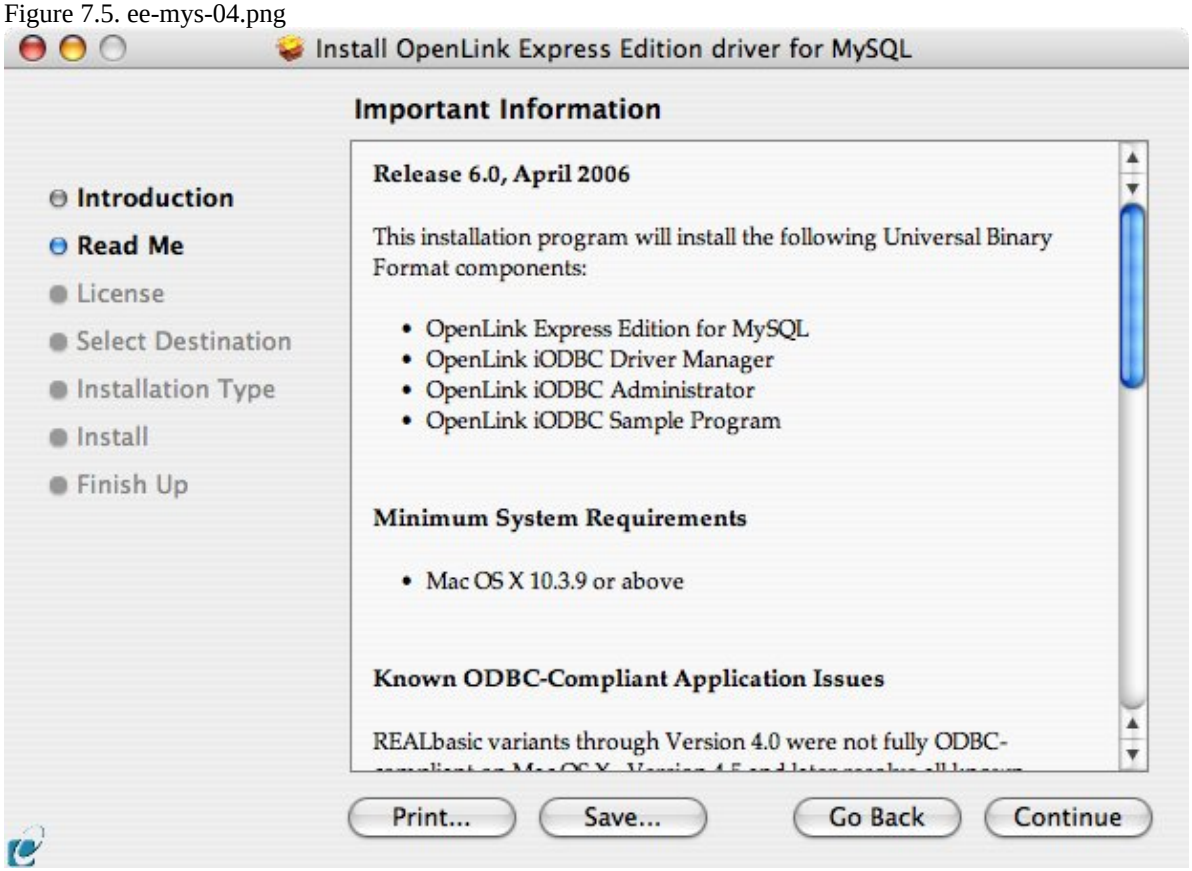
Review the *Welcome* message to confirm you're installing the right driver:

Figure 7.4. ee-mys-03.png



Review the *ReadMe* for installation requirements and any known issues:

Figure 7.5. ee-mys-04.png



Please read and agree to the *Software License Agreement* before continuing your installation:

Figure 7.6. ee-mys-05.png

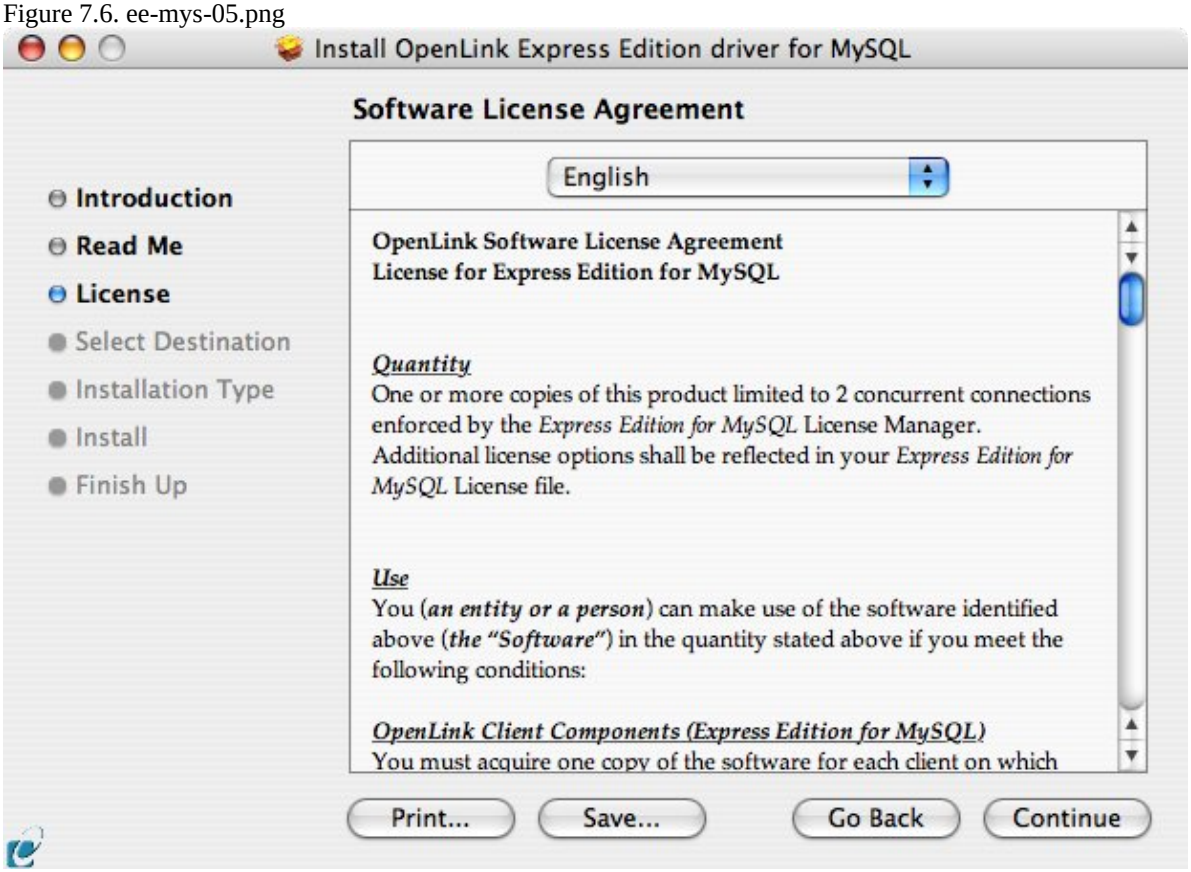
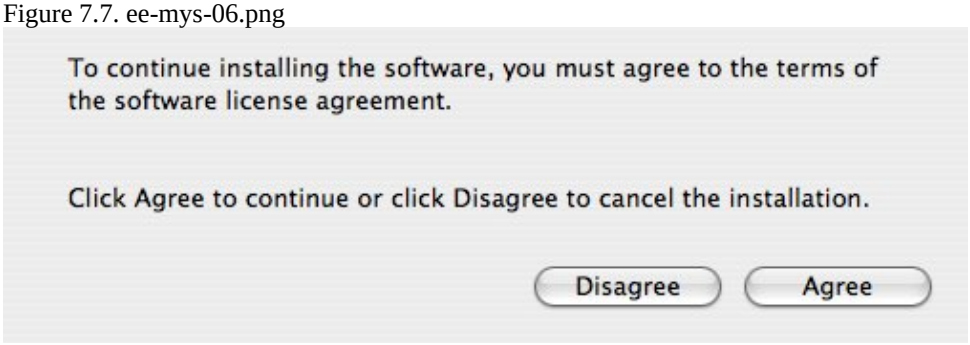
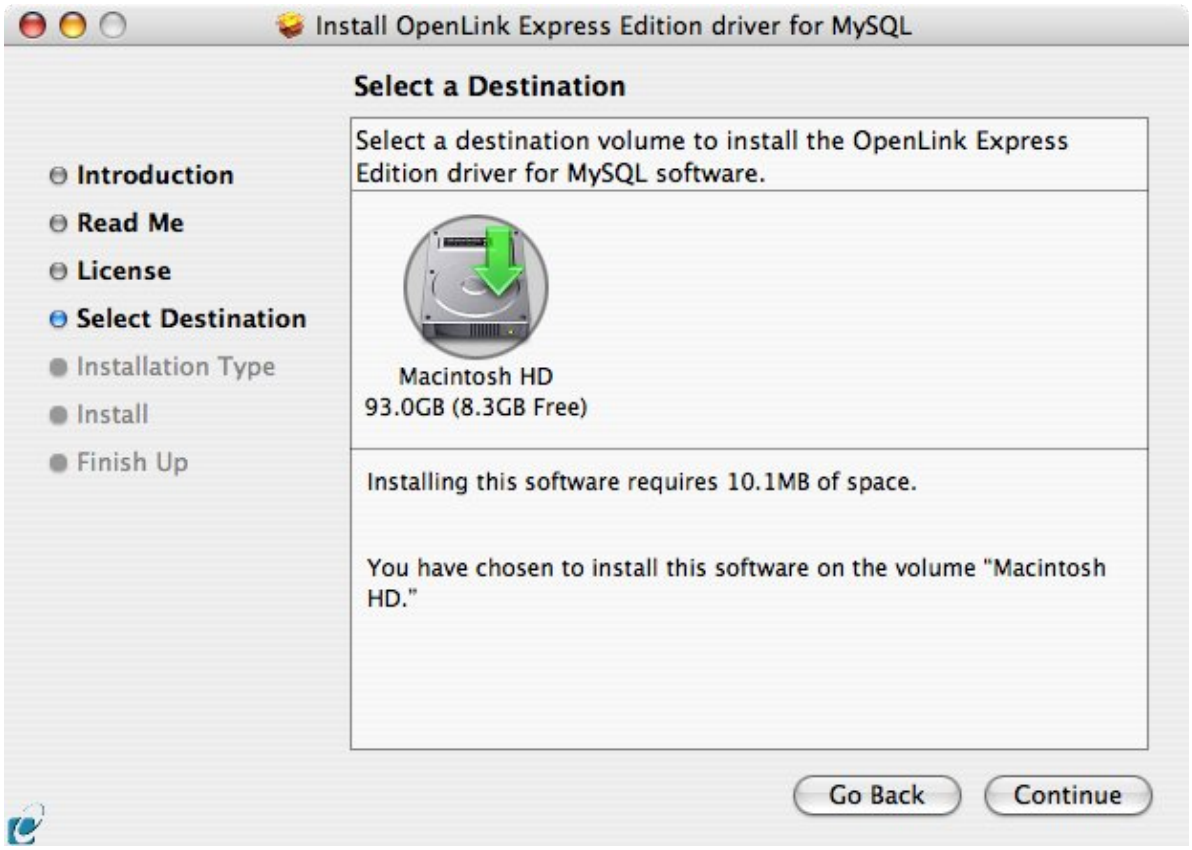


Figure 7.7. ee-mys-06.png



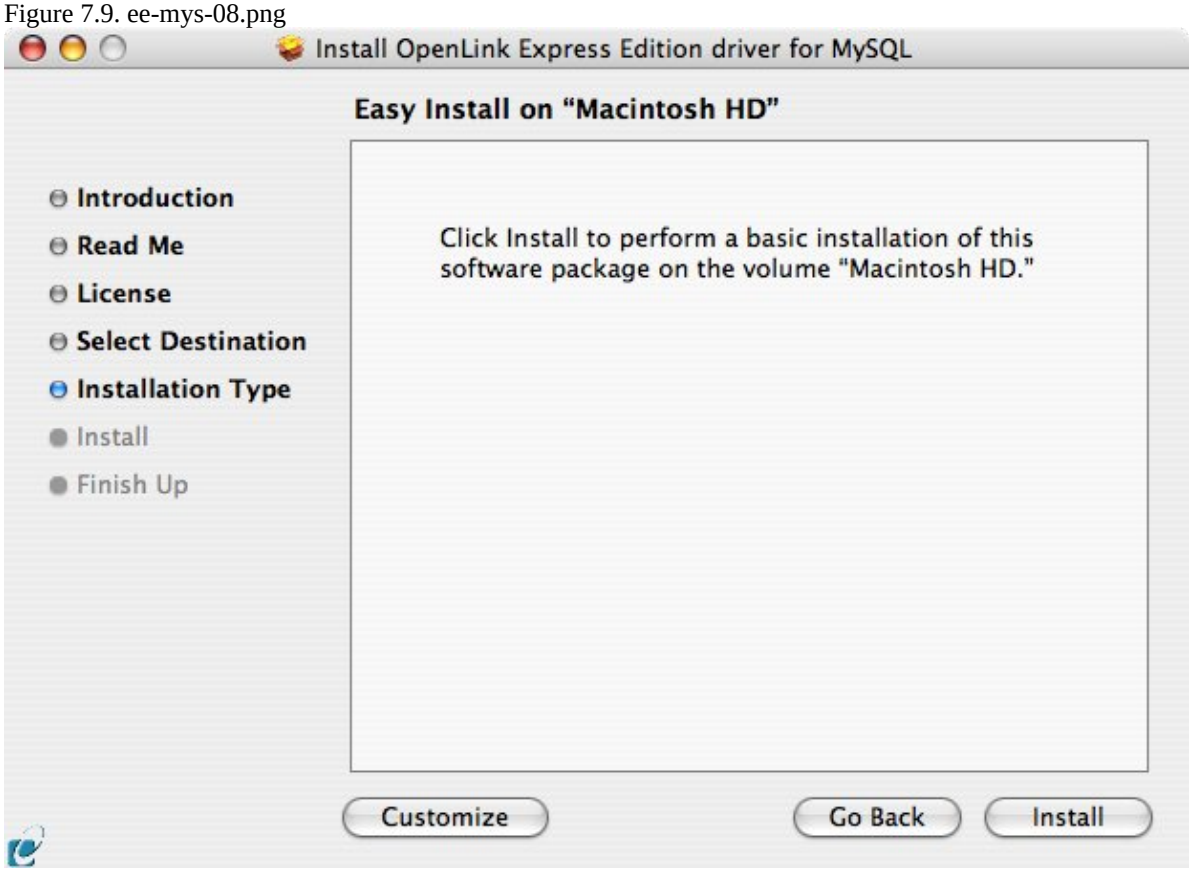
Select the destination volume for driver installation:

Figure 7.8. ee-mys-07.png



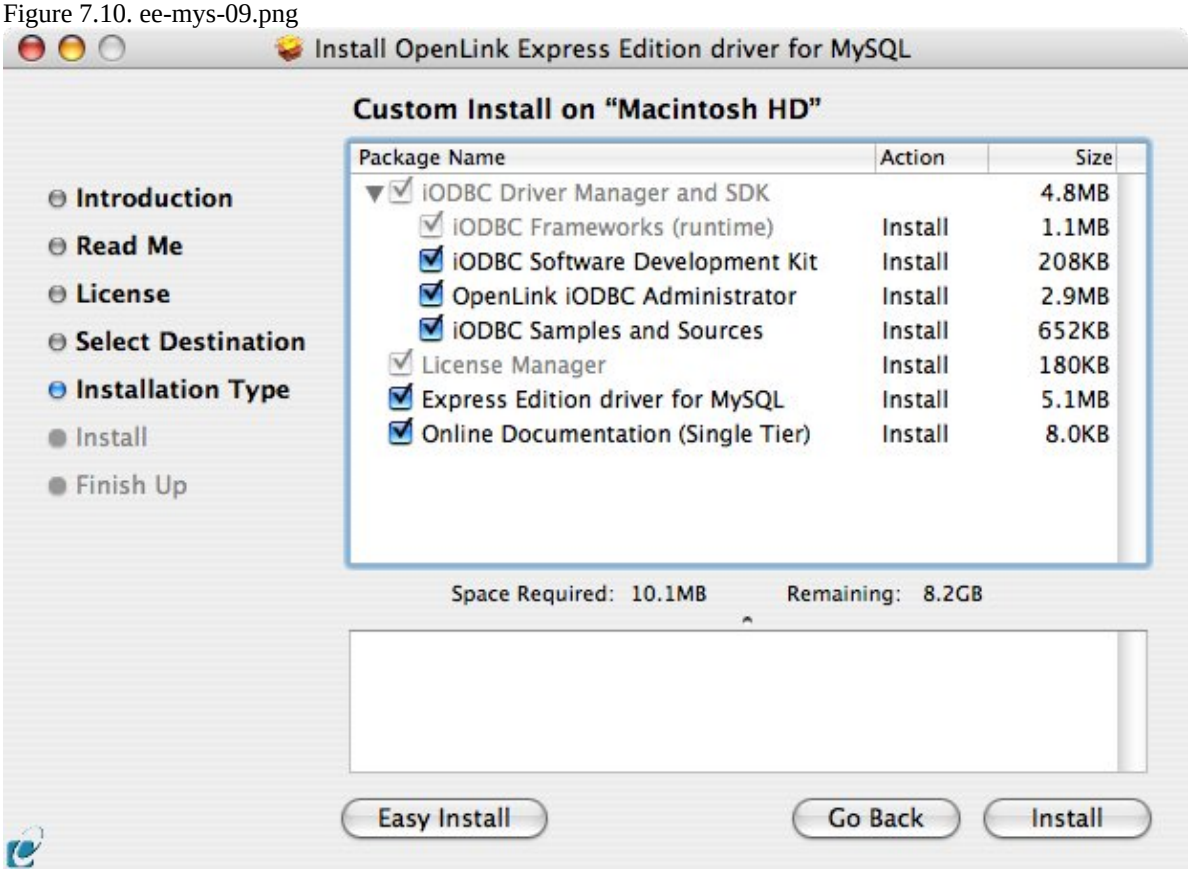
Accept the default installation of the driver, or click *Customize* to select specific components for installation:

Figure 7.9. ee-mys-08.png



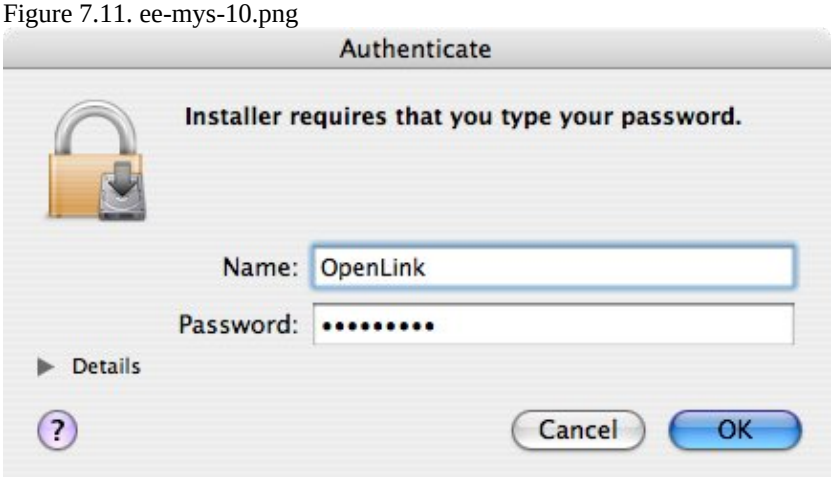
Select the components to be installed, or click *Easy Install* to return to the default:

Figure 7.10. ee-mys-09.png



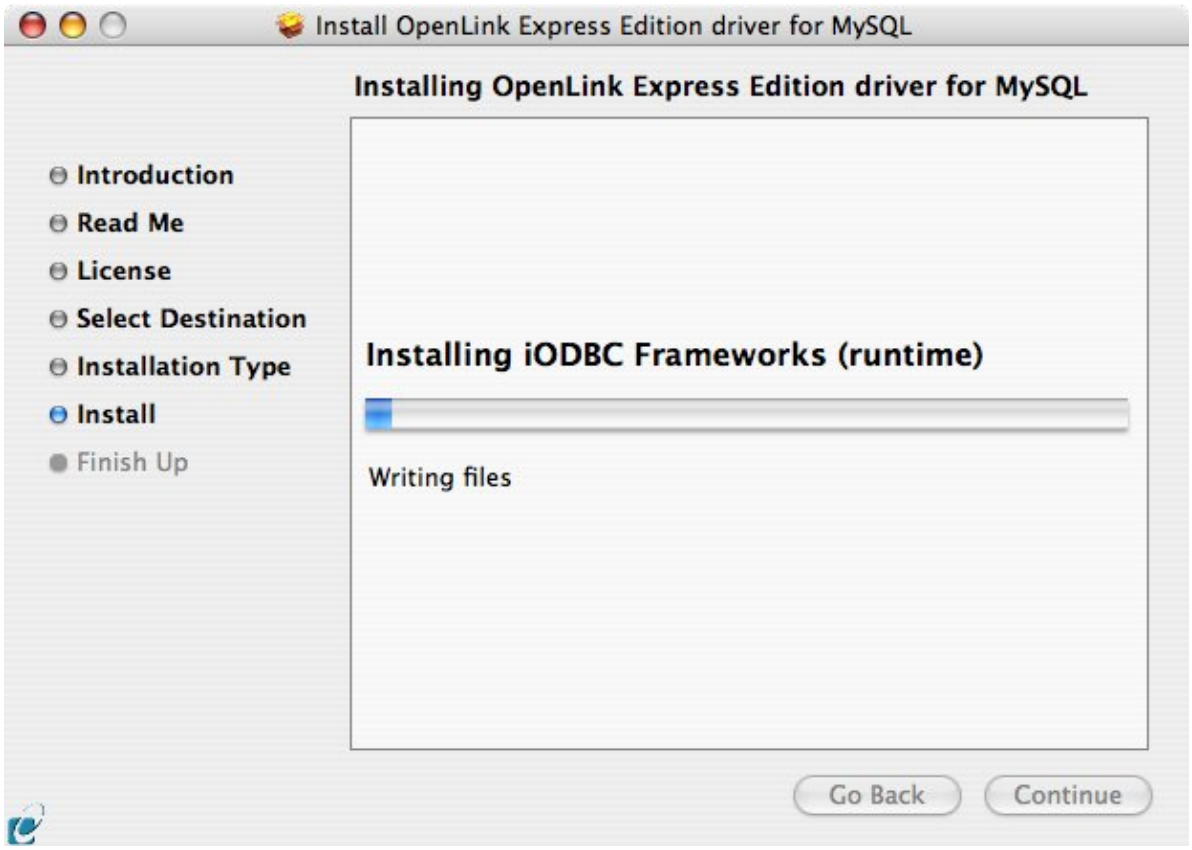
The Software must be installed as a user with Administrative privileges on the machine. When prompted, provide a relevant username and password:

Figure 7.11. ee-mys-10.png



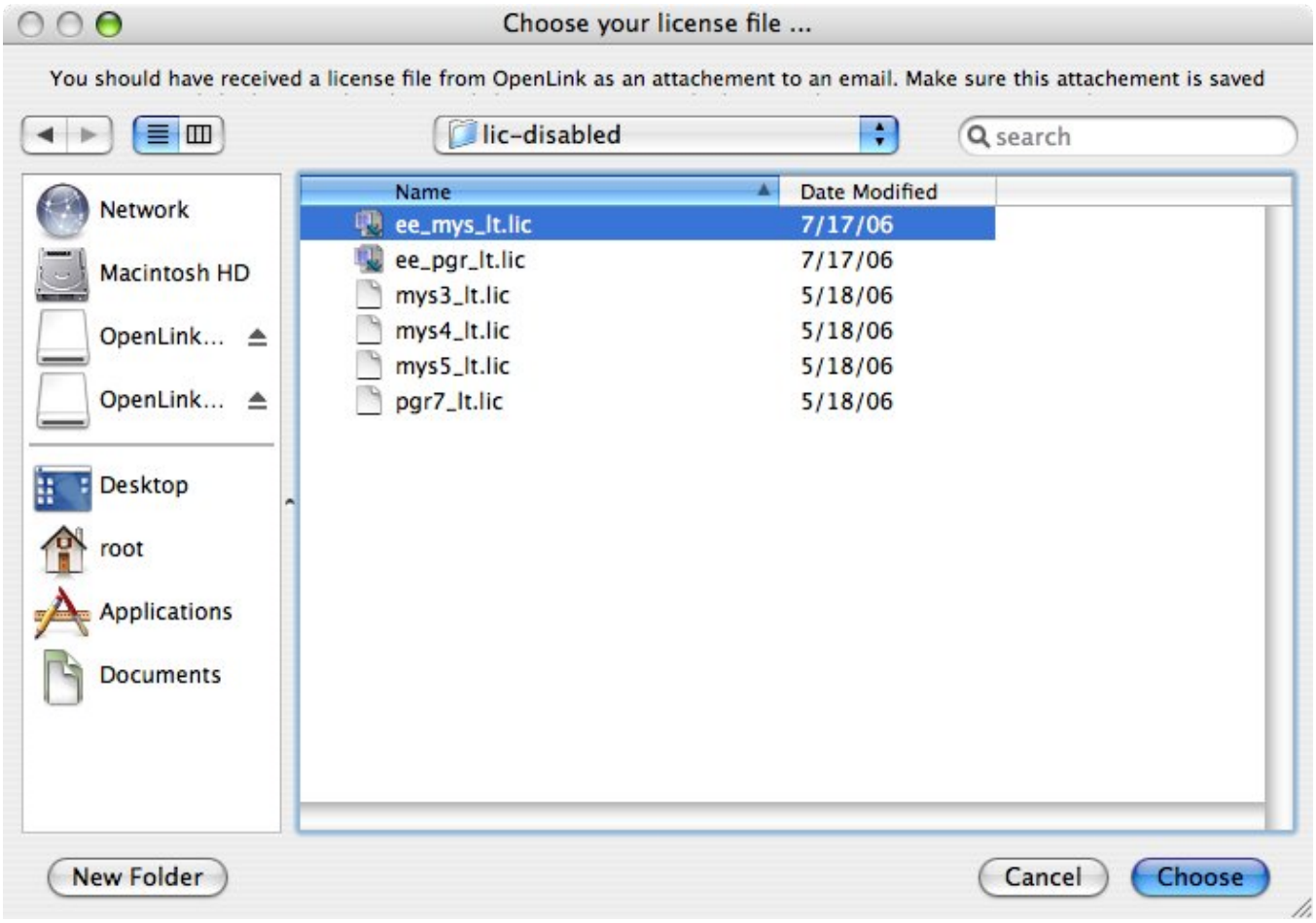
Installation will proceed.

Figure 7.12. ee-mys-11.png



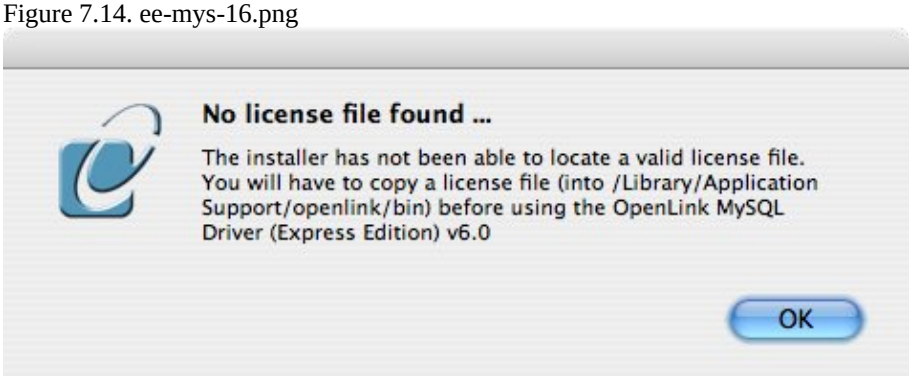
During installation, you will be prompted to select a license file for the driver. If such a license file already exists on the machine, then select the 'use existing file' option.

Figure 7.13. ee-mys-15.png



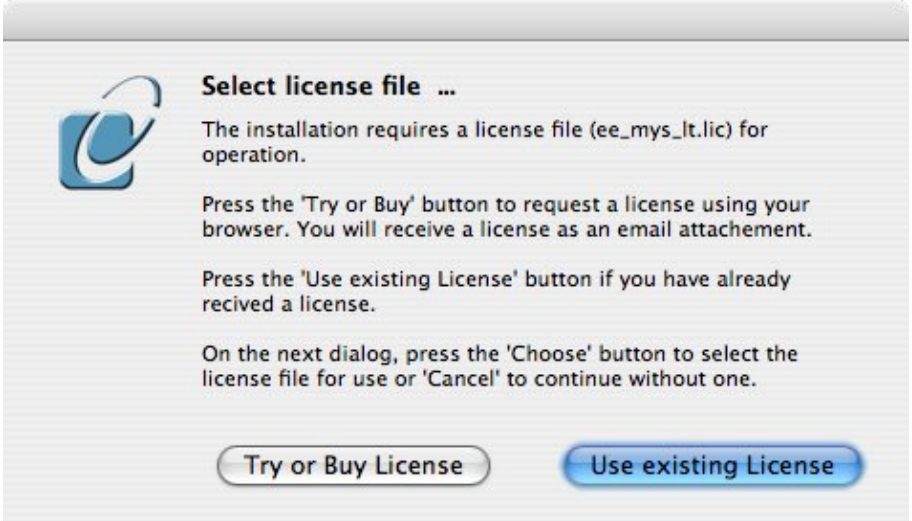
If you accidentally clicked this option, you can cancel out of the selection dialog. As the following alert will explain, you can manually apply the license file at any point in the future:

Figure 7.14. ee-mys-16.png



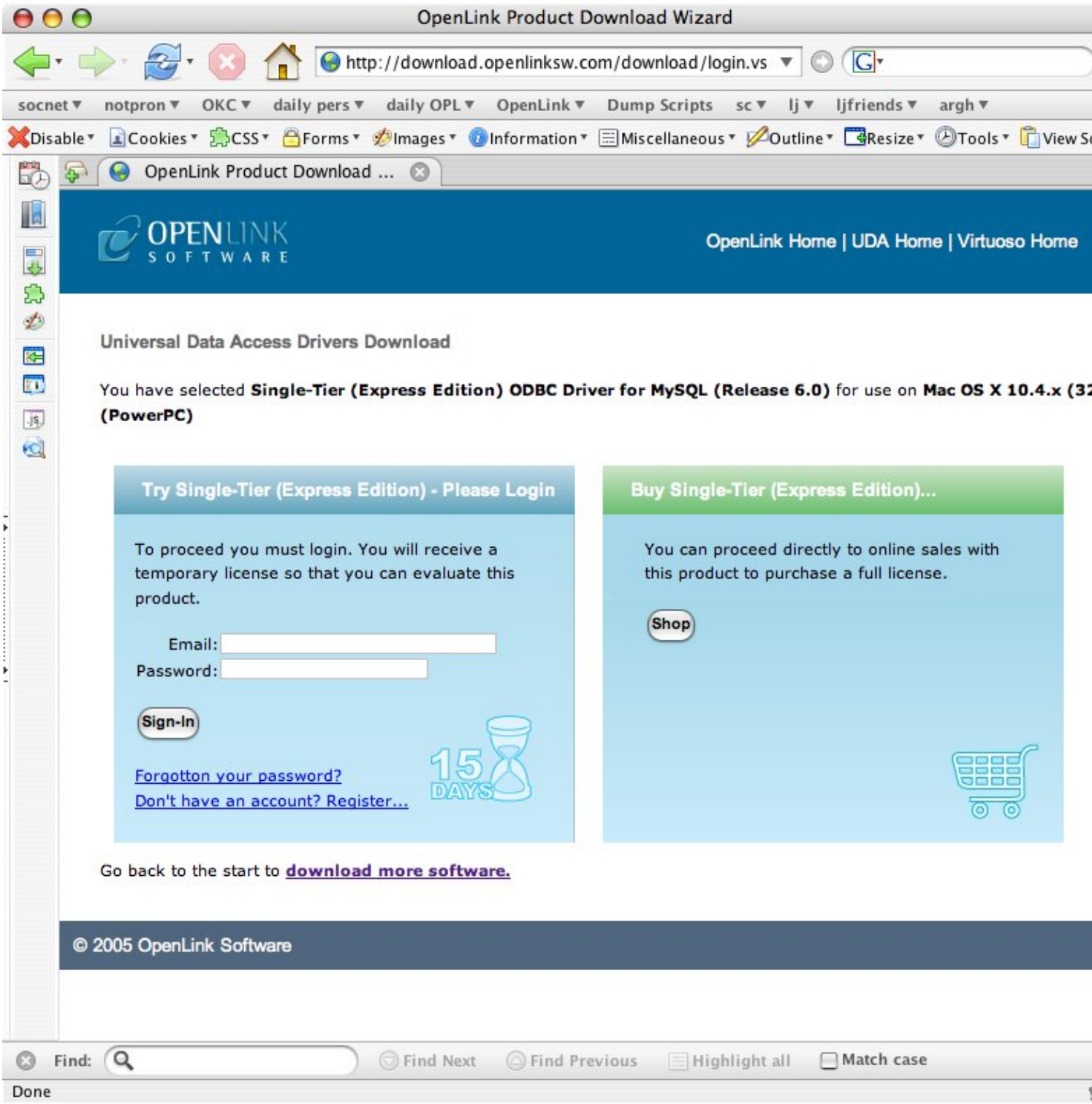
A trial or permanent license may be obtained by selecting the *Try and Buy* option which loads our online try and buy web page:

Figure 7.15. ee-mys-12.png



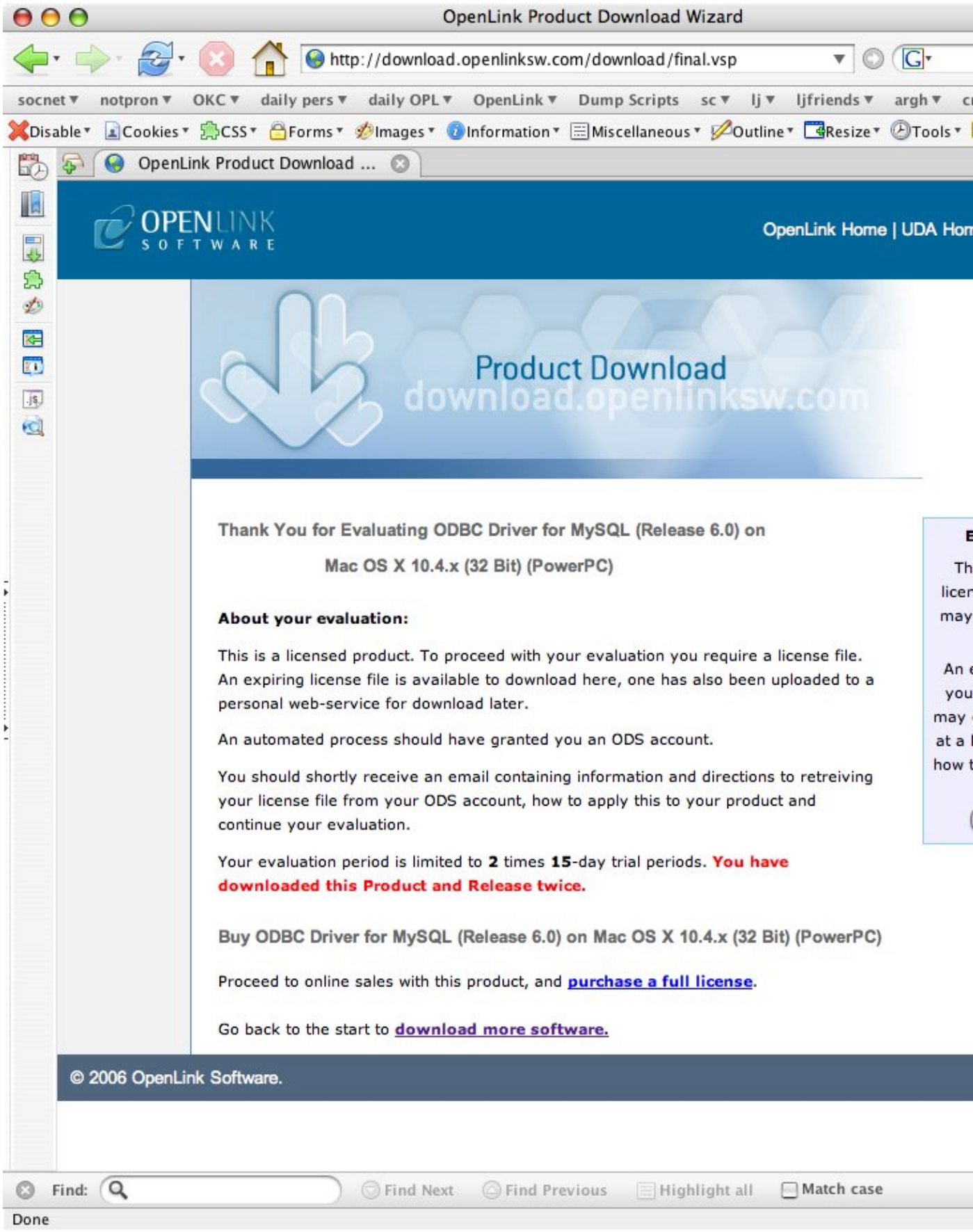
A permanent license may be obtained by clicking on the 'Shop' link to visit our online store, or you may obtain a trial license by registering with and logging in to the OpenLink Web site:

Figure 7.16. ee-mys-13.png



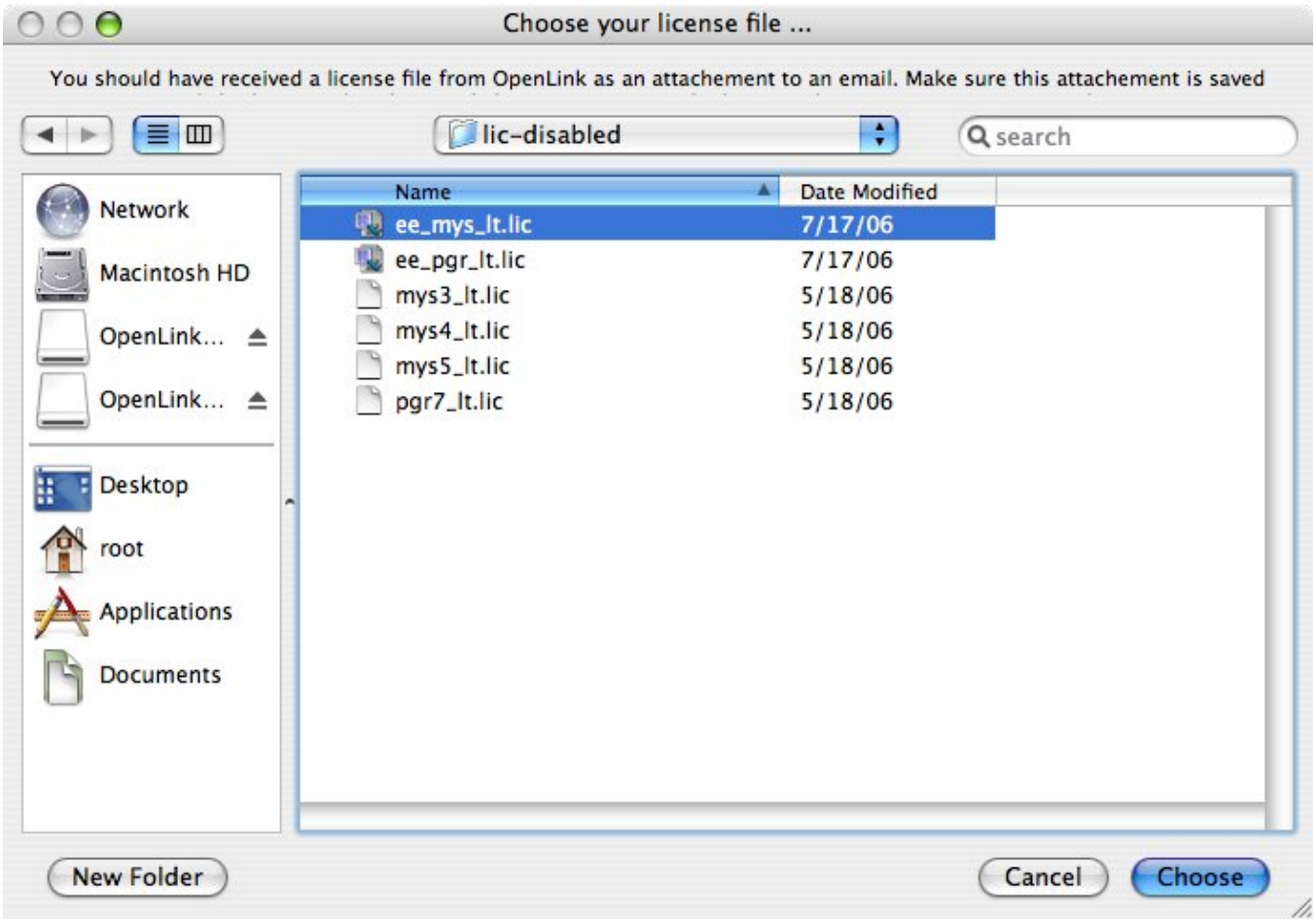
Click on the 'Download License' button to immediately obtain an evaluation license file; it will be saved to your Browser's download folder (which typically defaults to your desktop). A message will also be sent to your email address with a link to your OpenLink Data Space (ODS) Briefcase, where all non-expired trial and full license files will be stored for download at your convenience.

Figure 7.17. ee-mys-14.png



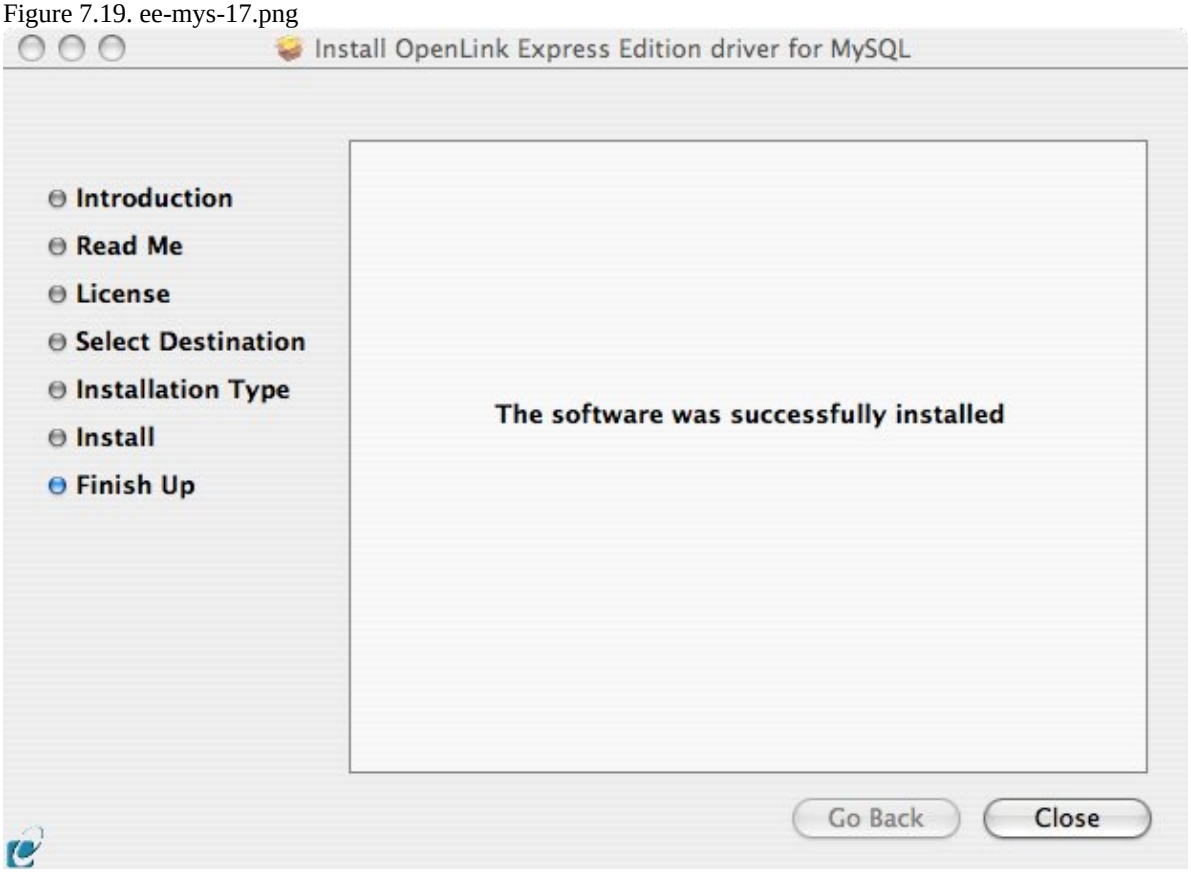
Close the browser, and proceed as if you had selected the option to *use existing file*. Select the license file to be used for the installation:

Figure 7.18. ee-mys-15.png



Installation is now complete, and you can exit the Installer and proceed to configure a DSN:

Figure 7.19. ee-mys-17.png



8.1.2 Configuration

To configure an ODBC DSN, double-click the *OpenLink ODBC Administrator.app* located in /Applications/Utilities/, or the *iODBC Administrator.app* located in /Applications/iODBC/:

Figure 7.20. ee-mys-18.png

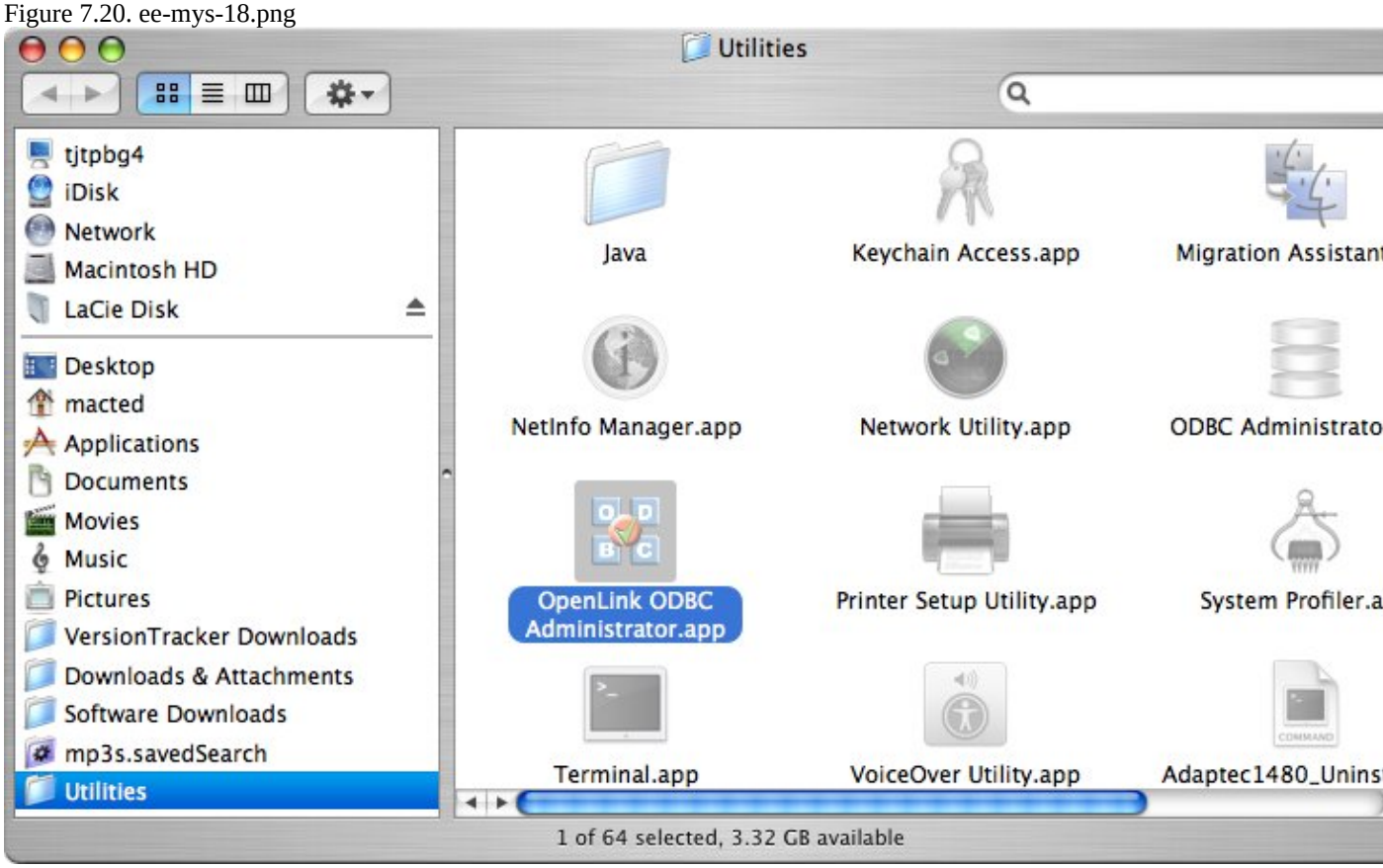
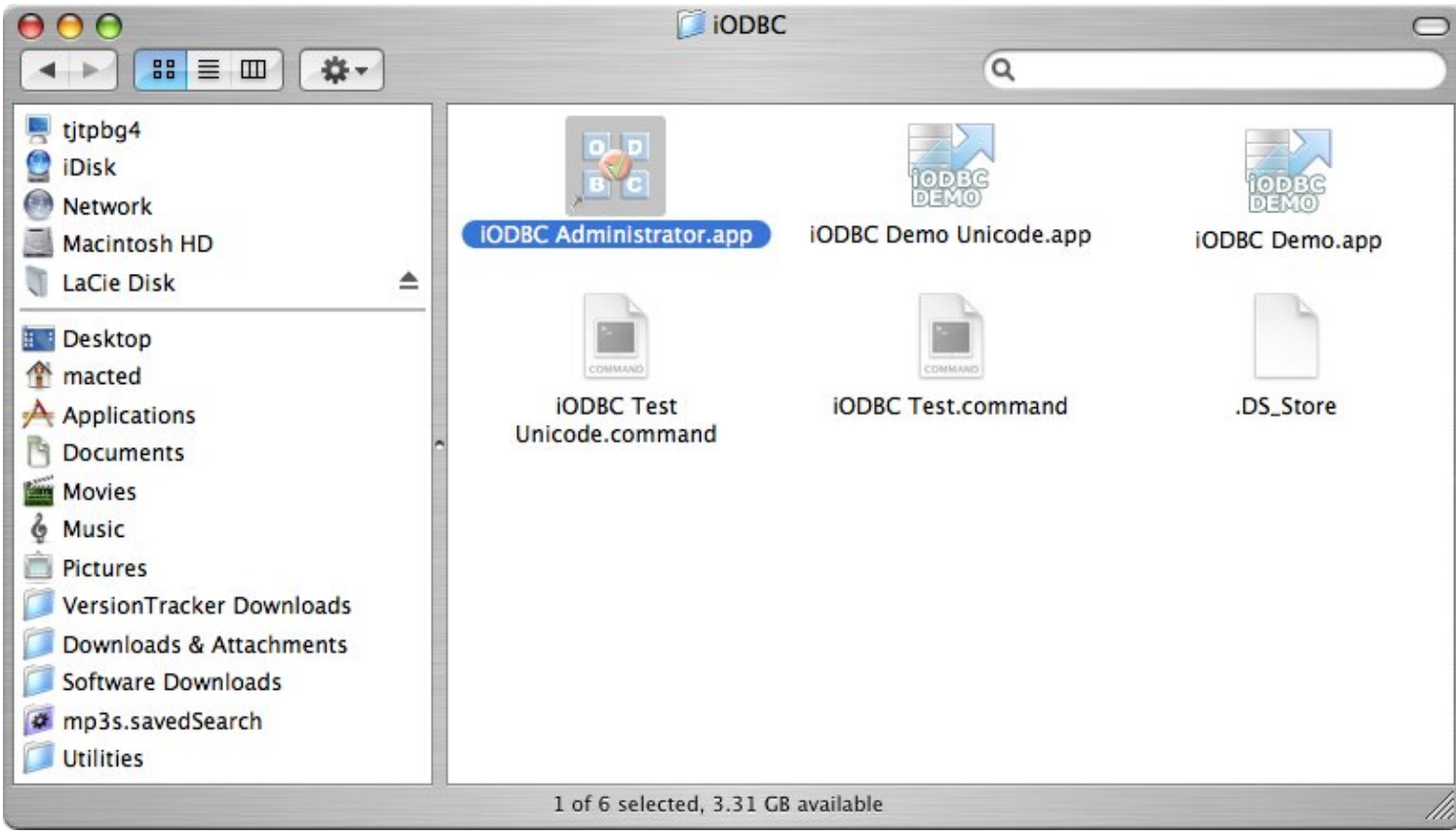
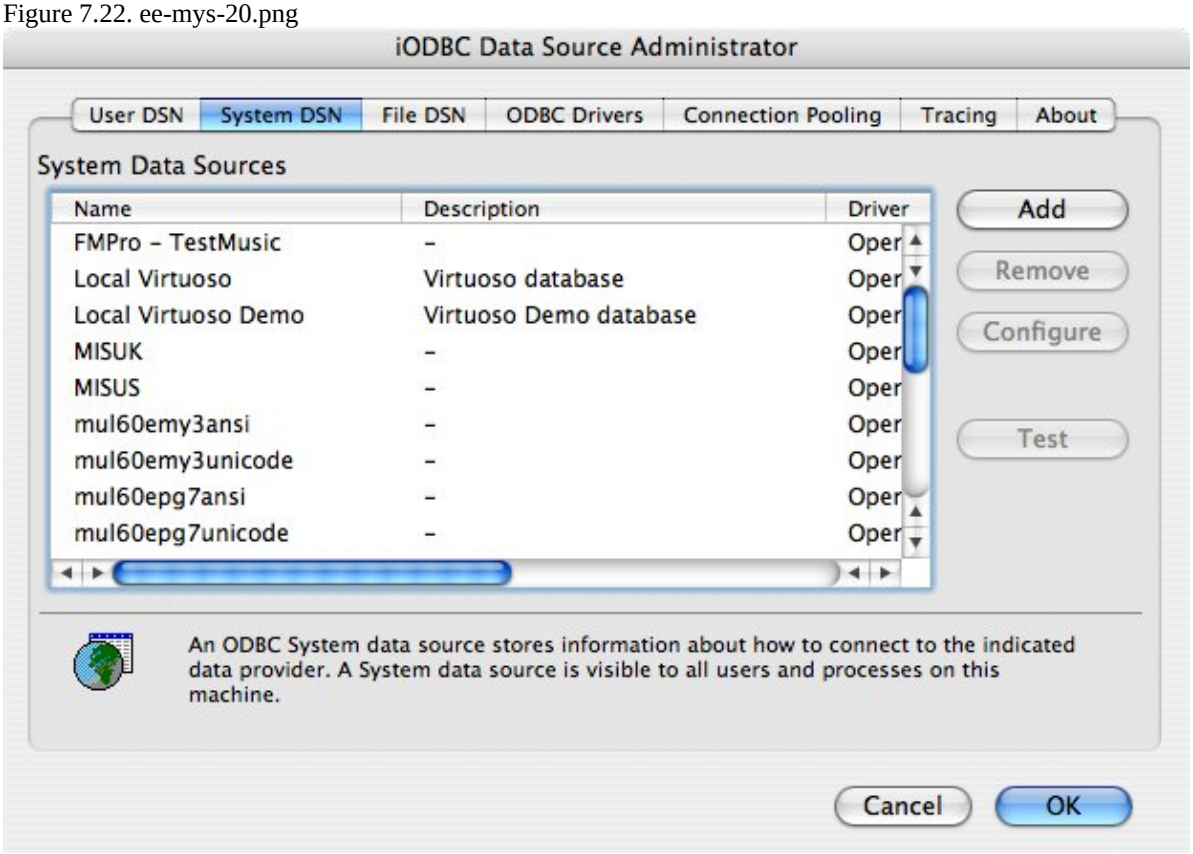


Figure 7.21. ee-mys-19.png



Click on the *Add* button, to create a new DSN (Data Source Name):

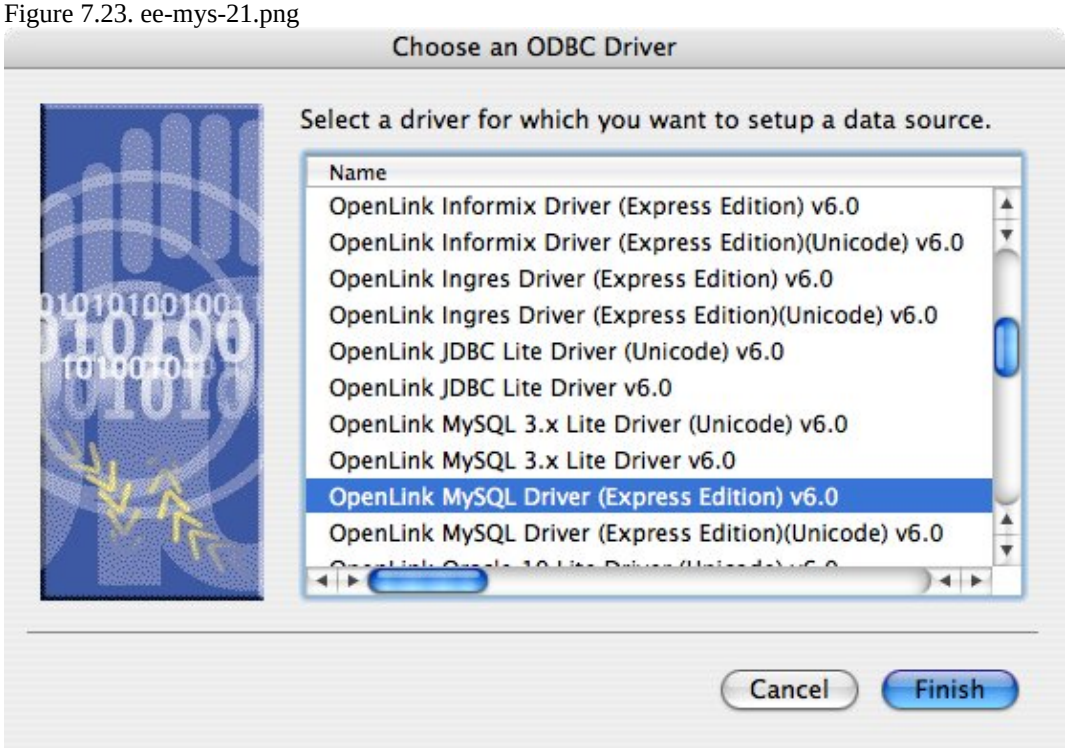
Figure 7.22. ee-mys-20.png



Choose the *OpenLink MySQL Driver (Express Edition) v6.0* from the list of available drivers. Choose the *OpenLink MySQL Driver (Express Edition)(Unicode) v6.0 if and only if* you are working with multi-byte character sets, as

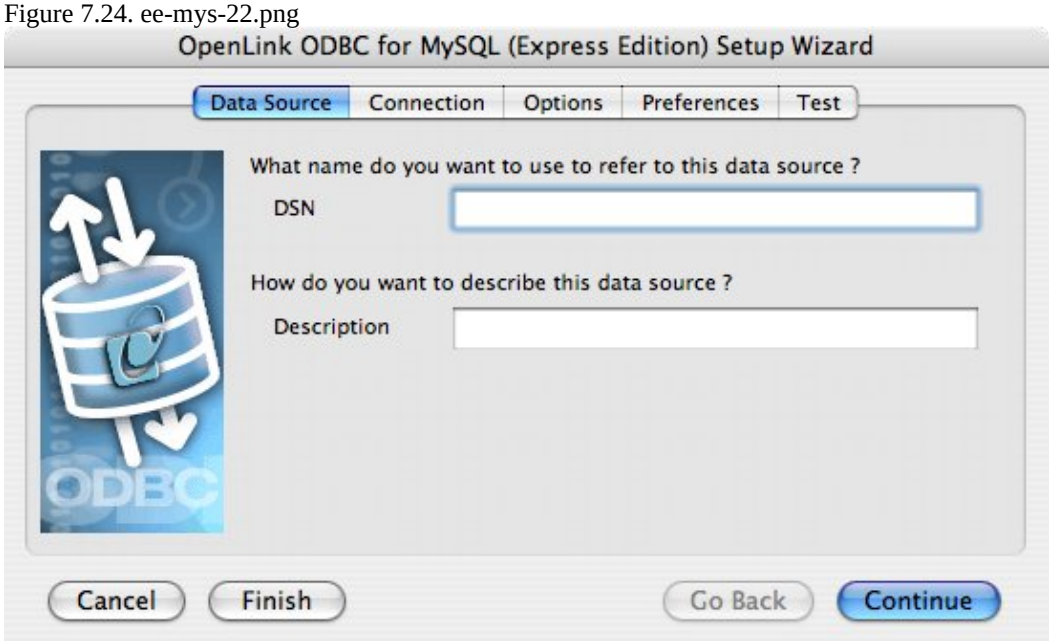
unnecessary translations can significantly ODBC performance:

Figure 7.23. ee-mys-21.png



In the *Data Source* tab, enter a suitable name and optional description for the DSN being created:

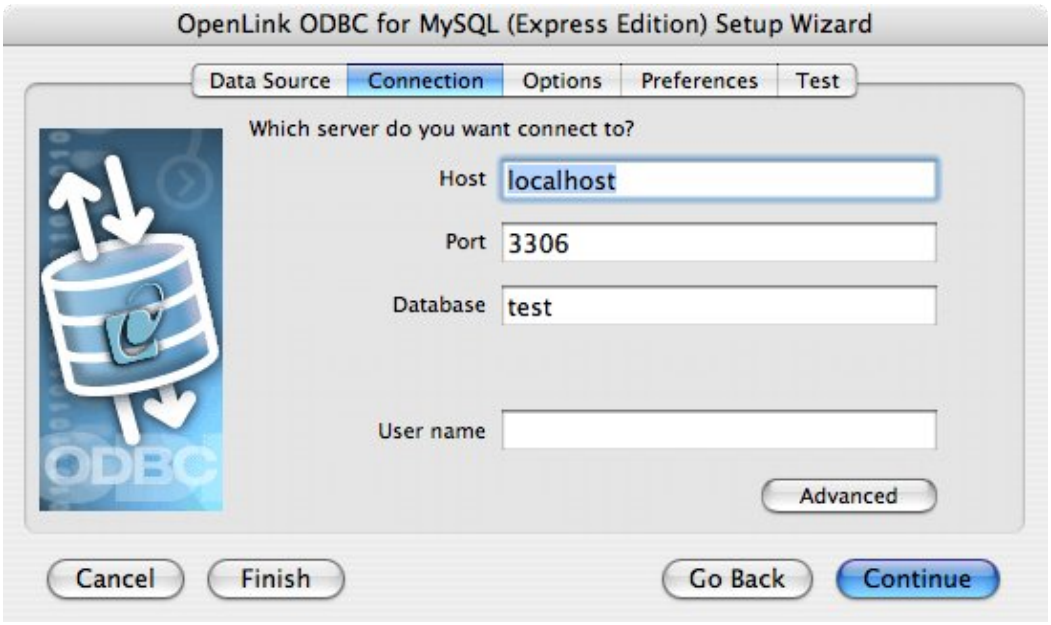
Figure 7.24. ee-mys-22.png



The *Connection* tab requests the minimum parameters required to make a connection to the target database:

- Host - the name of the server on which the target MySQL instance is running
- Port - the port at which the target MySQL instance is listening (default 3306)
- Database - the name of a valid database on the target MySQL instance
- Username - a valid MySQL username

Figure 7.25. ee-mys-23.png



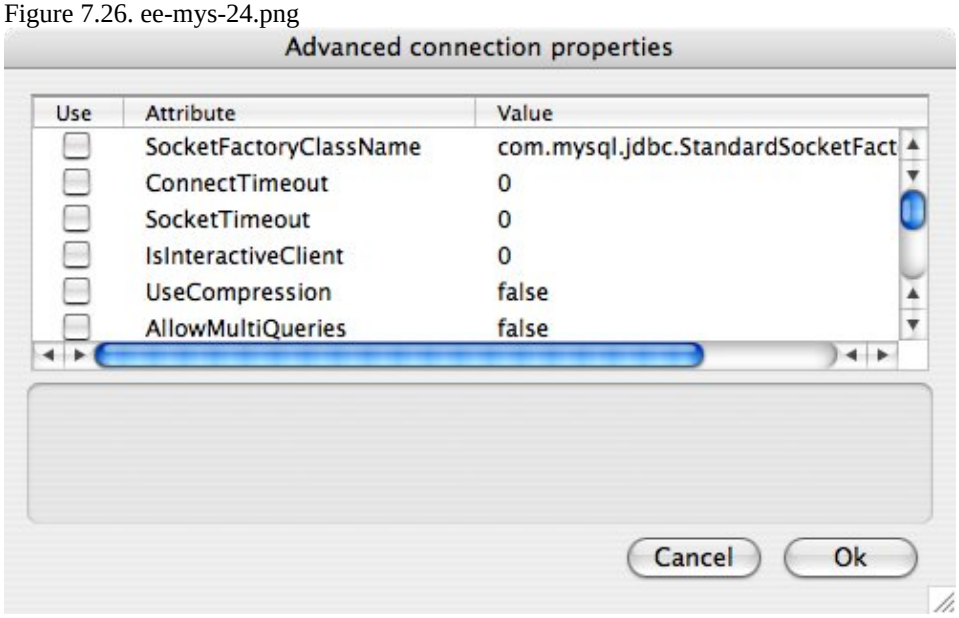
If desired, click the *Advanced* button to set additional parameters relevant to the MySQL connection. None of these need be changed for a basic connection:

Table 7.1.

SocketFactoryClassName	The name of the class that the driver should use for creating socket connections to the server. This class must implement the interface 'com.mysql.jdbc.SocketFactory' and have public no-args constructor.
ConnectTimeout	Timeout for socket connect (in milliseconds), with 0 being no timeout.
SocketTimeout	Timeout on network socket operations (0, the default means no timeout).
IsInteractiveClient	Set the CLIENT_INTERACTIVE flag, which tells MySQL to timeout connections based on INTERACTIVE_TIMEOUT instead of WAIT_TIMEOUT
UseCompression	Use zlib compression when communicating with the server (true/false)?
AllowMultiQueries	Allow the use of ';' to delimit multiple queries during one statement (true/false).
UseSSL	Use SSL when communicating with the server (true/false); defaults to 'false'.
RequireSSL	Require SSL connection if useSSL=true?
AllowUrlInLocalInfile	Should the driver allow URLs in 'LOAD DATA LOCAL INFILE' statements?
Paranoid	Take measures to prevent exposure sensitive information in error messages and clear data structures holding sensitive data when possible?
MetadataCacheSize	The number of queries to cacheResultSetMetadata for if cacheResultSetMetaData is set to 'true'
BlobSendChunkSize	Chunk to use when sending BLOB/CLOBs via ServerPreparedStatements
CacheServerConfiguration	Should the driver cache the results of 'SHOW VARIABLES' and 'SHOW COLLATION' on a per-URL basis?
ElideSetAutoCommits	If using MySQL-4.1 or newer, should the driver only issue 'set autocommit=n' queries when the server's state doesn't match the requested state by Connection.setAutoCommit(boolean)?
UseReadAheadInput	Use newer, optimized non-blocking, buffered input stream when reading from the server?
UseUnicode	Should the driver use Unicode character encodings when handling strings? Should only be used when the driver can't determine the character set mapping, or you are trying to 'force' the driver to use a character set that MySQL either doesn't natively support (such as UTF-8), true/false.
CharacterEncoding	If 'useUnicode' is set to true, what character encoding should the driver use when dealing with strings? (defaults is to 'autodetect')
CharacterSetResults	Character set to tell the server to return results as.
ConnectionCollation	If set, tells the server to use this collation via 'set collation_connection'

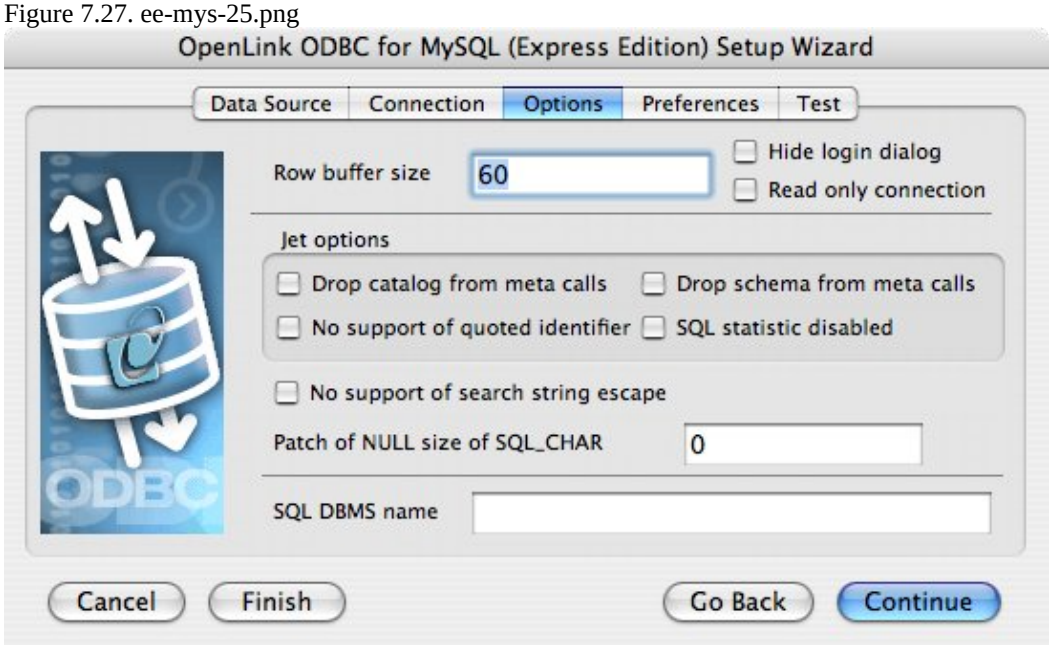
SessionVariables	A comma-separated list of name/value pairs to be sent as SET SESSION ... to the server when the driver connects.

Figure 7.26. ee-mys-24.png



As suggested above, the parameters of the *Options* and *Preferences* tabs need not be changed for a basic connection:

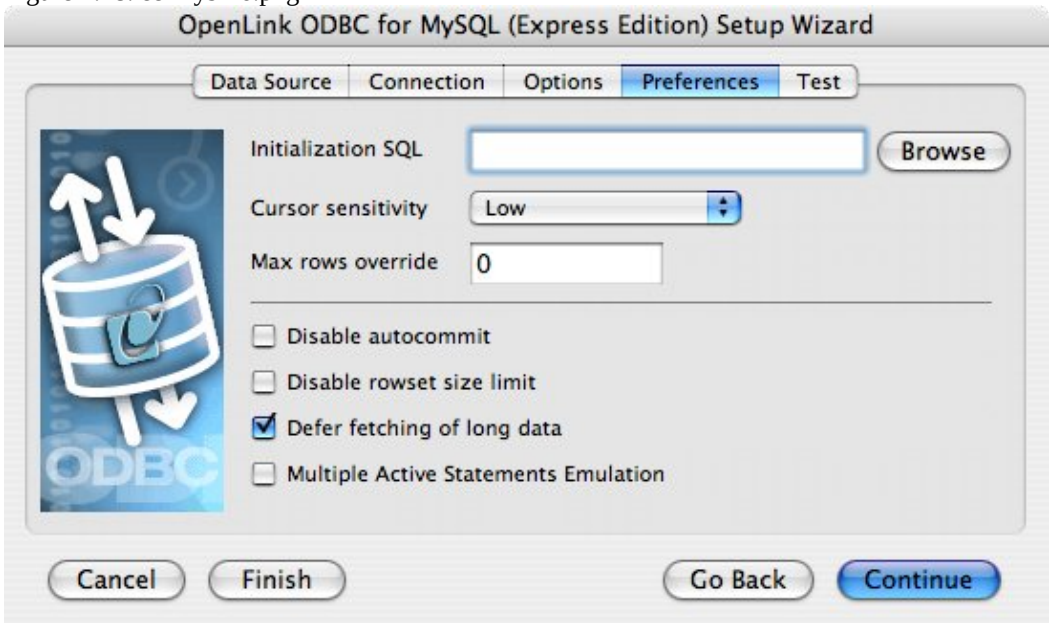
Figure 7.27. ee-mys-25.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).

- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL such as select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

Figure 7.28. ee-mys-26.png

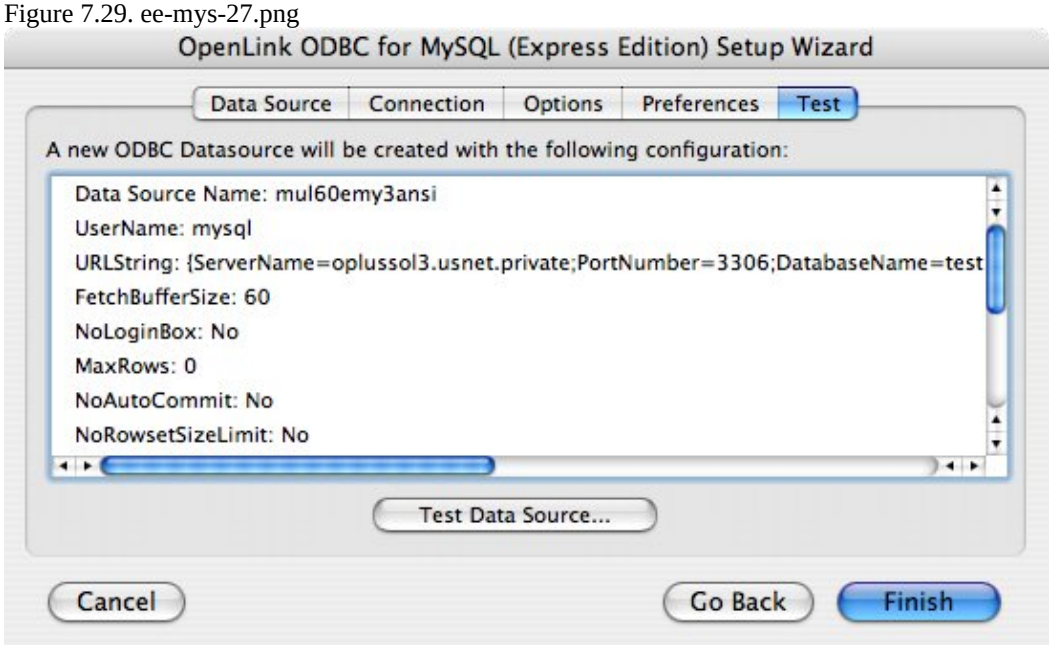


Initialization SQL - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.

- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Express Edition Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

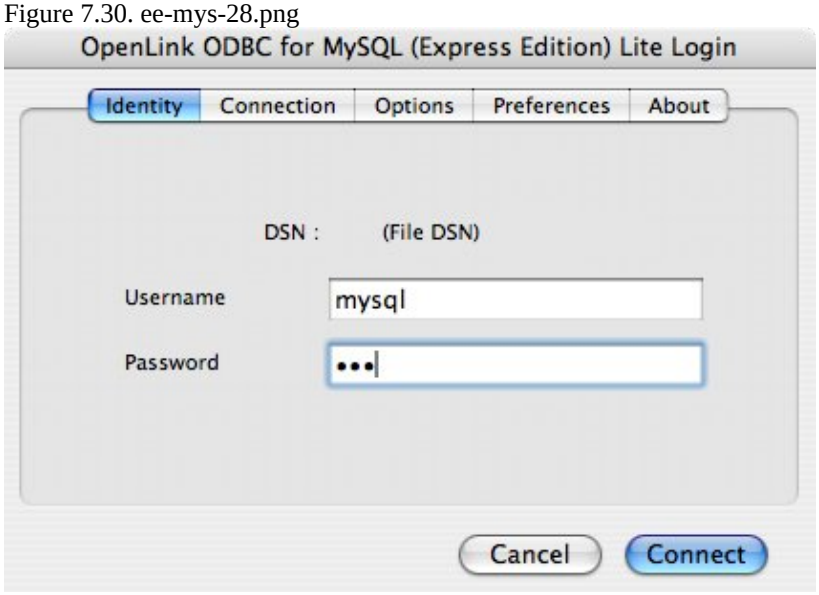
Click on the *Test Data Source* button to make a connection to the database to verify connectivity:

Figure 7.29. ee-mys-27.png



Enter a valid username and password for the target database:

Figure 7.30. ee-mys-28.png



A successful connection to the database has been made:

Figure 7.31. ee-mys-29.png

8.2 OpenLink ODBC Driver for MySQL (Express Edition) for Windows

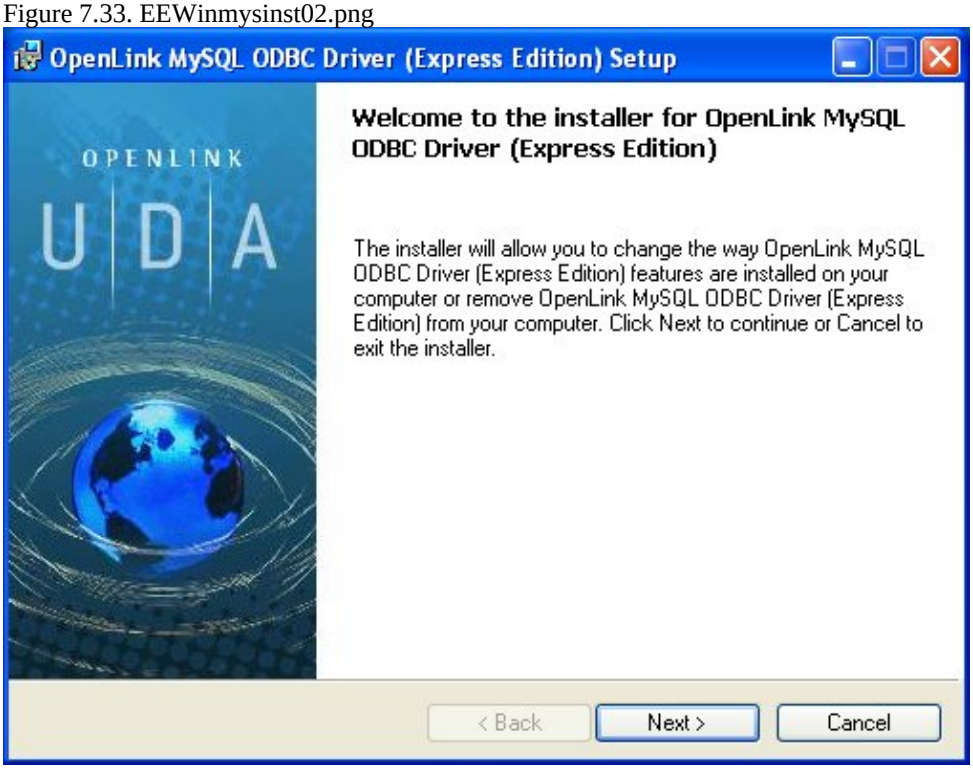
8.2.1 Installation

The OpenLink ODBCDriver for MySQL(Express Edition) is distributed as a Windows MSI installer. Simply double click on the installer 'ntl6emys.msi' to commence the installation:

Figure 7.32. EEWinmysinst01.png

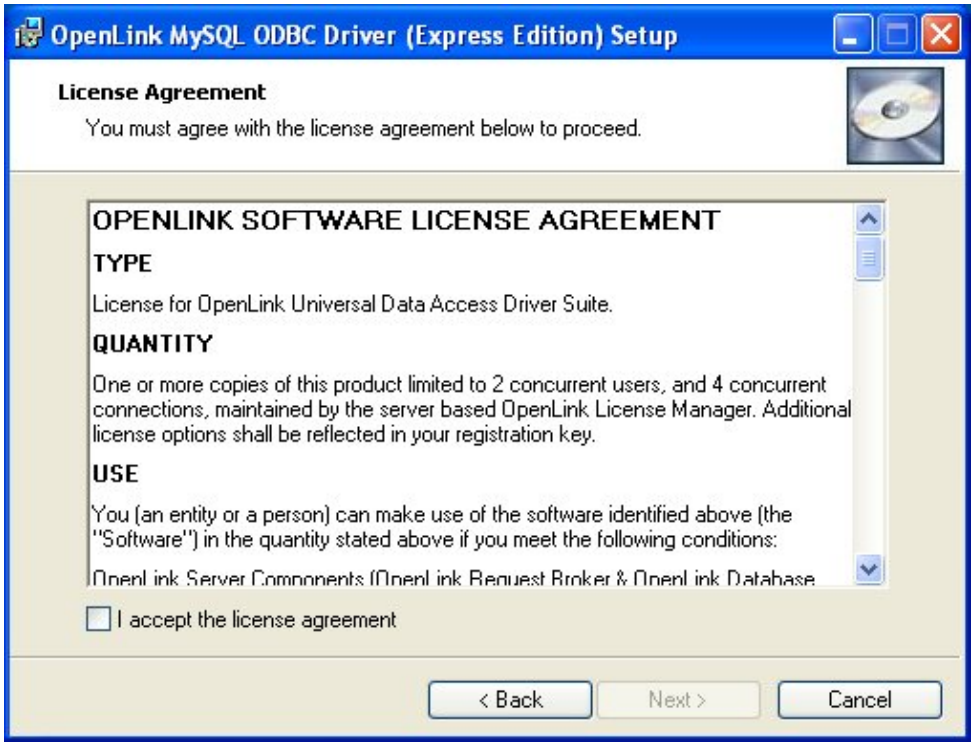
Installer Welcome Dialog for the OpenLink ODBCDriver for MySQL(Express Edition):

Figure 7.33. EEWinmysinst02.png



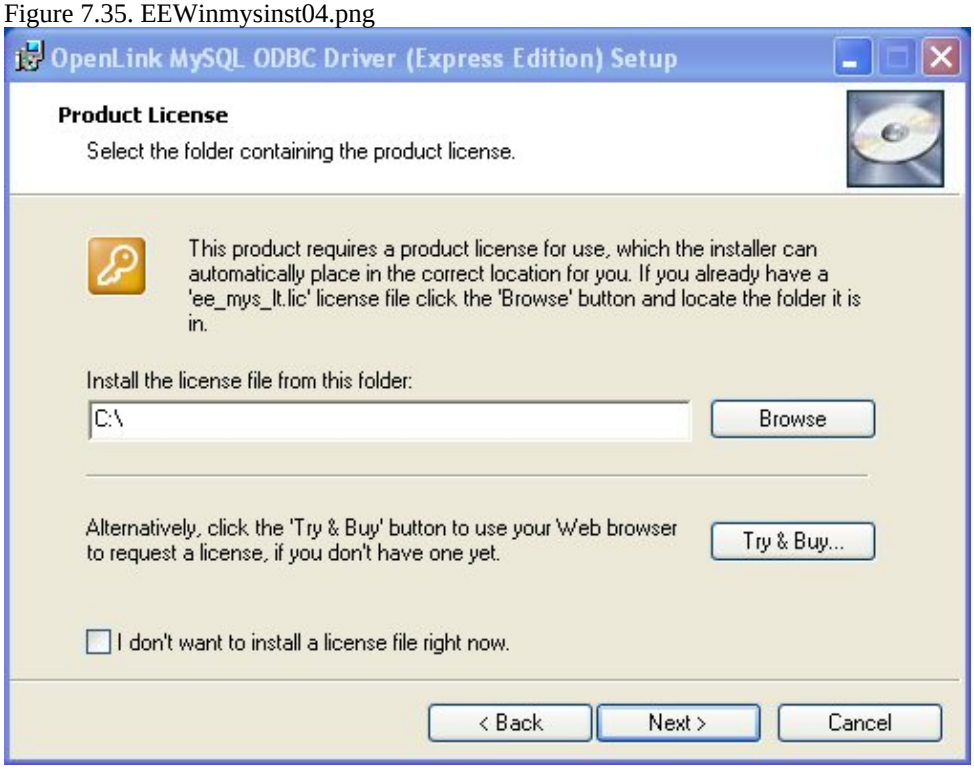
Please read the software license agreement and accept before continuing your installation:

Figure 7.34. EEWinmysinst03.png



Before installation you will be prompted for a license file. If a license file already exists on the machine, then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtained by selecting the 'try and buy' option, which loads OpenLink's online try and buy web page:

Figure 7.35. EEWinmysinst04.png

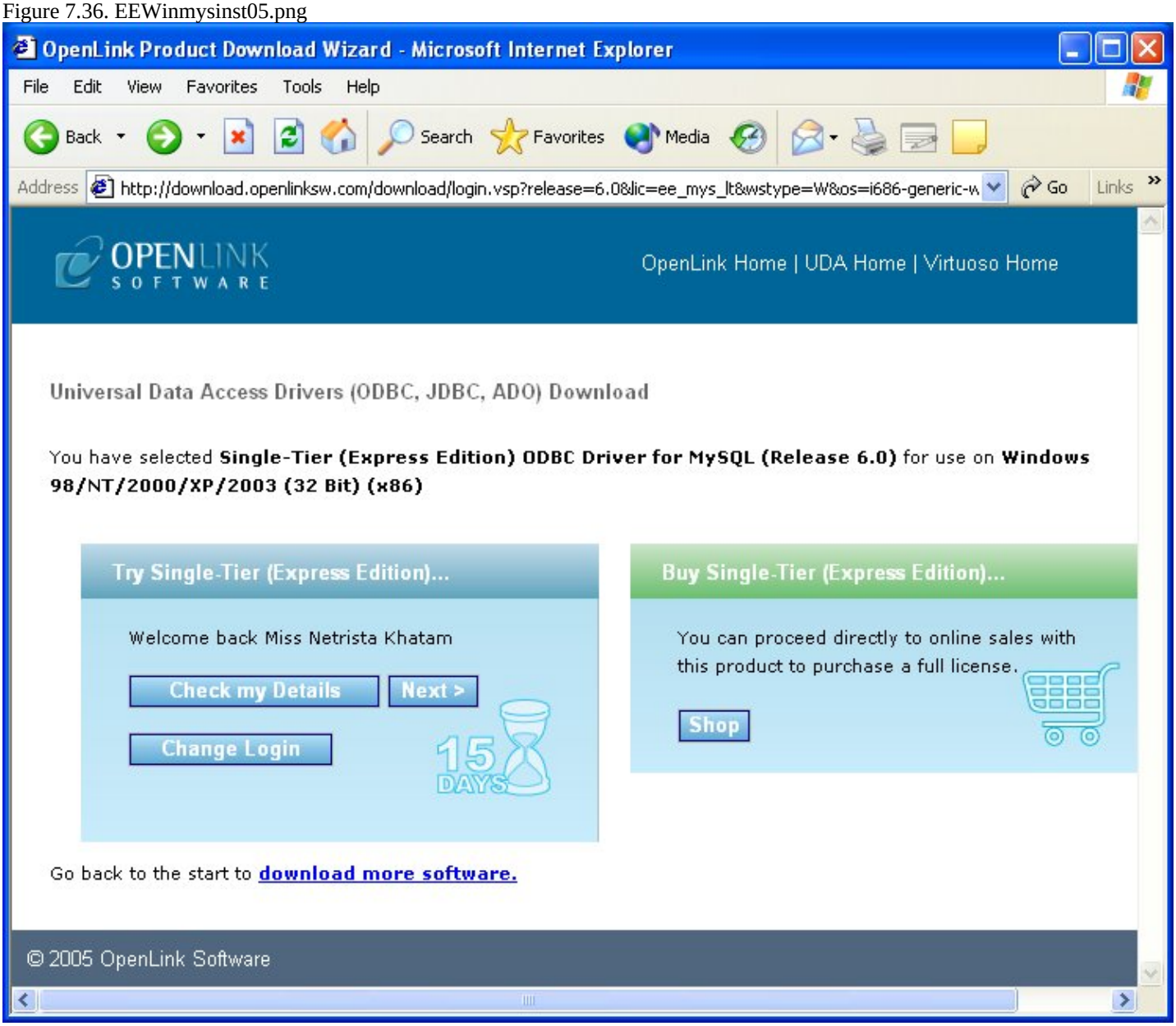


To obtain the trial license, you must be a registered user on the OpenLinkWeb site and login with your username (e-mail address) and password. Click on the 'Shop' link to visit OpenLink's online shop cart to purchase a full license, if required:

Click on the 'download license' button to immediately obtain the license file and save it to your desktop. Alternatively, an auto-generated e-mail will be sent to your registered e-mail address. This email will contain a link to your OpenLinkData Space (ODS). The OpenLinkData Space (ODS) contains copies of all trial and full license files in a Briefcase for

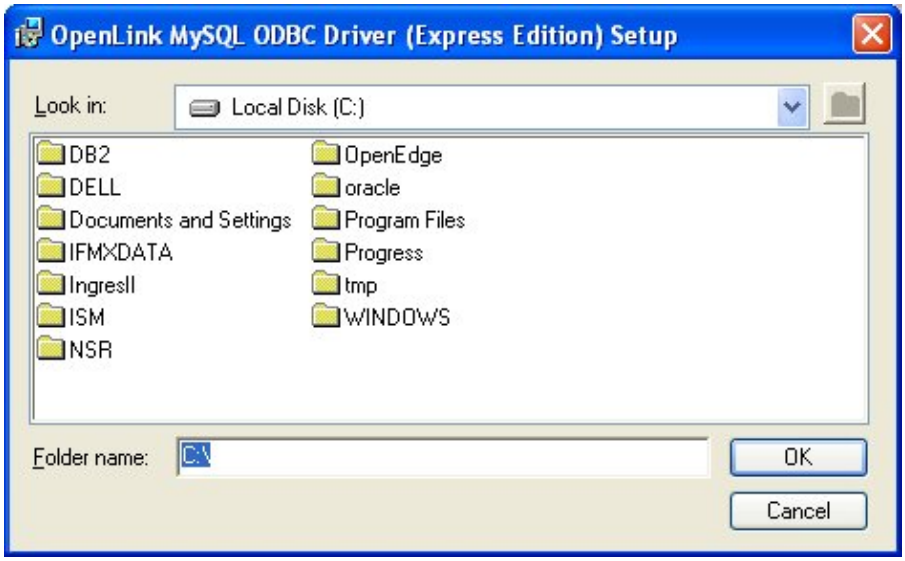
download at a later date.

Figure 7.36. EEWinmysinst05.png



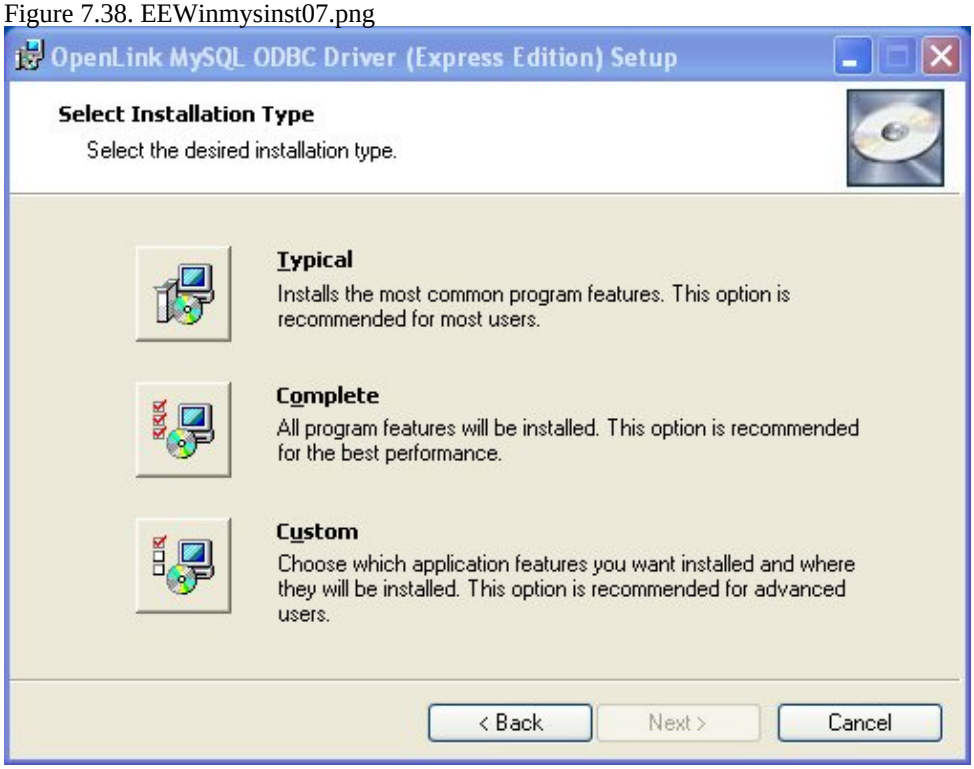
Select the license file to be used for the installation:

Figure 7.37. EEWinmysinst06.png



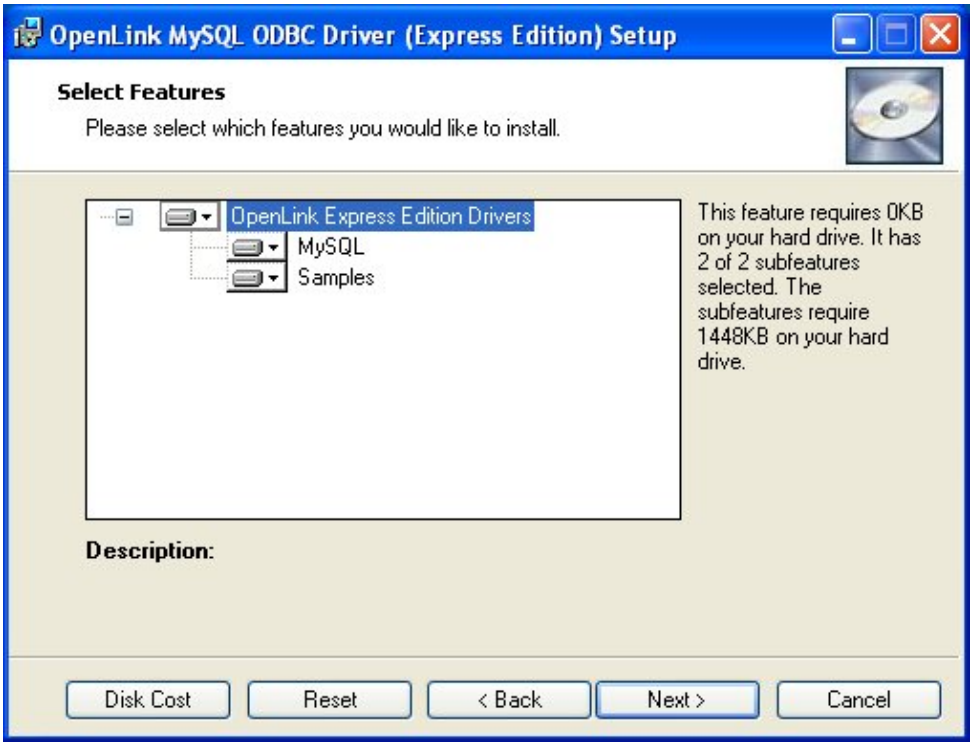
Choose to perform a custom, typical or complete installation of the driver:

Figure 7.38. EEWinmysinst07.png



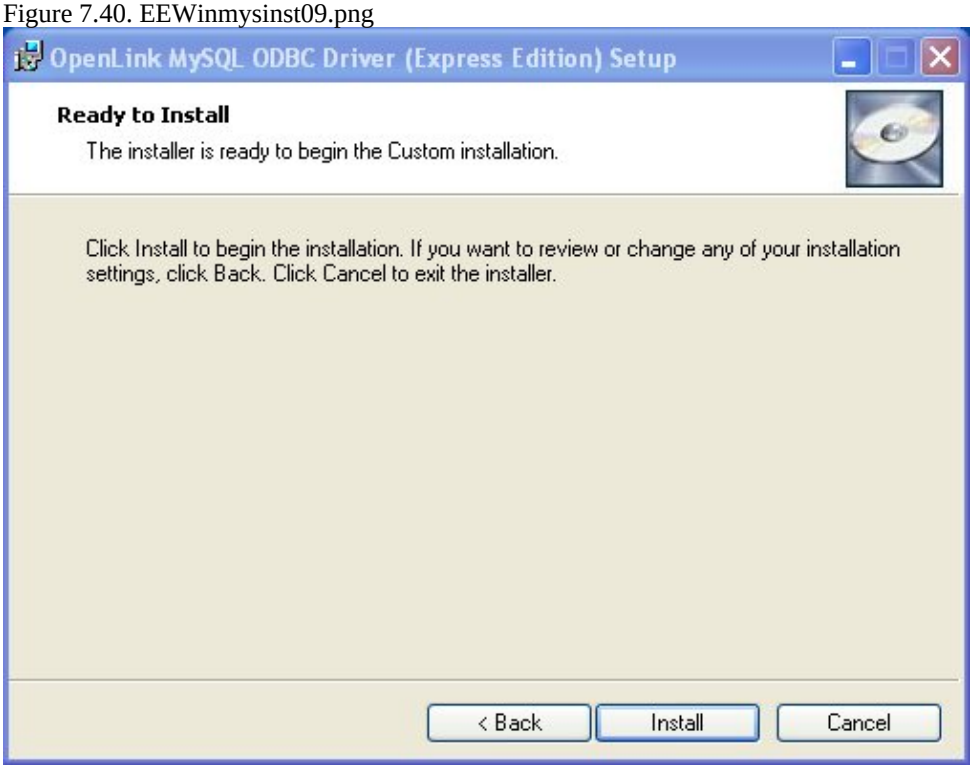
Select the features to be installed:

Figure 7.39. EEWinmysinst08.png



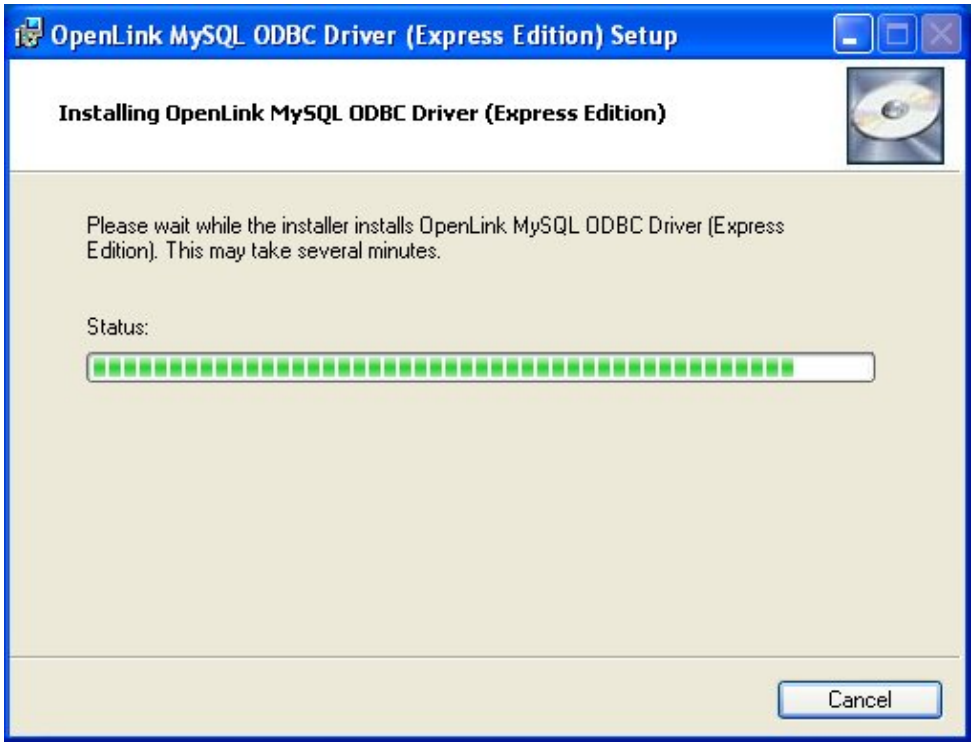
Click the install button to begin the installation of components:

Figure 7.40. EEWinmysinst09.png



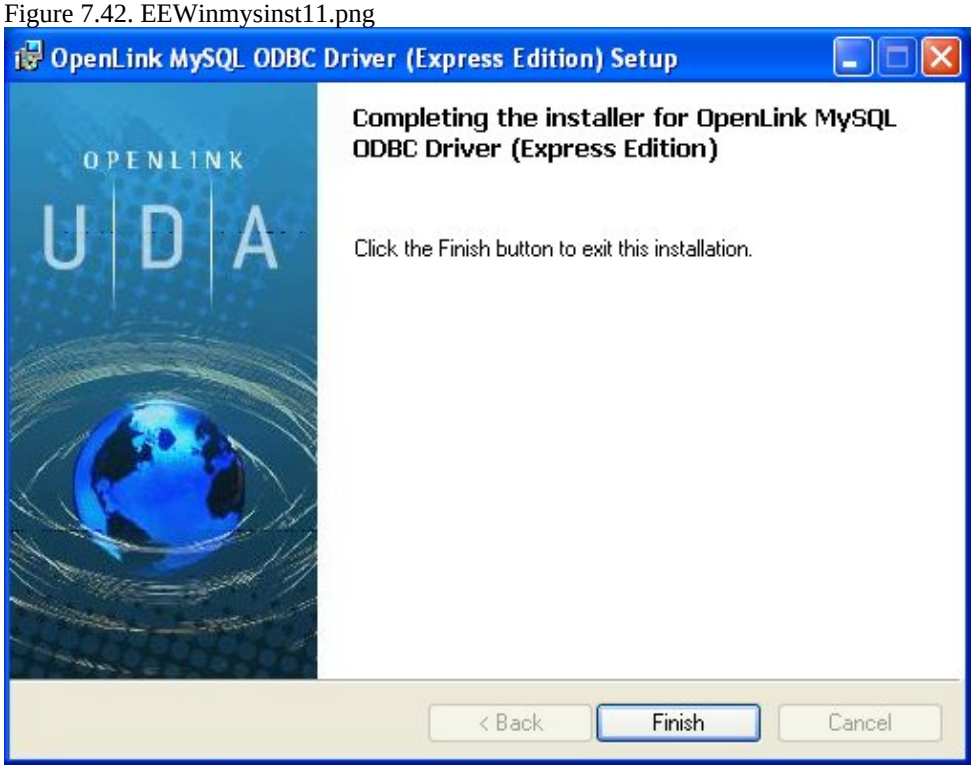
Installation in progress:

Figure 7.41. EEWinmysinst10.png



The Software installation is complete and ready for use:

Figure 7.42. EEWinmysinst11.png



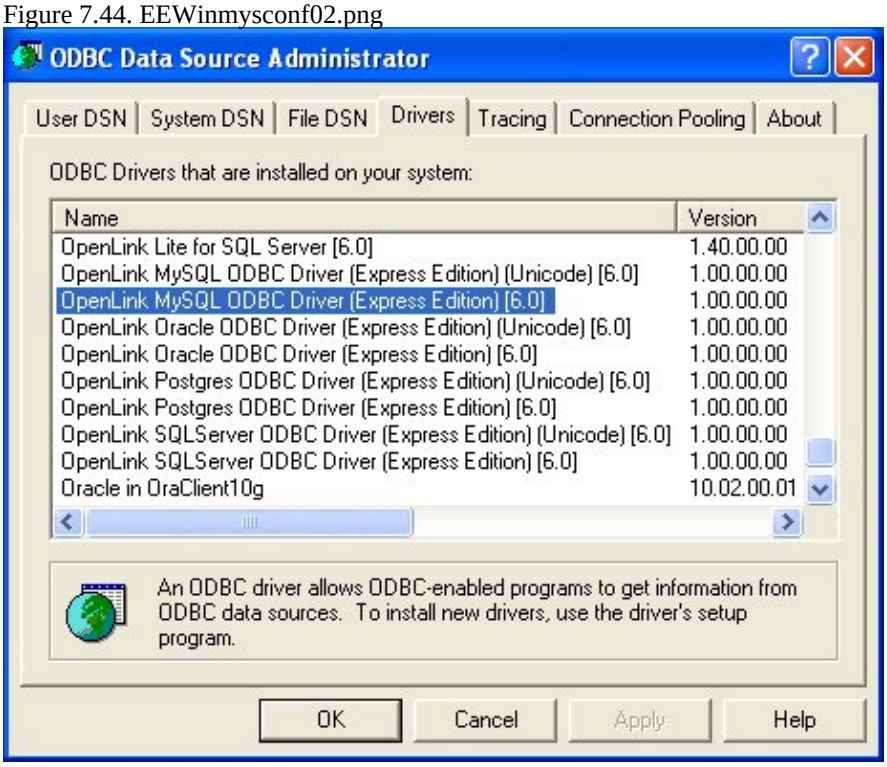
8.2.2 Configuration

To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 7.43. EEWinmysconf01.png

Click on the Drivers tab to confirm the OpenLink MySQL ODBCDriver [Express Edition][6.0] has been successfully installed:

Figure 7.44. EEWinmysconf02.png

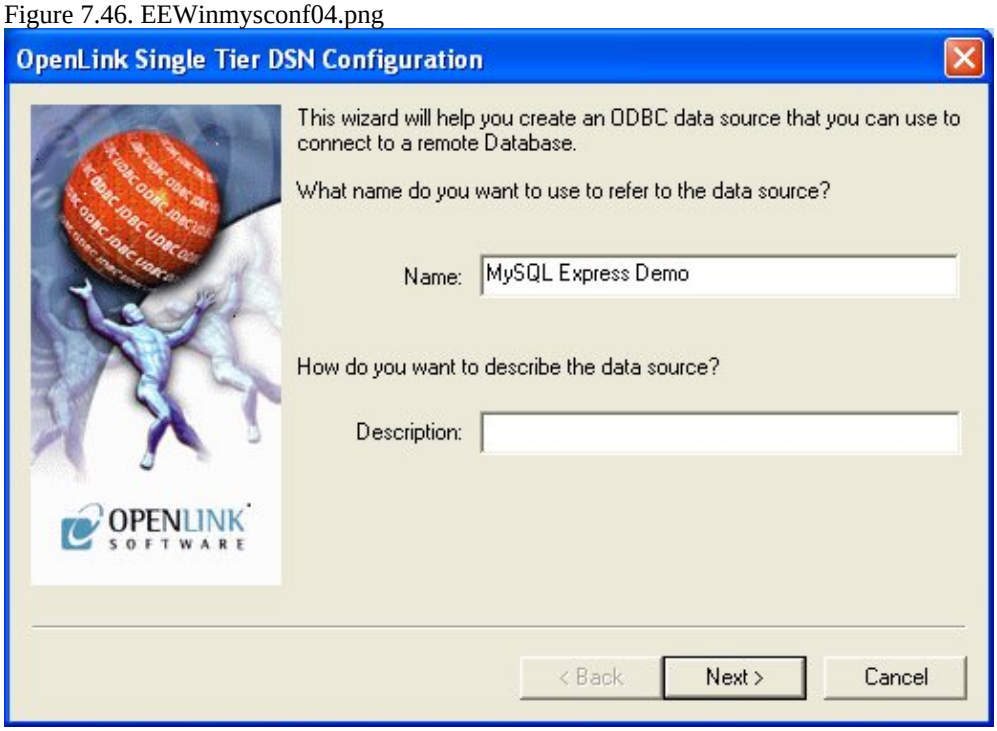


From either the User or System DSN tabs, click on the Add button and select the OpenLink MySQL ODBCDriver [Express Edition][6.0] from the list :

Figure 7.45. EEWinmysconf03.png

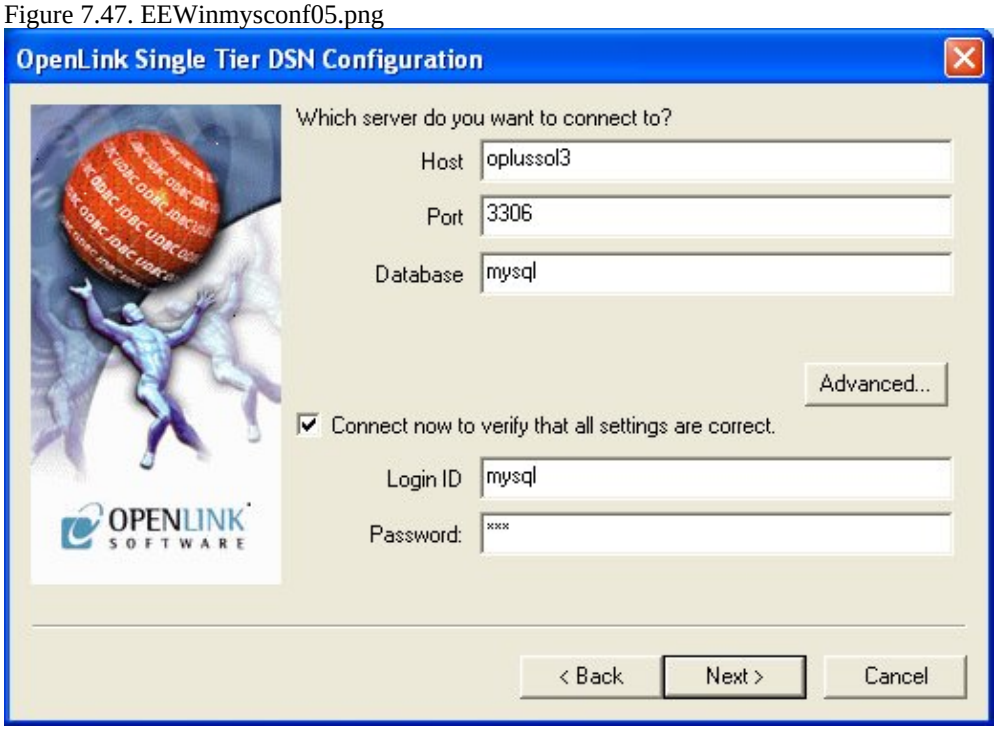
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 7.46. EEWinmysconf04.png



The Connection tab requests the minimum parameters required to make a connection to the target database:

Figure 7.47. EEWinmysconf05.png



- *Host* : This is the fully qualified hostname or IP address of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port on which MySQL is listening
- *Database* : This is the name of the MySQL database to which you want to connect

- *Login ID* : This is a valid user name for the MySQL database
- *Password* : This is a valid password for the MySQL database

Click next to verify that all settings are correct or uncheck the check box to delay testing to a later stage.

The advanced button displays additional, optional parameters that can be configured:

Figure 7.48. EEWinmysconf06.png

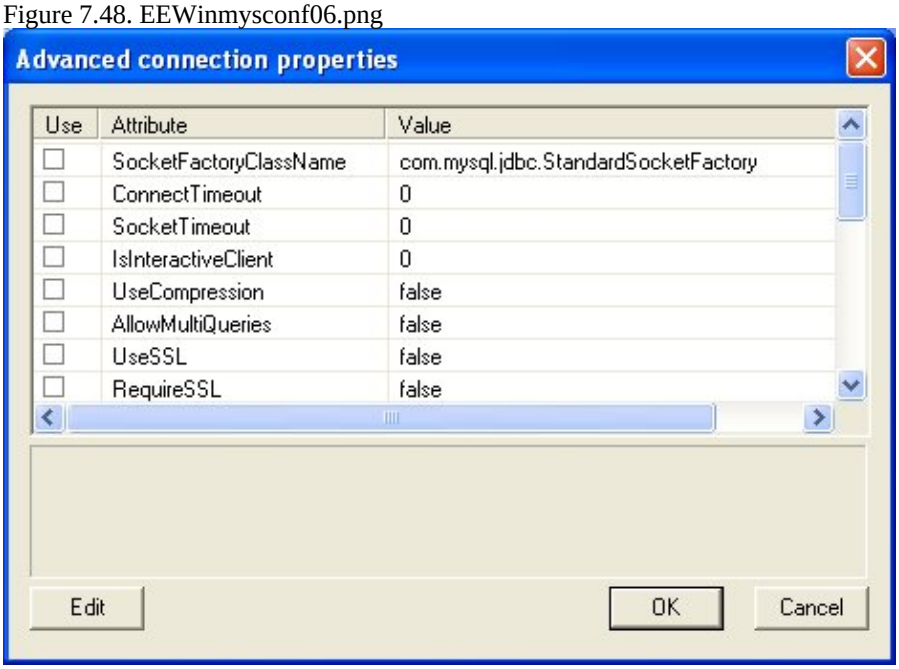


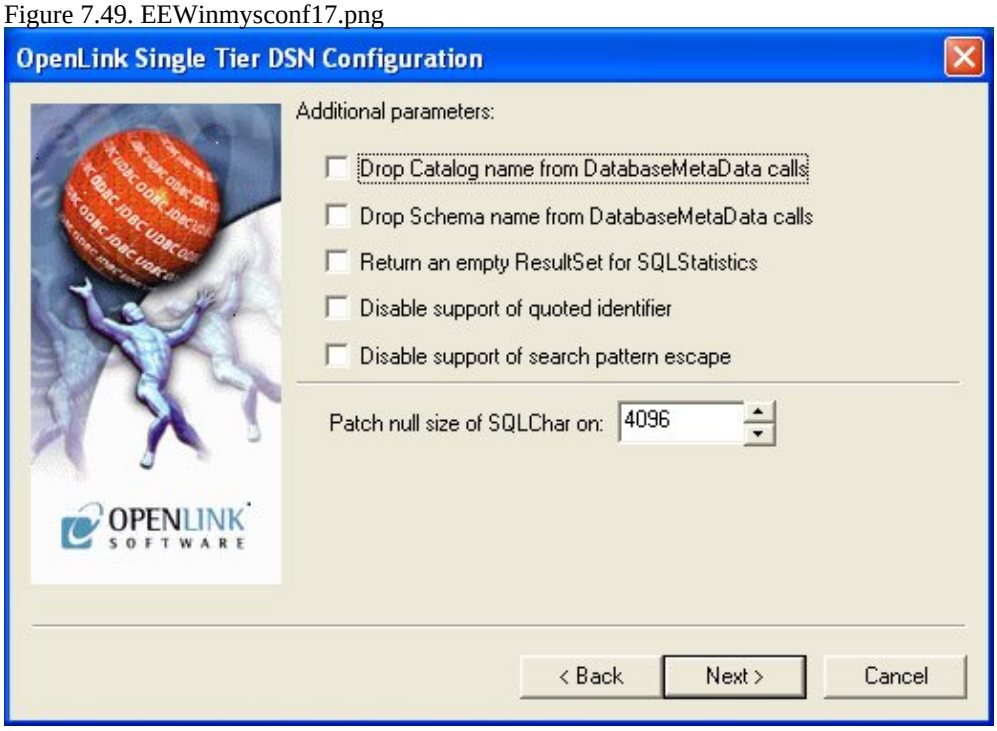
Table 7.2.

SocketFactoryClassName	The name of the class that the driver should use for creating socket connections to the server. This class must implement the interface 'com.mysl.jdbc.SocketFactory' and have no-args constructor.
ConnectTimeout	Timeout for socket connect (in milliseconds), with 0 being no timeout.
SocketTimeout	Timeout on network socket operations (0, the default means no timeout).
IsInteractiveClient	Set the CLIENT_INTERACTIVE flag, which tells MySQL to timeout connections based on INTERACTIVE_TIMEOUT instead of WAIT_TIMEOUT.
UseCompression	Use zlib compression when communicating with the server (true/false).
AllowMultiQueries	Allow the use of ';' to delimit multiple queries during one statement (true/false).
UseSSL	Use SSL when communicating with the server (true/false), defaults to 'false.'
RequireSSL	Require SSL connection if useSSL=true.
AllowURLInLocalInfile	Should the driver allow URLs in 'LOAD DATA LOCAL INFILE' statements?
Paranoid	Take measures to prevent exposure sensitive information in error messages and clear data structures holding sensitive data when possible?
MetadataCacheSize	The number of queries to cacheResultSetMetadata for if cacheResultSetMetaData is set to 'true.'
BlobSendChunkSize	Chunk to use when sending BLOB/CLOBs via ServerPreparedStatements.
CacheServerConfiguration	Should the driver cache the results of 'SHOW VARIABLES' and 'SHOW COLLATION' on a pre-URL basis?
ElideSetAutoCommits	If using MySQL 4.1 or newer, should the driver only issue 'set autocommit=n' queries when the server's state doesn't match the requested state by Connection.setAutoCommit (boolean)?
UseReadAheadInput	Use newer, optimized non-blocking, buffered input stream when reading from the server?
UseUnicode	Should the driver use Unicode character encodings when handling strings? Should only be used when the driver can't determine the character set mapping or you are trying to 'force'

	the driver to use a character set that MySQL either doesn't natively support (such as UTF-8), true/false.
CharacterEncoding	If 'useUnicode' is set to true, what character encoding should the driver use when dealing with strings? (defaults to 'autodetect')
CharacterSetResults	Character set to tell the server to return result as.
ConnectionCollation	If set, tells the server to use this collation via 'set collation_connection.'
SessionVariables	A comma-separated list of name/value pairs to be sent as SET SESSION to the server when the driver connects.

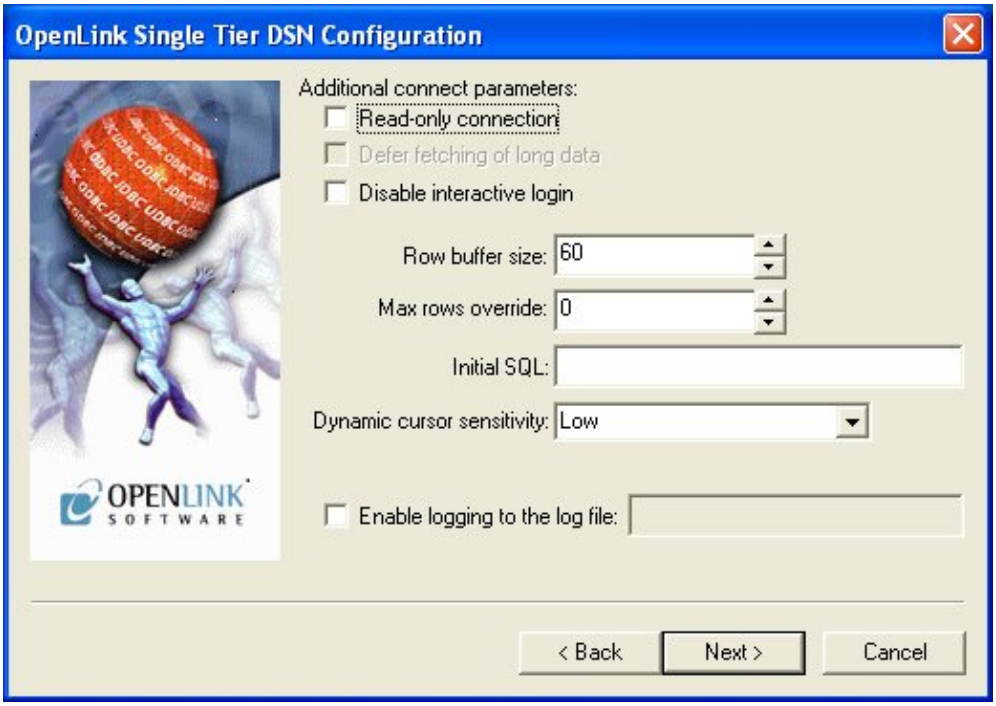
As indicated above, the parameters on the options and preferences tabs are not required for a basic connection.

Figure 7.49. EEWinmysconf17.png



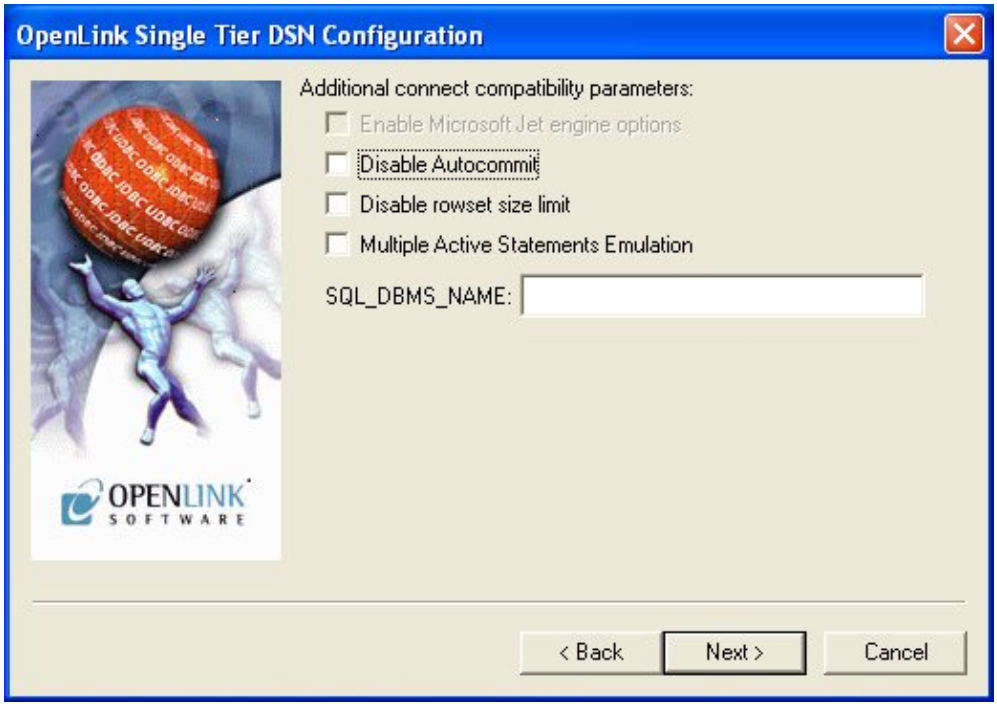
- *Drop Catalog name from DatabaseMetaData calls* - Enable this option to have the catalog name not appear for tables, views, and procedures when requesting database meta-data.
- *Drop Schema name from DatabaseMetaData calls* - Enable this option to have the schema-name not appear for tables, views, and procedures when requesting database meta-data.
- *Return an empty ResultSet for SQLStatistics* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table, e.g., what indexes there are on it.
- *Disable support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if the DBMS does not support quoted SQL, e.g., select * from "account."
- *Disable support of search pattern escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if the DBMS does not support SQL escape patterns.
- *Patch of NULL size of SQL_CHAR* - If set, this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0, the driver uses the size returned by the database.

Figure 7.50. EEWinmysconf08.png



- *Disable Interactive Login* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Max rows override* - Allows you to define a limit on the maximum number of rows to be returned from a query. The default value of 0 means no limit.
- *Initial SQL* - Lets you specify a file containing SQL statements that will be automatically run against the database upon connection.
- *Dynamic Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched, and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED, when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows do not appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate OpenLink script for the target database.
- *Enable logging to the log file:* - Specifies the full path to a text file. If the associated checkbox is checked, and a file is passed, the driver will log auto-generate a clientside ODBC trace.

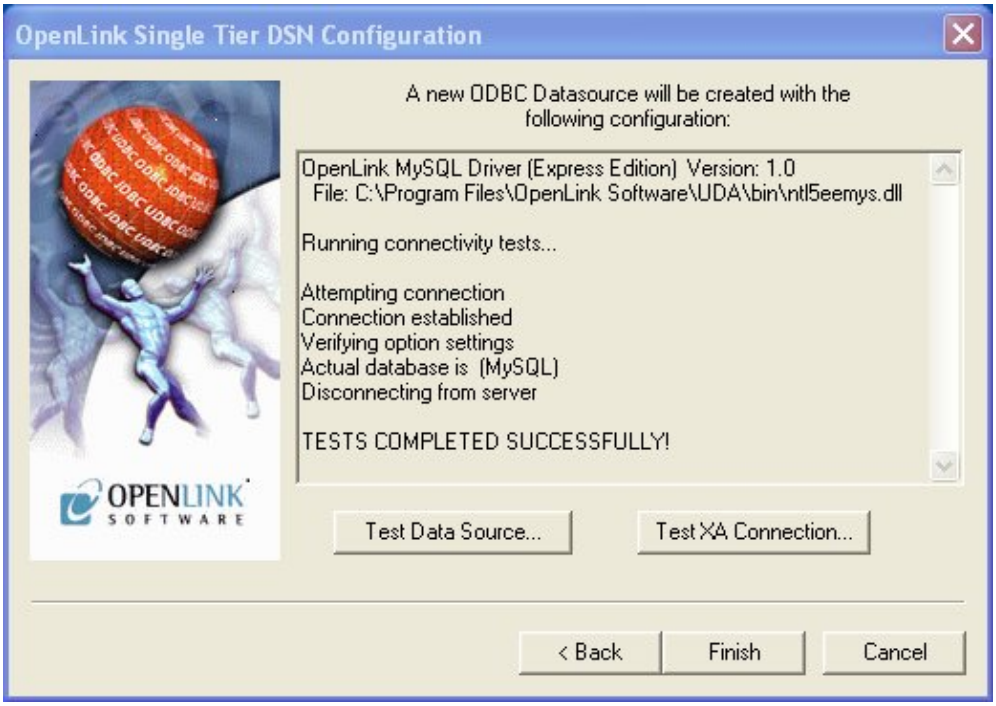
Figure 7.51. EEWinmysconf09.png



- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Driver. The default mode is AutoCommit (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is required for products like Microsoft InfoPath for which the return value must be "SQL Server".

Click on the *Test Data Source*button to verify that a successful connection can be made to the database.

Figure 7.52. EEWinmysconf10.png


OpenLink Single Tier DSN Configuration
A new ODBC Datasource will be created with the following configuration:
OpenLink MySQL Driver (Express Edition) Version: 1.0
File: C:\Program Files\OpenLink Software\UDA\bin\ntl5eemys.dll
Running connectivity tests...
Attempting connection
Connection established
Verifying option settings
Actual database is (MySQL)
Disconnecting from server
TESTS COMPLETED SUCCESSFULLY!
OPENLINK SOFTWARE
Test Data Source...
Test XA Connection...
< Back
Finish
Cancel

9 Chapter 8. OpenLink ODBC Driver for Oracle (Express Editon)

Table of Contents

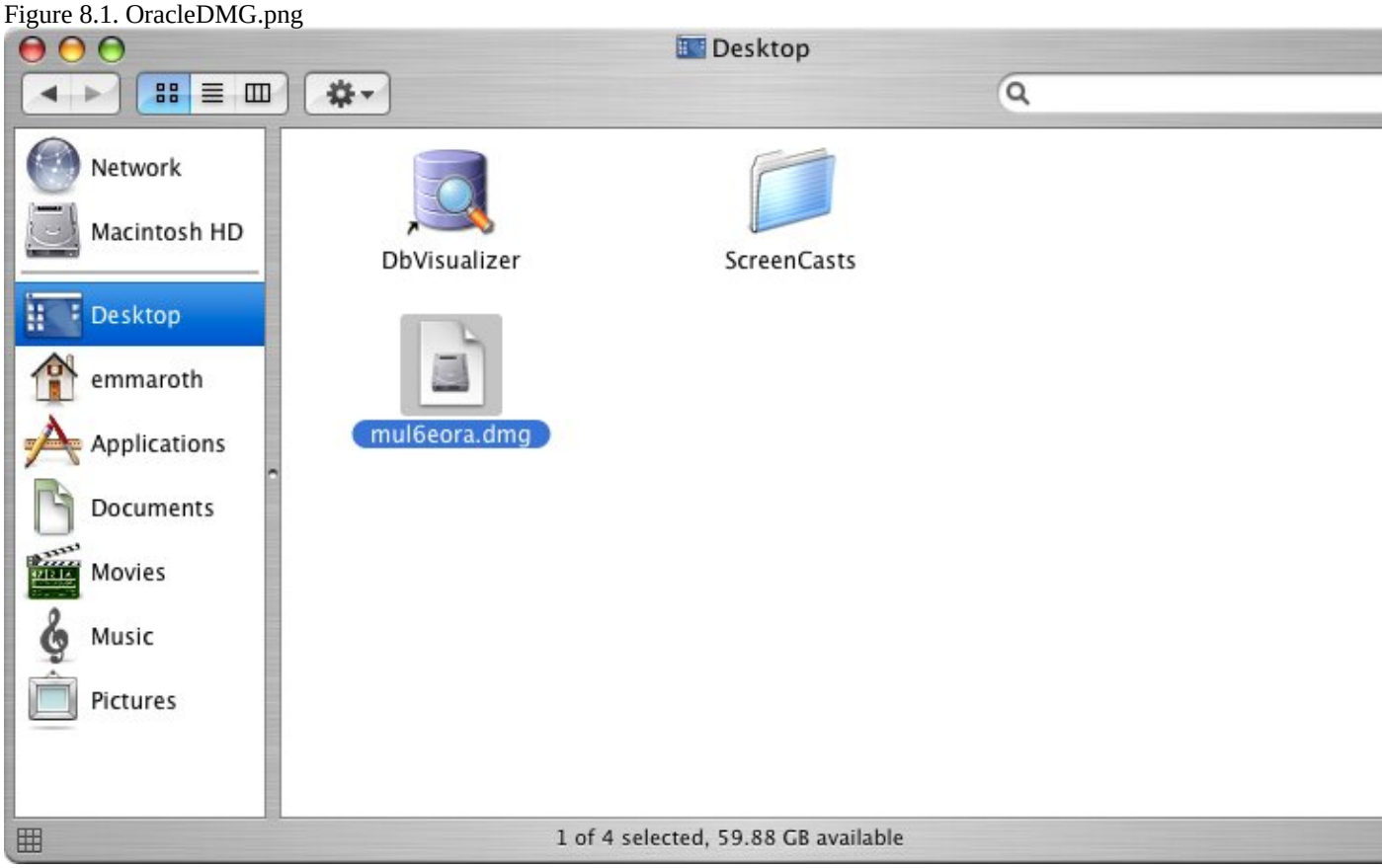
- OpenLink ODBC Driver for Oracle (Express Editon) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for Oracle (Express Editon) for Windows
  - Installation
  - Configuration

9.1 OpenLink ODBC Driver for Oracle (Express Editon) for Mac OS X

9.1.1 Installation Guide

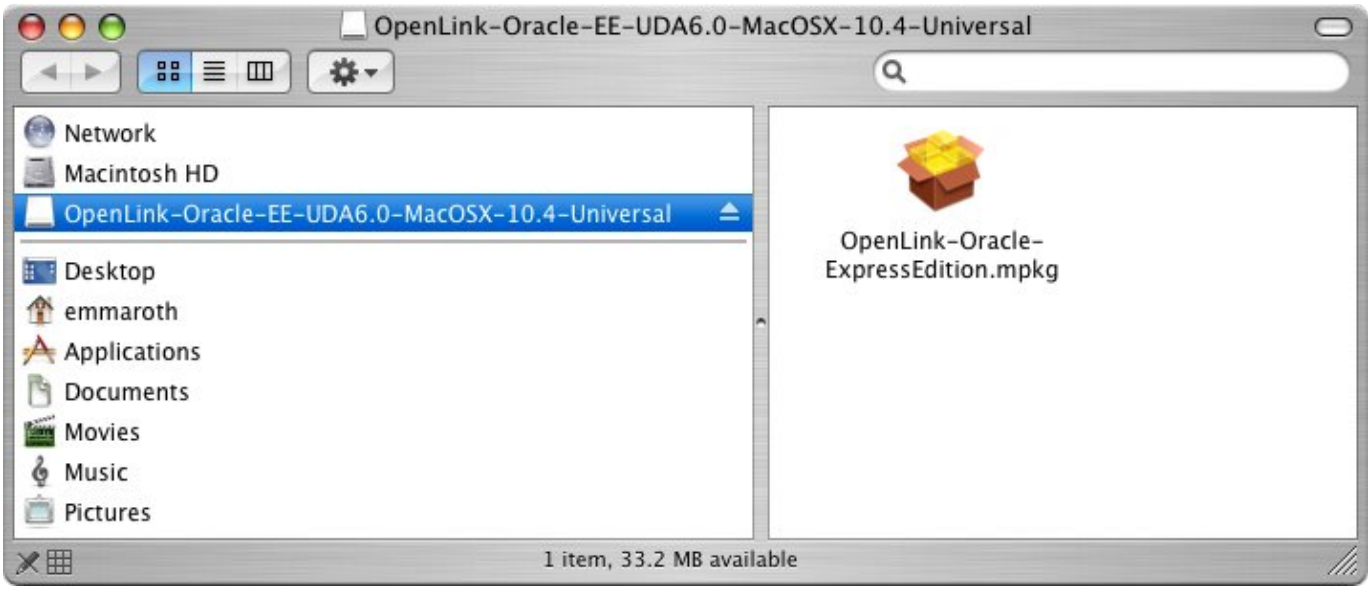
The OpenLink ODBC Driver for Oracle (Express Edition is a distributed as a Disk Image (DMG) file. Simply double click on the disk image 'mul6eora.dmg' to extract the installer mpkg file:

Figure 8.1. OracleDMG.png



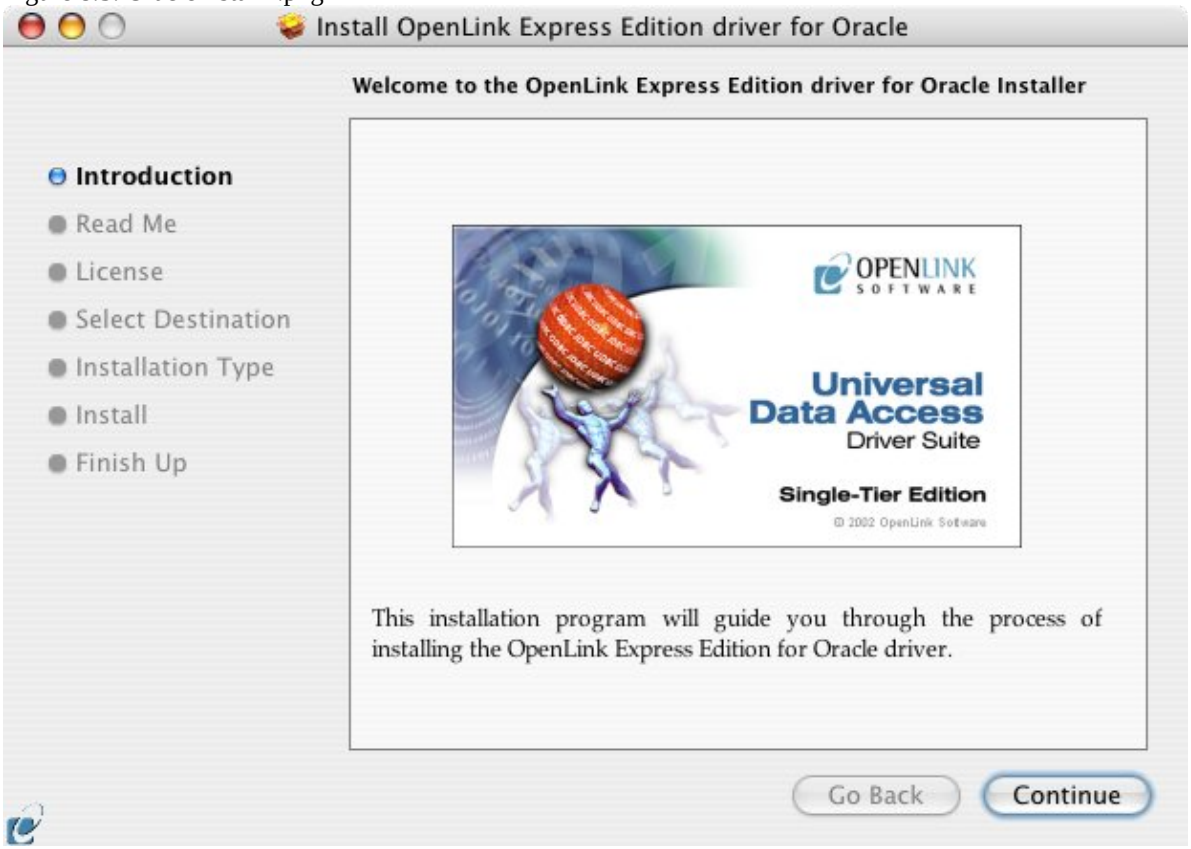
Double-click on the mpkg file to run the installer and following the on screen instriuction as indicated below to complete the installation:

Figure 8.2. OraclePackage.png



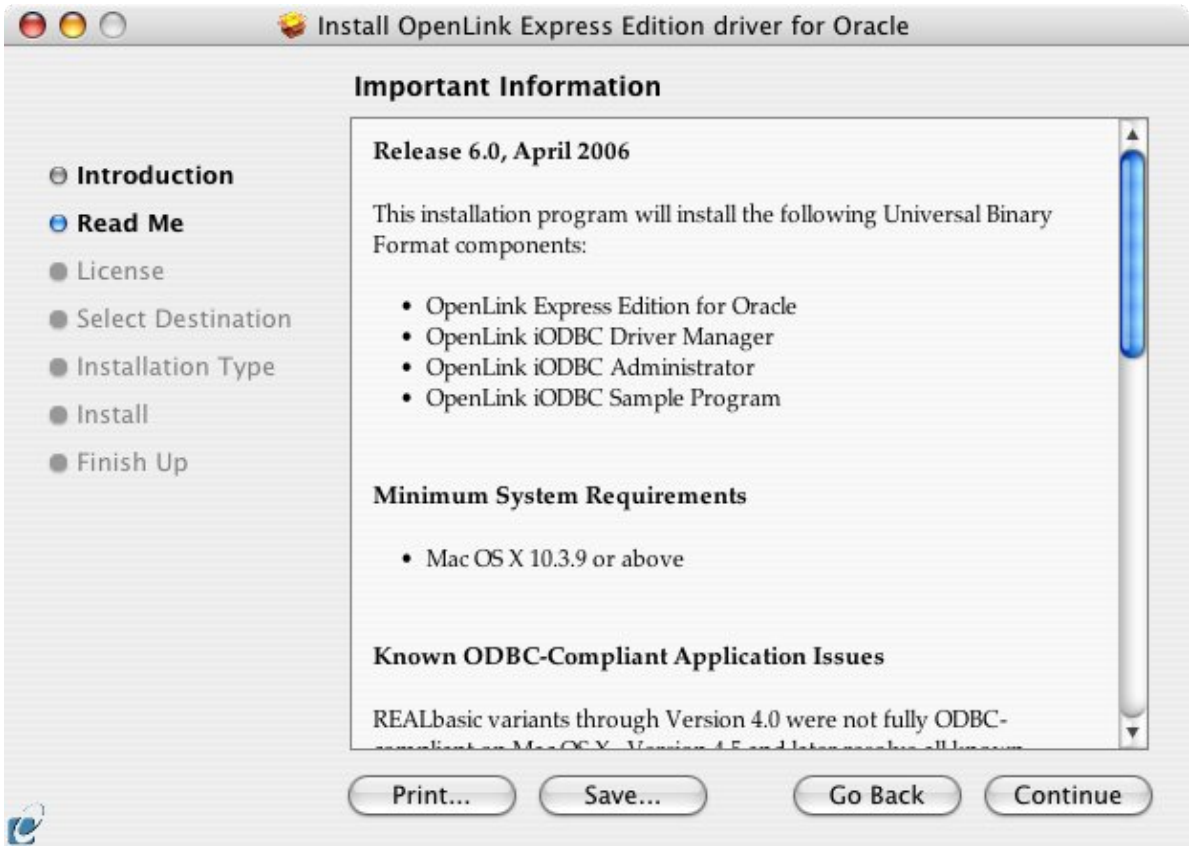
Installer Welcome Dialog for the OpenLink ODBC Driver for Oracle (Express Edition):

Figure 8.3. OracleInstall2.png



Please review the readme file for installation requirements and known issues:

Figure 8.4. OracleInstall3.png



Please read the software license agreement before continuing your installation:

Figure 8.5. OracleInstall4.png

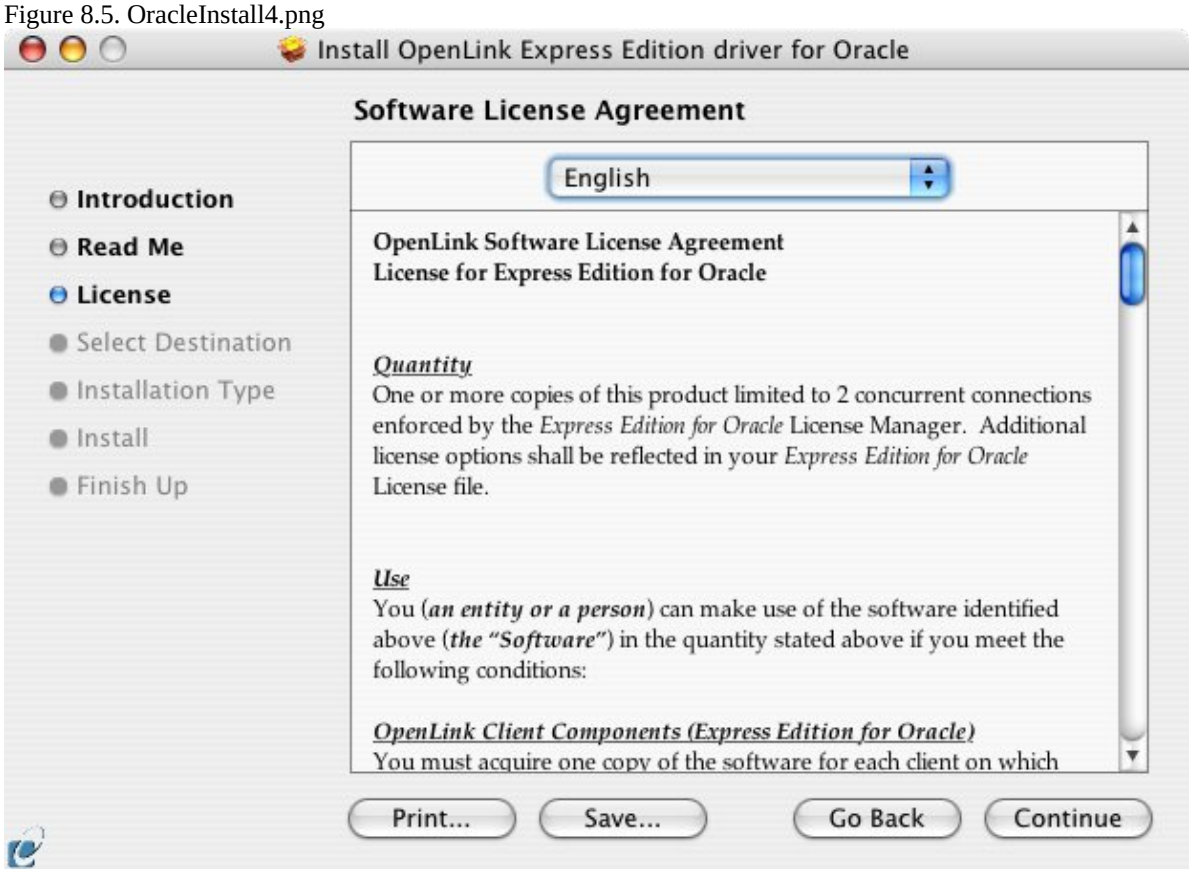


Figure 8.6. OracleInstall5.png

Select destination volume for driver installation:

Figure 8.7. OracleInstall6.png

Choose to perform a custom or default installation of the driver:

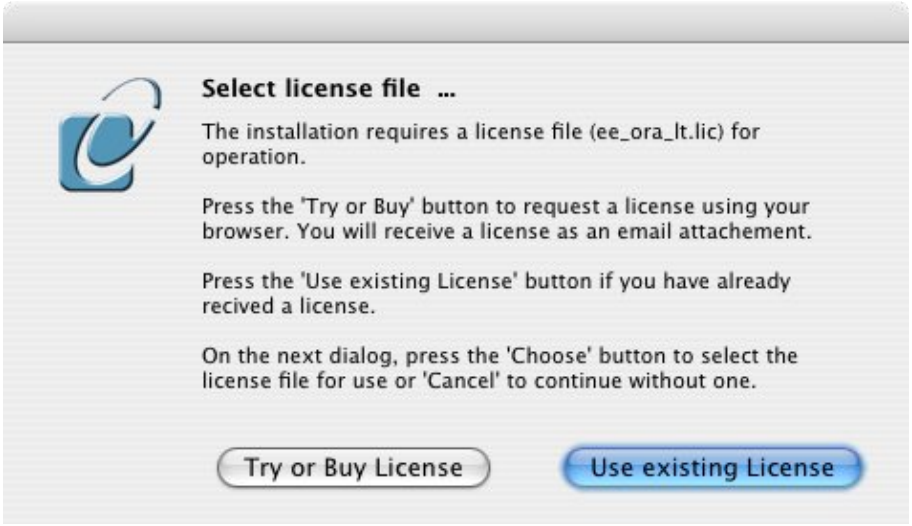
Figure 8.8. OracleInstall7.png

If you chose the custom option select which of the components below are to be installed: The Software must be installed as a user with Administrative privileges on the machine:

Figure 8.9. OracleInstall8.png

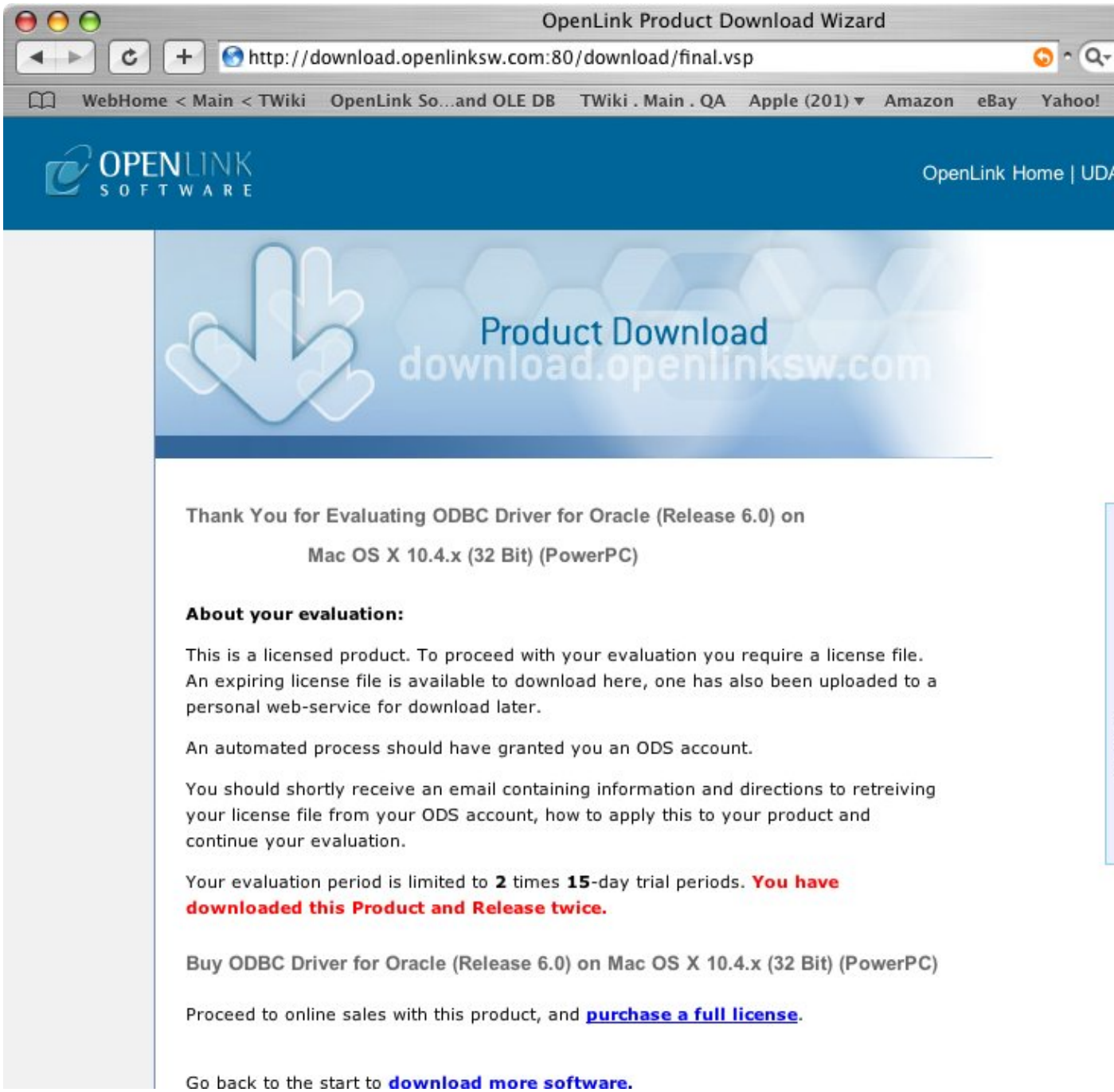
After the driver has been installed you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

Figure 8.10. OracleInstall10.png



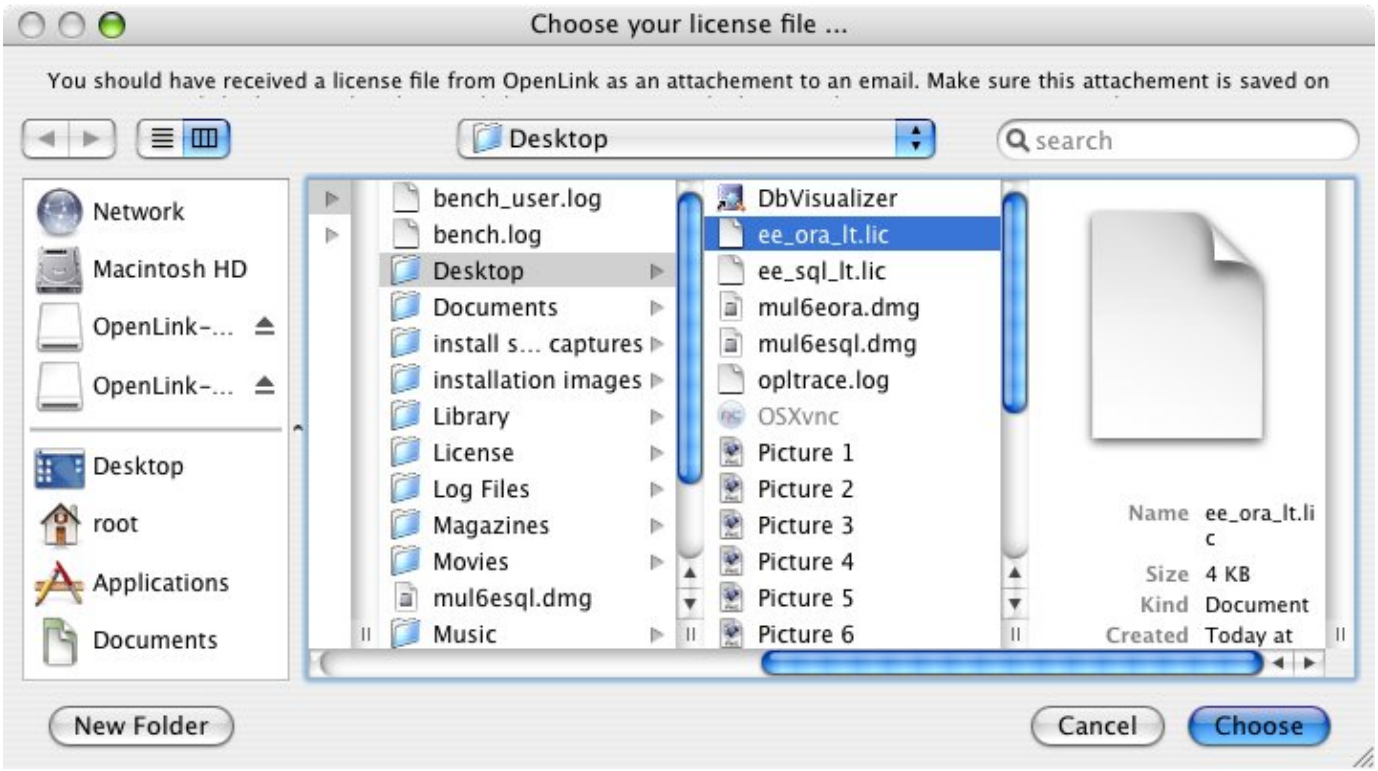
To obtain the trial license you must be a registered user on the OpenLink Web site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required: Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLink Data Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 8.11. OracleInstall12.png



Select the license file to be used for the installation:

Figure 8.12. OracleInstall14.png



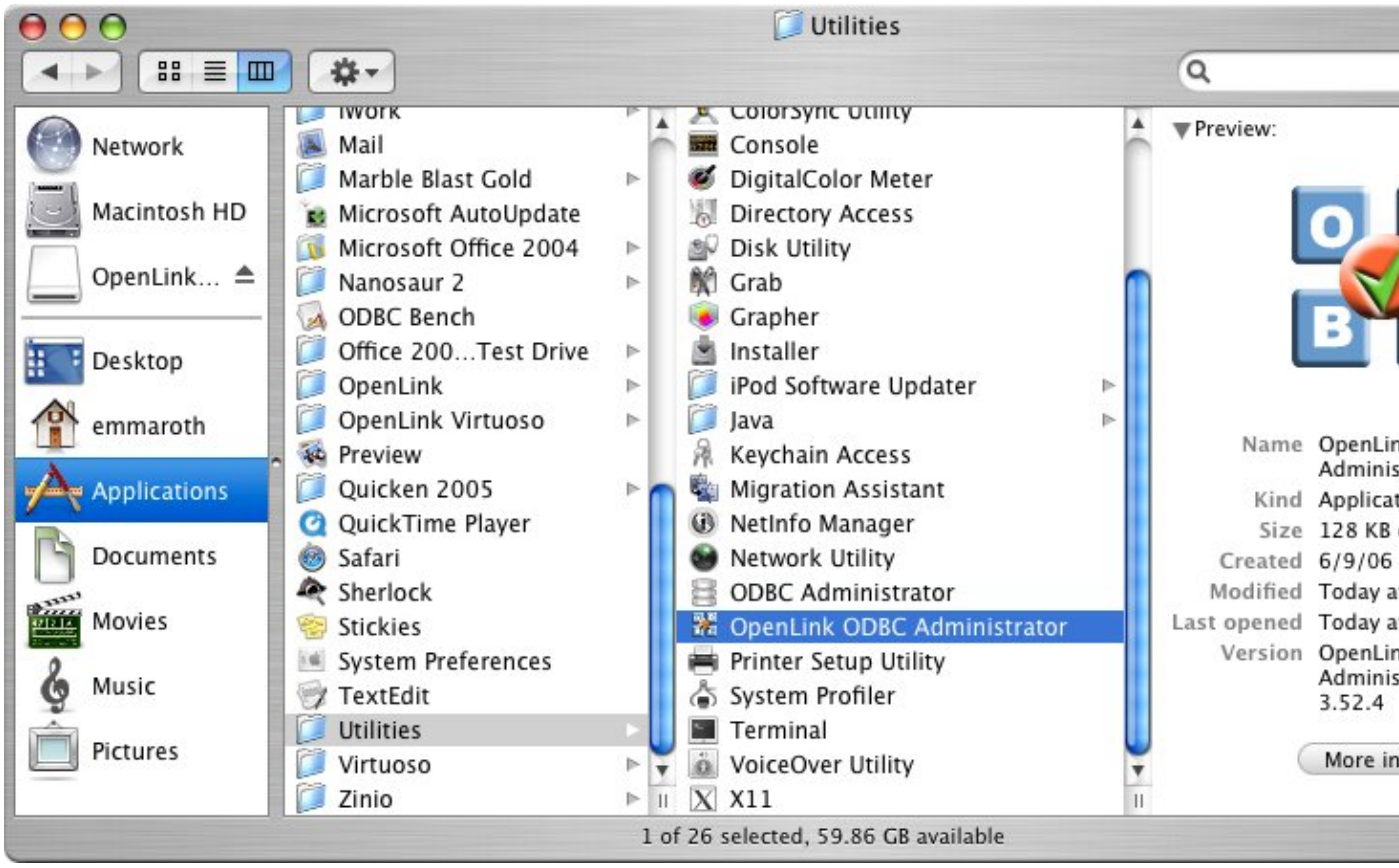
Installation is complete:

Figure 8.13. OracleInstall15.png

9.1.2 Configuration

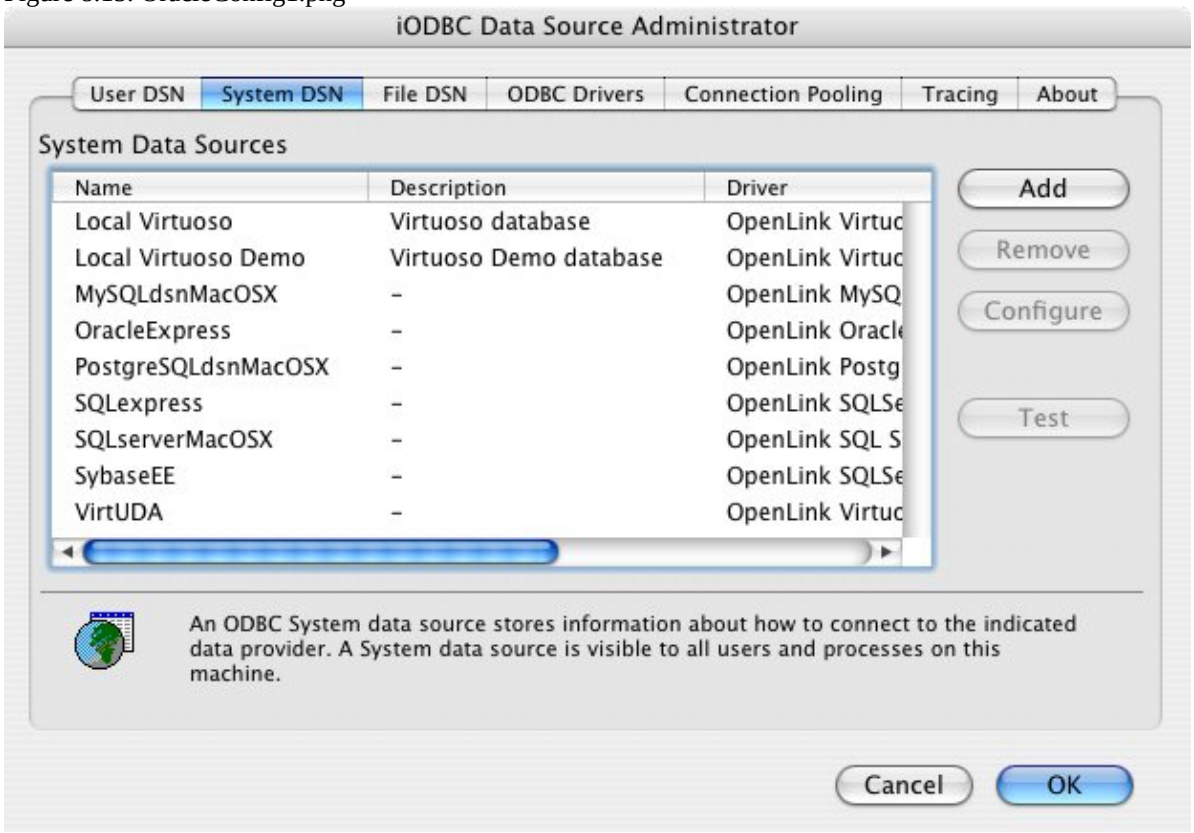
To configure an ODBC DSN, run the OpenLink iODBC Administrator located in the /Applications/iODBC folder:

Figure 8.14. ODBCadmin.png



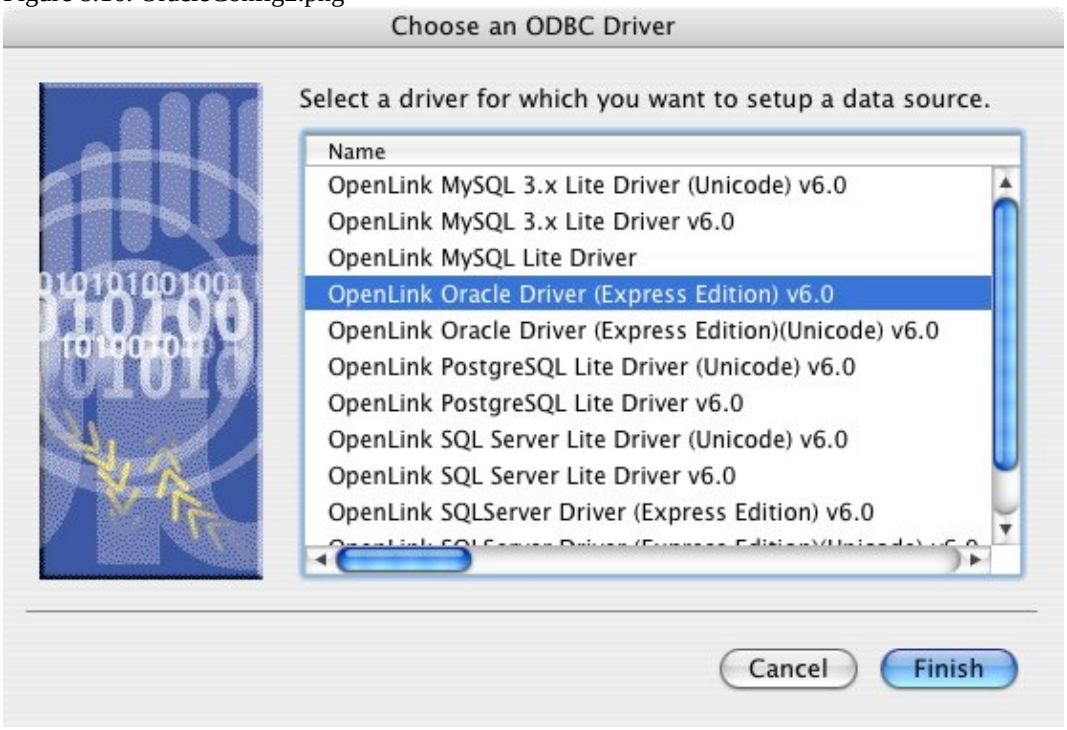
Click on the add button to Choose the ODBC Driver the DSN should be created for:

Figure 8.15. OracleConfig1.png



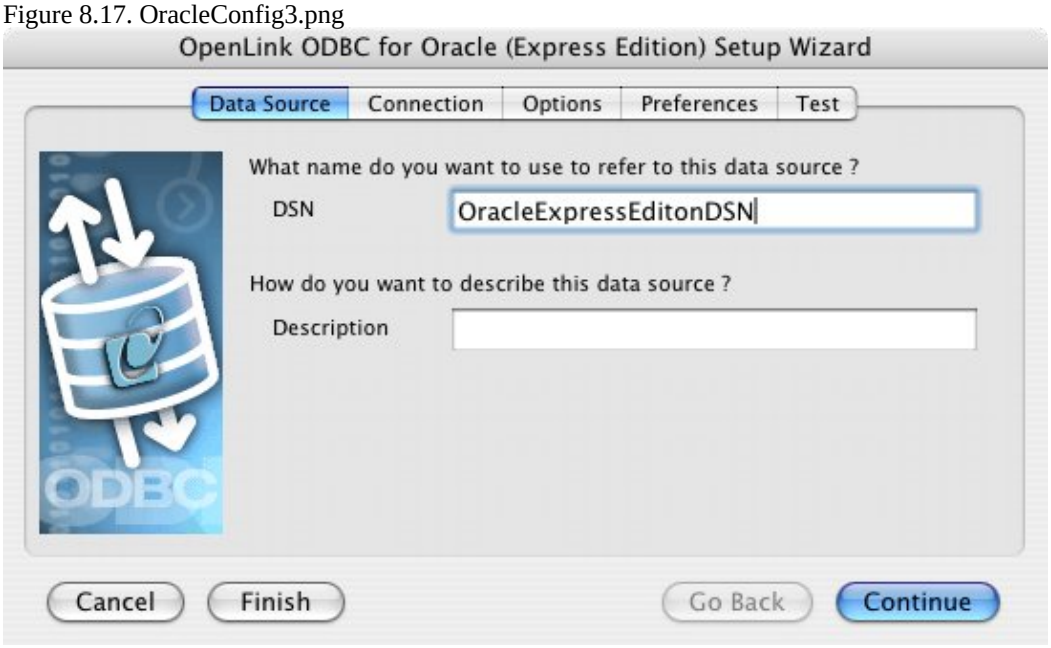
Choose the OpenLink Oracle Driver (Express Edition) v6.0 from the list of available drivers:

Figure 8.16. OracleConfig2.png



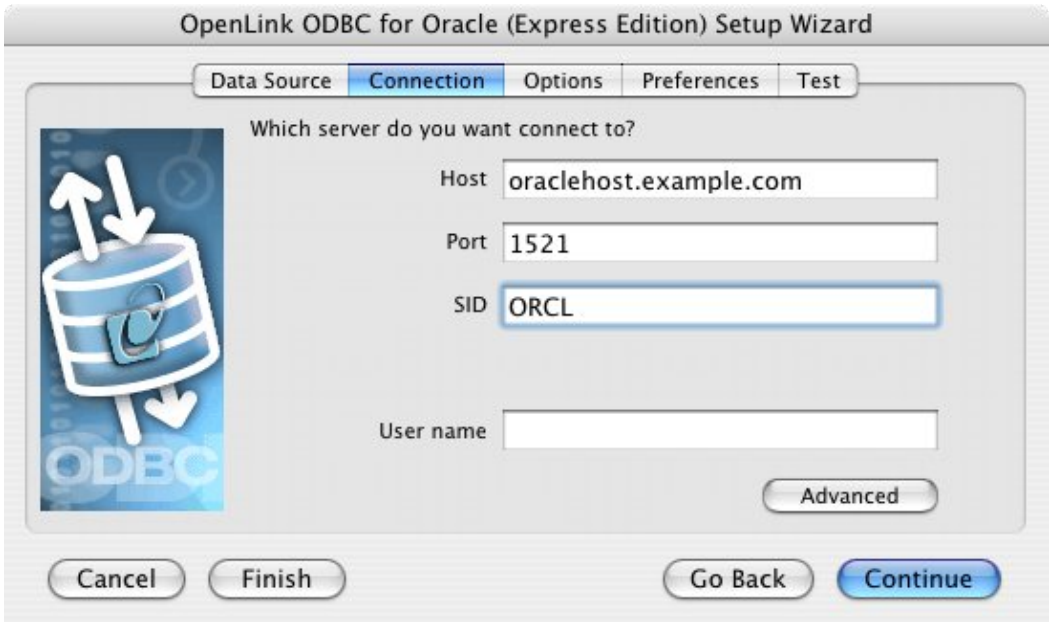
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 8.17. OracleConfig3.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 8.18. OracleConfig4.png



Host: This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.

Port: The port that the Oracle instance listens on.

SID (Service Name): The Oracle System Identifier that refers to the instance of the Oracle database running on the server.

User Name: The name of a valid Oracle user.

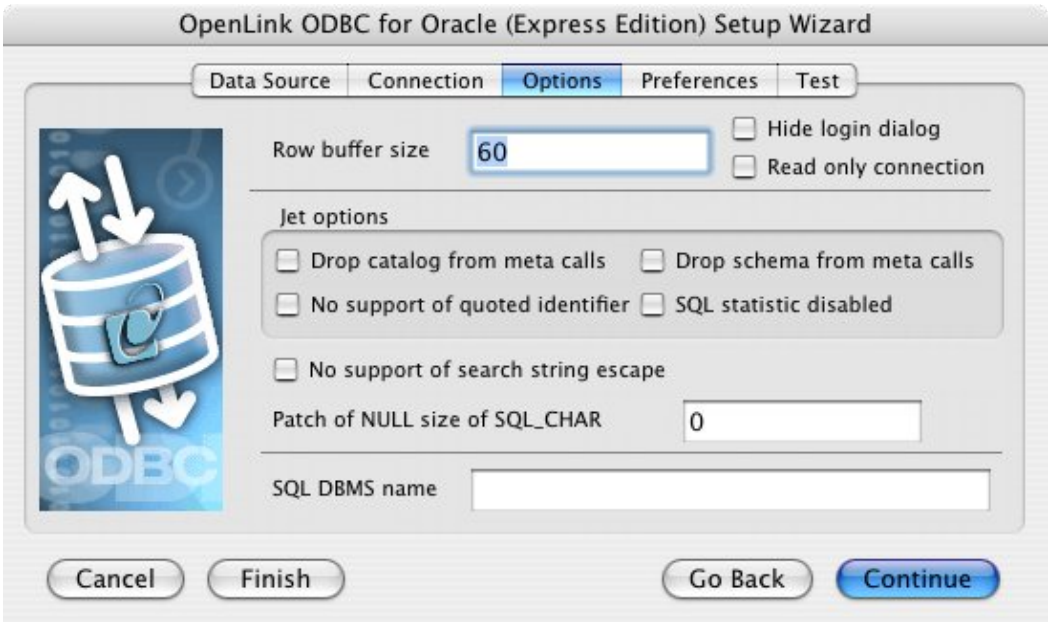
Advanced - Additional optional configuration paramters:

Table 8.1.

NetworkProtocol	Set the network protocol for the connections. Default is 'tcp'. Can be set to all possible protocols Net8 supports. Only needed for JDBC OCI driver.
MaxStatements	Specifies the value of the maxStatements property. This will be the size of the application cache (which will be used by both implicit and explicit caching).
ImplicitCachingEnabled	Sets the value of the implicitCachingEnabled property, which enables or disables the implicit cache. Note that this is independent of the cache size, set with setMaxStatements().
ExplicitCachingEnabled	Sets the value of the explicitCachingEnabled property, which enables or disables the explicit cache. Note that this is independent of the cache size, set with setMaxStatments().

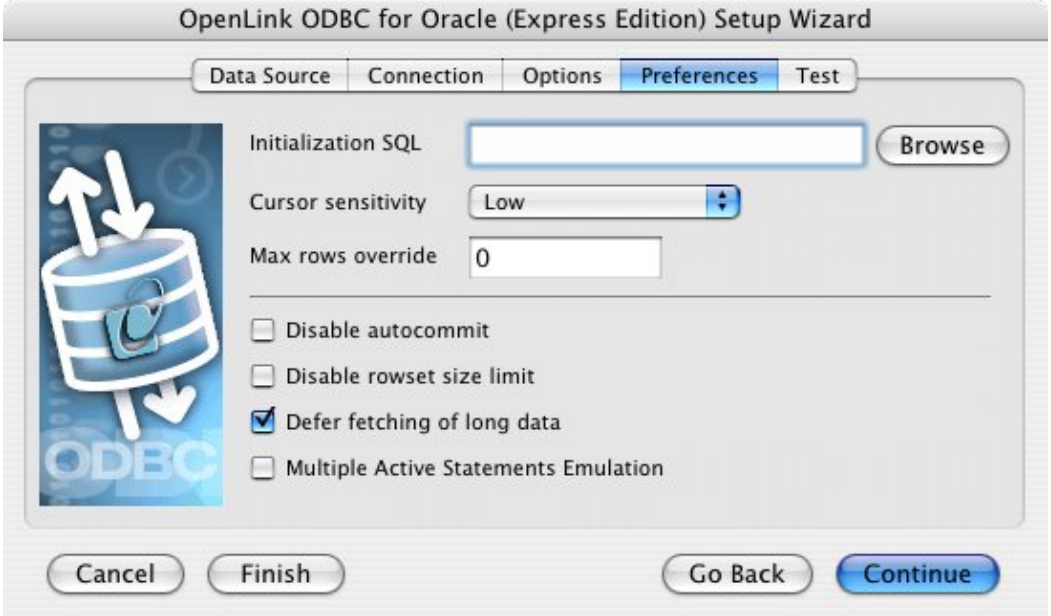
As indiacted above the paramters of the options and preferences tabs are not required for a basic connection:

Figure 8.19. OracleConfig6.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be read-only. Make sure the checkbox is unchecked to request a read-write connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database metadata.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL such as select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

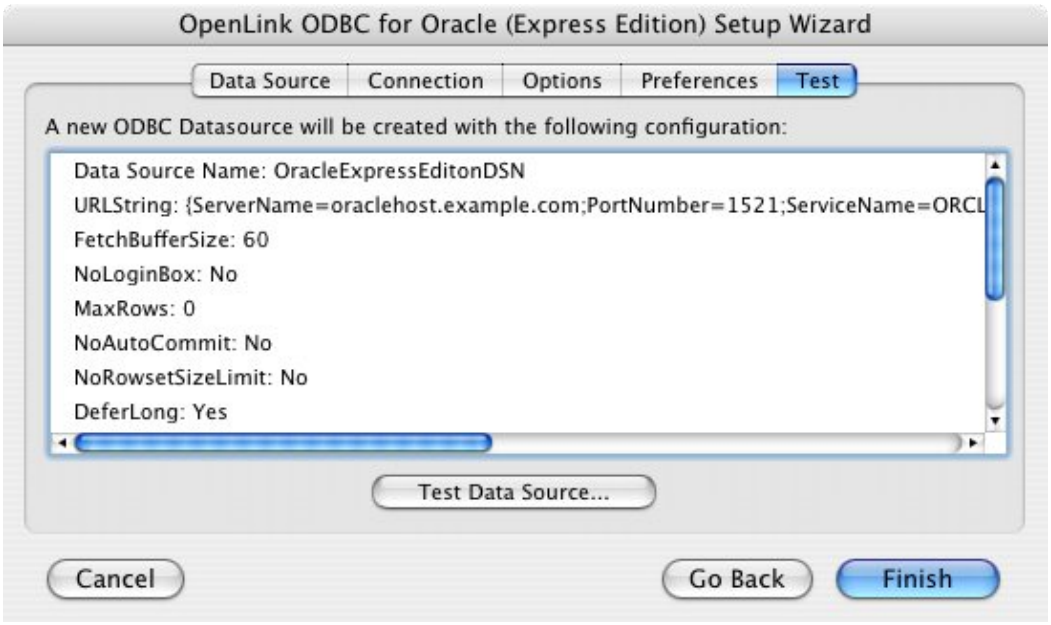
Figure 8.20. OracleConfig7.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

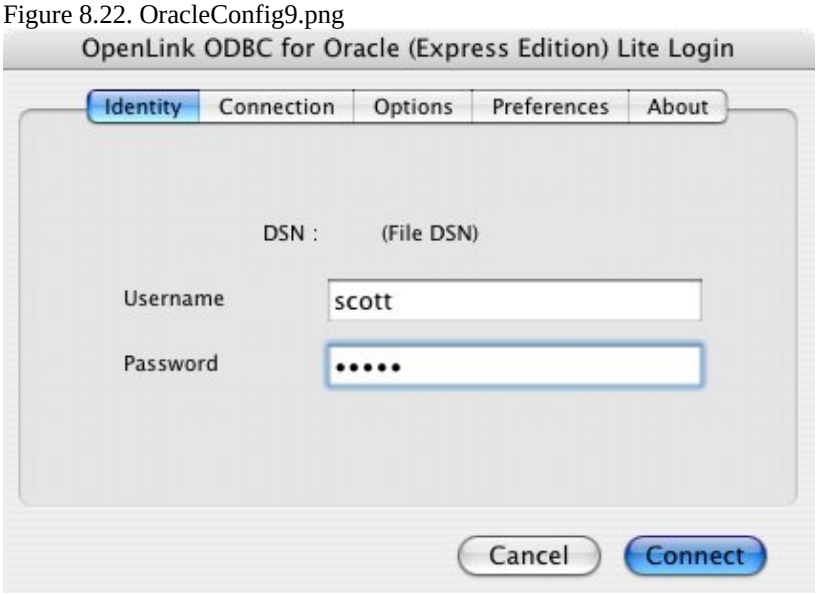
Click on the 'Test Data Source' button to make a connection to the database to verify connectivity:

Figure 8.21. OracleConfig8.png



Enter a vaild username and pasword for the database:

Figure 8.22. OracleConfig9.png



A successful connection to the database has been made:

Figure 8.23. OracleSucess.png

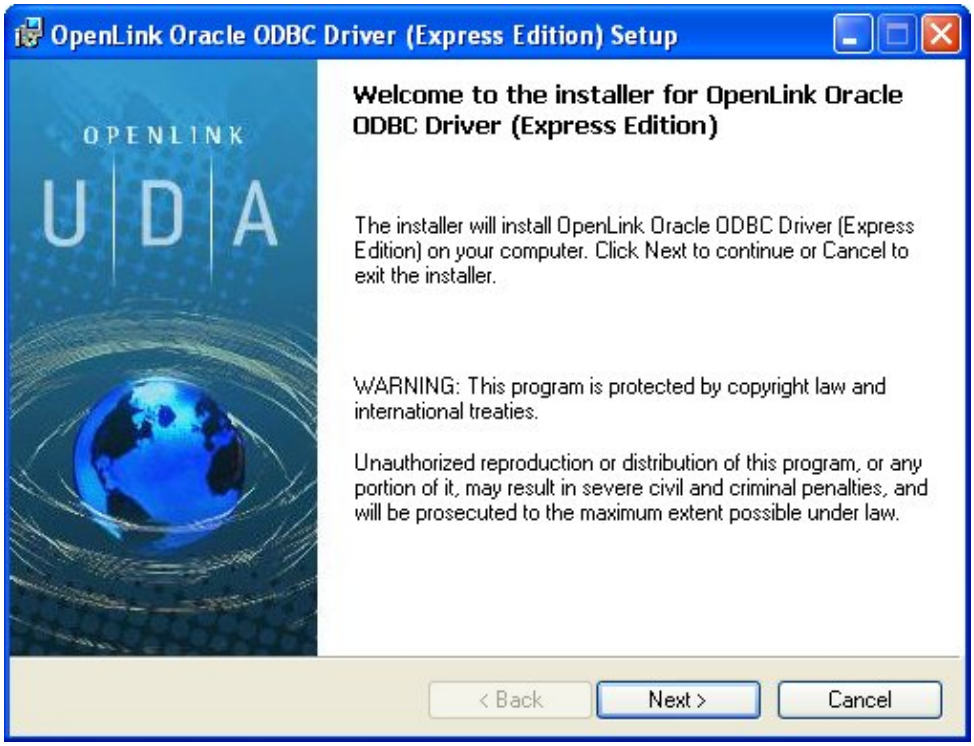
9.2 OpenLink ODBC Driver for Oracle (Express Editon) for Windows

9.2.1 Installation

The OpenLink ODBCDriver for Oracle (Express Edition) is distributed as a Windows MSI installer. Simply double click the installer 'ntl6eora.msi' to commence the installation.

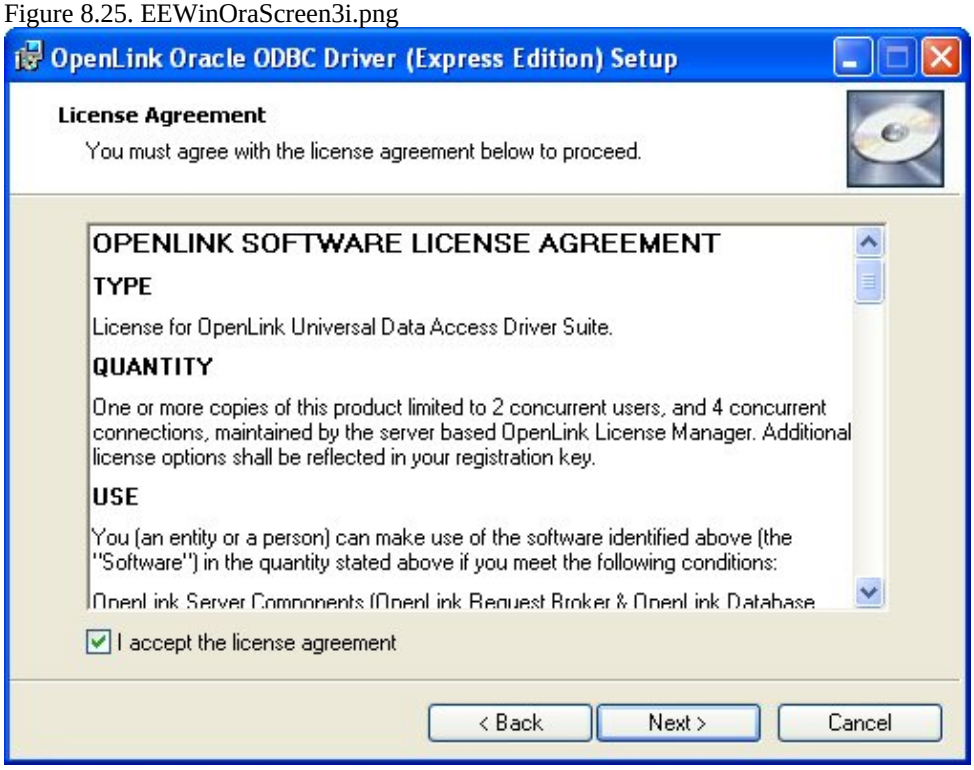
Installer Welcome Dialog for the OpenLink ODBCDriver for Oracle(Express Edition):

Figure 8.24. EEWinOraScreen1i.png



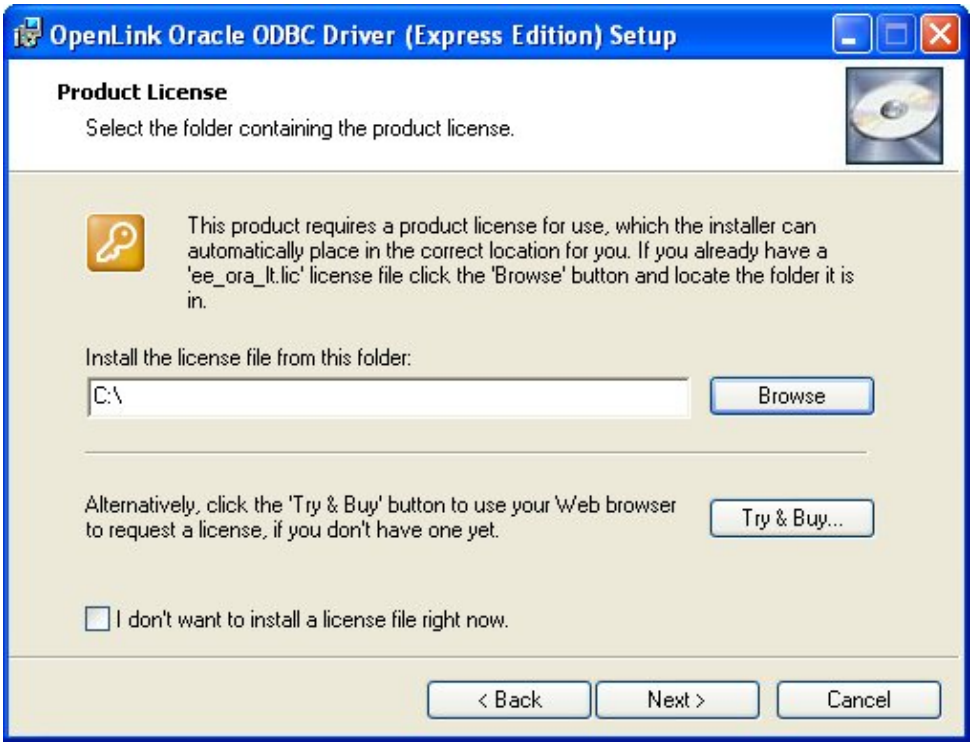
Please read the software license agreement and accept before continuing your installation:

Figure 8.25. EEWinOraScreen3i.png



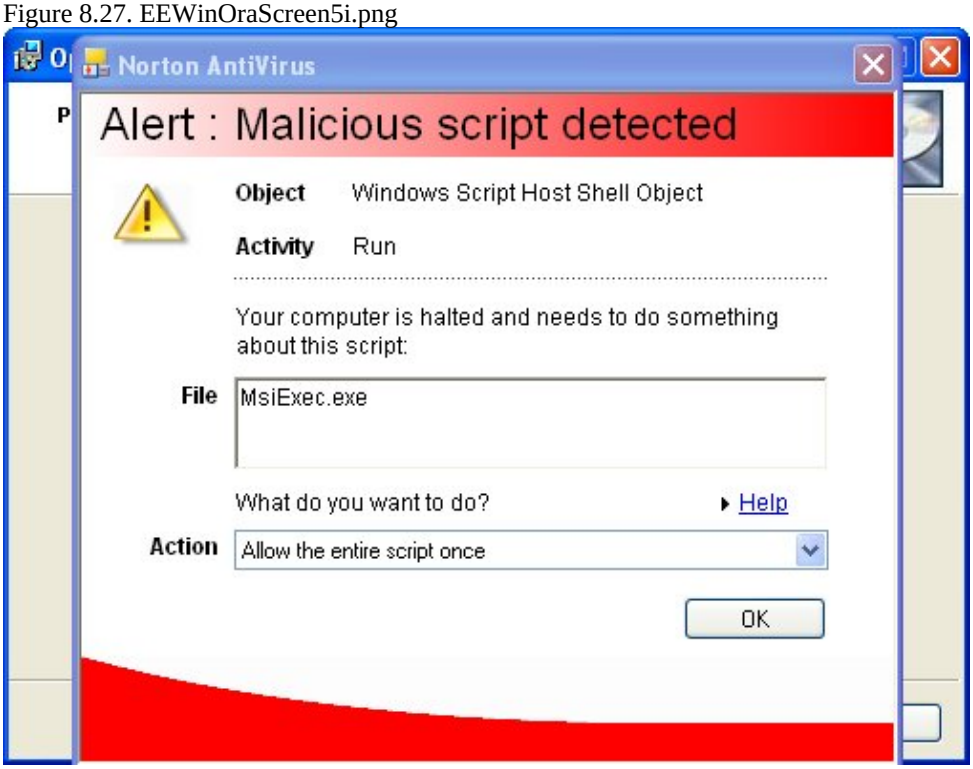
Before installation, you will be prompted for a license file. If a license file already exists on the machine, then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtained by selecting the 'try and buy' option, which loads OpenLink's online try and buy web page:

Figure 8.26. EEWinOraScreen4i.png



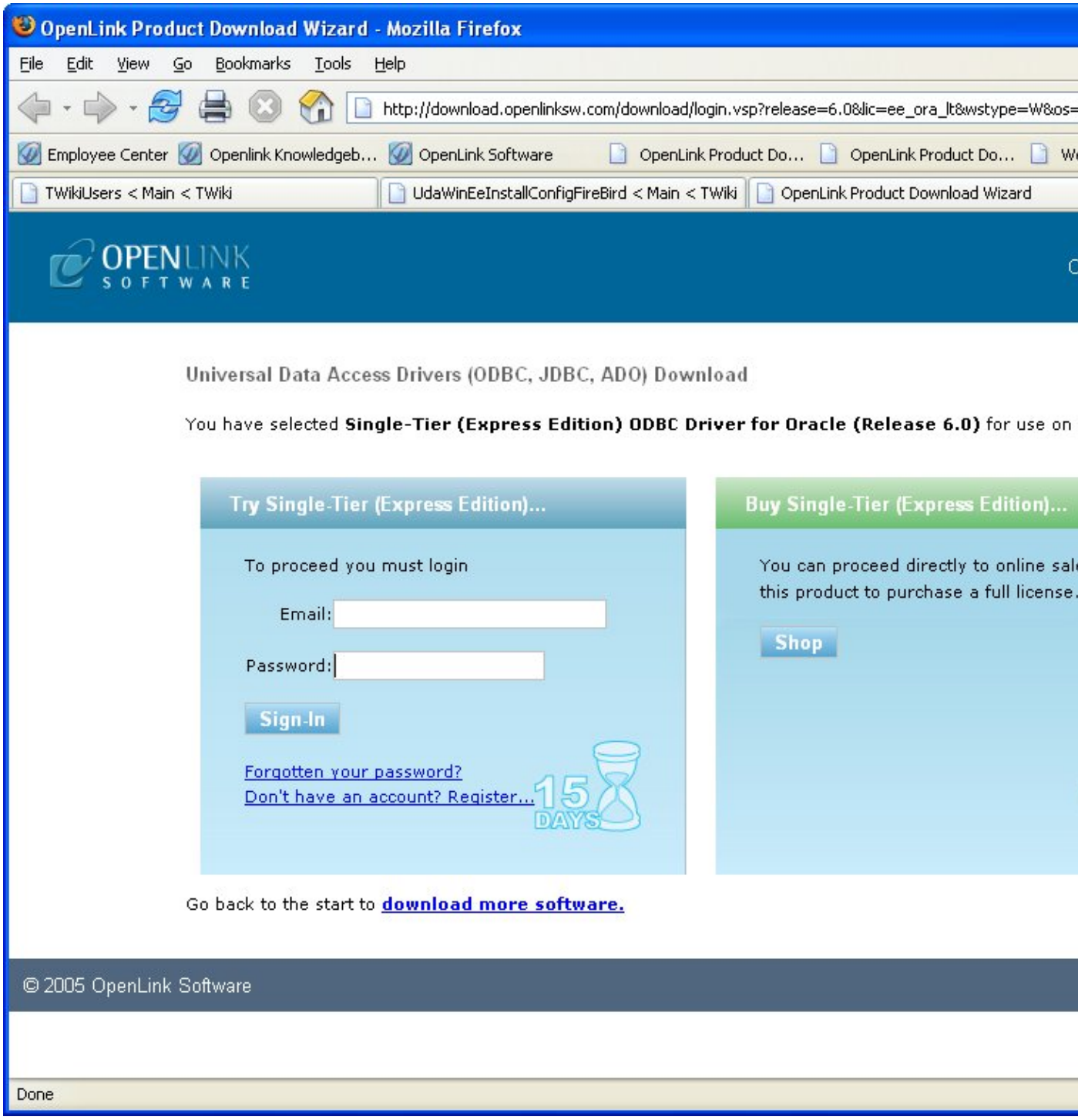
If you are using Nortons Anti-Virus Software, you may encouter this warning message. Choose Allow the Entire Script once option:

Figure 8.27. EEWinOraScreen5i.png



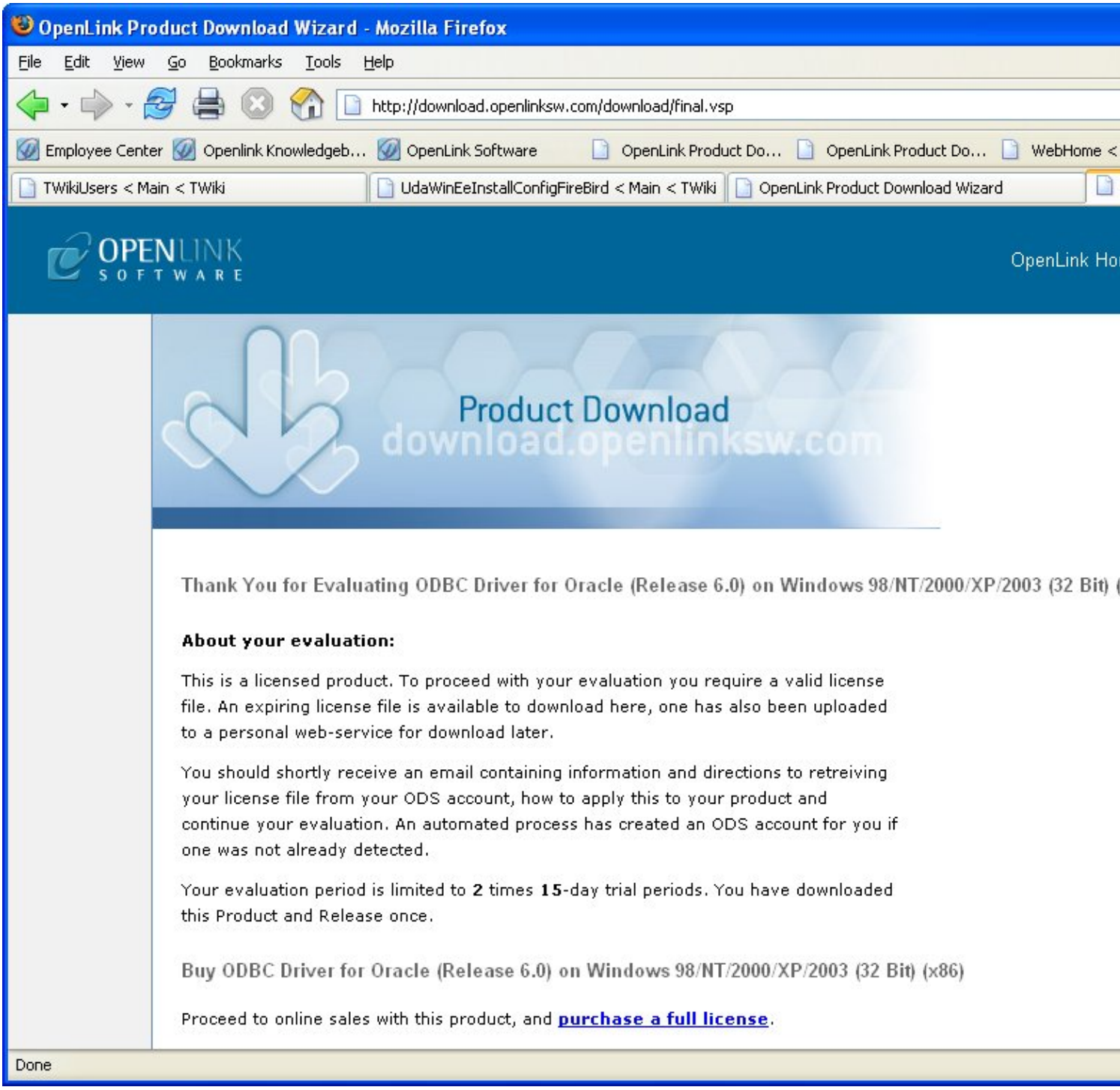
To obtain the trial license, you must be a registered user on the OpenLinkWeb site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit Openlink's online shop cart to purchase a full license, if required:

Figure 8.28. EEWinOraScreen6i.png



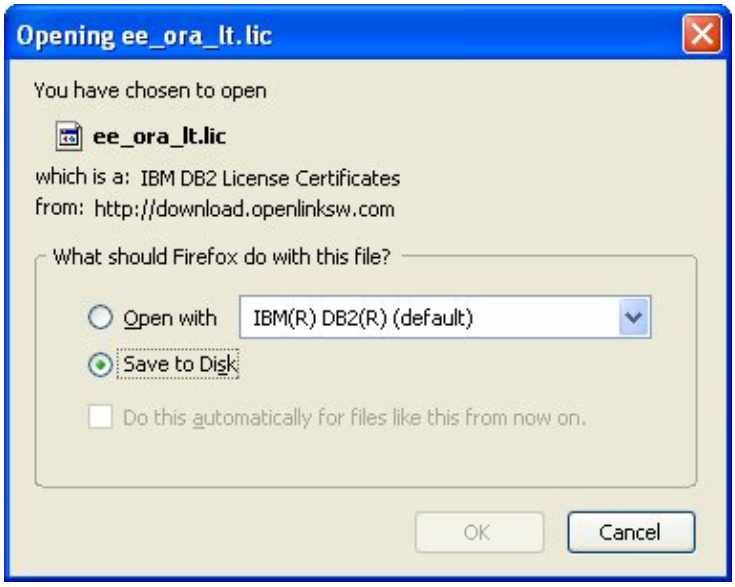
Click on the 'download license' button to immediately obtain the license file and save it to your desktop. Alternatively, an auto-generated e-mail will be sent to your registered user's e-mail address with a link to your OpenLinkData Space (ODS), which contains all trial and full licenses in the Briefcase for download at a later date.

Figure 8.29. EEWinOraScreen7i.png



You will want to save the file to disk:

Figure 8.30. EEWinOraScreen8i.png

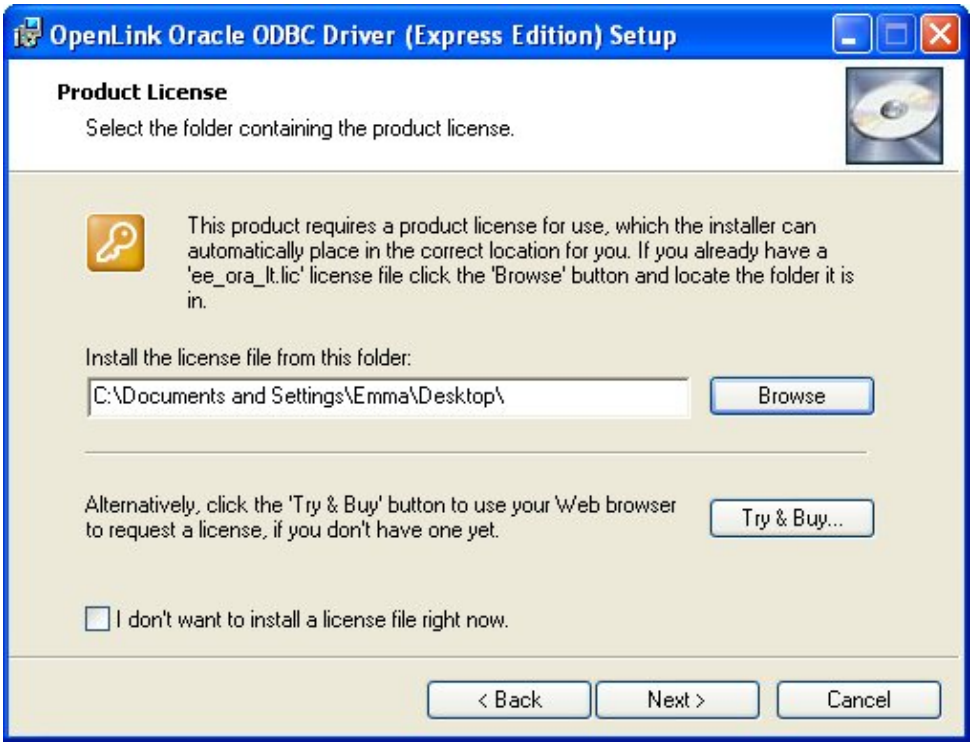


Select the license file to be used for the installation:

Figure 8.31. EEWinOraScreen9i.png

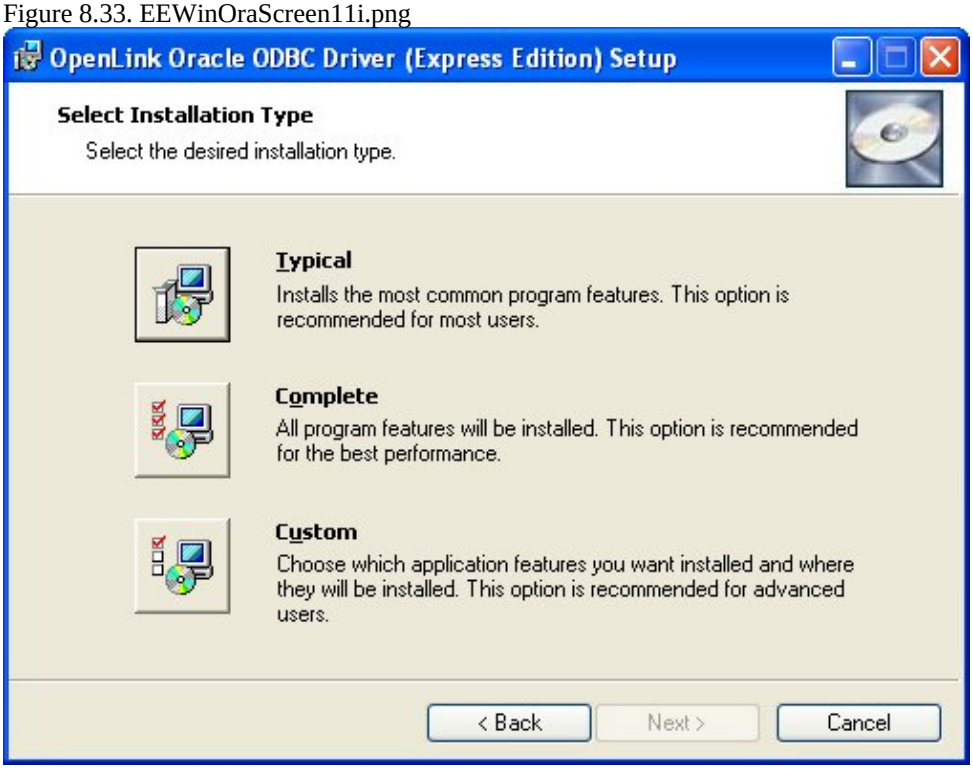
Make sure that the path to where the license file is located is correct before selecting Next:

Figure 8.32. EEWinOraScreen10i.png



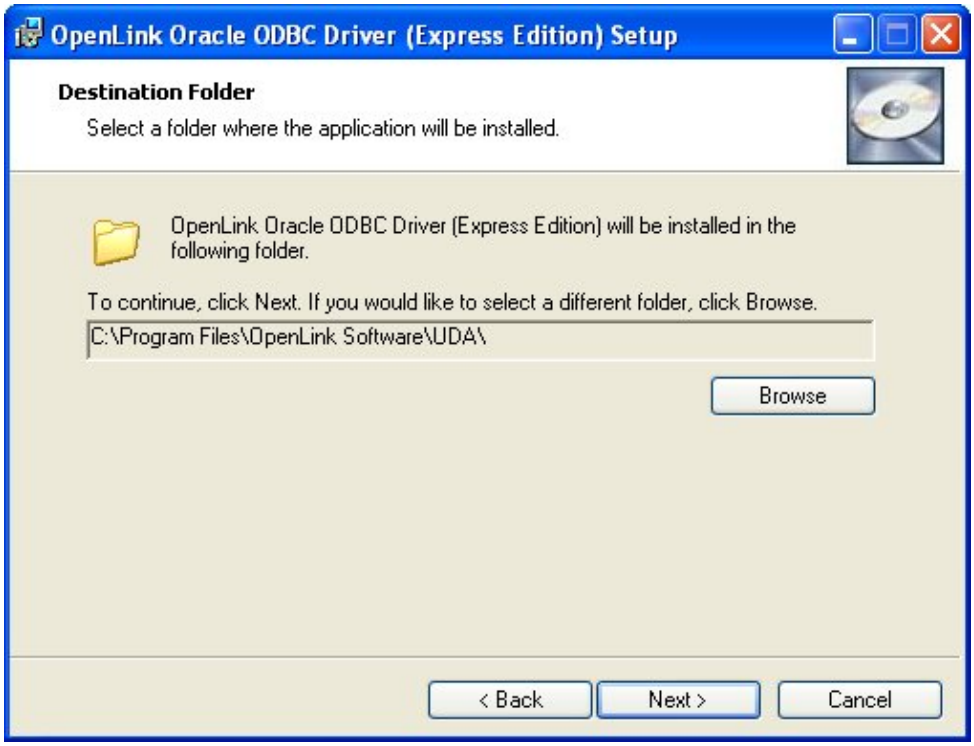
Choose to perform a custom, typical, or complete installation of the driver:

Figure 8.33. EEWinOraScreen11i.png



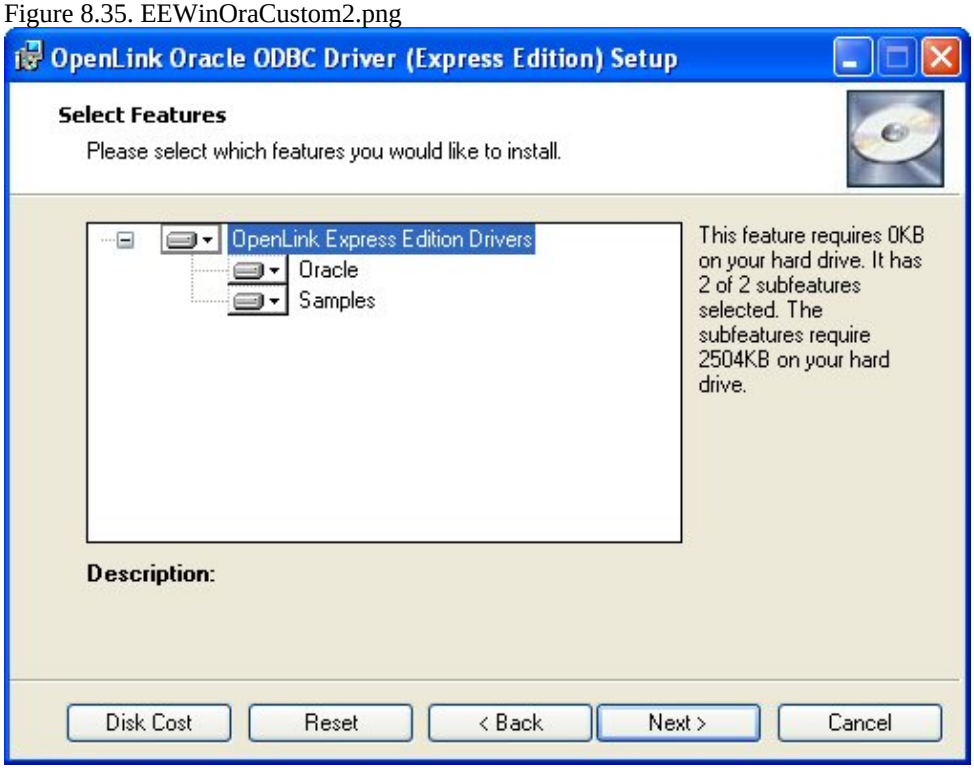
With a custom installation, you can decide the directory where the installation will reside:

Figure 8.34. EEWinOraCustom1.png



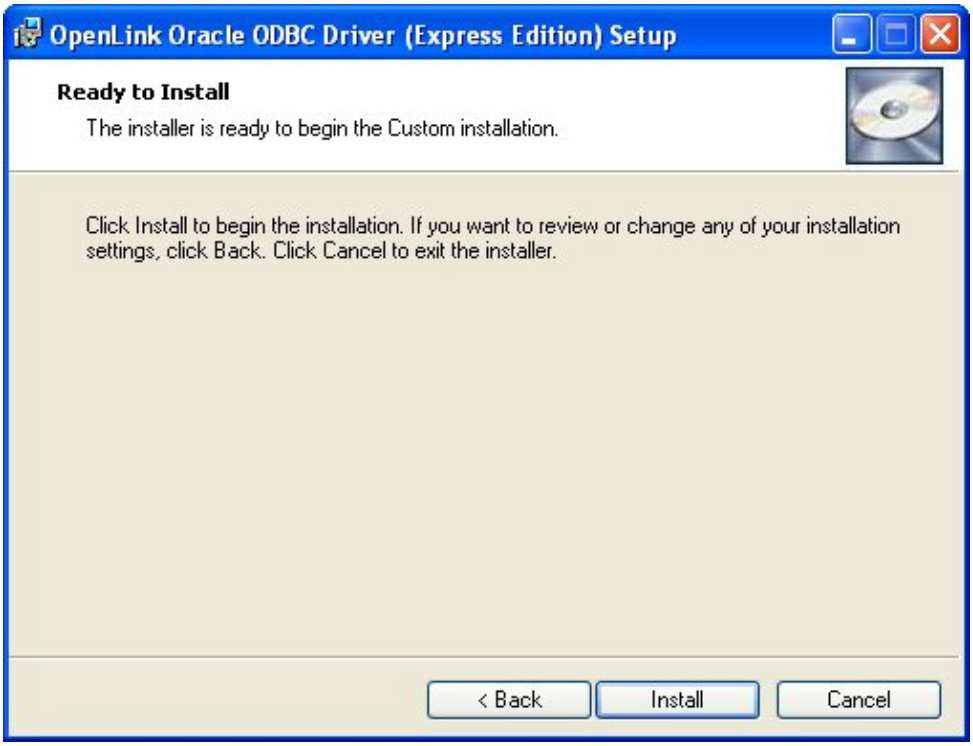
Select the features to be installed:

Figure 8.35. EEWinOraCustom2.png



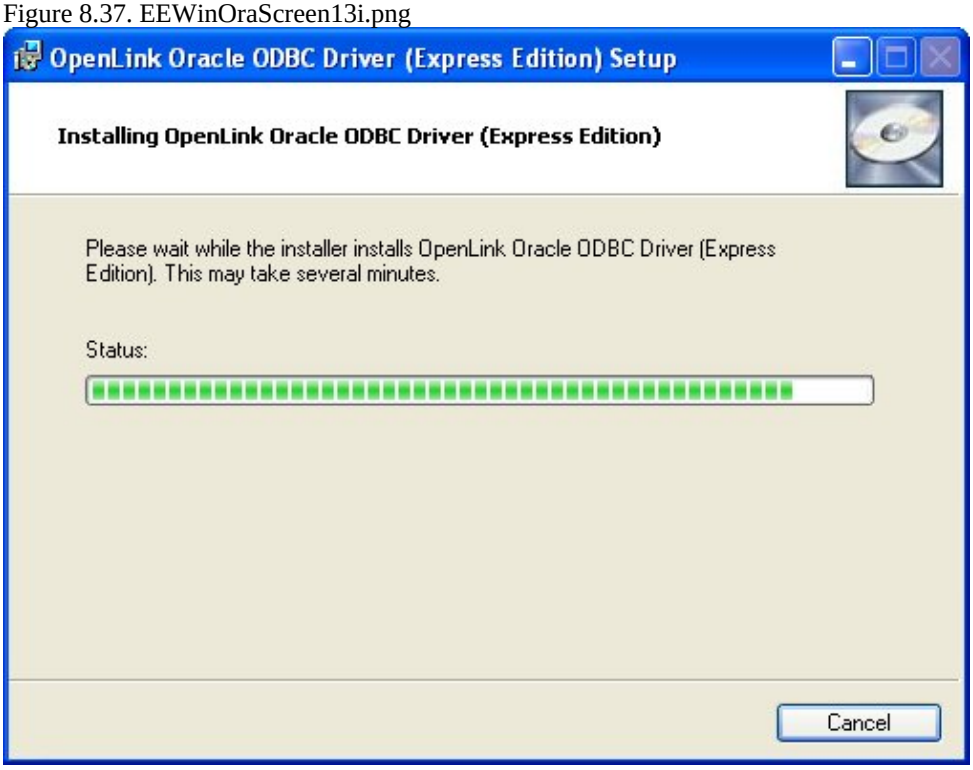
Click the install button to begin installation of the components:

Figure 8.36. EEWinOraCustom3.png



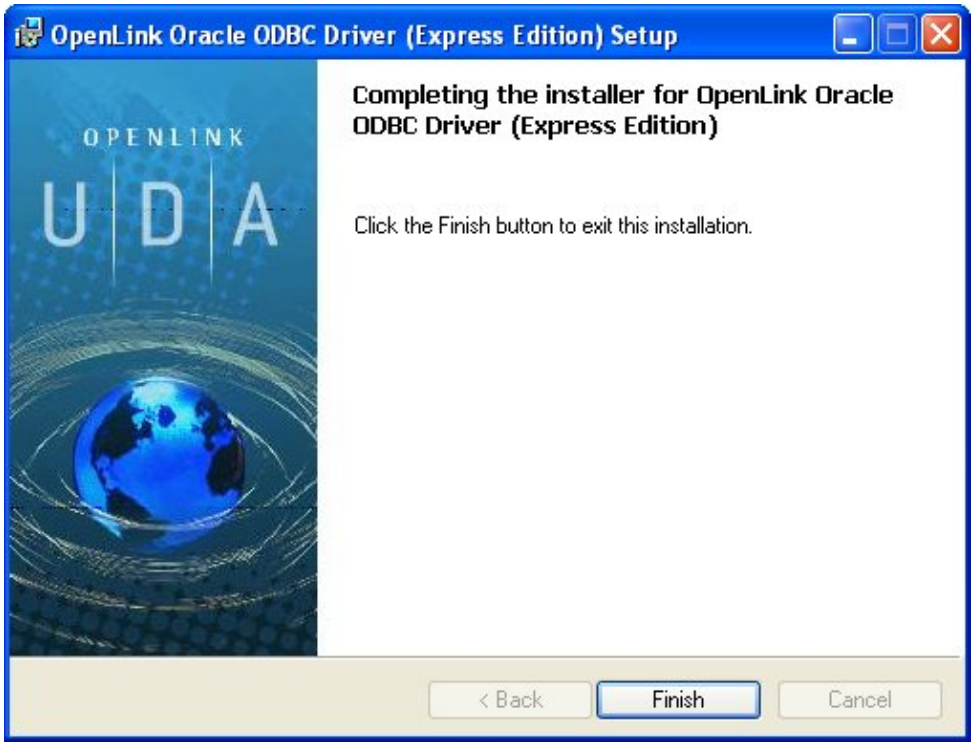
Installation in progress:

Figure 8.37. EEWinOraScreen13i.png



The software installation is complete and ready for use:

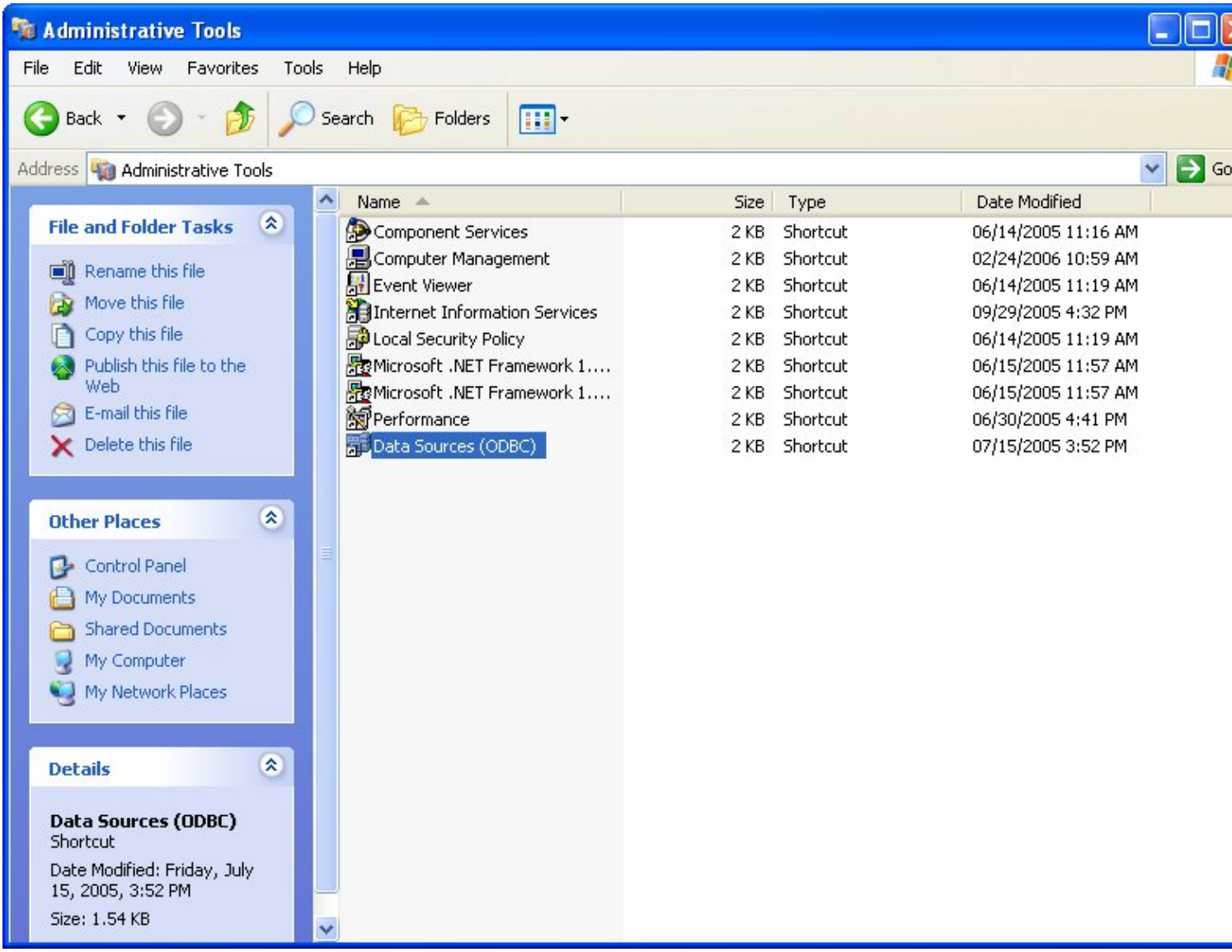
Figure 8.38. EEWinOraScreen14i.png



9.2.2 Configuration

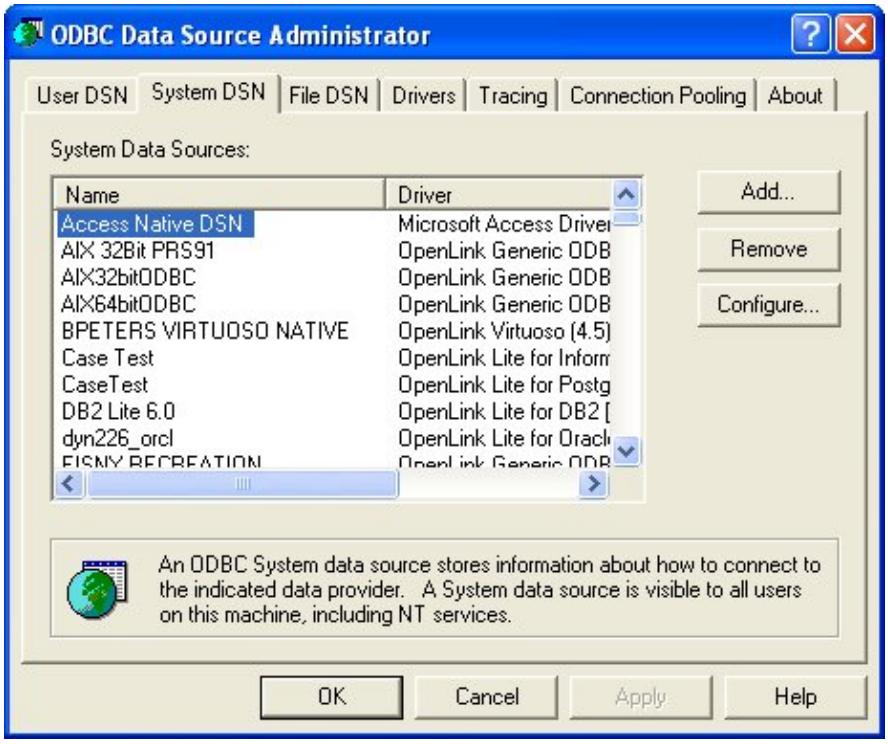
To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 8.39. EEWinOraScreen1c.png



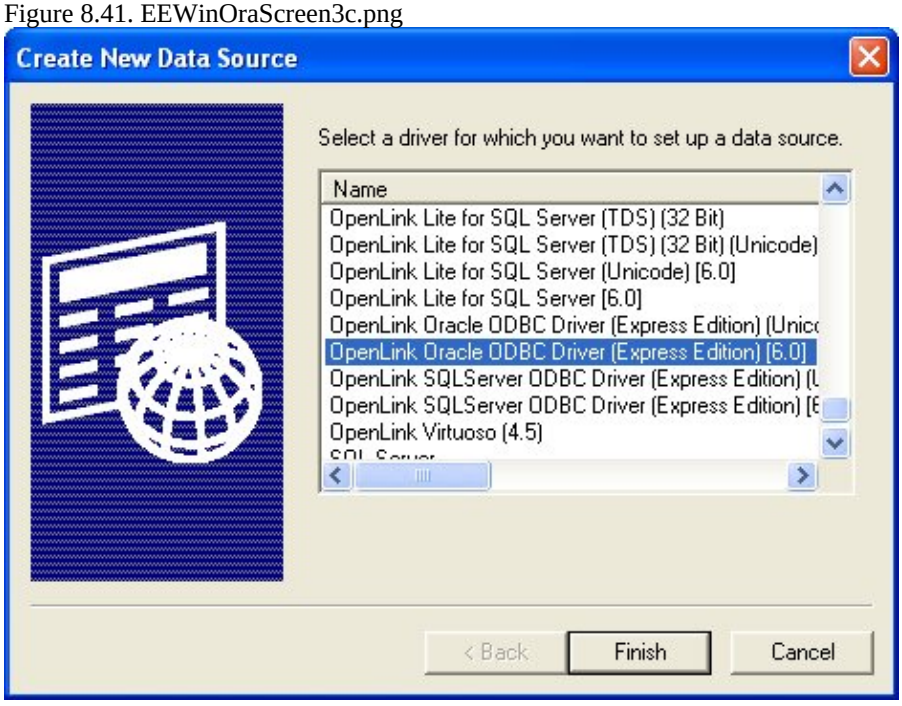
From either the User or System DSN tab, click on the Add button:

Figure 8.40. EEWinOraScreen2c.png



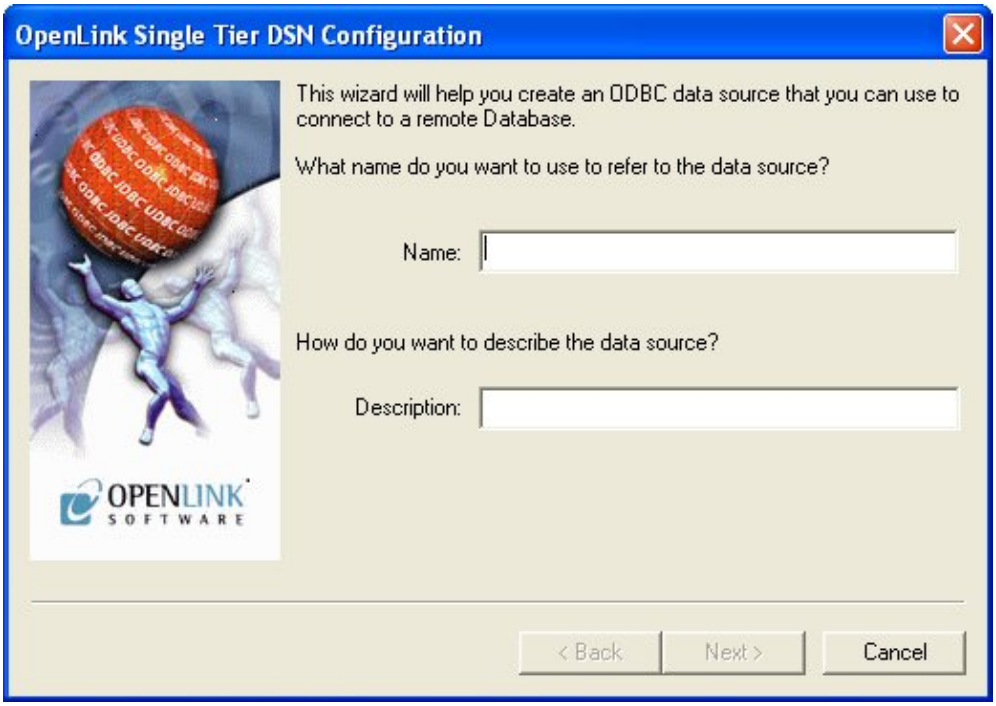
Select the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] from the list presented:

Figure 8.41. EEWinOraScreen3c.png



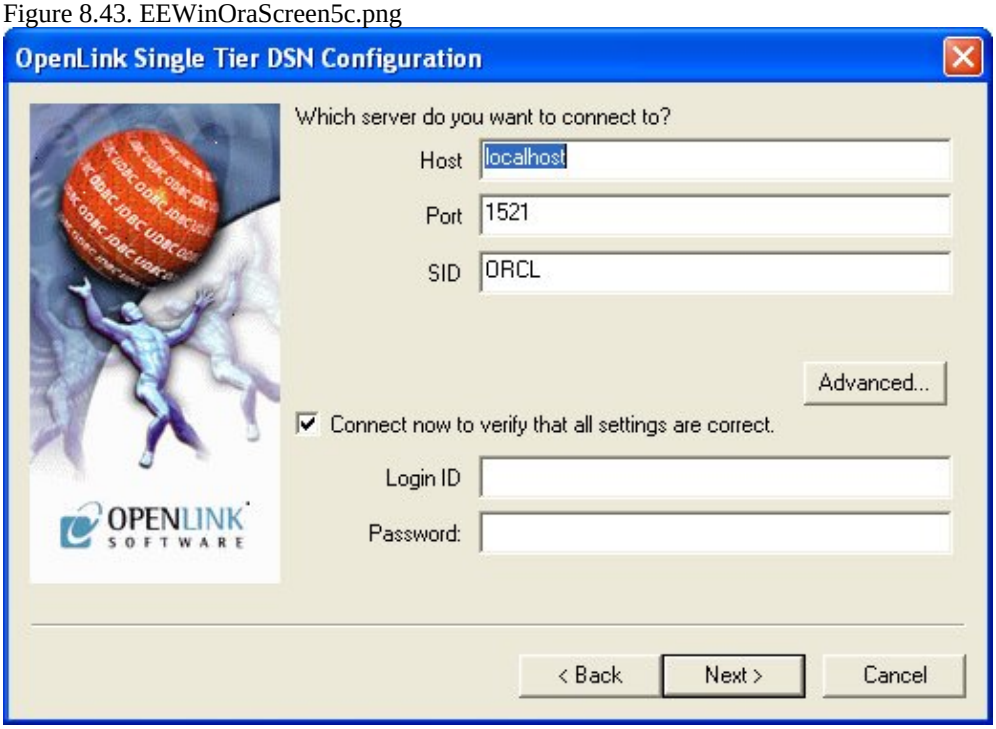
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 8.42. EEWinOraScreen4c.png



The Connection tab requests the minimum parameters required to make a connection to the target database:

Figure 8.43. EEWinOraScreen5c.png



- *Host* : This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port that Oracle is listening on
- *SID* (Service Name) : The Oracle System Identifier that refers to the instance of the Oracle database running on the server.
- *Login* : This is a valid user for the Oracle Database

- *Password* : This is a valid password for the Oracle Database

Click next to verify that all settings are correct or uncheck the check box to delay testing to a later stage.

The advanced button displays additional optional parameters that can be configured:

Figure 8.44. EEWinOraAdvanced.png

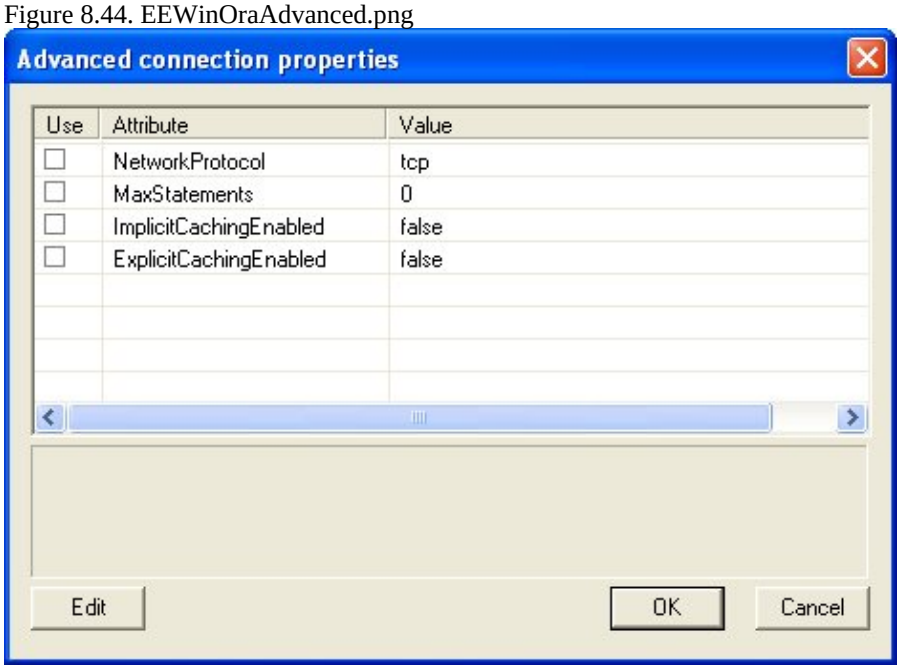
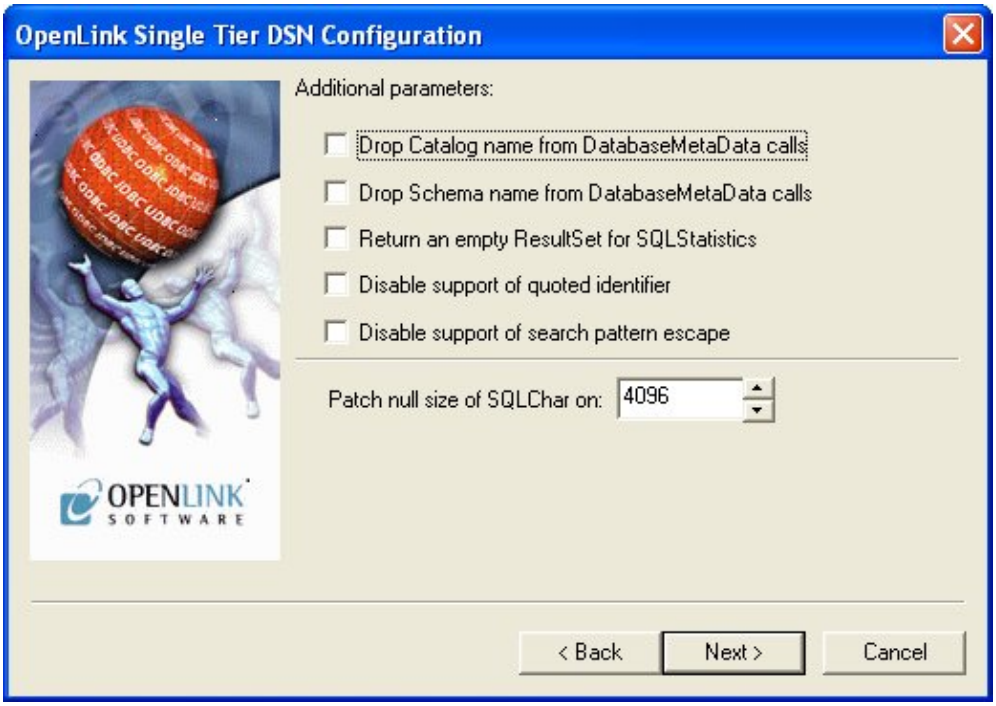


Table 8.2.

NetworkProtocol	Set the network protocol for the connections. Default is 'tcp'. Can be set to all possible protocols Net8 supports. Only needed for JDBC OCI driver.
MaxStatements	Specifies the value of the maxStatements property. This will be the size of the application cache (which will be used by both implicit and explicit caching).
ImplicitCachingEnabled	Sets the value of the implicitCachingEnabled property, which enables or disables the implicit cache. Note that this is independent of the cache size, set with setMaxStatements().
ExplicitCachingEnabled	Sets the value of the explicitCachingEnabled property, which enables or disables the explicit cache. Note that this is independent of the cache size, set with setMaxStatments().

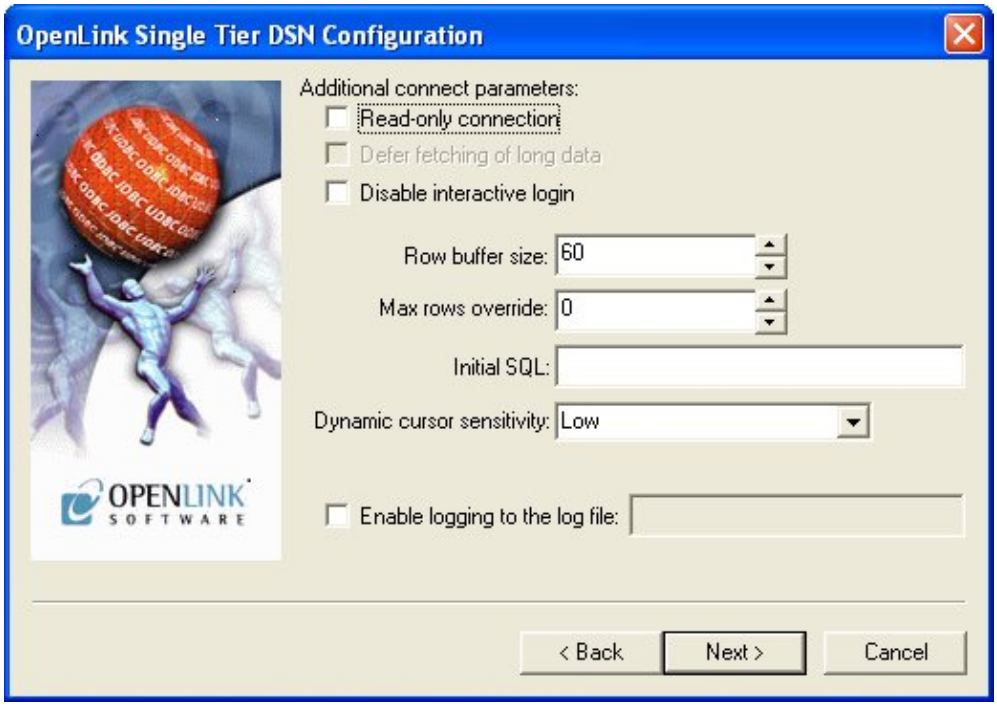
As indicated above, the parameters on the options and preferences tabs are not required for a basic connection.

Figure 8.45. EEWinOraScreen6c.png



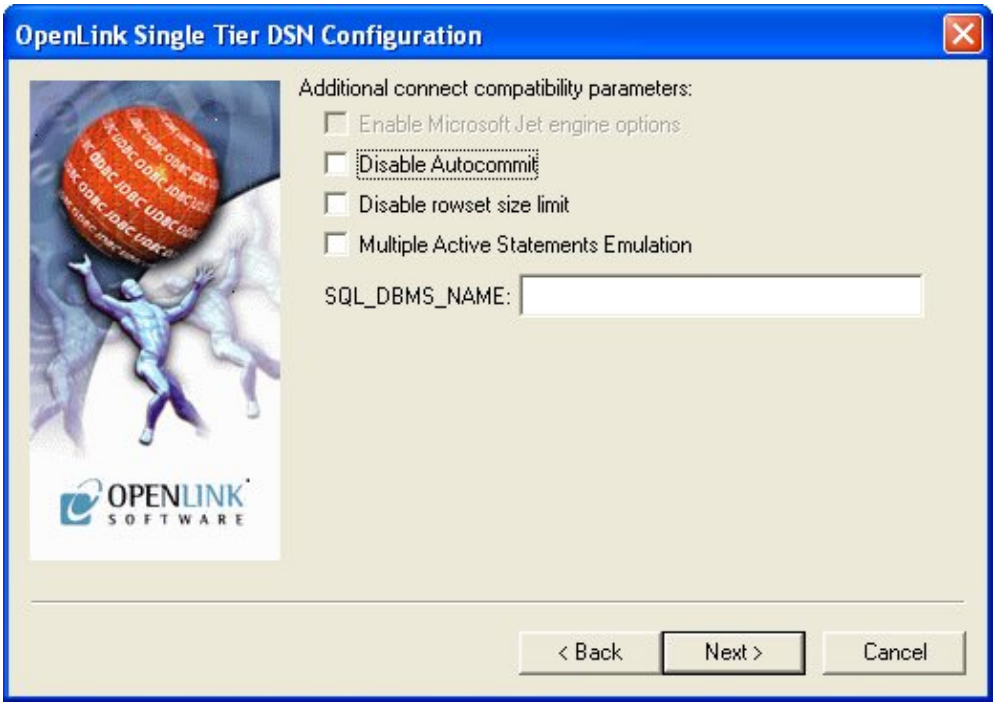
- *Drop Catalog name from DatabaseMetaData calls* - Enable this option to have the catalog name not appear for tables, views, and procedures when requesting database meta-data.,
- *Drop Schema name from DatabaseMetaData calls* - Enable this option to have the schema-name not appear for tables, views, and procedures when requesting database meta-data.
- *Return an empty ResultSet for SQLStatistics* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g., what indexes there are on it).
- *Disable support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS does not support quoted SQL, e.g., select * from "account"
- *Disable support of search pattern escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set, this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.

Figure 8.46. EEWinOraScreen7c.png



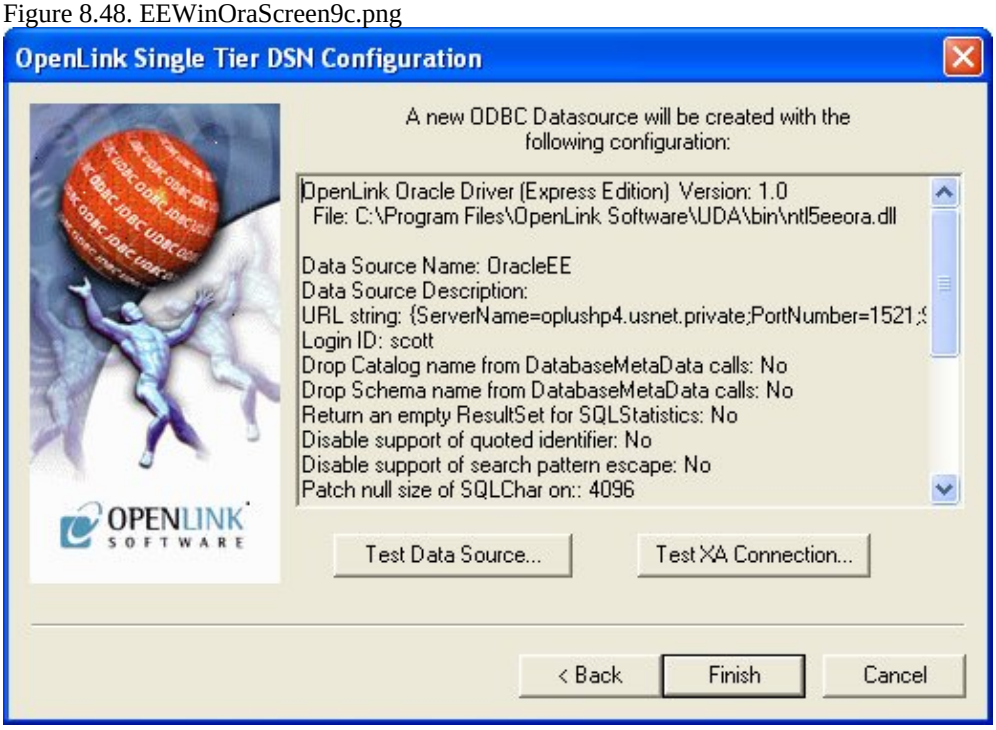
- *Read-only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection.
- *Disable interactive login* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Max rows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Initial SQL* - Lets you specify a file containing SQL statements that will be automatically run against the database upon connection.
- *Dynamic cursor sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows do not appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate OpenLink script for the target database.
- *Enable logging to the log file:* - Specifies the full path to a text file. If the associated checkbox is checked, and a file is passed, the driver will log auto-generate a clientside ODBC trace.

Figure 8.47. EEWinOraScreen8c.png



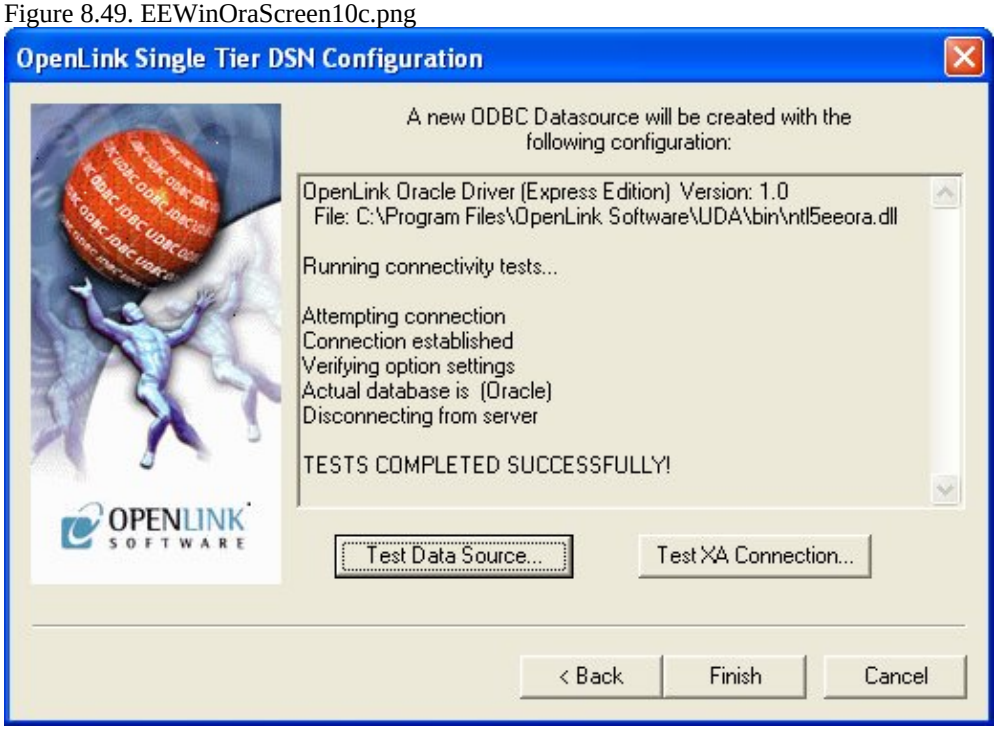
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable rowset size limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the driver claiming all available memory in the event that a resultset generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application, even if the underlying database does not allow this, as it is emulated in the driver.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is required for products like Microsoft InfoPath for which the return the value must be "SQL Server".

Figure 8.48. EEWinOraScreen9c.png



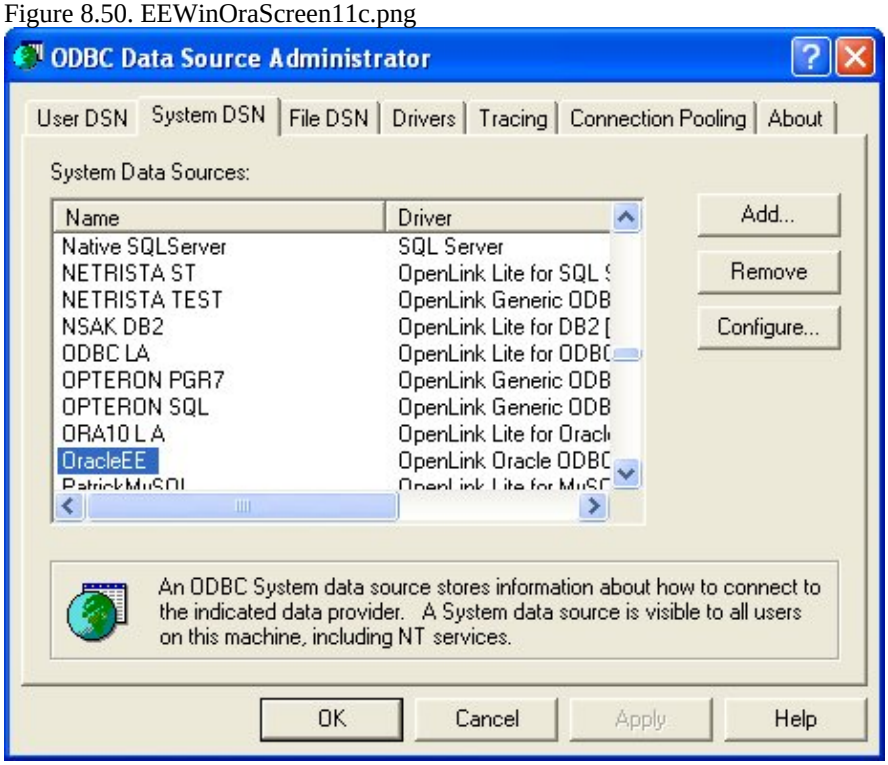
Click on the *Test Data Source* button to verify that a successful connection can be made to the database.

Figure 8.49. EEWinOraScreen10c.png



When you click finish, you will go back to the ODBCData Source Administrator, and you should see the new DSN in the list of available DSN's:

Figure 8.50. EEWinOraScreen11c.png



10 Chapter 9. OpenLink ODBC Driver for PostgreSQL (Express Edition)

Table of Contents

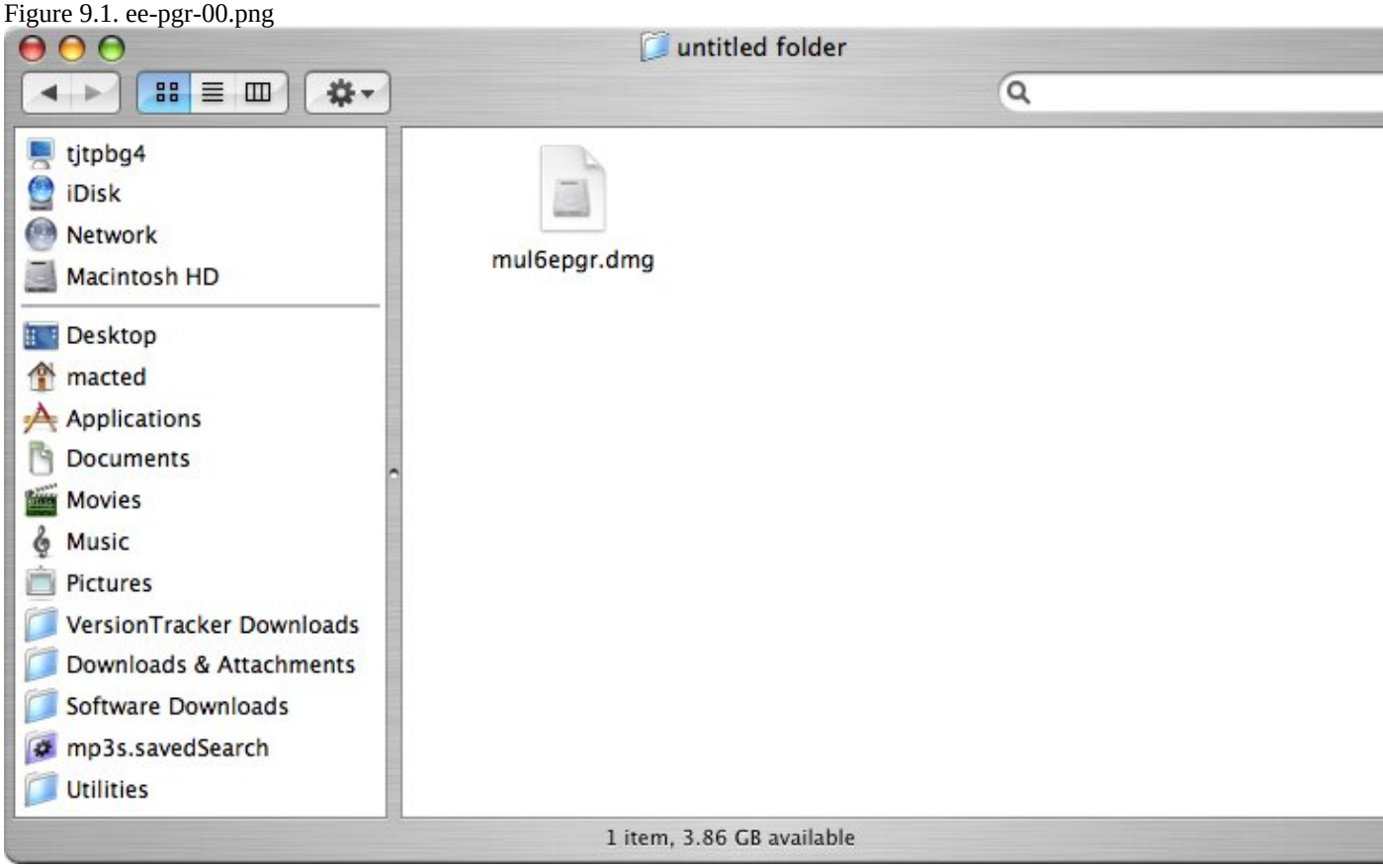
- OpenLink ODBC Driver for PostgreSQL (Express Edition) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for PostgreSQL (Express Edition) for Windows
  - Installation
  - Configuration

10.1 OpenLink ODBC Driver for PostgreSQL (Express Edition) for Mac OS X

10.1.1 Installation Guide

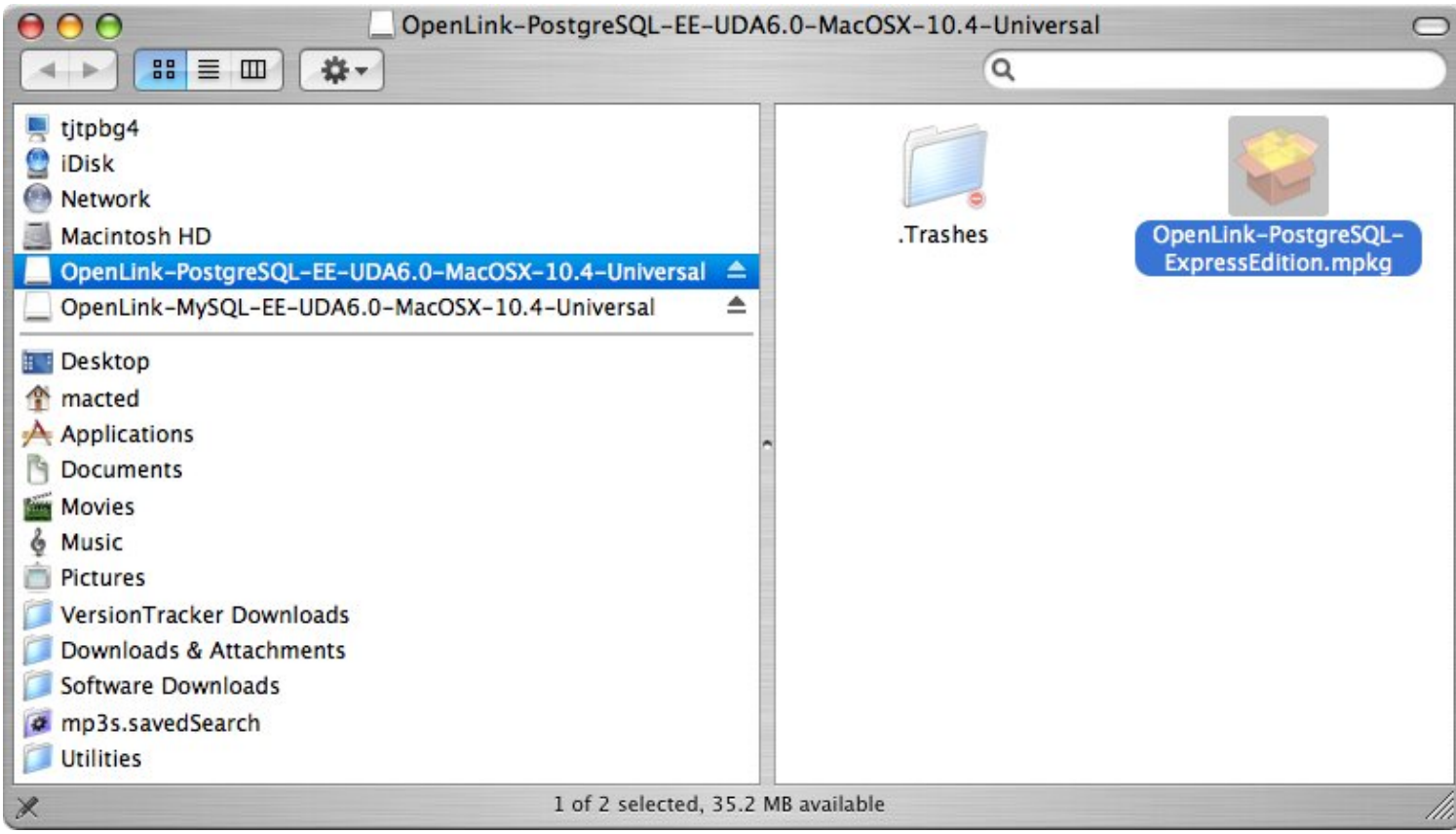
The OpenLink ODBC Driver for PostgreSQL (Express Edition) is distributed as a Disk image (DMG) file. Simply double click on the disk image 'mul6epgr.dmg' to extract the installer mpkg file:

Figure 9.1. ee-pgr-00.png



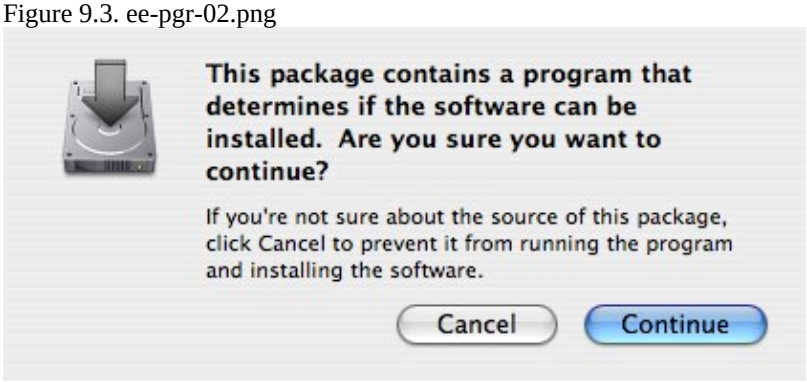
Double-click on the mpkg file to run the installer. Follow the on-screen instructions as indicated below to complete the installation:

Figure 9.2. ee-pgr-01.png



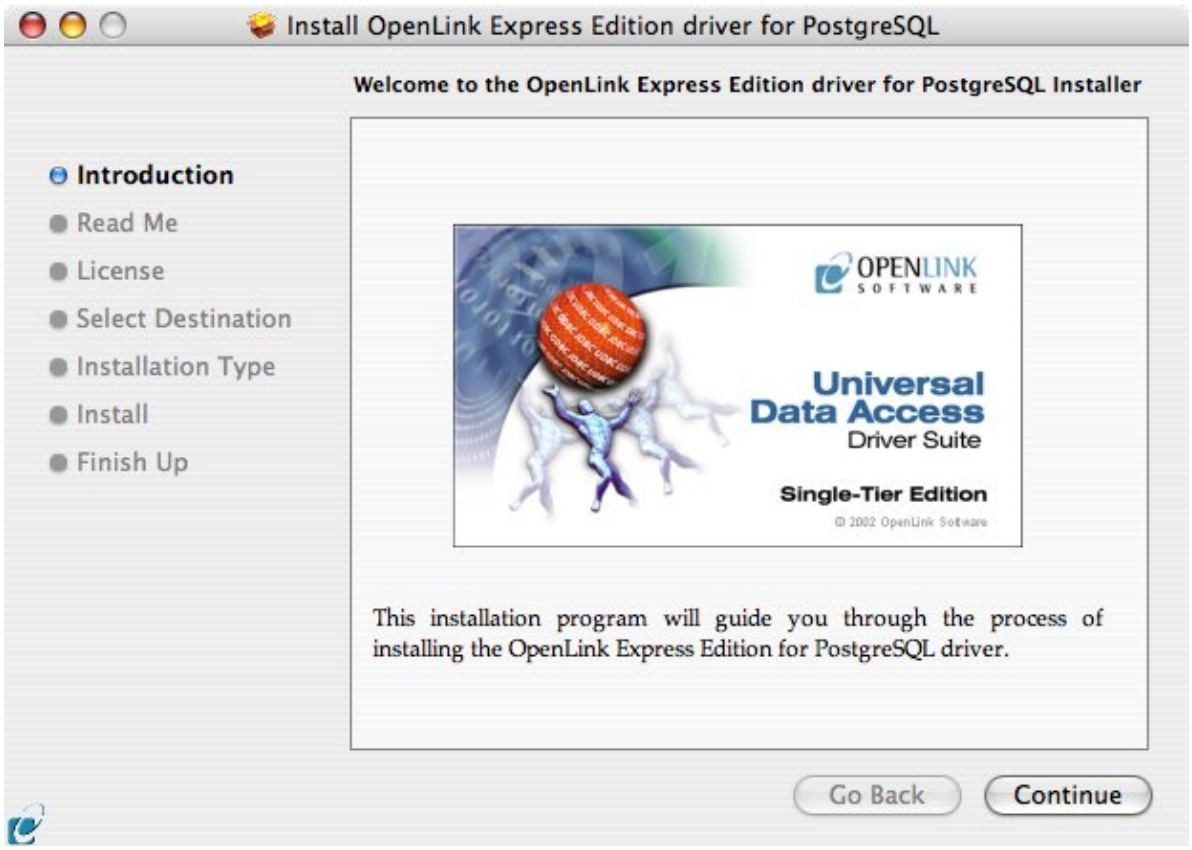
When prompted, permit the verification script to run. This simply checks to see that you are running a version of Mac OS X later than 10.3.0:

Figure 9.3. ee-pgr-02.png



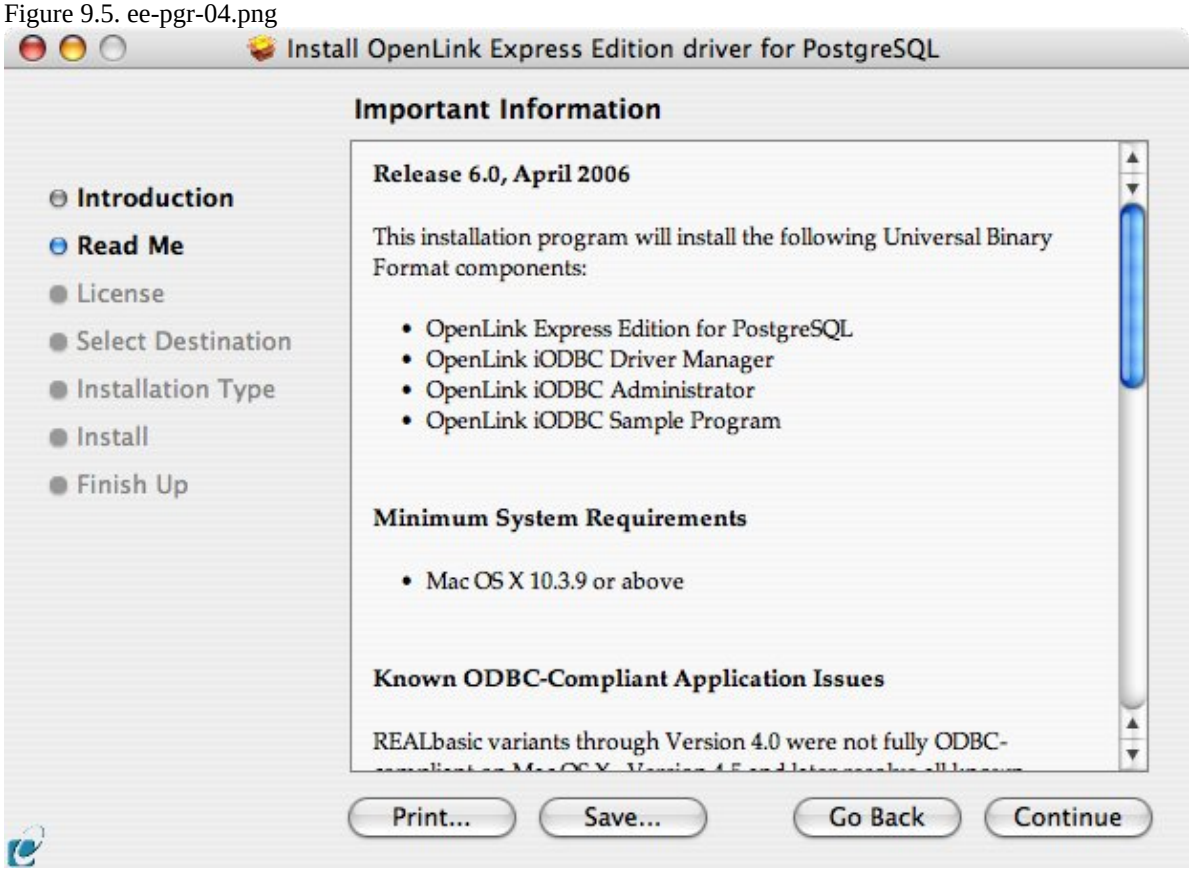
Review the *Welcome* message to confirm you're installing the right driver:

Figure 9.4. ee-pgr-03.png



Review the *ReadMe* for installation requirements and any known issues:

Figure 9.5. ee-pgr-04.png



Please read and agree to the *Software License Agreement* before continuing your installation:

Figure 9.6. ee-pgr-05.png

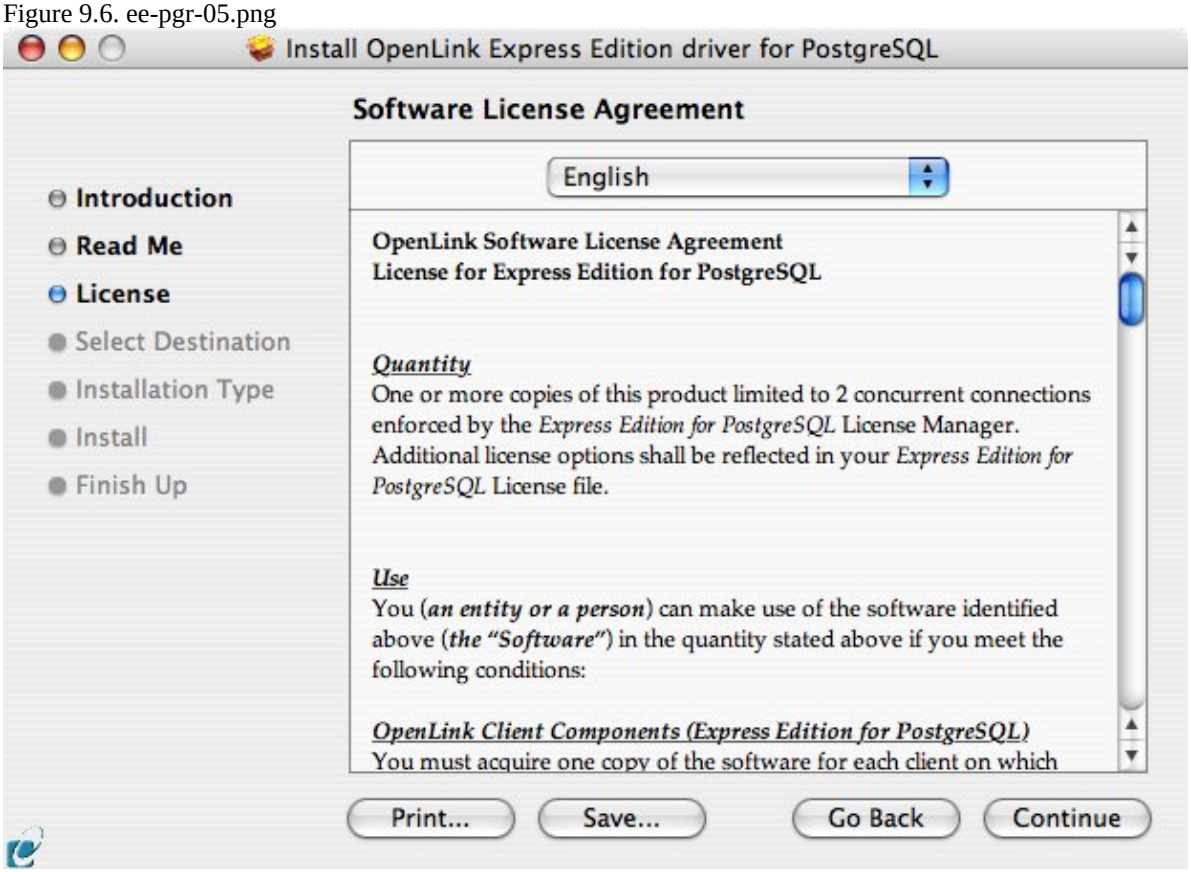
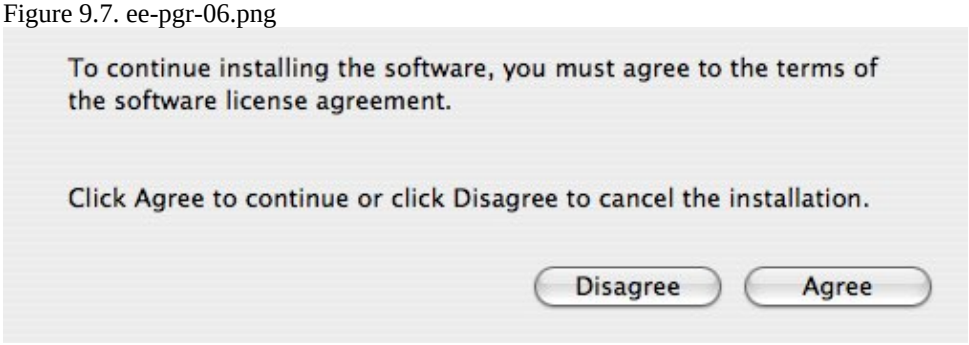


Figure 9.7. ee-pgr-06.png

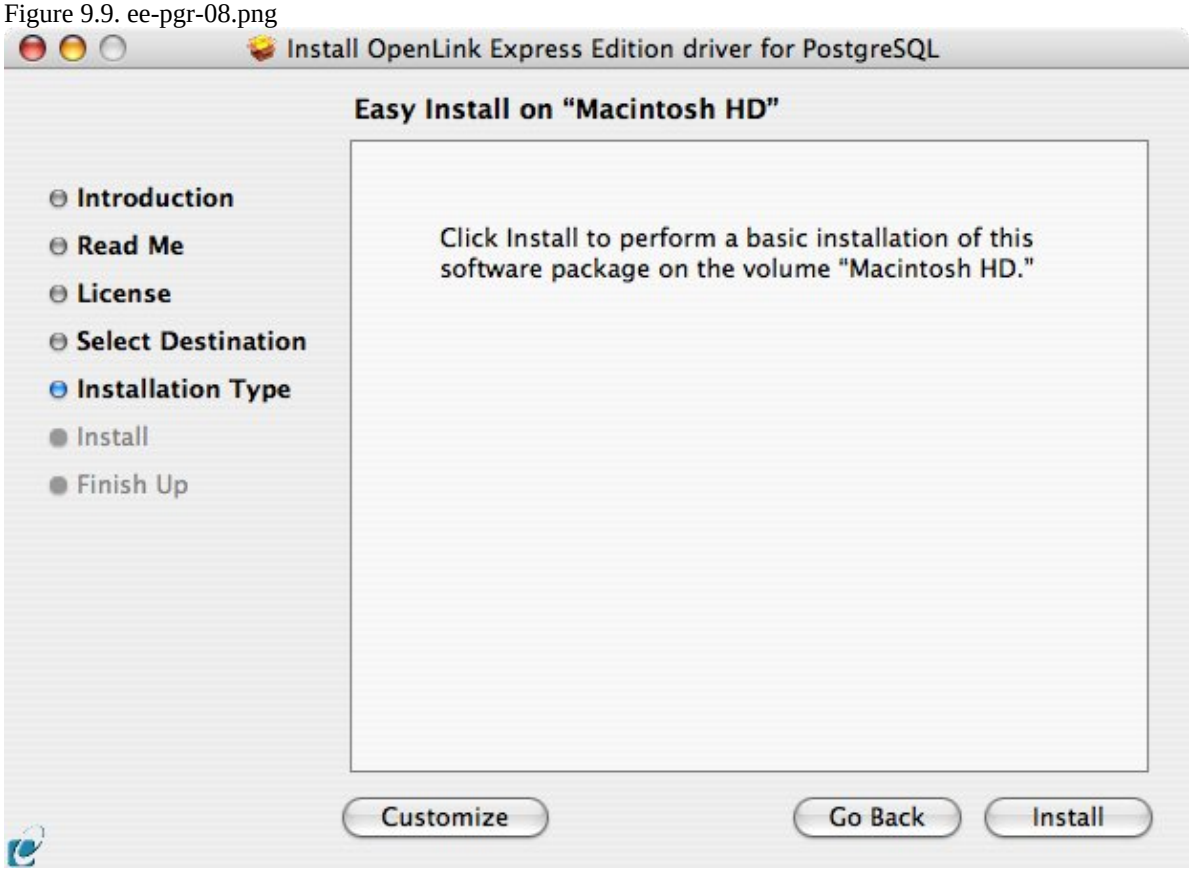


Select the destination volume for driver installation:

Figure 9.8. ee-pgr-07.png

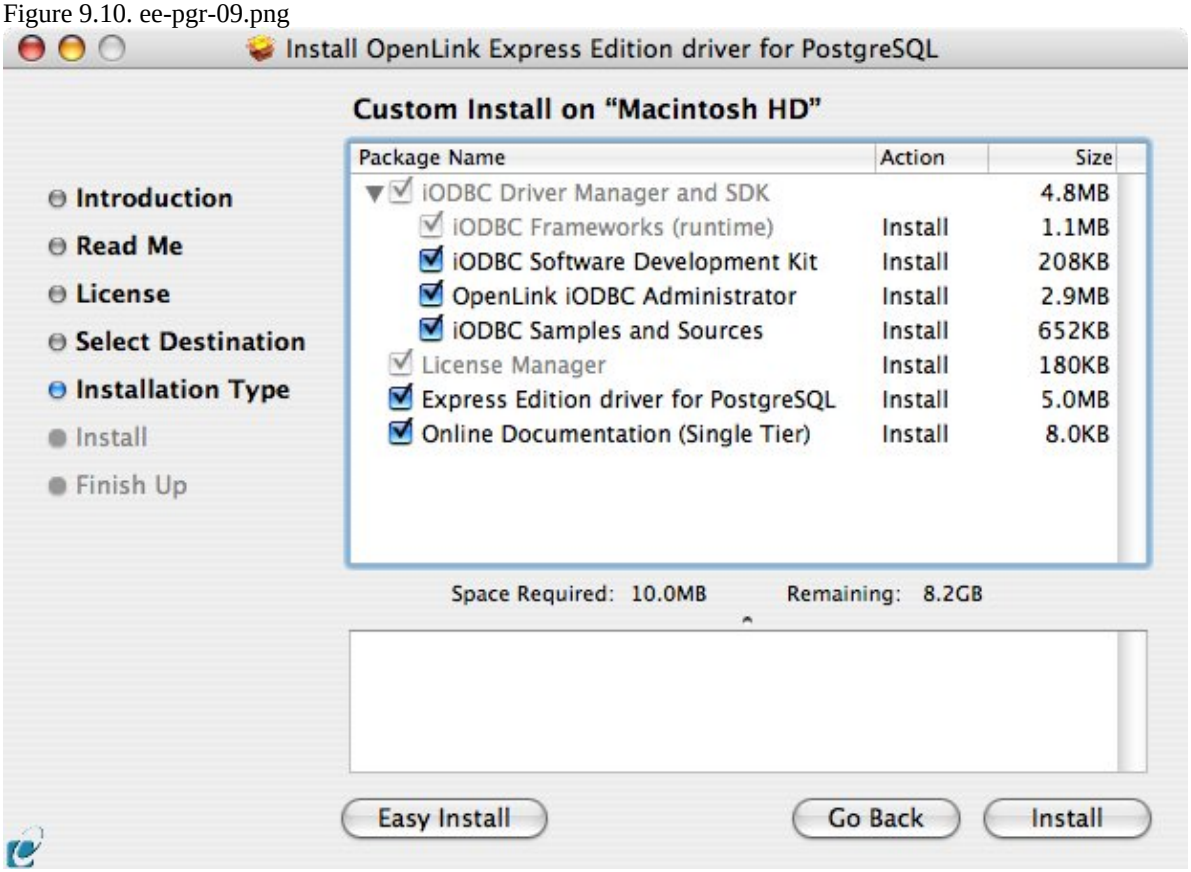
Accept the default installation of the driver, or click *Customize* to select specific components for installation:

Figure 9.9. ee-pgr-08.png



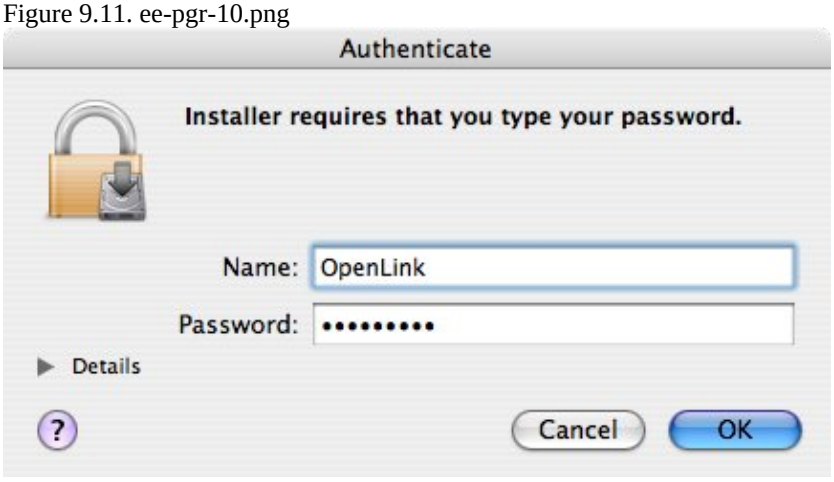
Select the components to be installed, or click *Easy Install* to return to the default:

Figure 9.10. ee-pgr-09.png



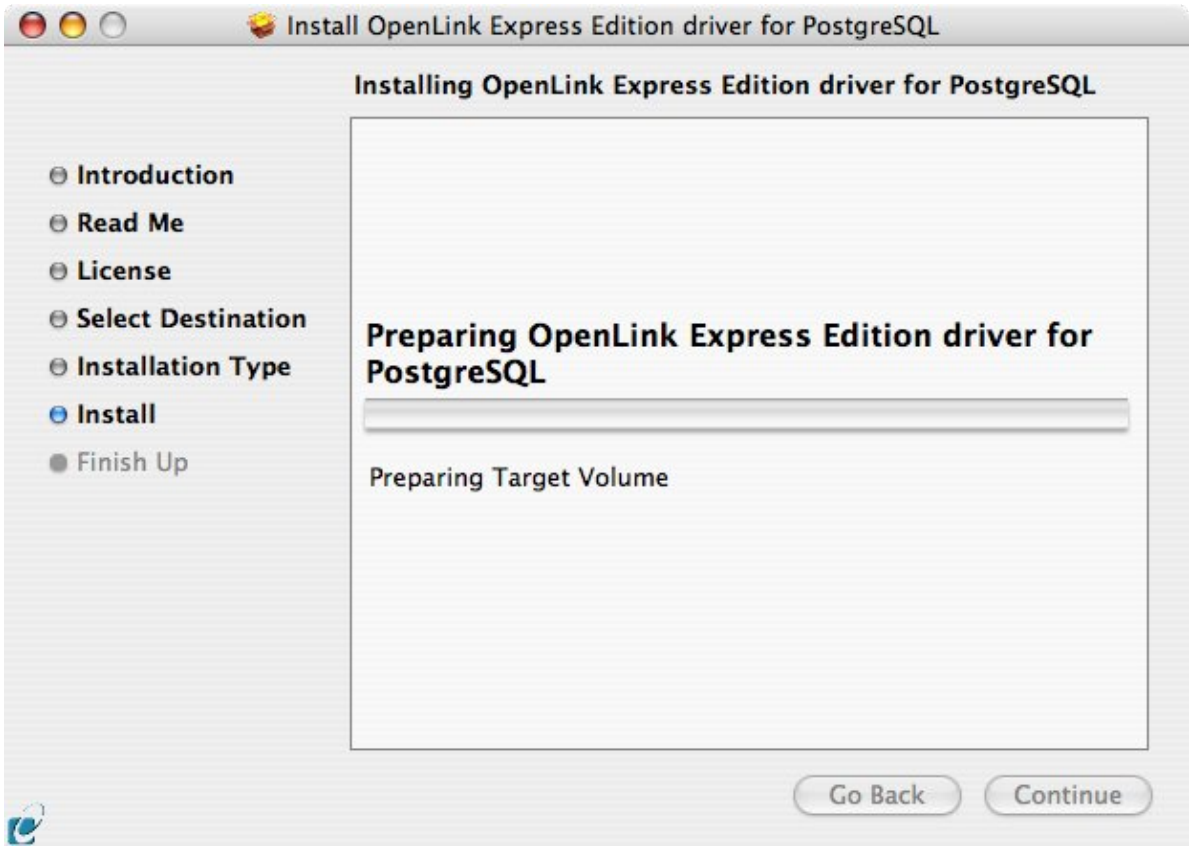
The Software must be installed as a user with Administrative privileges on the machine. When prompted, provide a relevant username and password:

Figure 9.11. ee-pgr-10.png



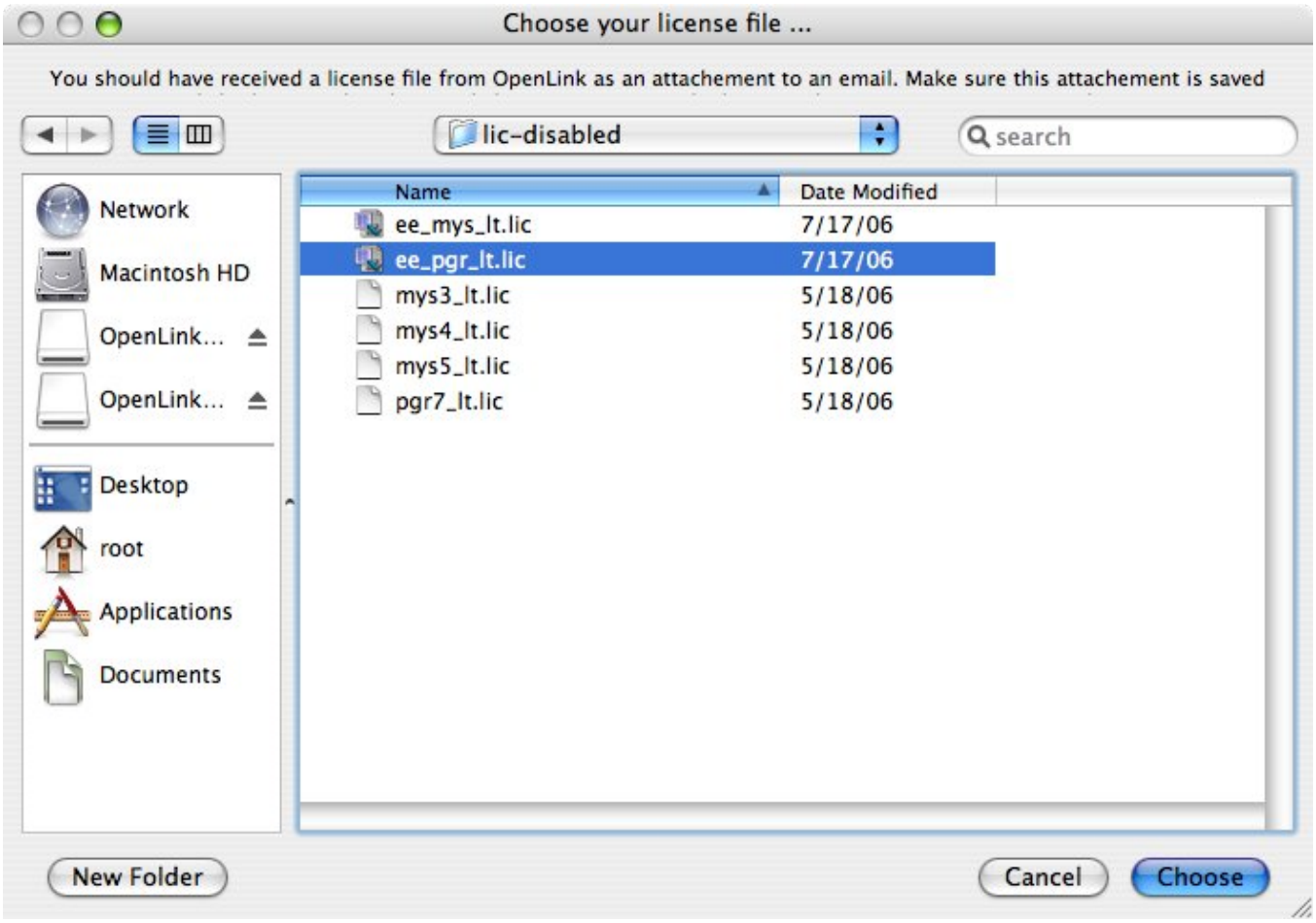
Installation will proceed.

Figure 9.12. ee-pgr-11.png



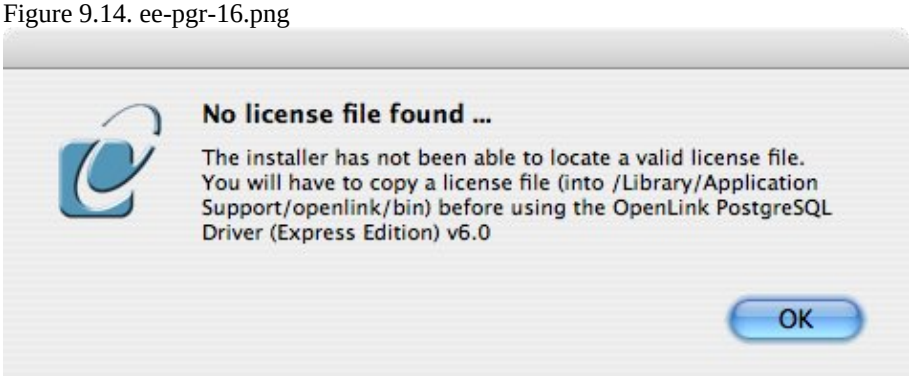
During installation, you will be prompted to select a license file for the driver. If such a license file already exists on the machine, then select the 'use existing file' option.

Figure 9.13. ee-pgr-15.png



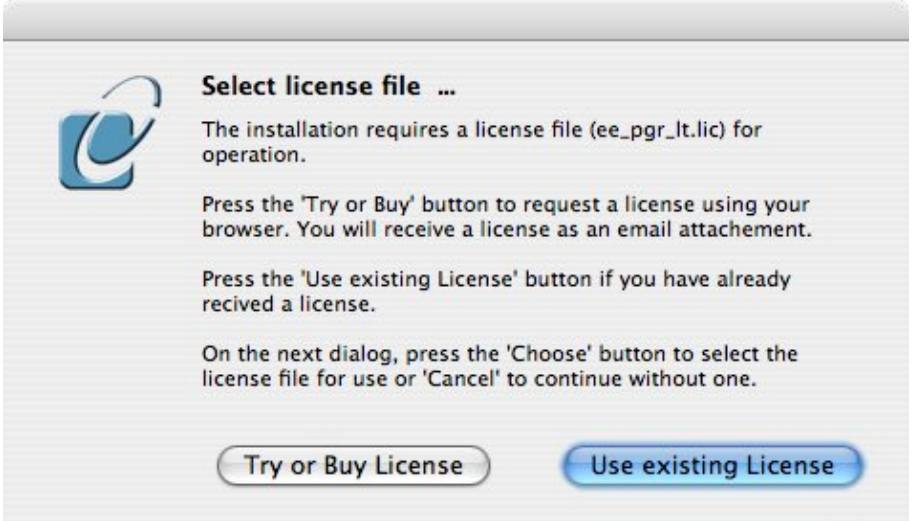
If you accidentally clicked this option, you can cancel out of the selection dialog. As the following alert will explain, you can manually apply the license file at any point in the future:

Figure 9.14. ee-pgr-16.png



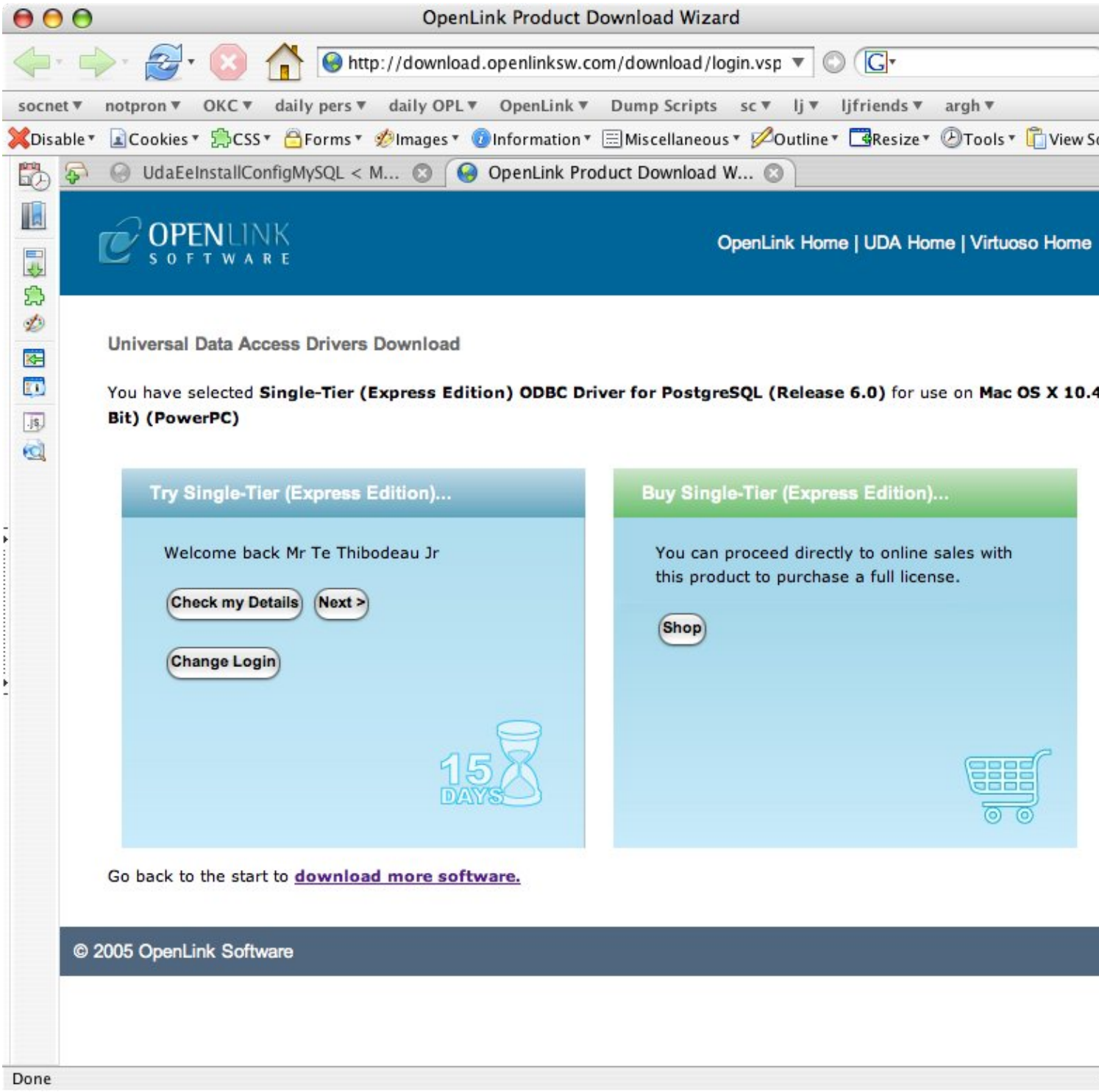
A trial or permanent license may be obtained by selecting the *Try and Buy* option which loads our online try and buy web page:

Figure 9.15. ee-pgr-12.png



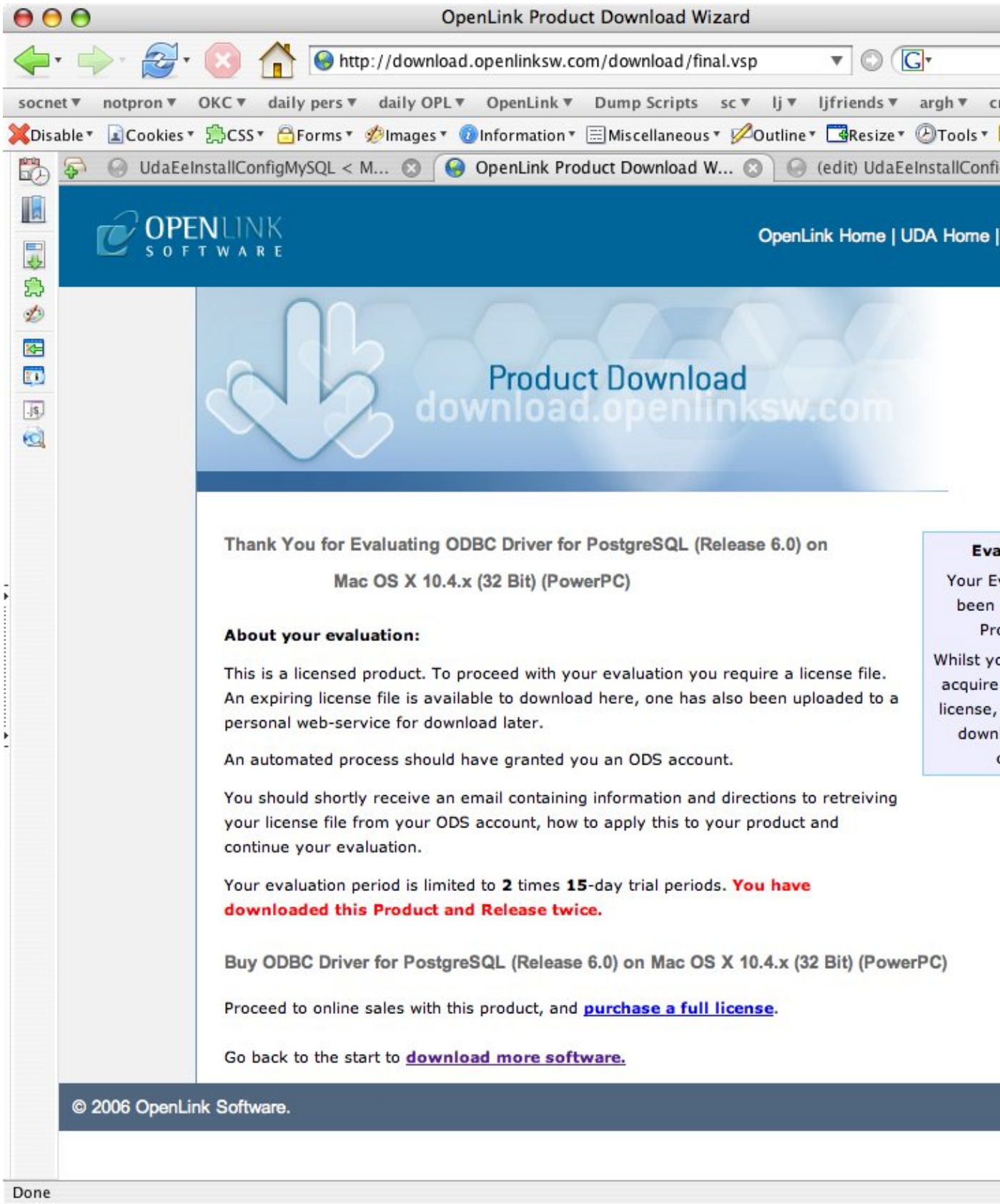
A permanent license may be obtained by clicking on the 'Shop' link to visit our online store, or you may obtain a trial license by registering with and logging in to the OpenLink Web site:

Figure 9.16. ee-pgr-13.png



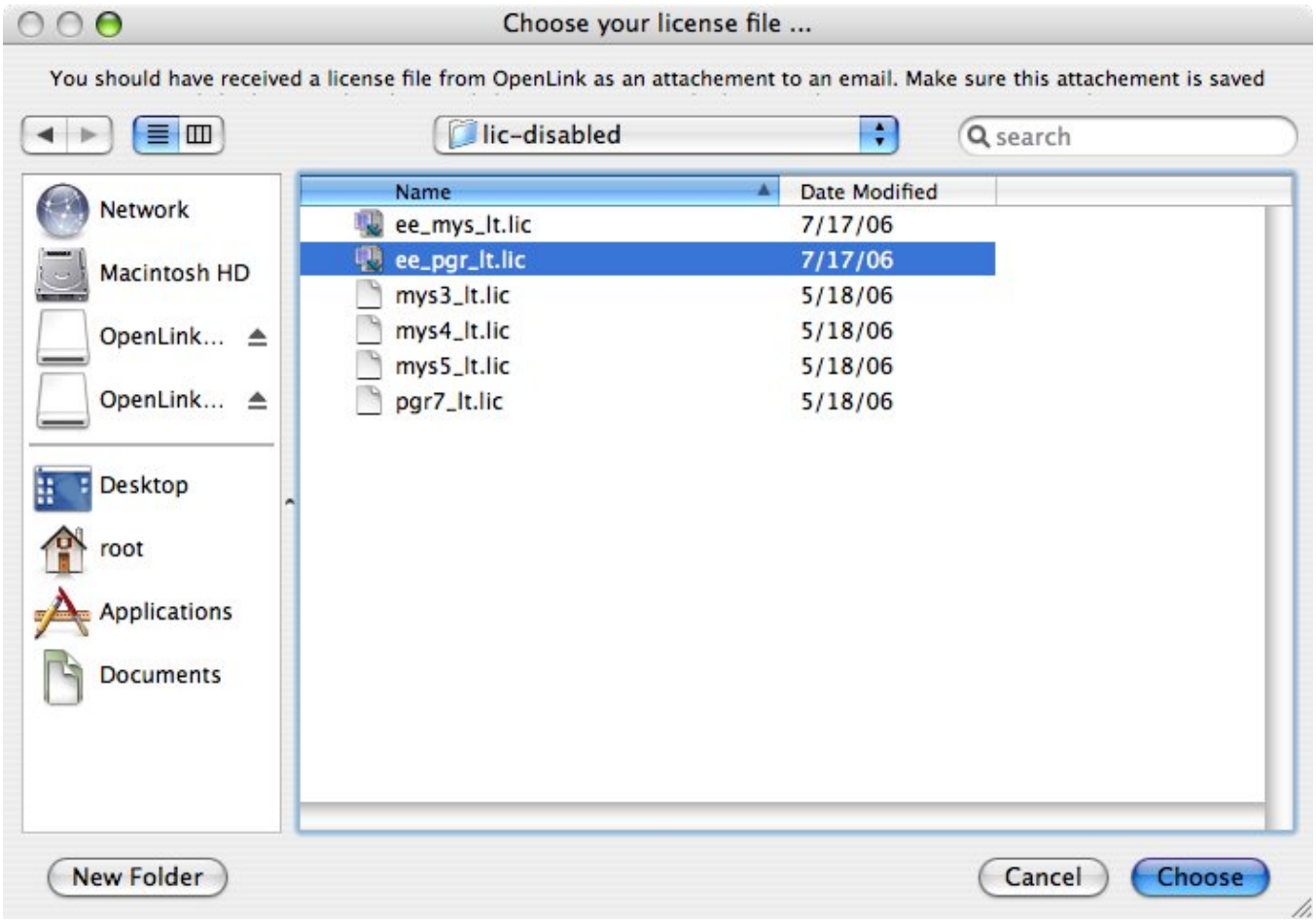
Click on the 'Download License' button to immediately obtain an evaluation license file; it will be saved to your Browser's download folder (which typically defaults to your desktop). A message will also be sent to your email address with a link to your OpenLink Data Space (ODS) Briefcase, where all non-expired trial and full license files will be stored for download at your convenience.

Figure 9.17. ee-pgr-14.png



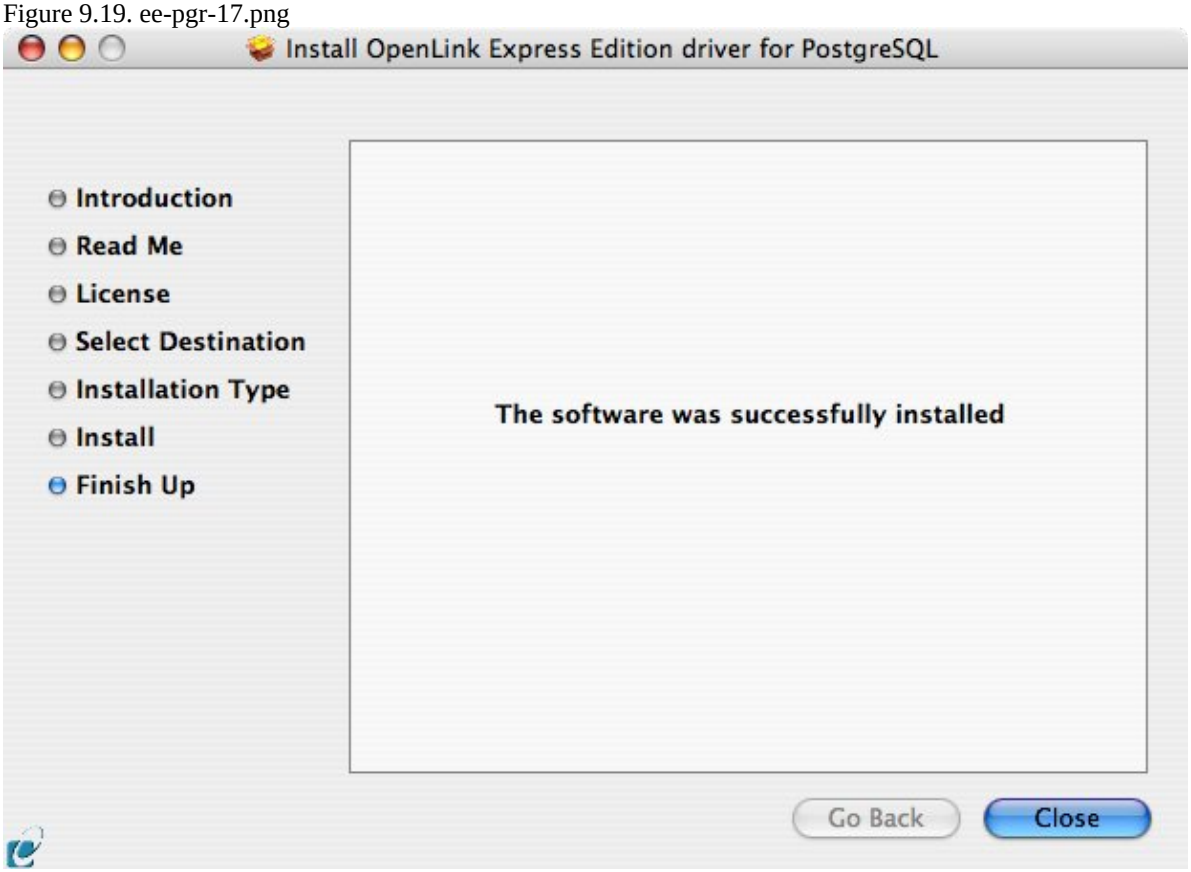
Close the browser, and proceed as if you had selected the option to *use existing file* . Select the license file to be used for the installation:

Figure 9.18. ee-pgr-15.png



Installation is now complete, and you can exit the Installer and proceed to configure a DSN:

Figure 9.19. ee-pgr-17.png



10.1.2 Configuration

To configure an ODBC DSN, double-click the *OpenLink ODBC Administrator.app* located in /Applications/Utilities/, or the *iODBC Administrator.app* located in /Applications/iODBC/:

Figure 9.20. ee-pgr-18.png

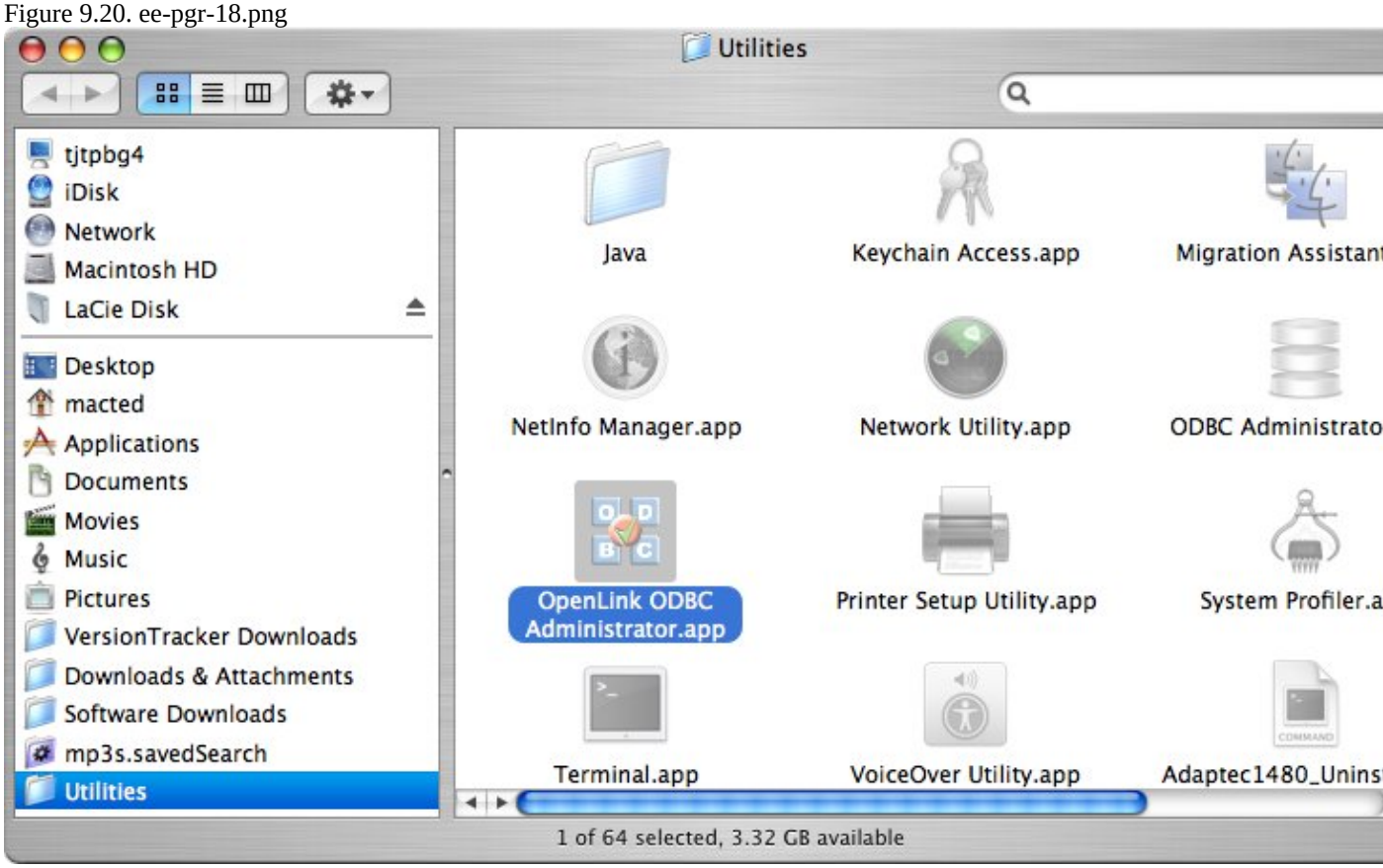
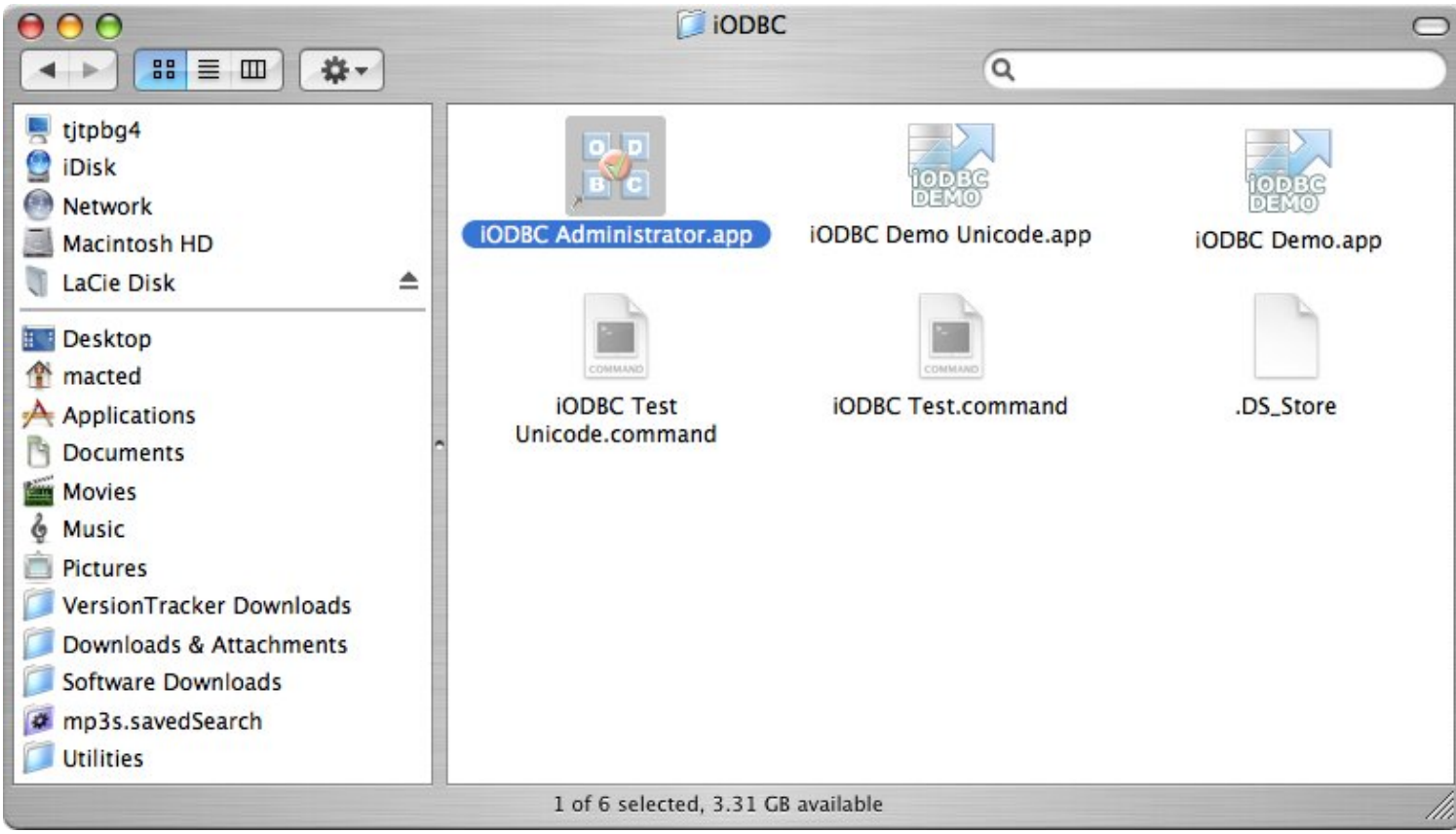
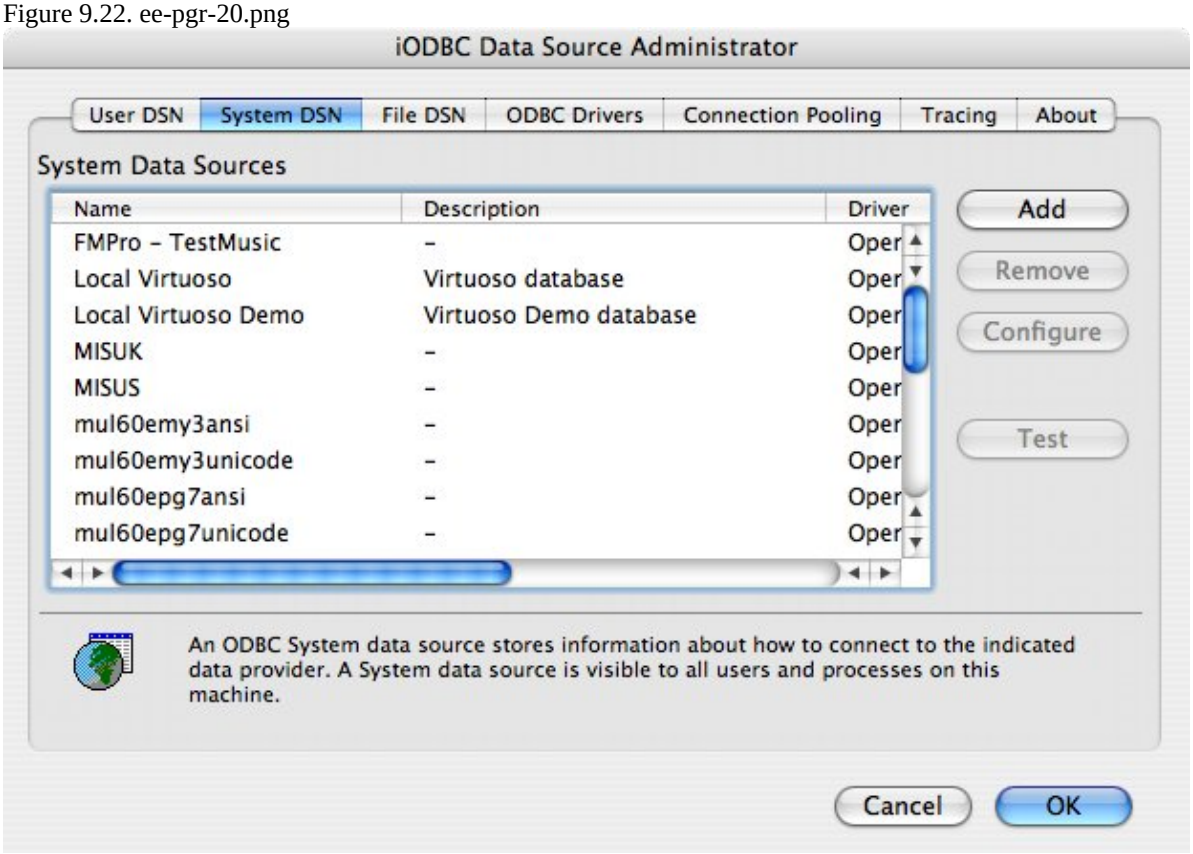


Figure 9.21. ee-pgr-19.png



Click on the *Add* button, to create a new DSN (Data Source Name):

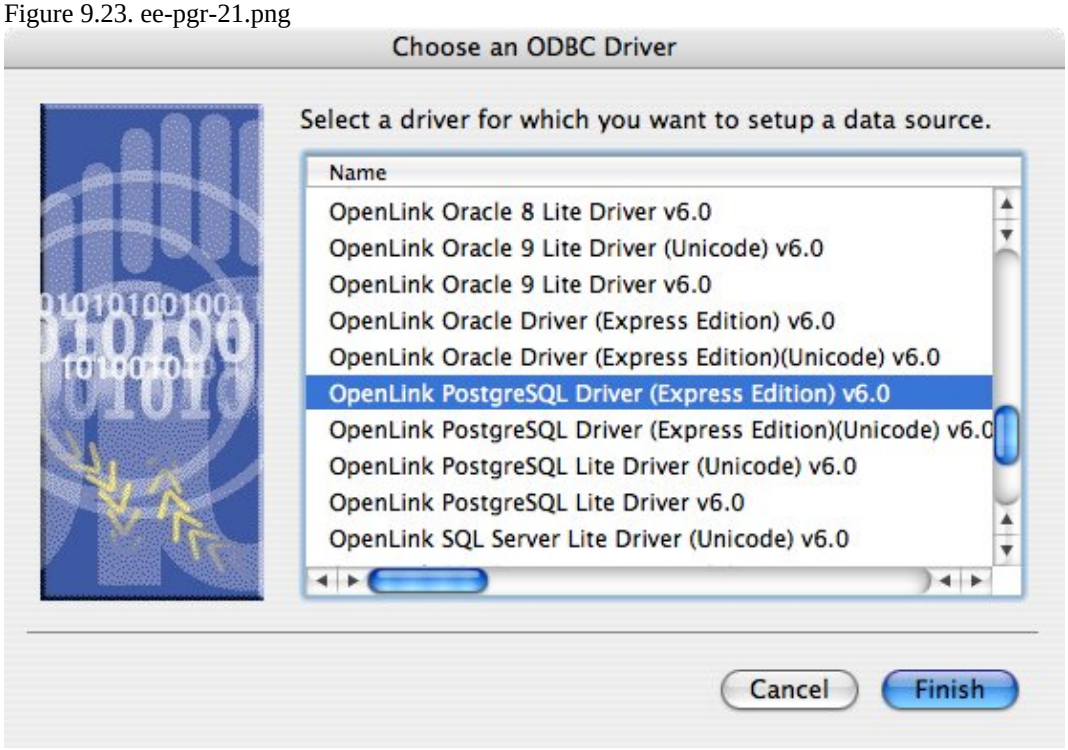
Figure 9.22. ee-pgr-20.png



Choose the *OpenLink PostgreSQL Driver (Express Edition) v6.0* from the list of available drivers. Choose the *OpenLink PostgreSQL Driver (Express Edition)(Unicode) v6.0 if and only if* you are working with multi-byte character sets, as

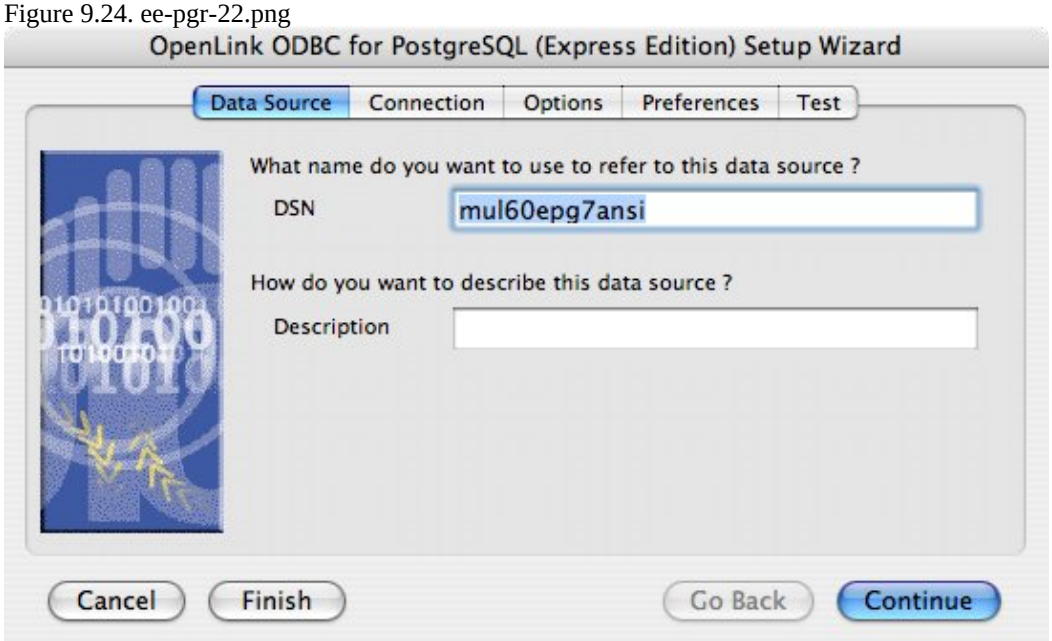
unnecessary translations can significantly ODBC performance:

Figure 9.23. ee-pgr-21.png



In the *Data Source* tab, enter a suitable name and optional description for the DSN being created:

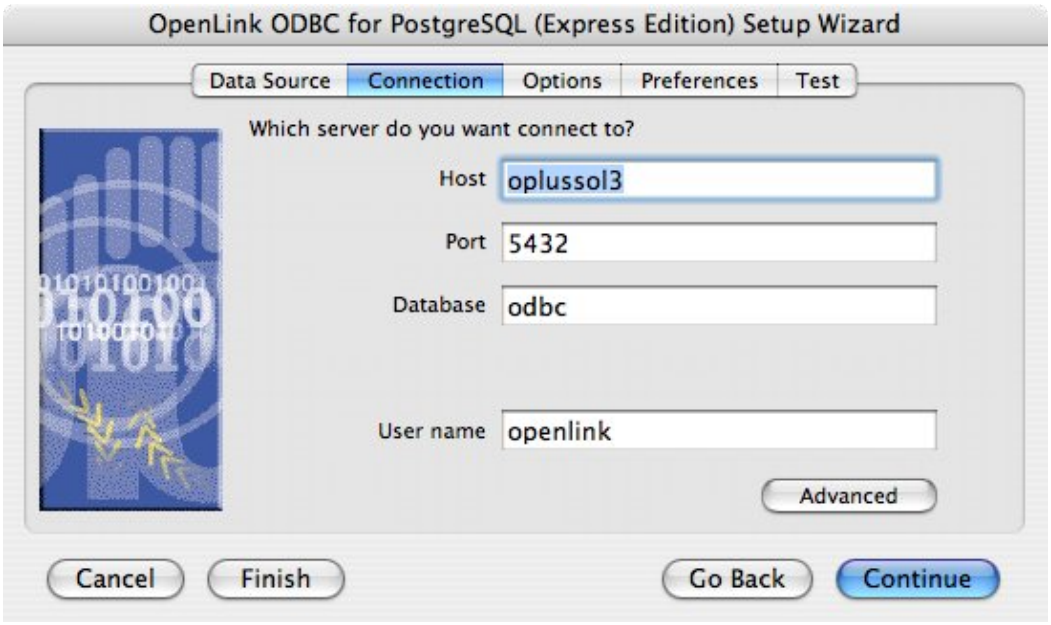
Figure 9.24. ee-pgr-22.png



The *Connection* tab requests the minimum parameters required to make a connection to the target database:

- Host - the name of the server on which the target PostgreSQL instance is running
- Port - the port at which the target PostgreSQL instance is listening (default 5432)
- Database - the name of a valid database in the target PostgreSQL instance
- Username - a valid PostgreSQL username

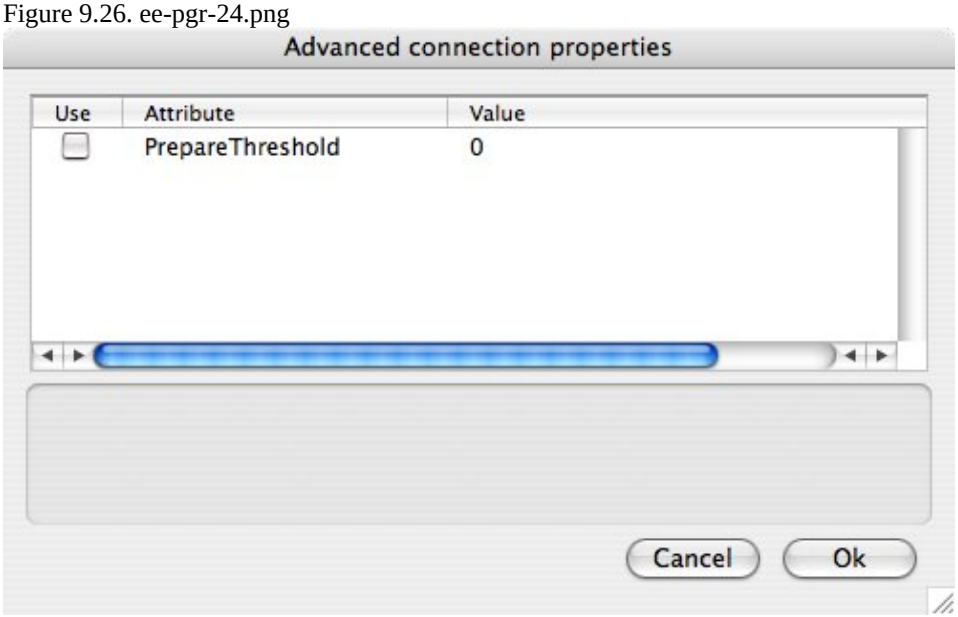
Figure 9.25. ee-pgr-23.png



If desired, click the *Advanced* button to set additional parameters relevant to the PostgreSQL connection. None of these need be changed for a basic connection:

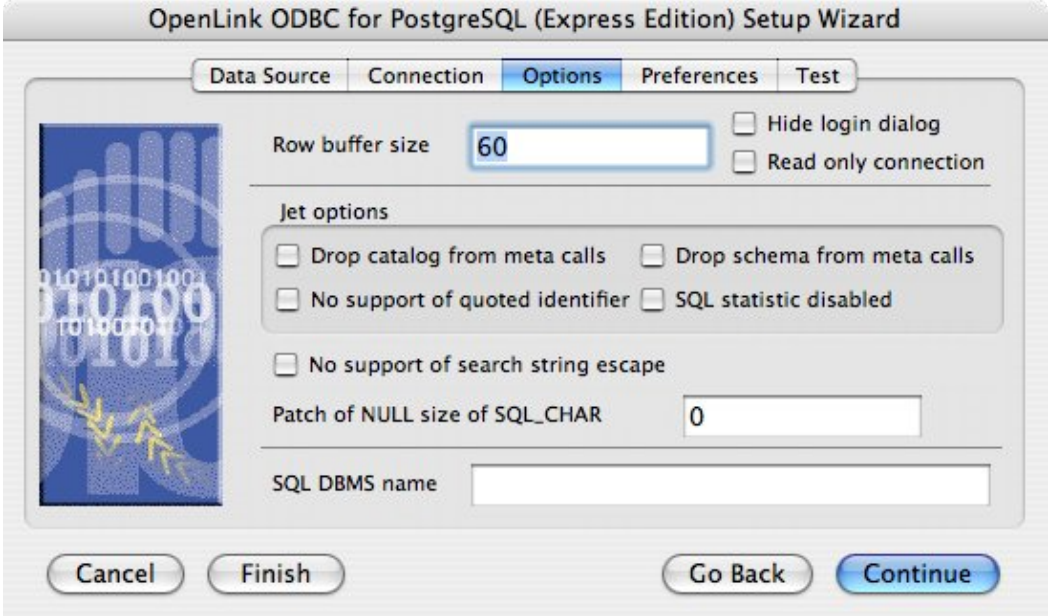
PrepareThreshold Sets the default threshold for enabling server-side prepare. Default 0

Figure 9.26. ee-pgr-24.png



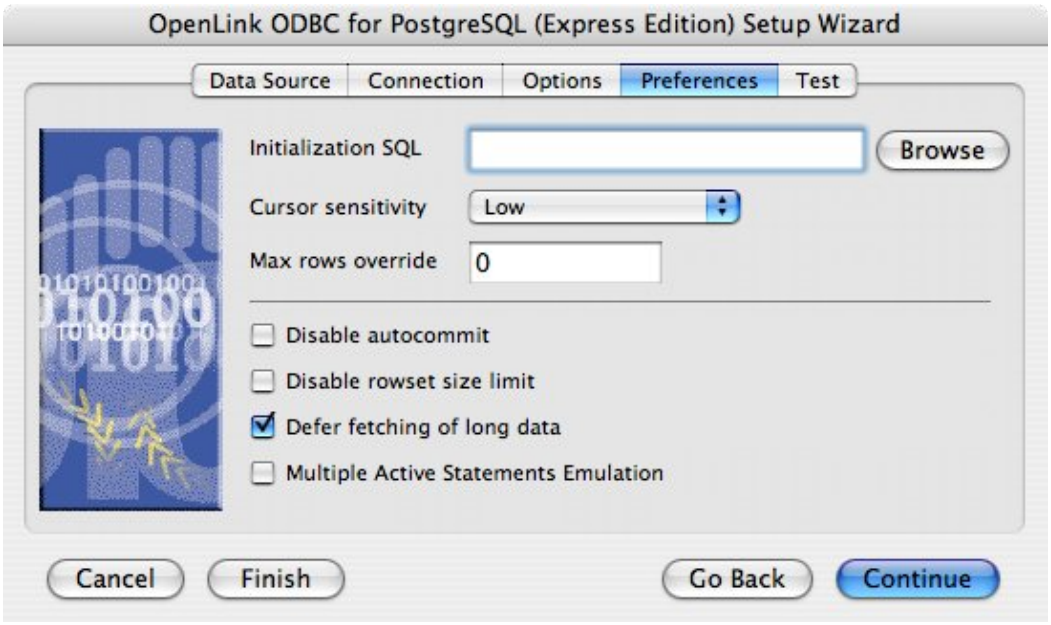
As suggested above, the parameters of the *Options* and *Preferences* tabs need not be changed for a basic connection:

Figure 9.27. ee-pgr-25.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC-compliant application.
- *Read Only connection* - Specify whether the connection is to be read-only. Make sure the checkbox is unchecked to request a read/write connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database metadata.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL such as select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo (SQL_DBMS_NAME) response returned by the driver. This is known to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

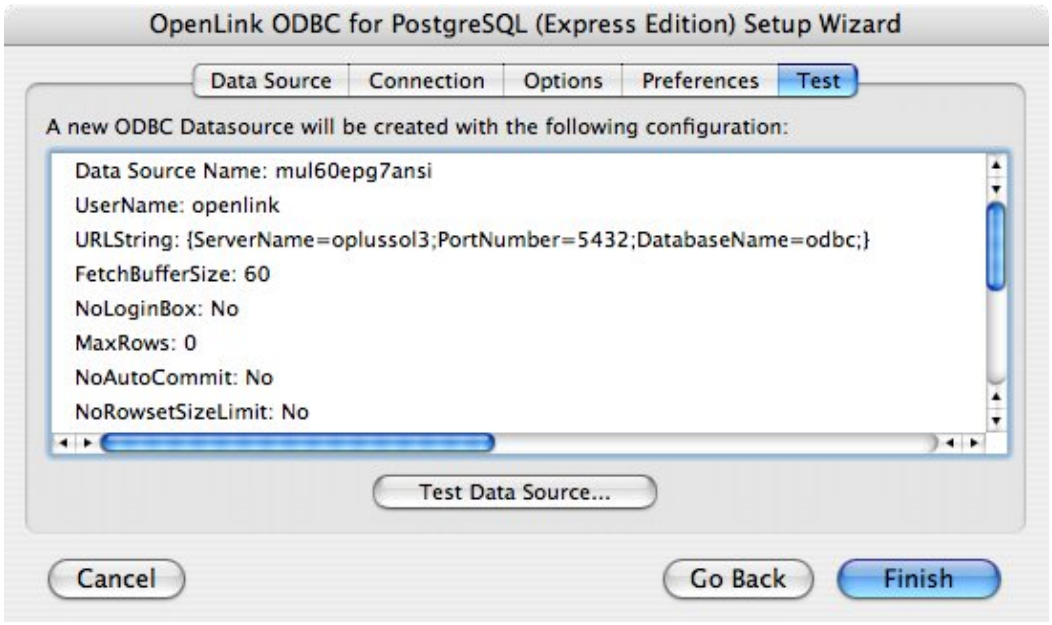
Figure 9.28. ee-pgr-26.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

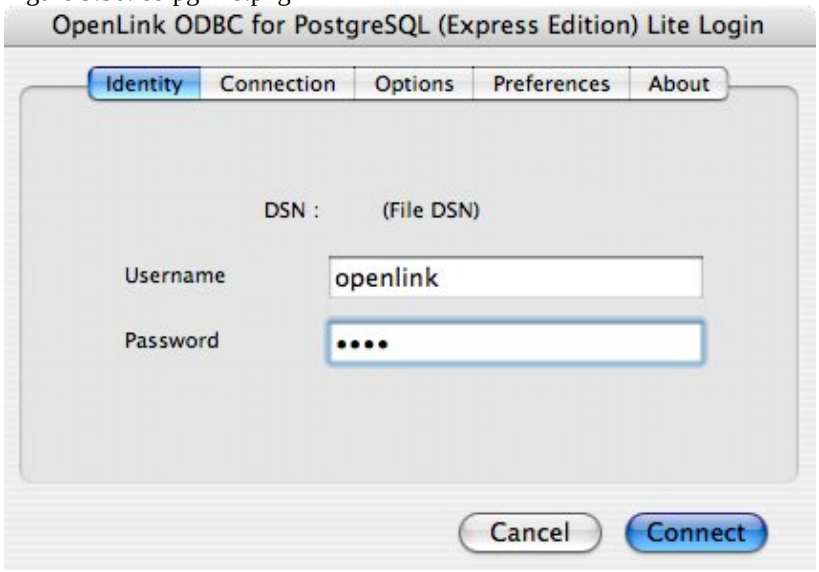
Click on the *Test Data Source* button to make a connection to the database to verify connectivity:

Figure 9.29. ee-pgr-27.png



Enter a valid username and password for the target database:

Figure 9.30. ee-pgr-28.png



A successful connection to the database has been made:

Figure 9.31. ee-pgr-29.png

10.2 OpenLink ODBC Driver for PostgreSQL (Express Edition) for Windows

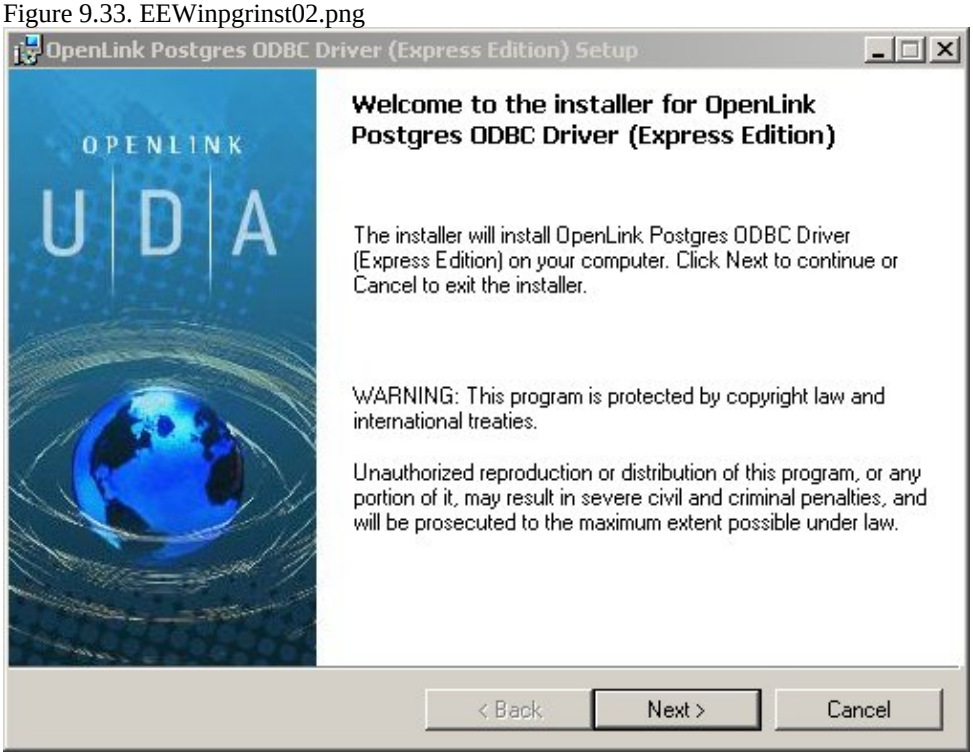
10.2.1 Installation

The OpenLink ODBCDriver for PostgreSQL(Express Edition) is distributed as a Windows MSI installer. Simply double click on the installer 'ntl6epgr.msi' to commence the installation:

Figure 9.32. EEWinpgrinst01.png

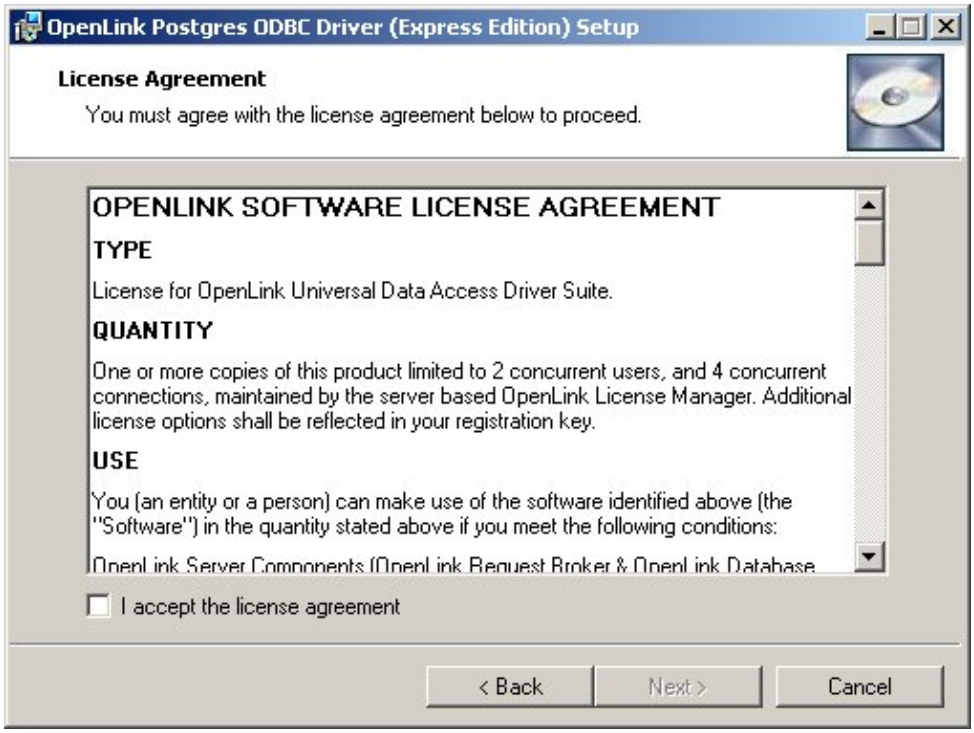
Installer Welcome Dialog for the OpenLink ODBCDriver for PostgreSQL(Express Edition):

Figure 9.33. EEWinpgrinst02.png



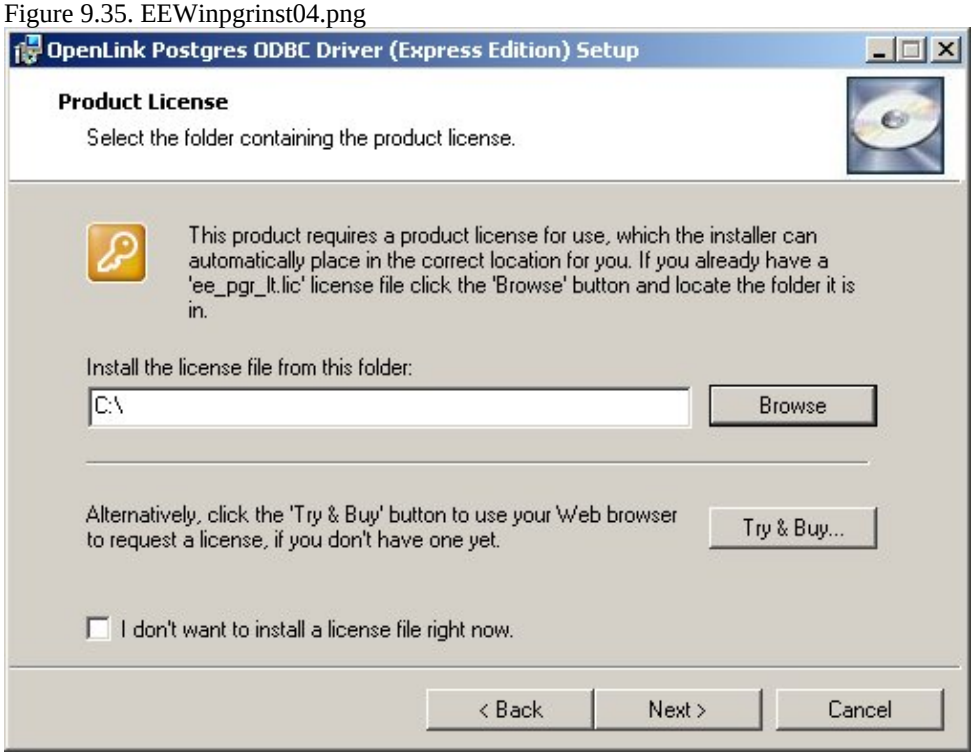
Please read the software license agreement and accept before continuing your installation:

Figure 9.34. EEWinpgrinst03.png



Before installation you will be prompted for a license file. If a license file already exists on the machine, then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtained by selecting the 'try and buy' option, which loads OpenLink's online try and buy web page:

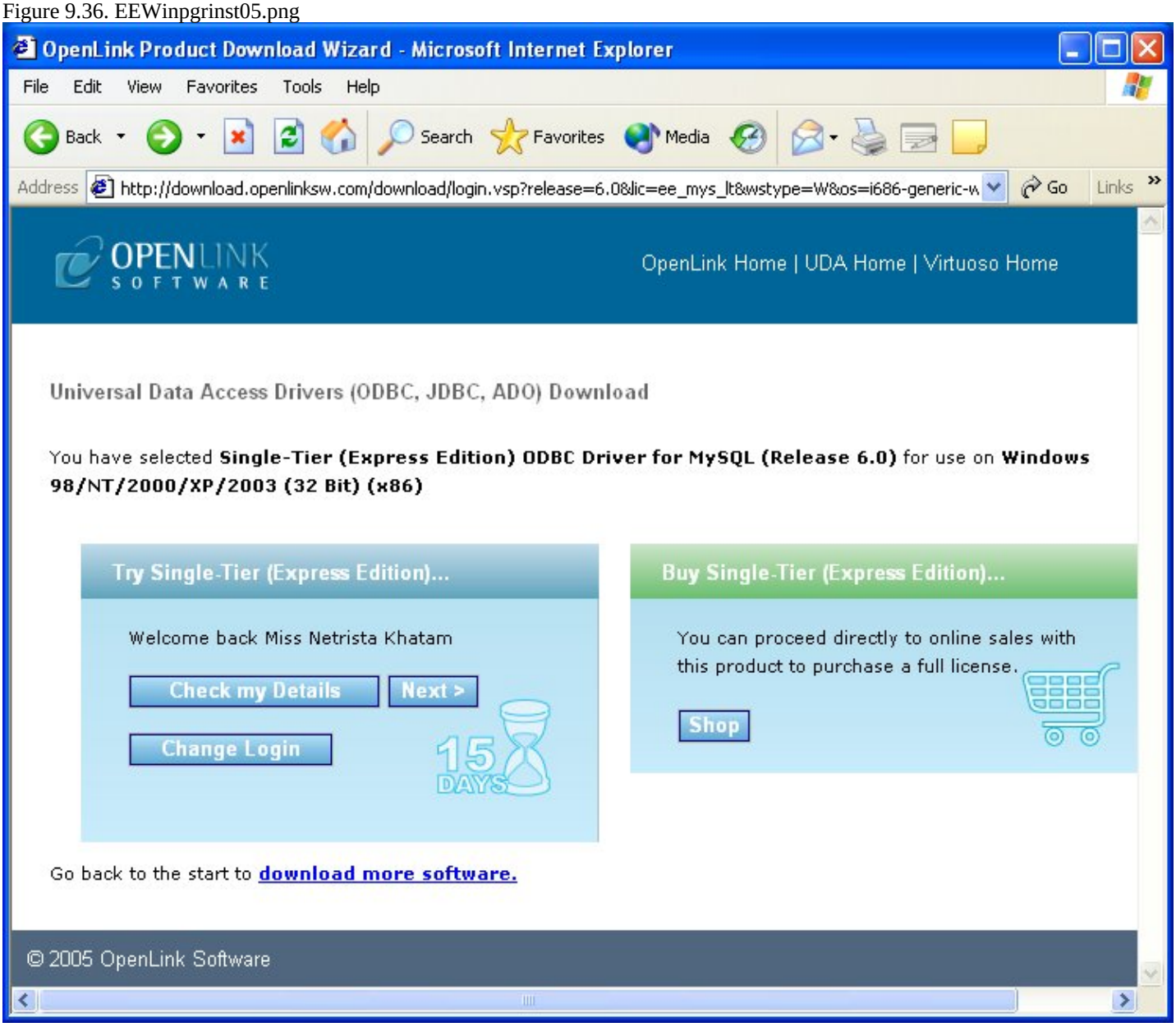
Figure 9.35. EEWinpgrinst04.png



To obtain the trial license, you must be a registered user on the OpenLinkWeb site and login with your username (e-mail address) and password. Click on the 'Shop' link to visit OpenLink's online shop cart to purchase a full license, if required:

Click on the 'download license' button to immediately obtain the license file and save it to your desktop. Alternatively, an auto-generated e-mail will be sent to your registered e-mail address. This email will contain a link to your OpenLinkData Space (ODS). The OpenLinkData Space (ODS) contains copies of all trial and full license files in a Briefcase for download at a later date.

Figure 9.36. EEWinpgrinst05.png

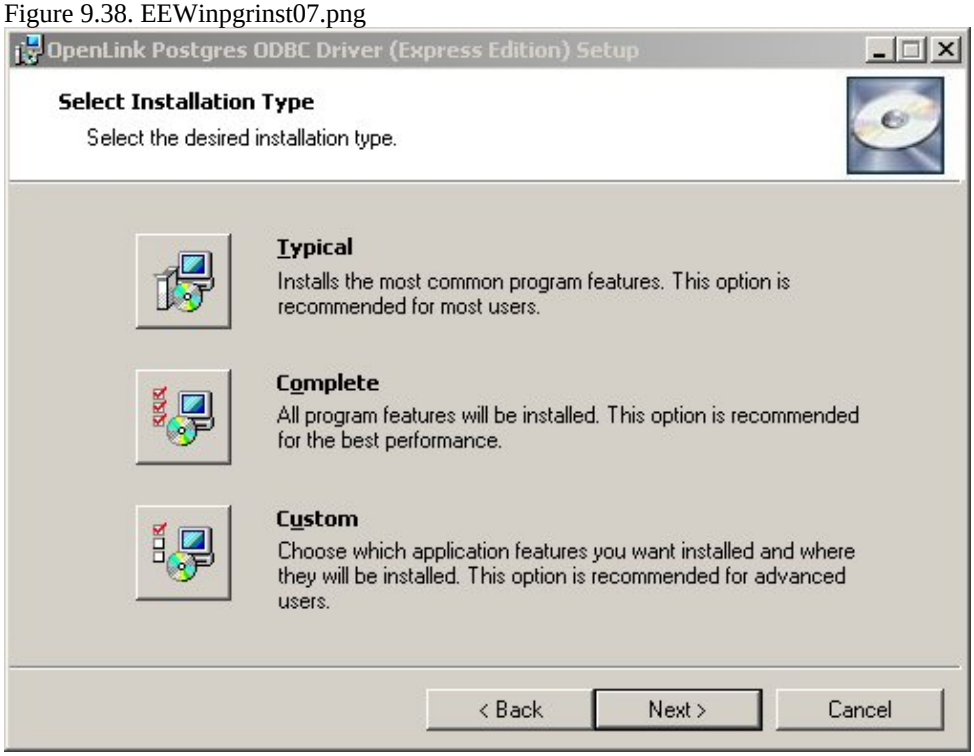


Select the license file to be used for the installation:

Figure 9.37. EEWinpgrinst06.png

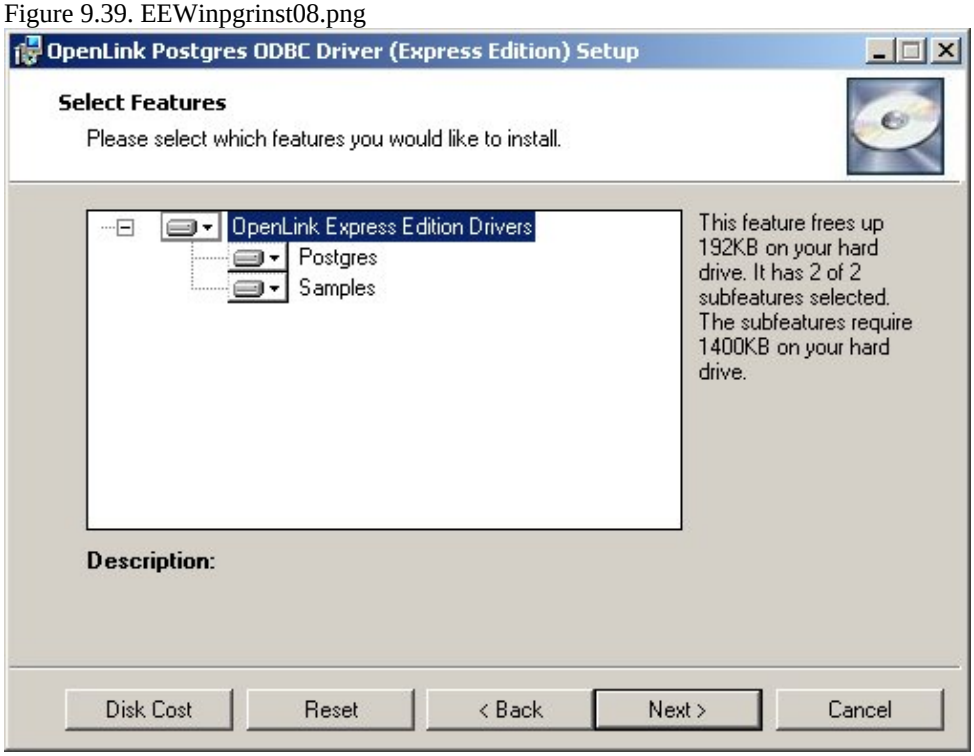
Choose to perform a custom, typical or complete installation of the driver:

Figure 9.38. EEWinpgrinst07.png



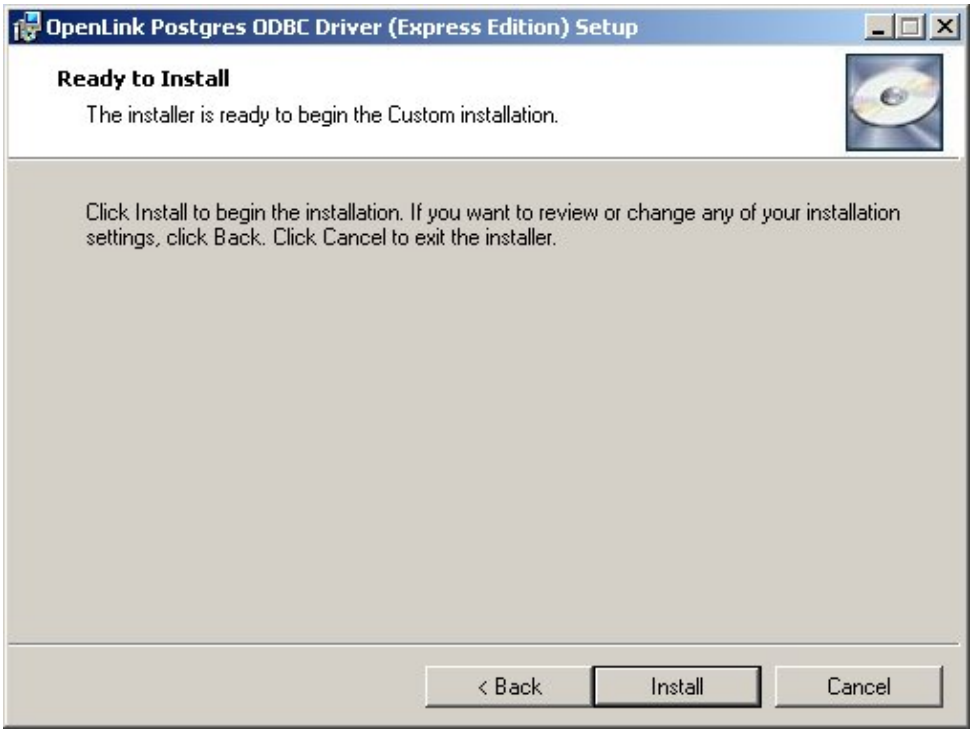
Select the features to be installed:

Figure 9.39. EEWinpgrinst08.png



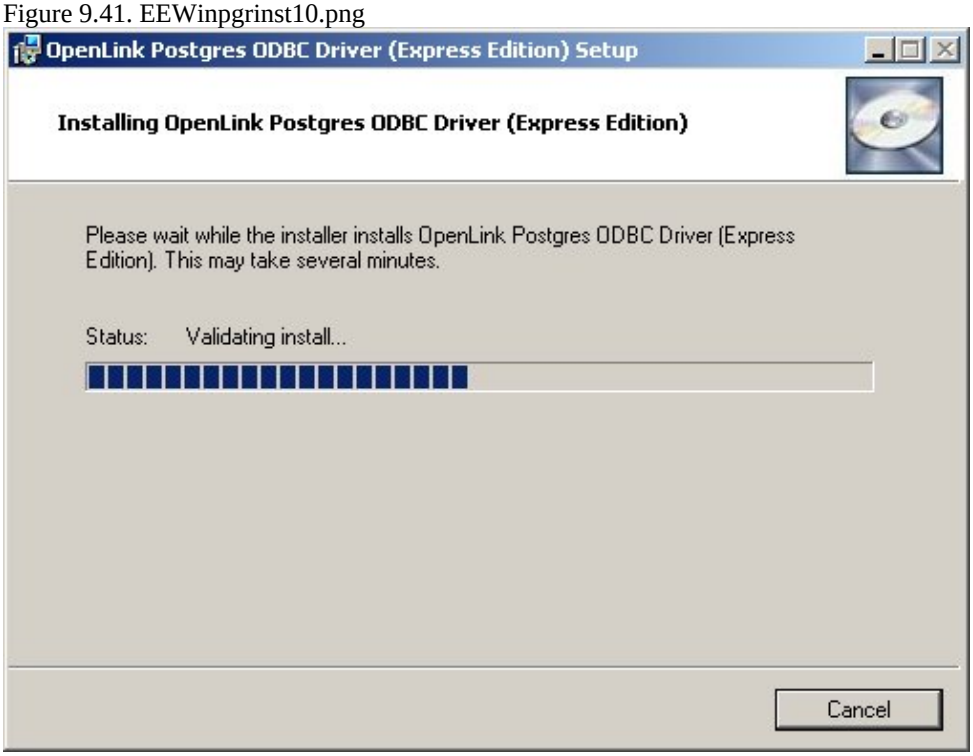
Click the install button to begin the installation of components:

Figure 9.40. EEWinpgrinst09.png



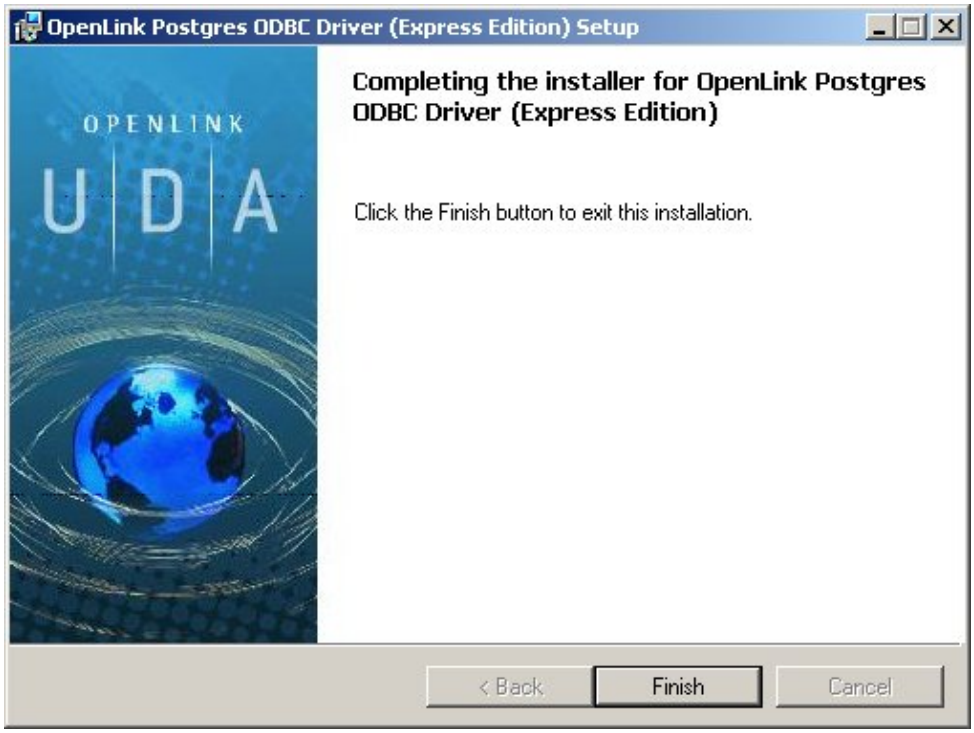
Installation in progress:

Figure 9.41. EEWinpgrinst10.png



The Software installation is complete and ready for use:

Figure 9.42. EEWinpgrinst11.png



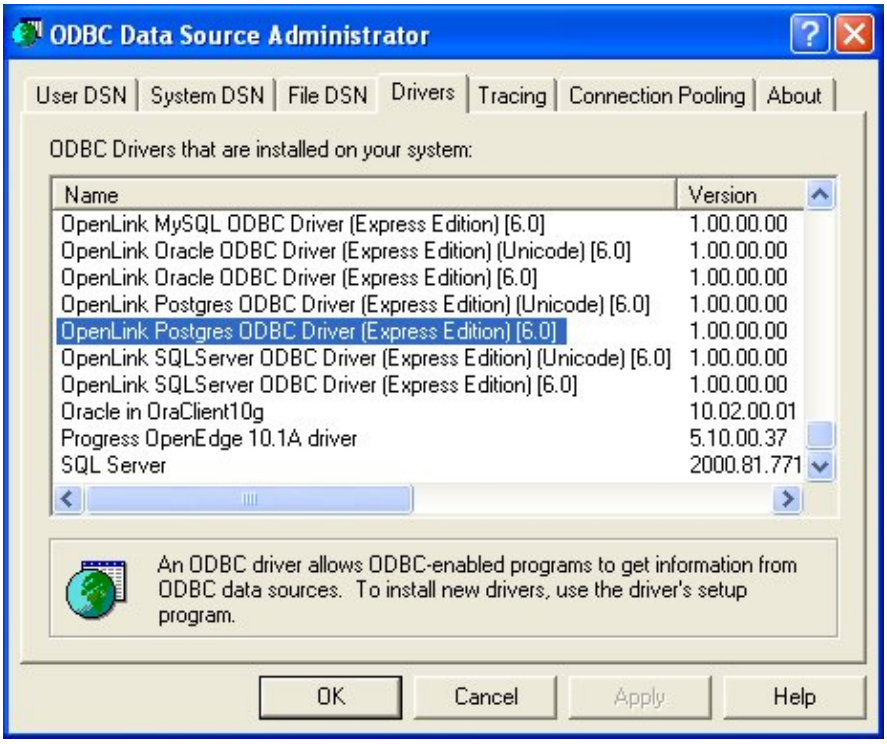
10.2.2 Configuration

To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 9.43. EEWinpgrconf01.png

Click on the Drivers tab to confirm the OpenLink PostgreSQL ODBCDriver [Express Edition][6.0] has been successfully installed:

Figure 9.44. EEWinpgrconf02.png

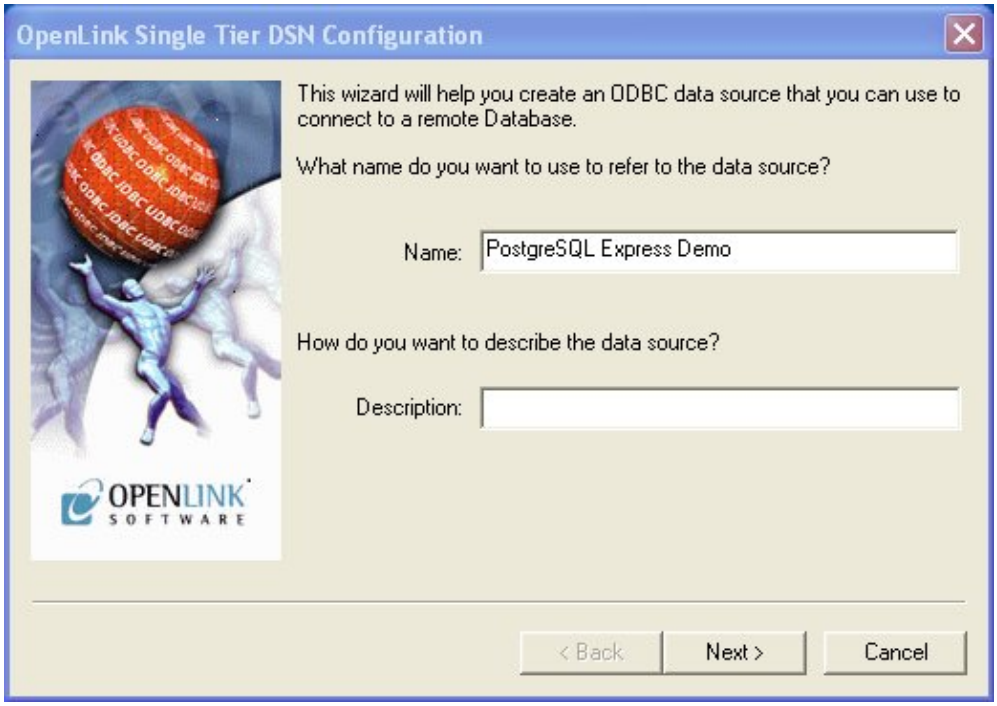


From either the User or System DSN tabs, click on the Add button and select the OpenLink PostgreSQL ODBCDriver [Express Edition][6.0] from the list :

Figure 9.45. EEWinpgrconf03.png

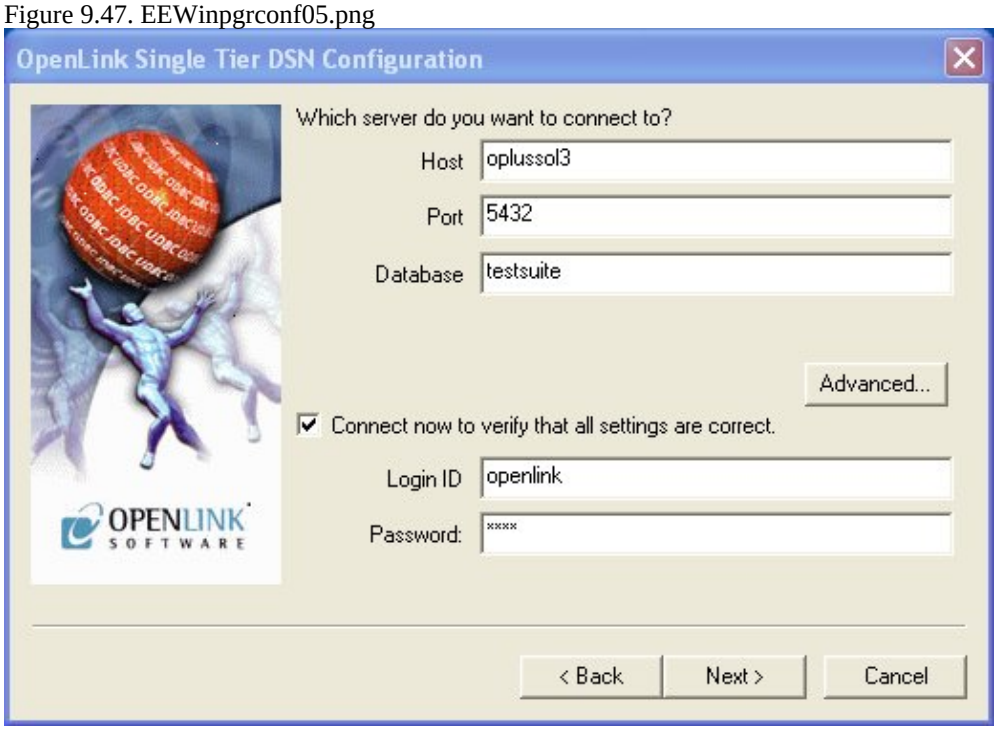
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 9.46. EEWinpgrconf04.png



The Connection tab requests the minimum parameters required to make a connection to the target database:

Figure 9.47. EEWinpgrconf05.png



- *Host* : This is the fully qualified hostname or IP address of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port on which PostgreSQL is listening
- *Database* : This is the name of the PostgreSQL database to which you want to connect
- *Login ID* : This is a valid user name for the PostgreSQL database

- *Password* : This is a valid password for the PostgreSQL database

Click next to verify that all settings are correct or uncheck the check box to delay testing to a later stage.

The advanced button displays additional, optional parameters that can be configured:

Figure 9.48. EEWinpgrconf06.png

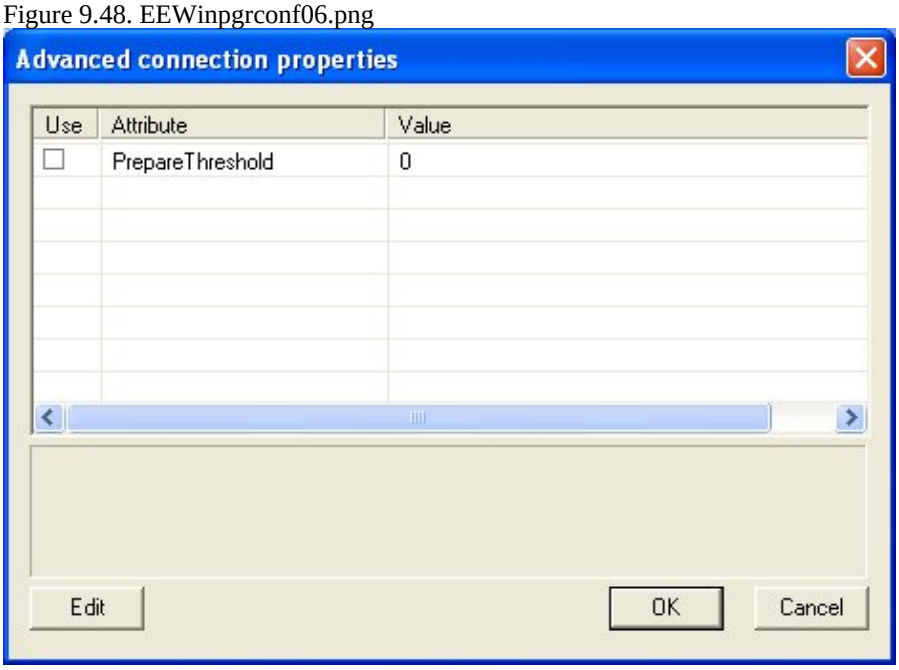
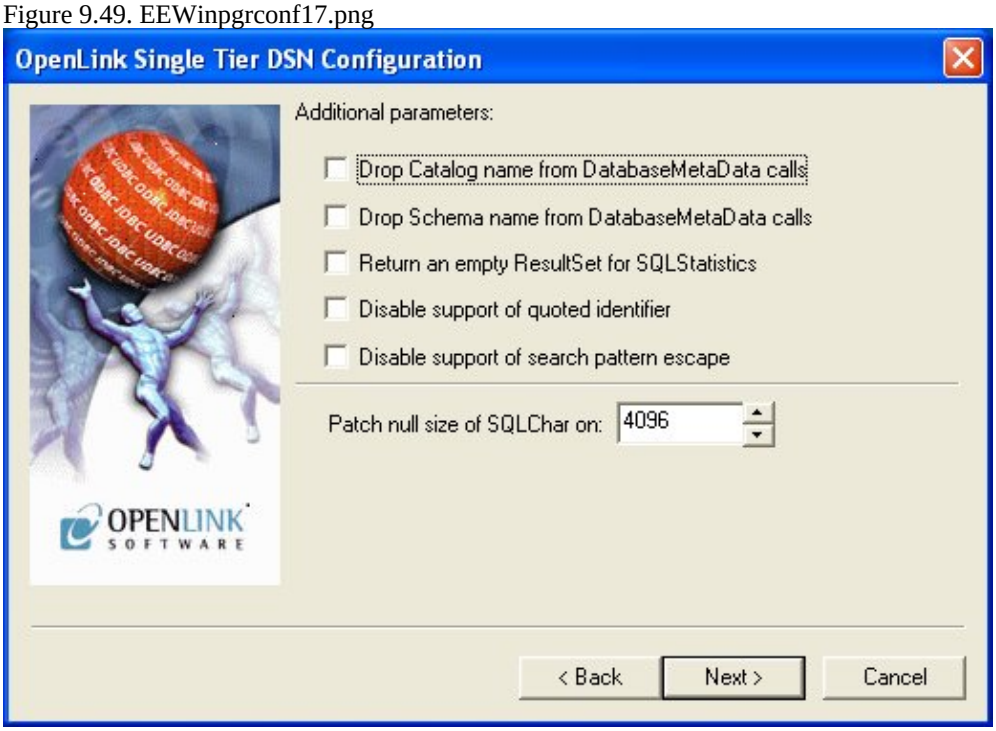


Table 9.1.

PrepareThreshold	Sets the default threshold for enabling server-side prepare.

As indicated above, the parameters on the options and preferences tabs are not required for a basic connection.

Figure 9.49. EEWinpgrconf17.png



- *Drop Catalog name from DatabaseMetaData calls* - Enable this option to have the catalog name not appear for tables, views, and procedures when requesting database meta-data.

- *Drop Schema name from DatabaseMetaData calls* - Enable this option to have the schema-name not appear for tables, views, and procedures when requesting database meta-data.

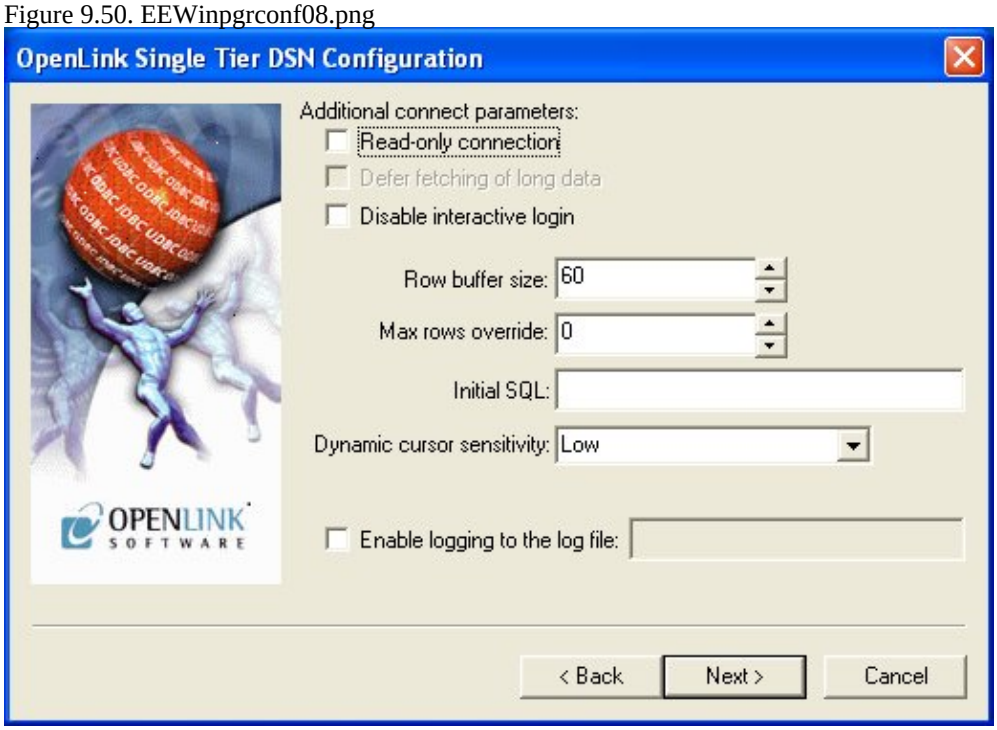
- *Return an empty ResultSet for SQLStatistics* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table, e.g., what indexes there are on it.

- *Disable support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if the DBMS does not support quoted SQL, e.g., select * from "account."

- *Disable support of search pattern escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if the DBMS does not support SQL escape patterns.

- *Patch of NULL size of SQL_CHAR* - If set, this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0, the driver uses the size returned by the database.

Figure 9.50. EEWinpgrconf08.png



- *Disable Interactive Login* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.

- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.

- *Max rows override* - Allows you to define a limit on the maximum number of rows to be returned from a query. The default value of 0 means no limit.

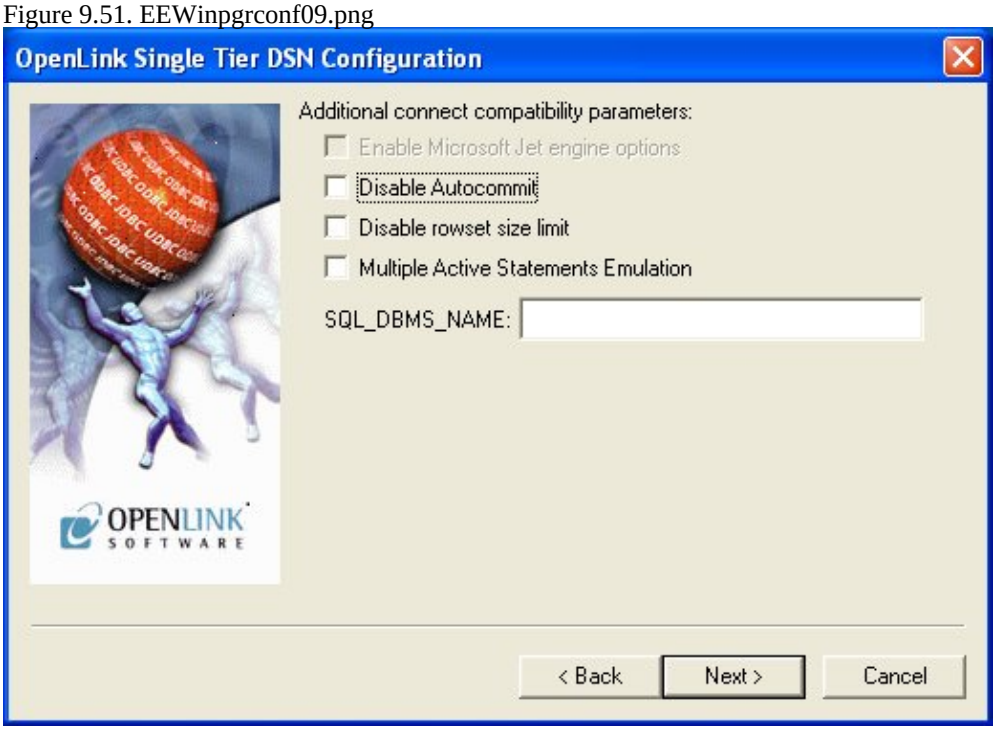
- *Initial SQL* - Lets you specify a file containing SQL statements that will be automatically run against the database upon connection.

- *Dynamic Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same

rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched, and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED, when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows do not appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate OpenLink script for the target database.

- *Enable logging to the log file:* - Specifies the full path to a text file. If the associated checkbox is checked, and a file is passed, the driver will log auto-generate a clientside ODBC trace.

Figure 9.51. EEWinpgrconf09.png



- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Driver. The default mode is AutoCommit (box unchecked).

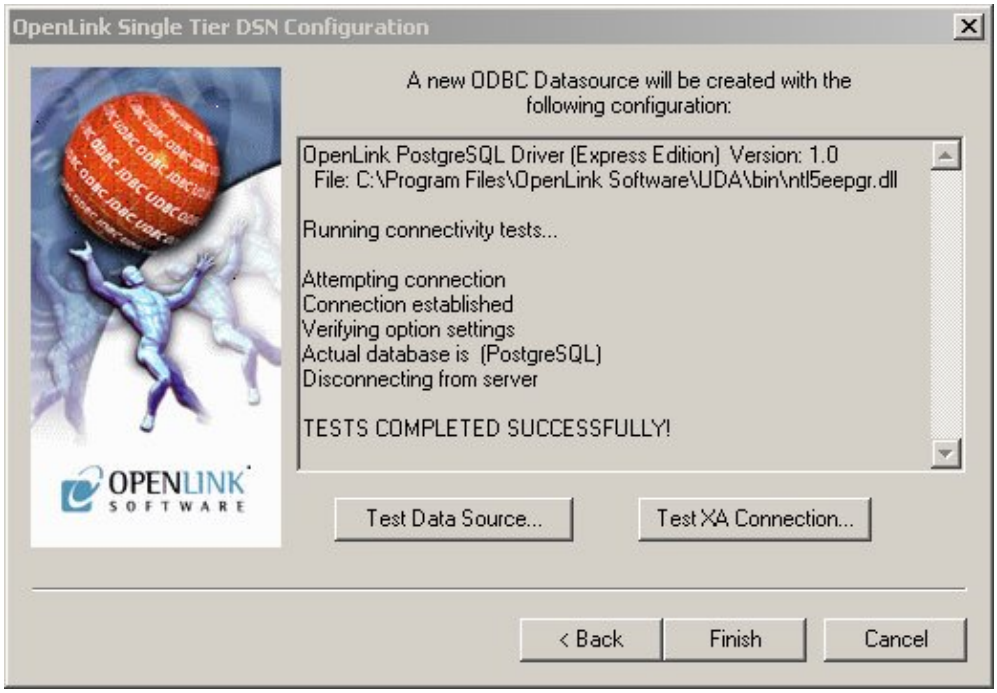
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset generated from an erroneous query is very large. The limit is normally never reached.

- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is required for products like Microsoft InfoPath for which the return value must be "SQL Server".

Click on the *Test Data Source*button to verify that a successful connection can be made to the database.

Figure 9.52. EEWinpgrconf10.png


OpenLink Single Tier DSN Configuration
A new ODBC Datasource will be created with the following configuration:
OpenLink PostgreSQL Driver (Express Edition) Version: 1.0
File: C:\Program Files\OpenLink Software\UDA\bin\ntl5eepgr.dll
Running connectivity tests...
Attempting connection
Connection established
Verifying option settings
Actual database is (PostgreSQL)
Disconnecting from server
TESTS COMPLETED SUCCESSFULLY!
OPENLINK SOFTWARE
Test Data Source...
Test XA Connection...
< Back
Finish
Cancel

11 Chapter 10. OpenLink ODBC Driver for SQL Server (Express Editon)

Table of Contents

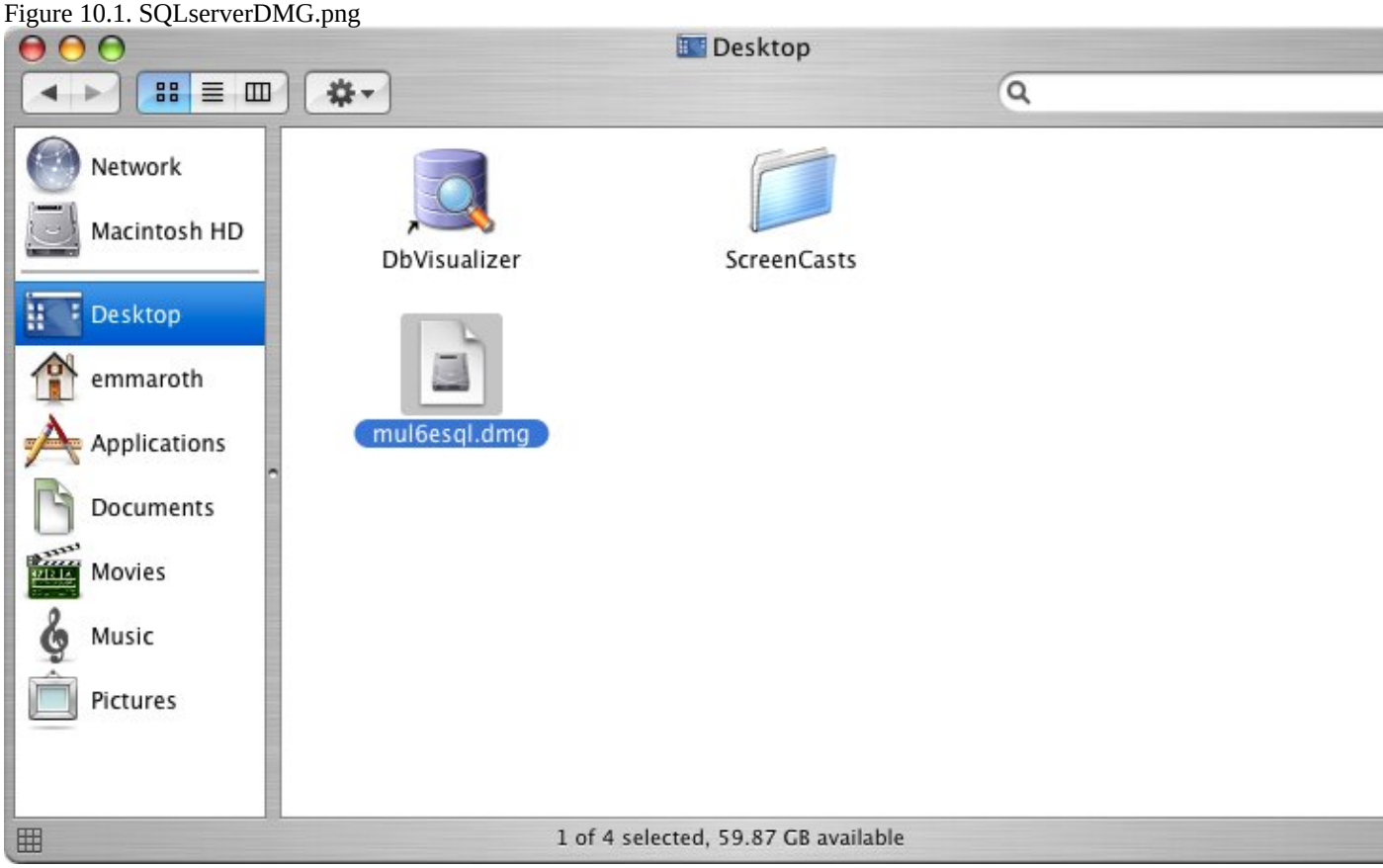
- OpenLink ODBC Driver for SQL Server (Express Editon) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for SQL Server (Express Editon) for Windows
  - Installation
  - Configuration

11.1 OpenLink ODBC Driver for SQL Server (Express Editon) for Mac OS X

11.1.1 Installation Guide

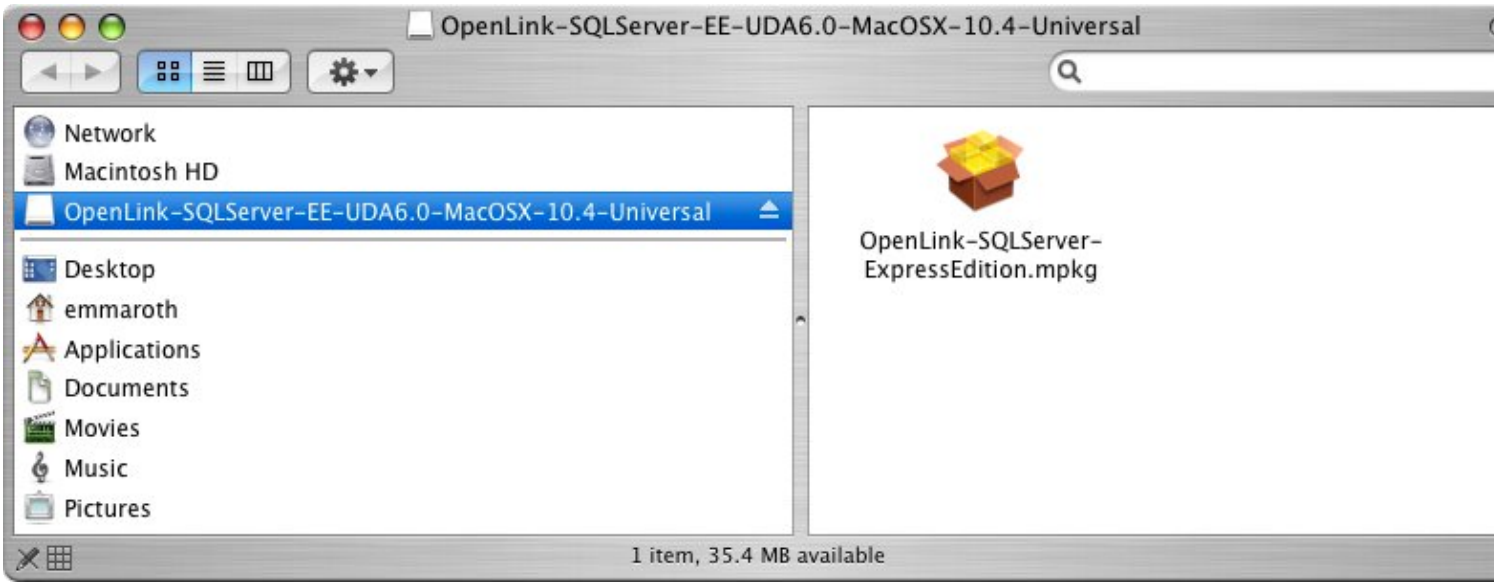
The OpenLink ODBC Driver for SQL Server (Express Edition is a distributed as a Disk Image (DMG) file. Simply double click on the disk image 'mul6esql.dmg' to extract the installer mpkg file:

Figure 10.1. SQLserverDMG.png



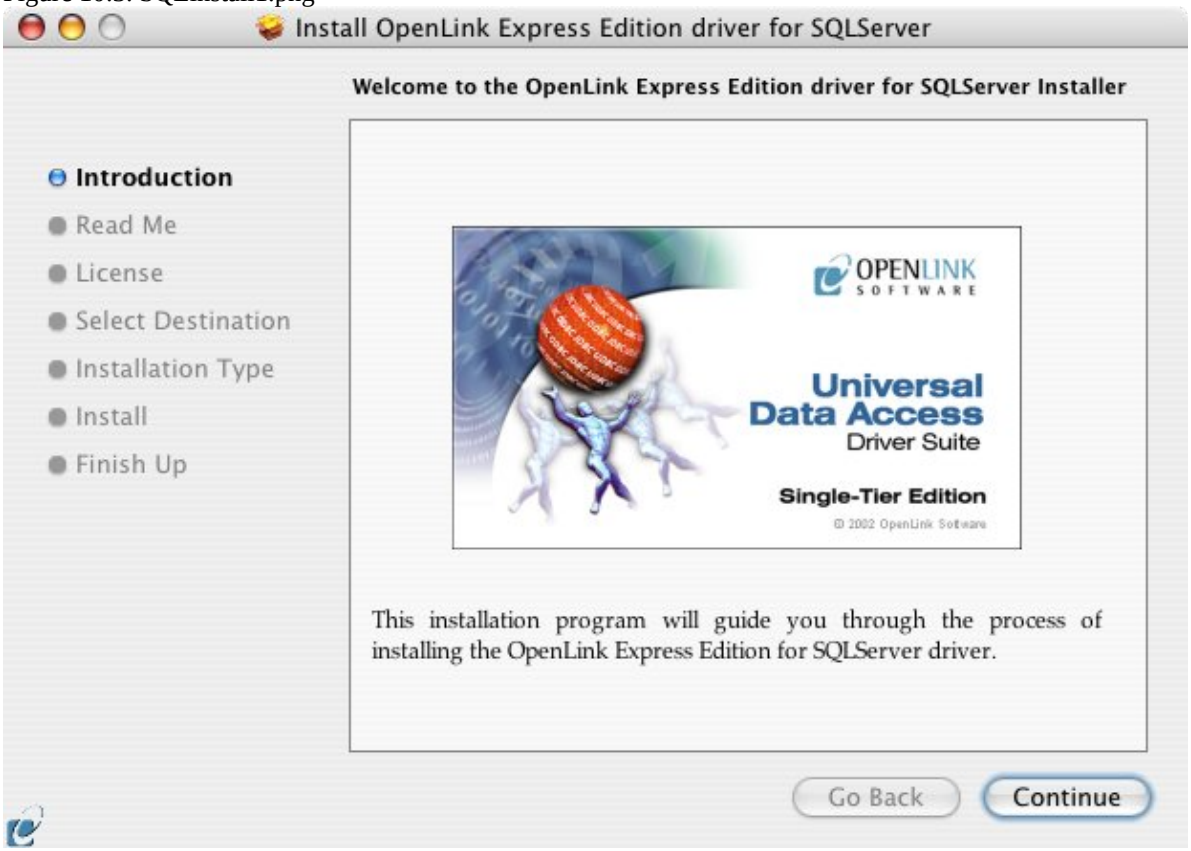
Double-click on the mpkg file to run the installer and following the on screen instriuction as indicated below to complete the installation:

Figure 10.2. SQLpackage.png



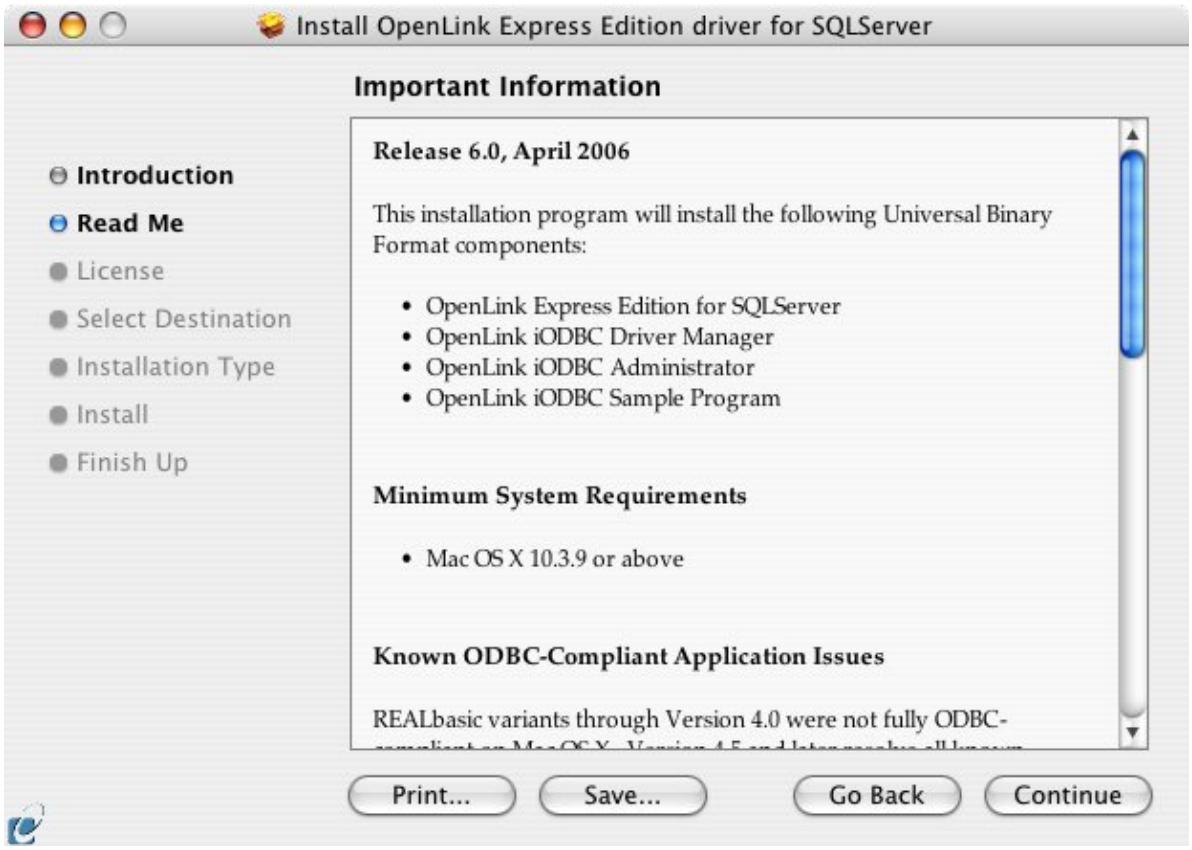
Installer Welcome Dialog for the OpenLink ODBC Driver for SQL Server (Express Edition):

Figure 10.3. SQLinstall1.png



Please review the readme file for installation requirements and known issues:

Figure 10.4. SQLinstall3.png



Please read the software license agreement before continuing your installation:

Figure 10.5. SQLinstall4.png

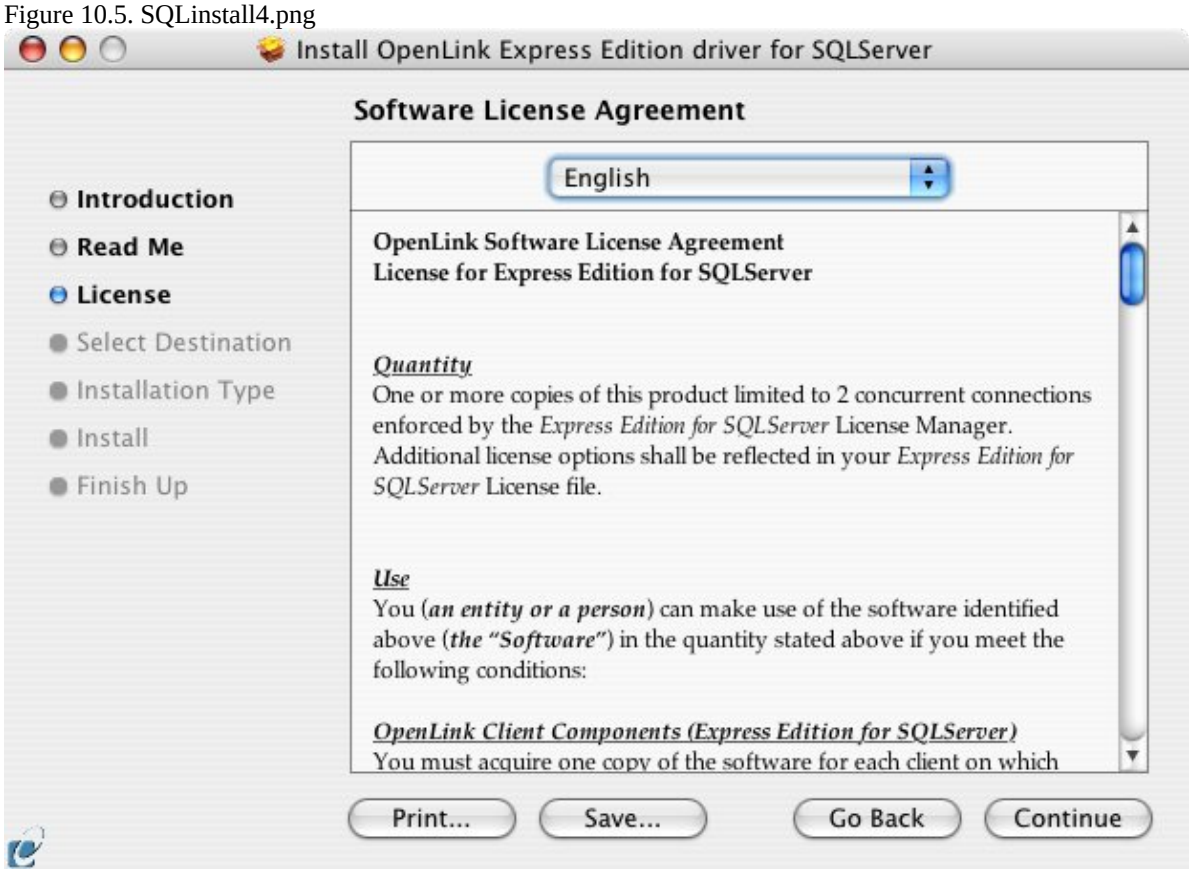


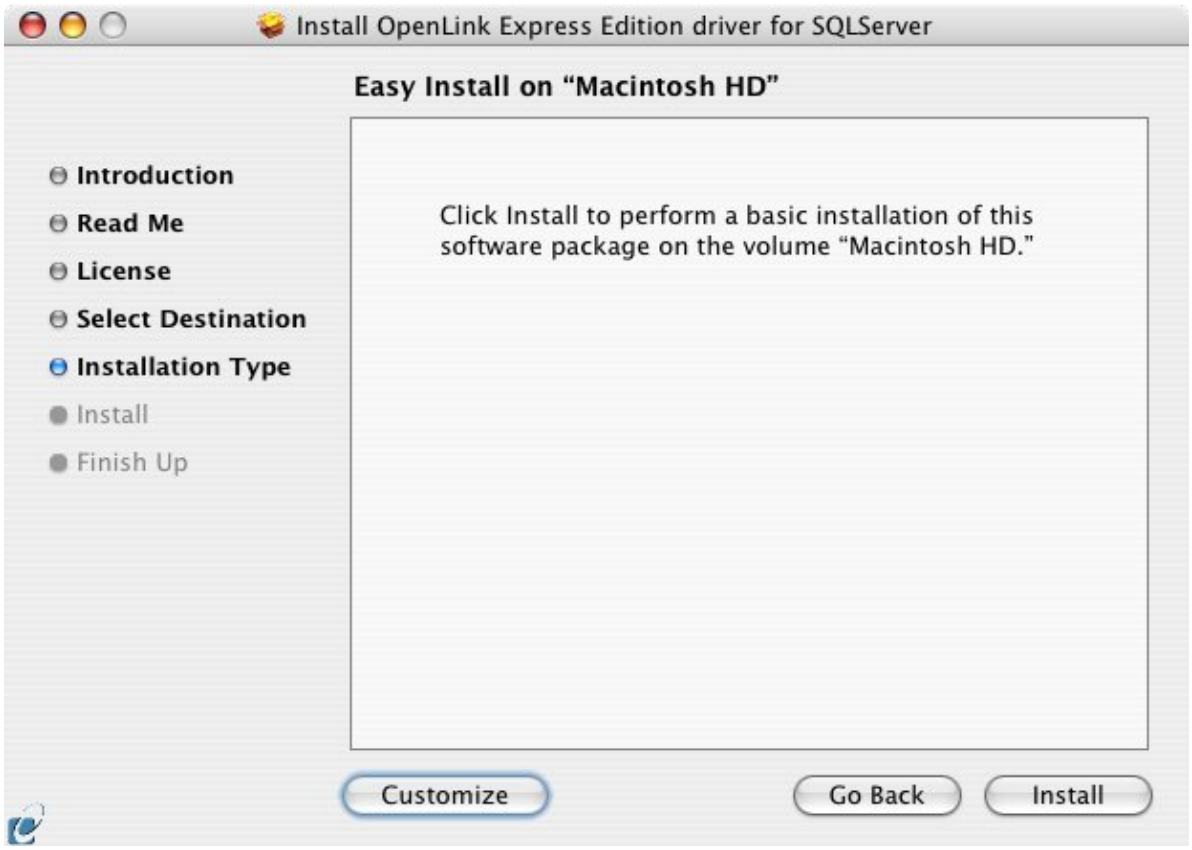
Figure 10.6. SQLinstall6.png

Select destination volume for driver installation:

Figure 10.7. SQLinstall7.png

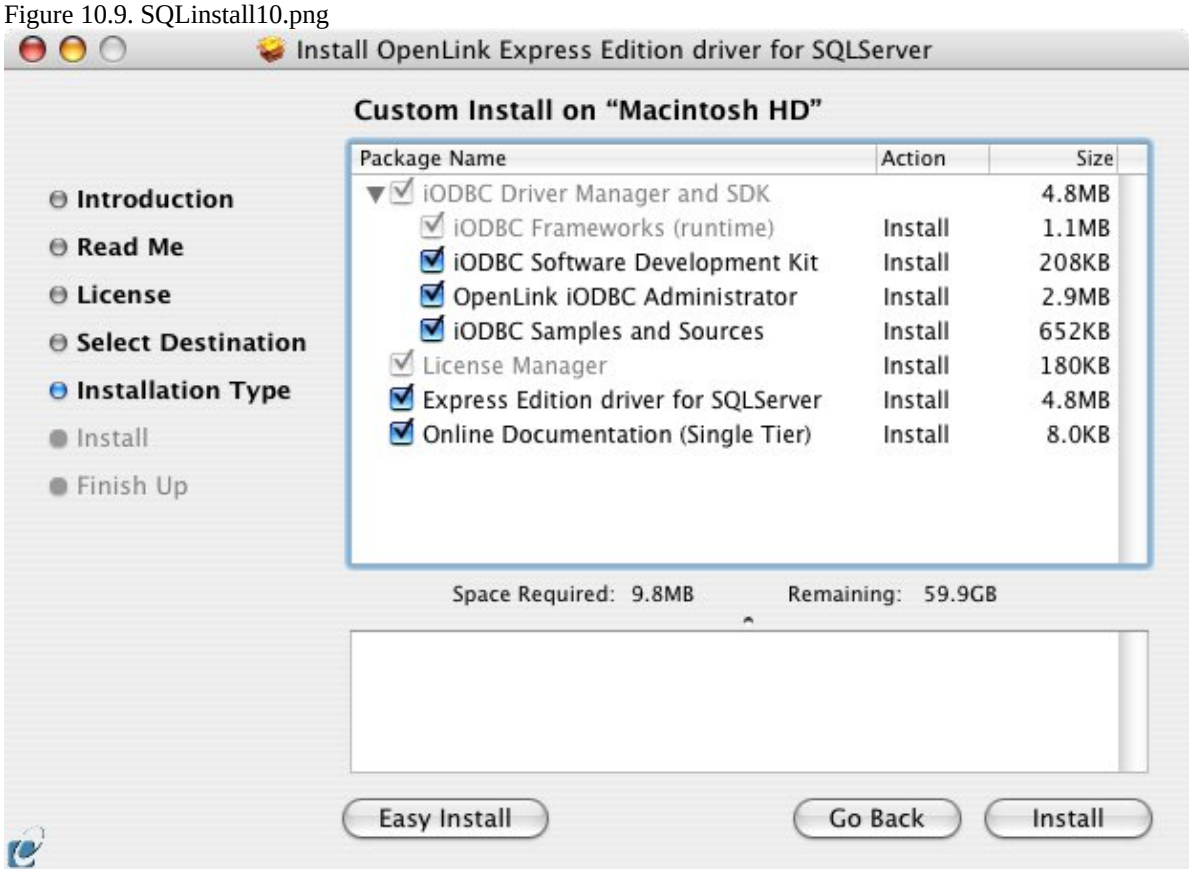
Choose to perform a custom or default installation of the driver:

Figure 10.8. SQLinstall8.png



If you chose the custom option select which of the components below are to be installed:

Figure 10.9. SQLinstall10.png

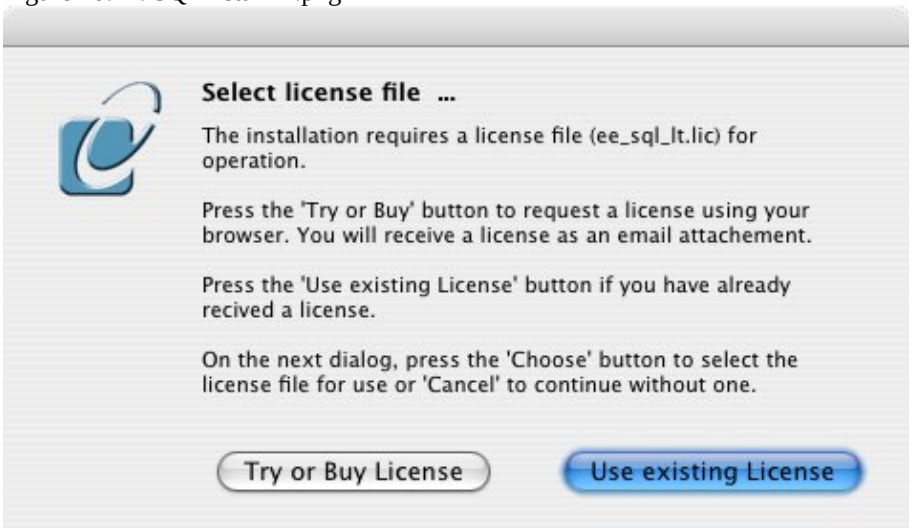


The Software must be installed as a user with Administrative privileges on the machine:

Figure 10.10. SQLinstall12.png

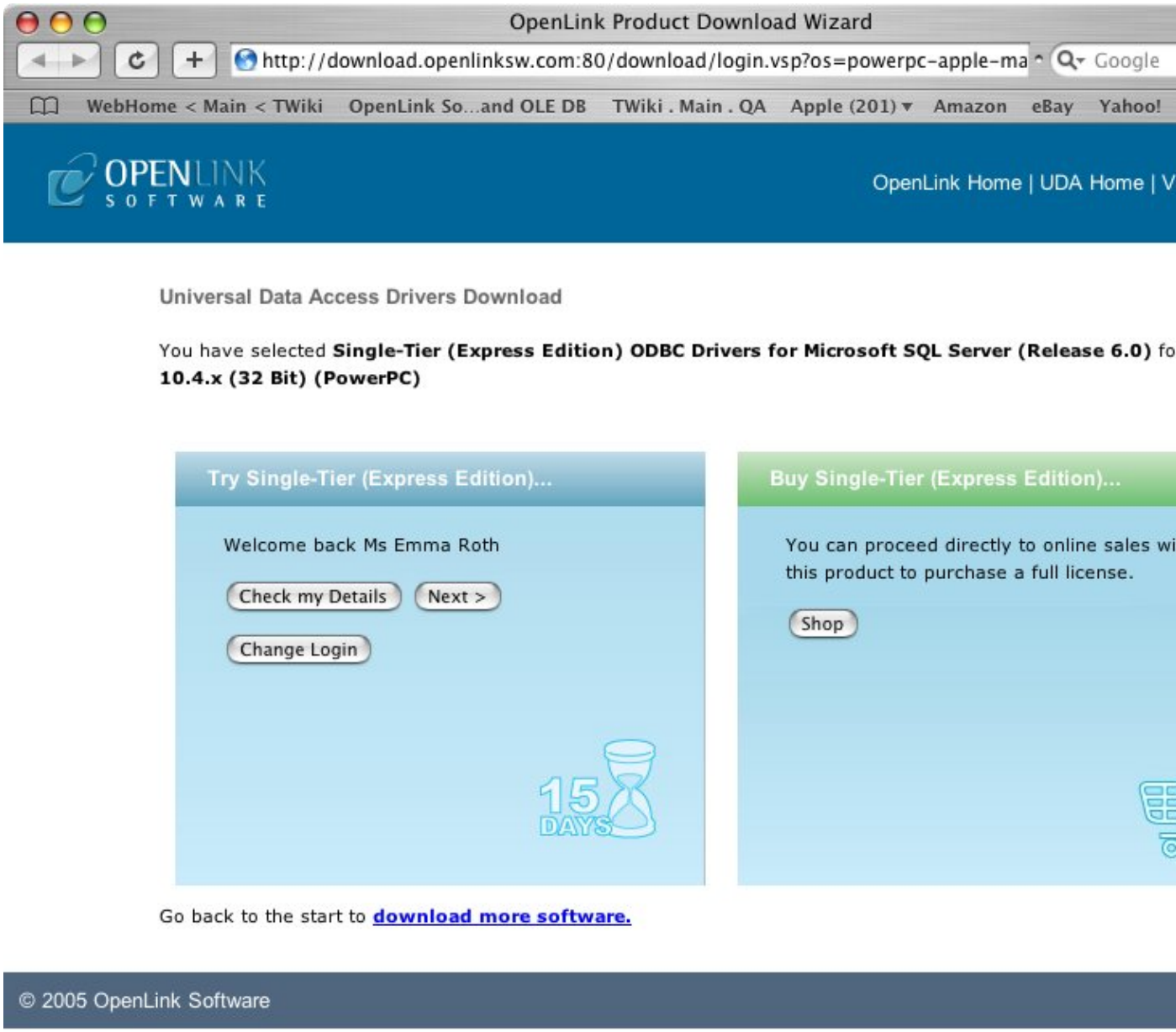
After the driver has been installed you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try-and-buy web page:

Figure 10.11. SQLinstall14.png



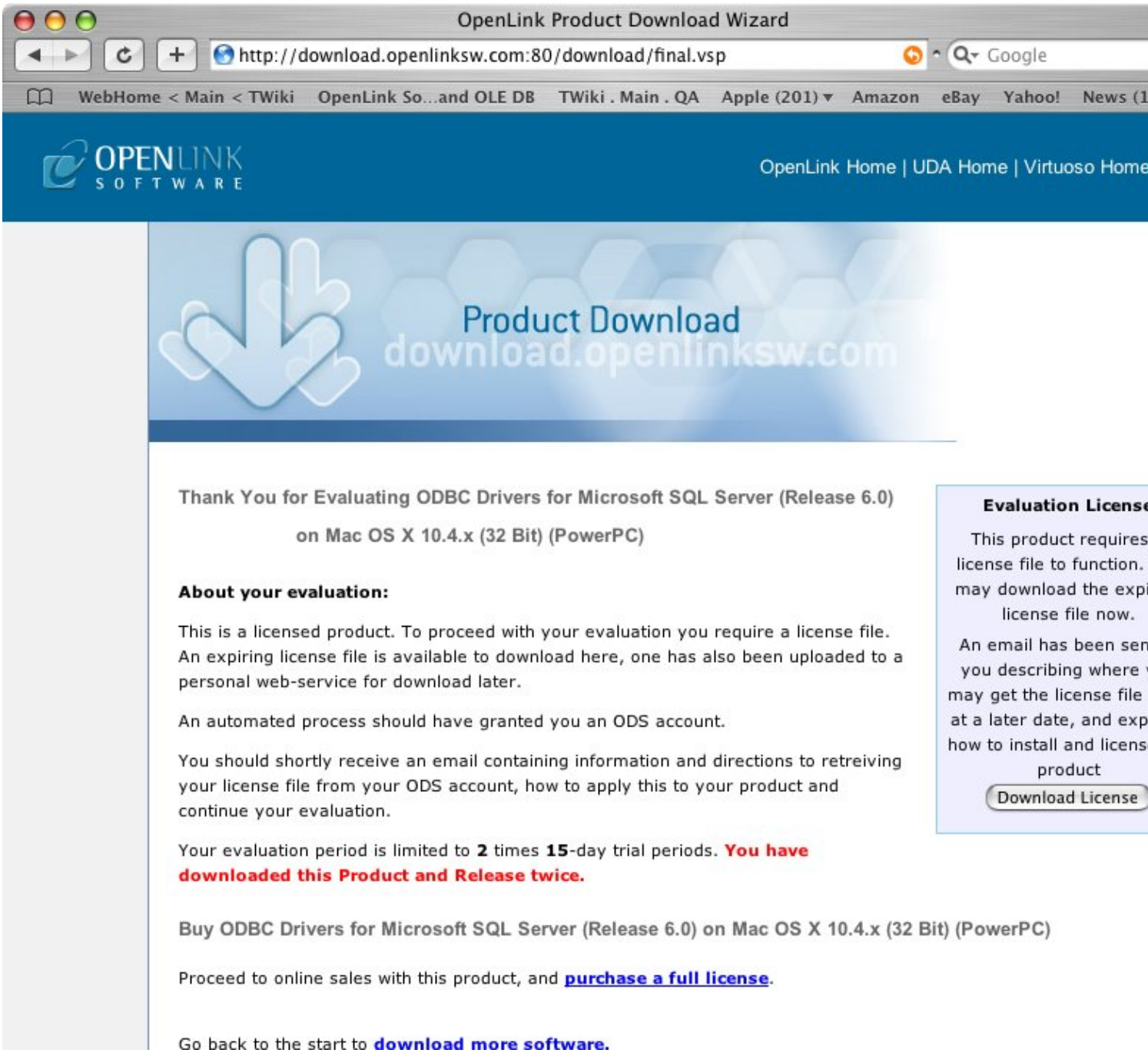
To obtain the trial license you must be a registered user on the OpenLink Web site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Figure 10.12. SQLinstall15.png



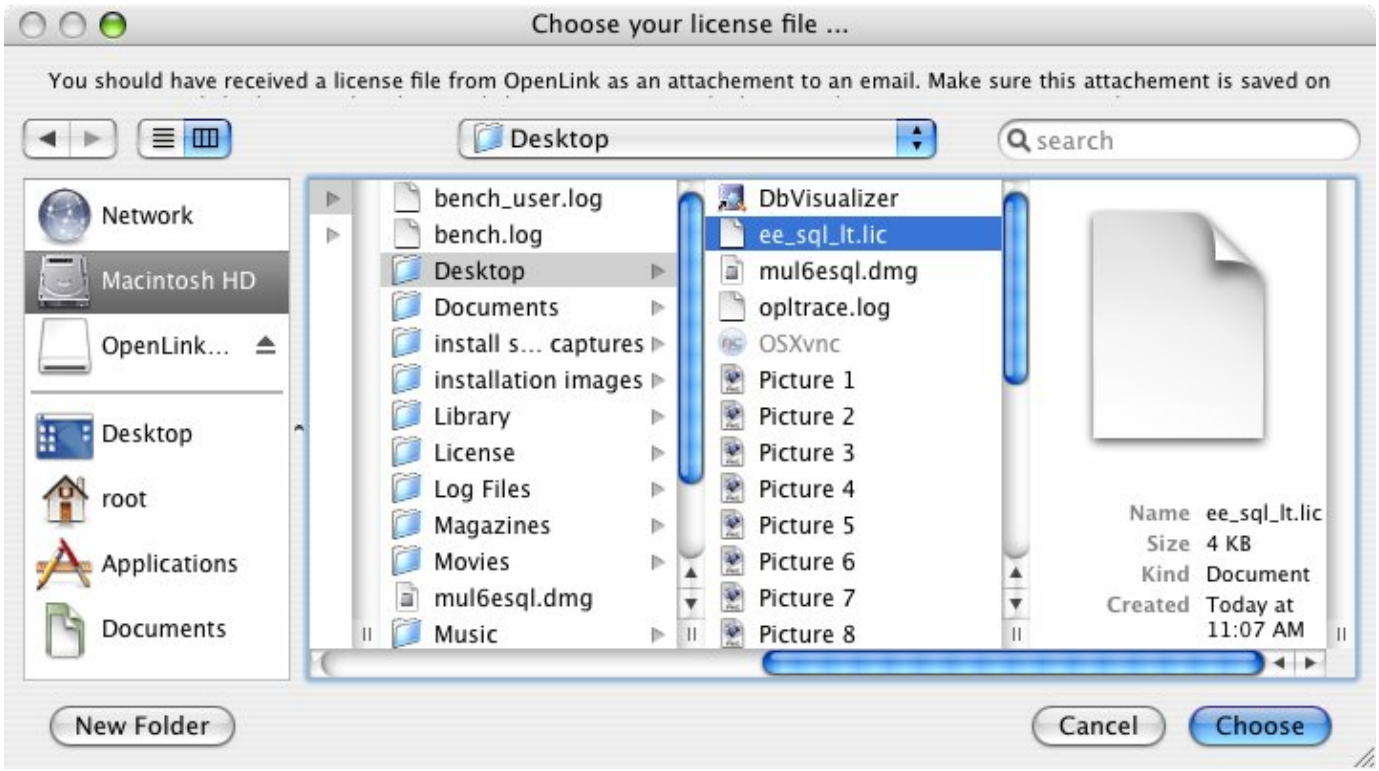
Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLink Data Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 10.13. SQLinstall16.png



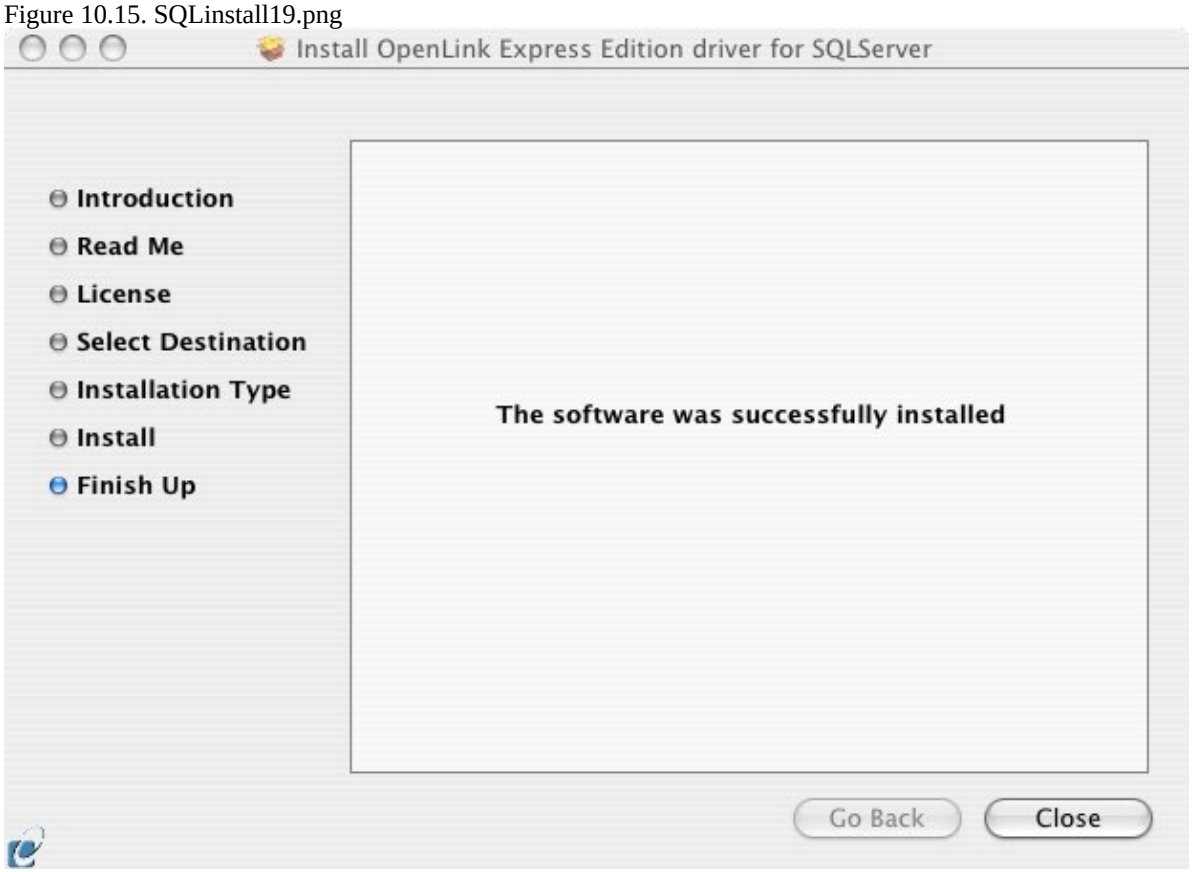
Select the license file to be used for the installation:

Figure 10.14. SQLinstall18.png



Installation is complete:

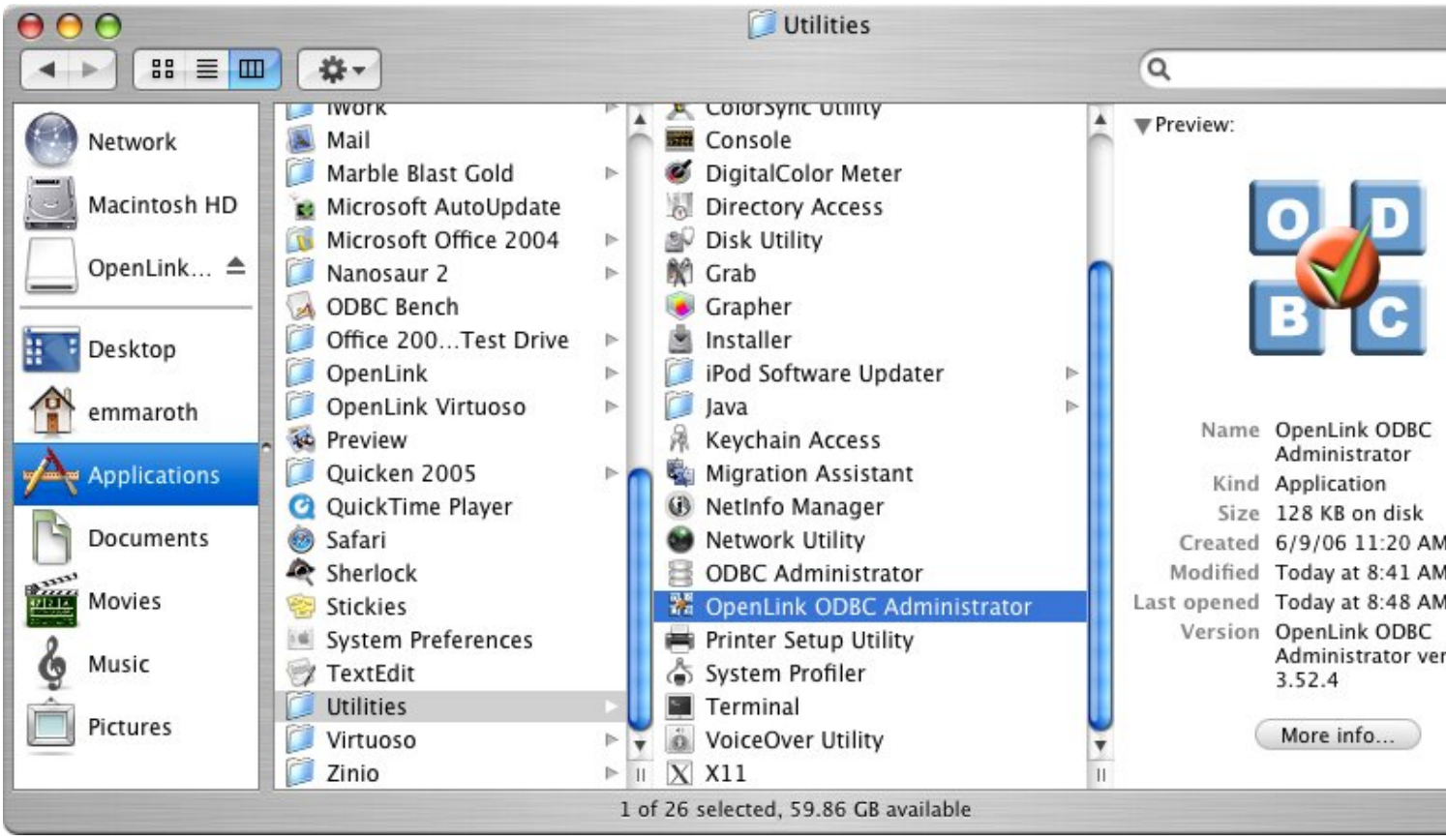
Figure 10.15. SQLinstall19.png



11.1.2 Configuration

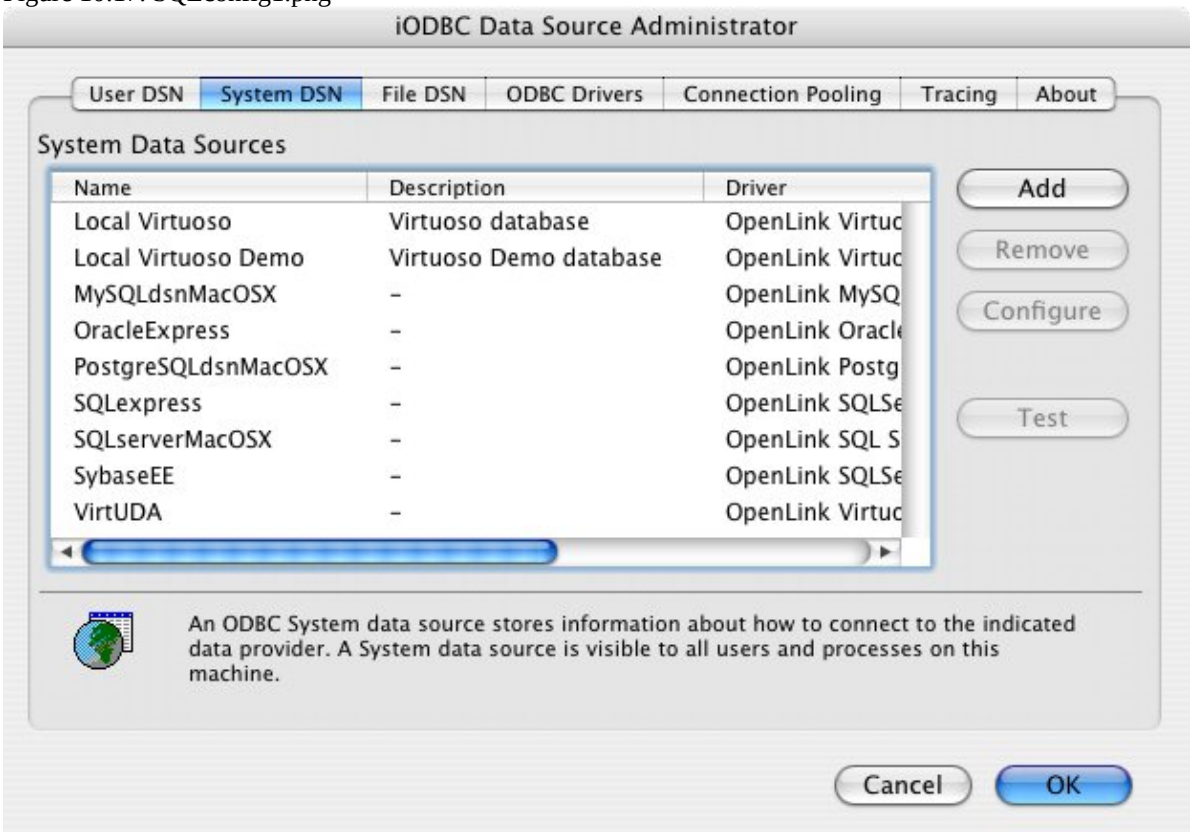
To configure an ODBC DSN, run the OpenLink iODBC Administrator located in the /Applications/iODBC folder:

Figure 10.16. ODBCadmin.png



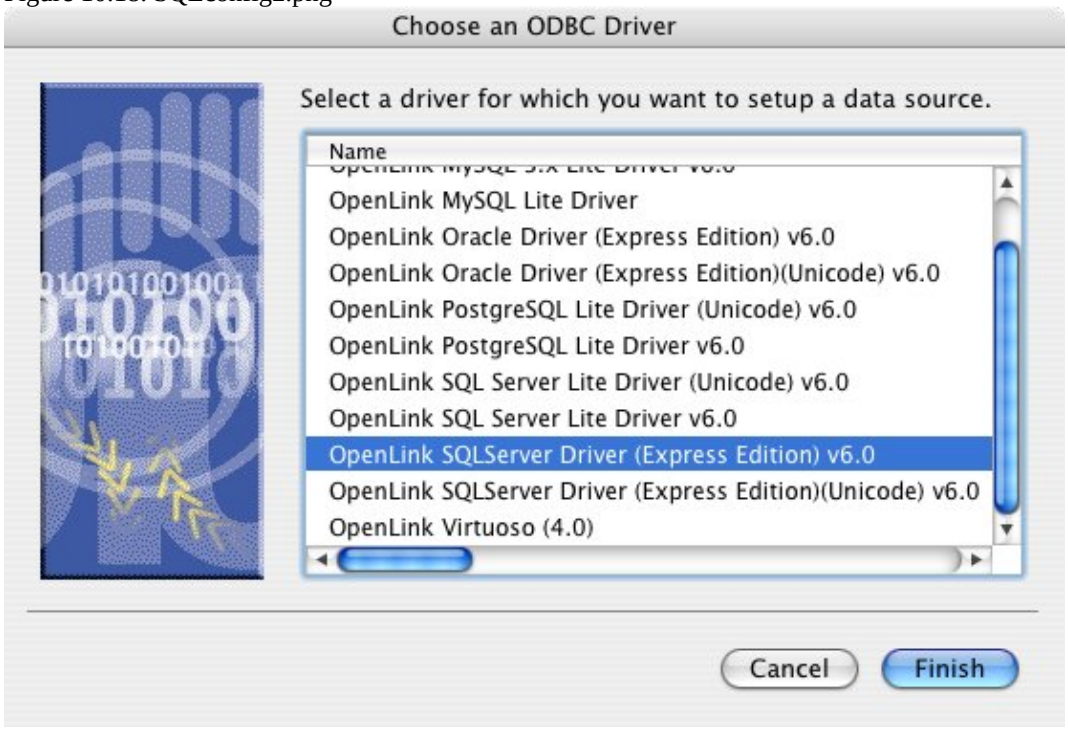
Click on the add button to Choose the ODBC Driver the DSN should be created for:

Figure 10.17. SQLconfig1.png



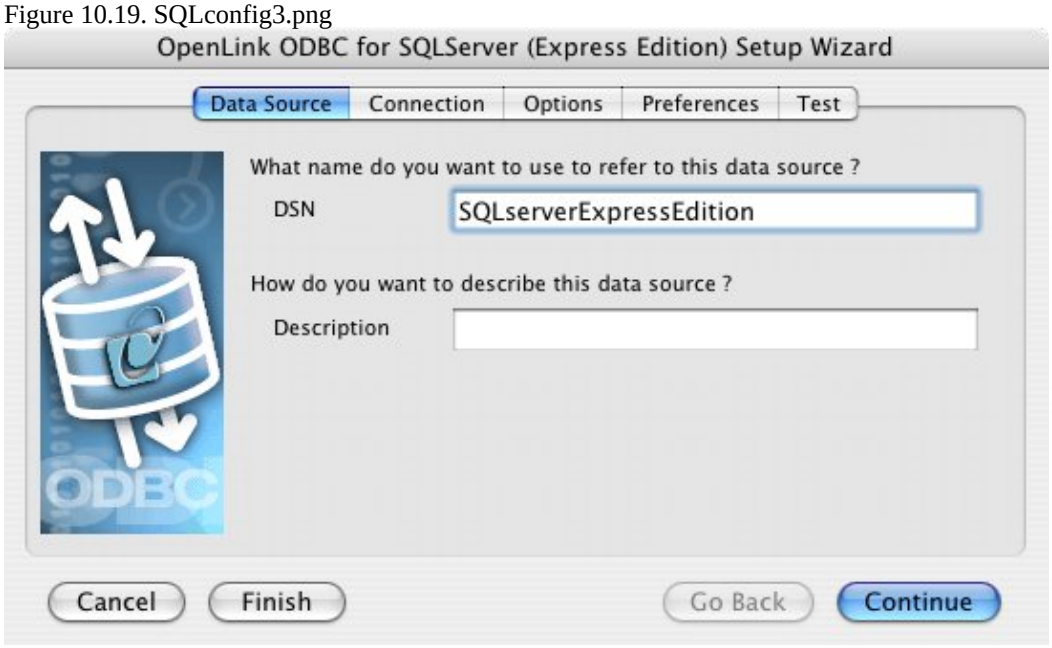
Choose the OpenLink SQL Server Driver (Express Edition) v6.0 from the list of available drivers:

Figure 10.18. SQLconfig2.png



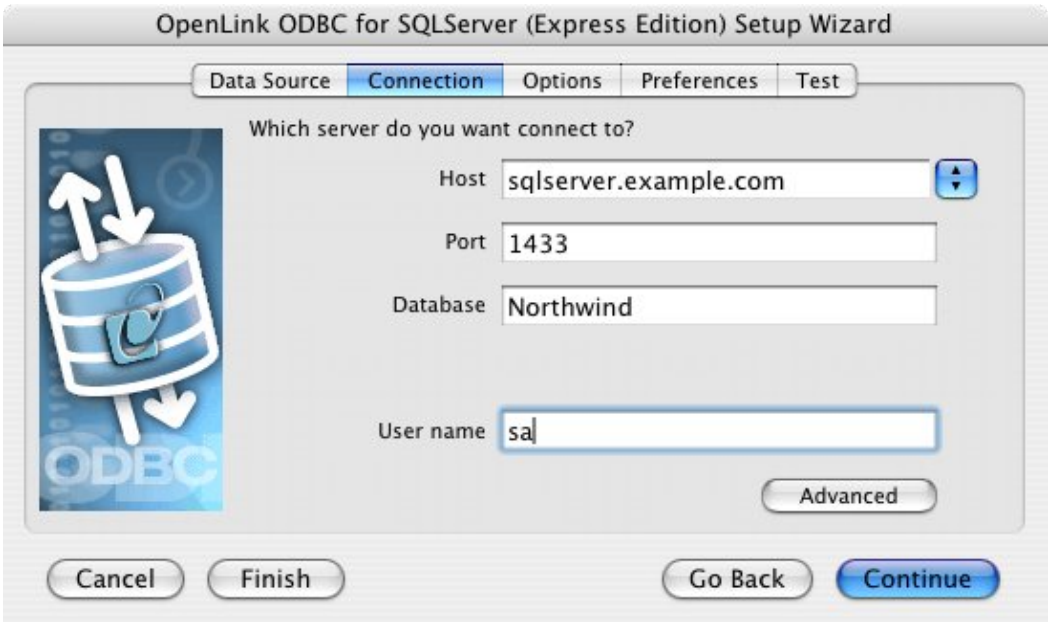
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 10.19. SQLconfig3.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 10.20. SQLconfig4.png



Host: This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.

Port: This is the port on which SQL Server is listening

Database: This is the SQL Server database that you want to connect to

User Name: This is a valid user for the SQL Server Database

The advanced button displays additional optional parameters that can be configured

Figure 10.21. SQLconfig5.png

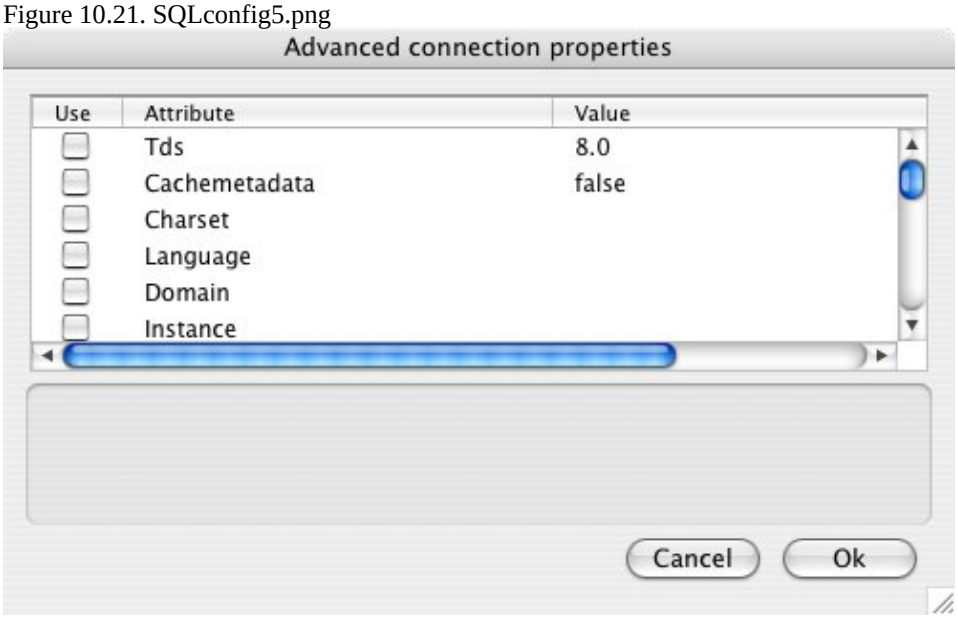


Table 10.1.

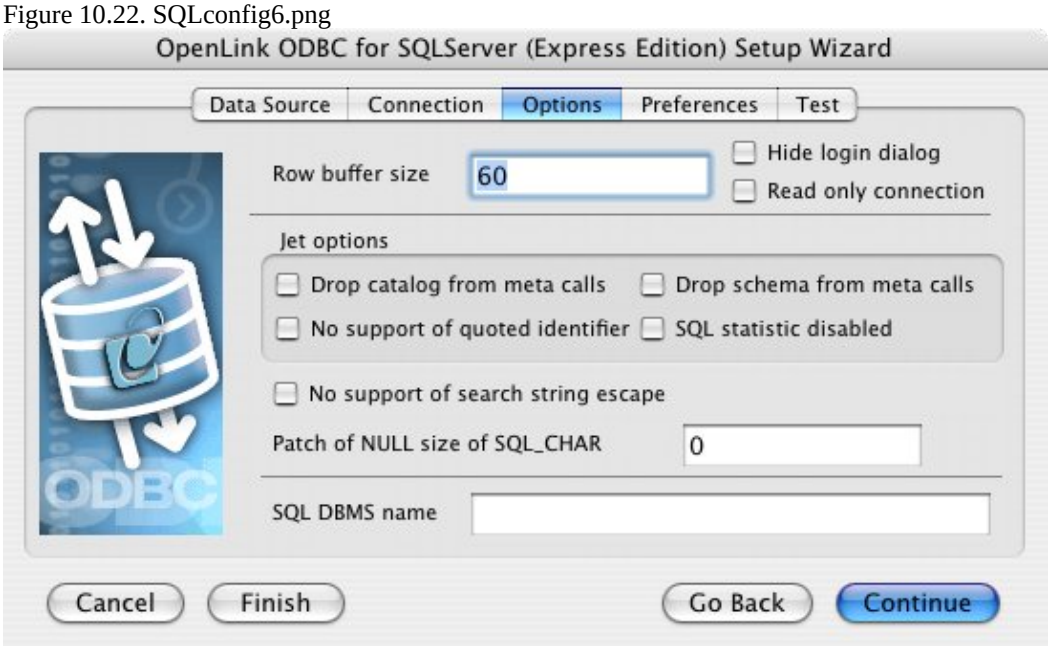
Tds	The version of TDS to be used.(default - '8.0')
Cache metadata	When used with prepareSQL=3, setting this property to true will cause the driver to cache column metadata for SELECT statements. Use with care.(default - false)
Charset	Very important setting; this determines the byte value to character mapping for CHAR/VARCHAR/TEXT values. Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values doesn't have any effect since these are stored using Unicode. (Default - the character set the server was

	installed with.)
Language	Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values doesn't have any effect since these are stored using Unicode.(default - the character set the server was installed with)
Domain	Specifies the Windows domain in which to authenticate. If present and the username and password are provided, it uses Windows (NTLM) authentication instead of the usual SQL Server authentication (i.e. the user and password provided are the domain user and password). This allows non-Windows clients to log in to servers which are only configured to accept Windoes authentication.
Instance	Named instance to connect to. SQL Server can run multiple so-called 'named instances' (i.e. different server instances, running on different TCP ports) on the same machine. When using Microsoft tools, selecting one of these instances is made by using '[host_name]\[instance_name]' instead of the usual '[host_name]'. You will have to split the two and use the instance name as a property.
AppName	Application name. Of no practical use, it is displayed by Enterprise Manager or Profiler associated with the connection.
ProgName	Client library name. Of no practical use, it is displayed by Enterprise Manager or Profiler associated with the connection.
Wsid	Workstation ID. Of no practical use, it is displayed by Enterprise Manager or Profiler associated with the connection.(default - the client host name)
MacAddress	Network interface card MAC address.(default - '000000000000')
SendStringParametersAsUnicode	Determines whether string parameters are sent to the SQL Server database in Unicode or in the default character encoding of the database.(default - true)
LastUpdateCount	If true only the last update count will be returned by executeUpdate(). This is useful in case you are updating or inserting into tables that have triggers (such as replicated tables); there's no way to make the difference between an update count returned by a trigger and the actual update count but the actual update count is always the last as the triggers execute first. If false all update counts are returned; use getMoreResults() to loop through them. (default - true)
PrepareSQL	This parameter specifies the mechanism used for Prepared Statements.(default - 3 for SQL Server)
PacketSize	The network packet size (a multiple of 512).(default - 4096 for TDS 7.0/8.0; 512 for TDS 4.2/5.0)
TcpNoDelay	true to enable TCP_NODELAY on the socket; false to disable it.(default - true)
LobBuffer	The amount of LOB data to buffer in memory before caching to disk. The value is in bytes for Blob data and chars for Clob data.(default - 32768)
MaxStatements	The number of statement prepares each connection should cache. A value of 0 will disable statement caching.(default - 500)
LoginTimeout	The amount of time to wait (in seconds) for a successful connection before timing out. If namedPipe is true and loginTimeout is non-zero, the value of loginTimeout is used for the retry timeout when 'All pipe instances are busy' error messages are received while attempting to connect to the server. If namedPipe is true and loginTimeout is zero (the default), a value of 20 seconds is used for the named pipe retry timeout. (default - 0)
SocketTimeout	The amount of time to wait (in seconds) for network activity before timing out.Use with care! If a non zero value is supplied this must be greater than the maximum time that the server will take to answer any query. Once the timeout value is exceeded the network connection will be closed. This parameter may be useful for detecting dead network connections in a pooled environment.(default - 0)
NamedPipe	When set to true, named pipe communication is used to connect to the database instead of TCP/IP sockets. When the os.name system property starts with 'windows' (case-insensitive), named pipes (both local and remote) are accessed through the Windows filesystem by opening a RandomAccessFile to the path. When the SQL Server and the client are on the same machine, a named pipe will usually have better performance than TCP/IP sockets since the network layer is eliminated.
Ssl	Specifies if and how to use SSL for secure communication.(default - off)

BatchSize	Controls how many statements are sent to the server in a batch. The actual batch is broken up into pieces this large that are sent separately.(default - 0[unlimited] for SQL Server)
UseCursors	Instructs the driver to use server side cursors instead of direct selects (AKA firehose cursors) for forward-only read-only result sets (with other types of result sets server- or client-side cursors are always used).(default - false)
BufferMaxMemory	Controls the global buffer memory limit for all connections (in kilobytes). When the amount of buffered server response packets reaches this limit additional packets are buffered to disk; there is however one exception: each Statement gets to buffer at least '[bufferMinPackets]' to memory before this limit is enforced. This means that this limit can and will usually be exceeded.(default - 1024)
BufferMinPackets	Controls the minimum number of packets per statement to buffer to memory. Each Statement will buffer at least this many packets before being forced to use a temporary file if the [bufferMaxMemory] is reached, to ensure good performance even when one Statement caches a very large amount of data.(default - 8)
UseLOBs	Controls whether large types (IMAGE and TEXT/NTEXT) should be mapped by default (when using getObject()) to LOBs . The default type constant returned is also controlled by this property: BLOB for IMAGE and CLOB for TEXT/NTEXT when true, LONGVARBINARY for IMAGE and LONGVARCHAR for TEXT/NTEXT when false.(default - true)

As indicated above the paramters of the options and preferences tabs are not required for a basic connection:

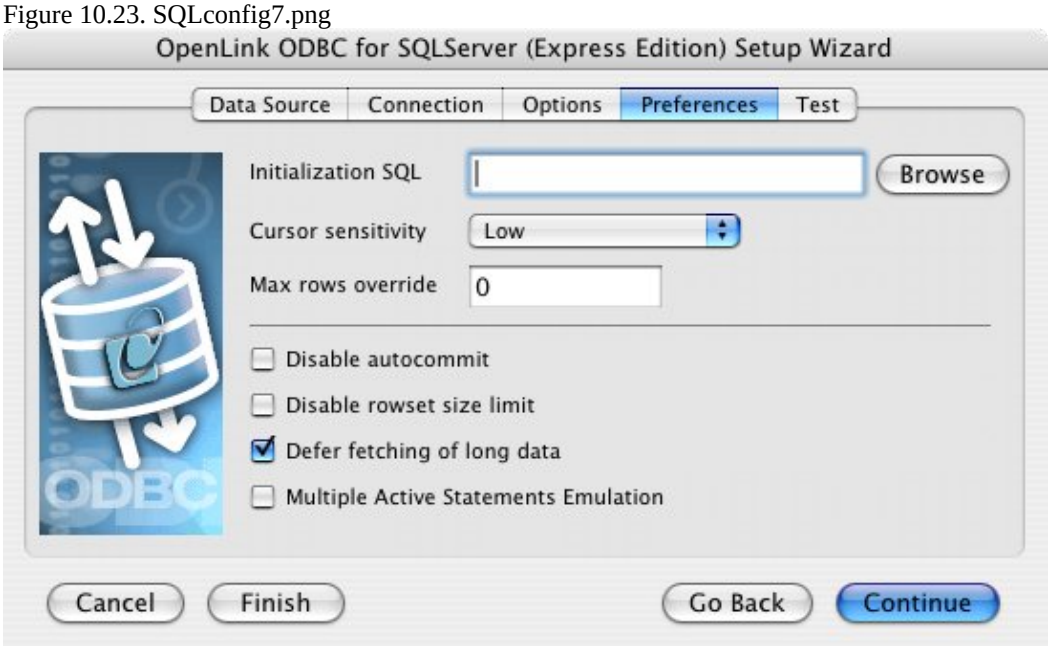
Figure 10.22. SQLconfig6.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC-compliant application.
- *Read Only connection* - Specify whether the connection is to be read-only. Make sure the checkbox is unchecked to request a read/write connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database metadata.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database metadata.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL such as select * from "account"

- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns.
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo (SQL_DBMS_NAME) response returned by the driver. This is known to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

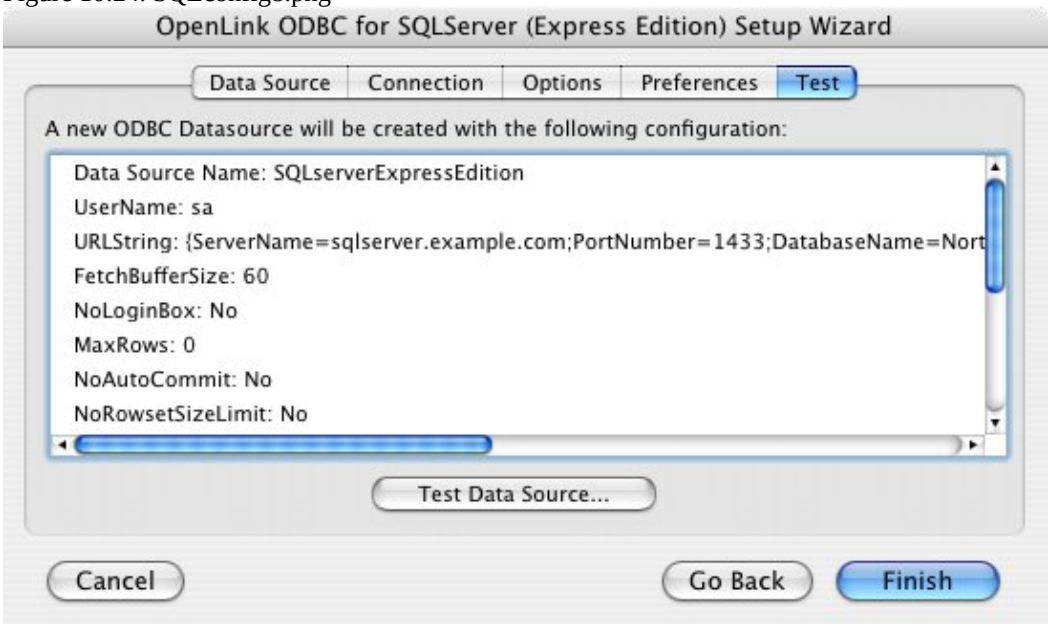
Figure 10.23. SQLconfig7.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

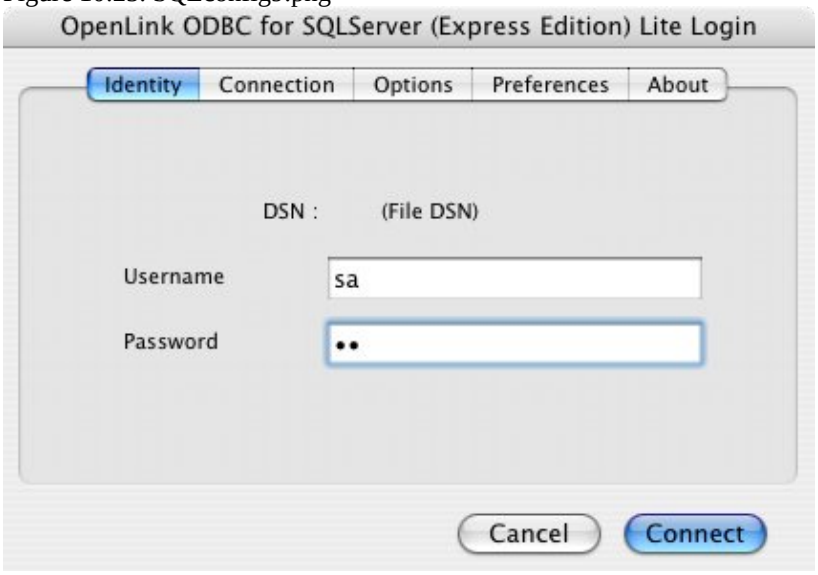
Click on the 'Test Data Source' button to make a connection to the database to verify connectivity:

Figure 10.24. SQLconfig8.png



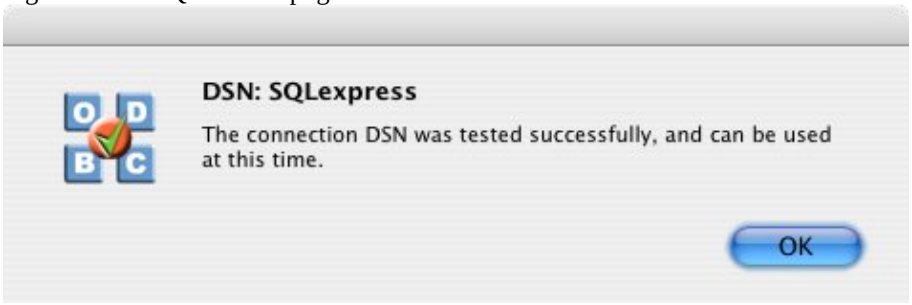
Enter a vaild username and pasword for the database:

Figure 10.25. SQLconfig9.png



A successful connection to the database has been made:

Figure 10.26. SQLsuccess.png



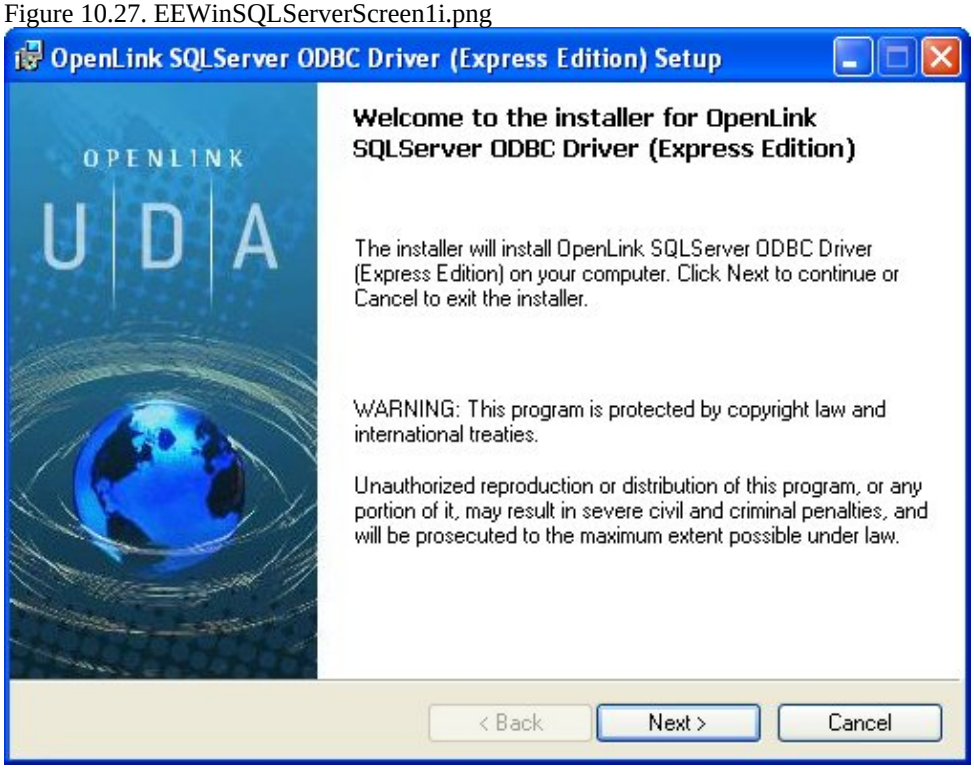
11.2 OpenLink ODBC Driver for SQL Server (Express Editon) for Windows

11.2.1 Installation

The OpenLink ODBCDriver for Microsoft SQLServer (Express Edition) is distributed as a Windows MSI installer. Simply double click on the installer 'ntl6esql.msi' to commence the installation.

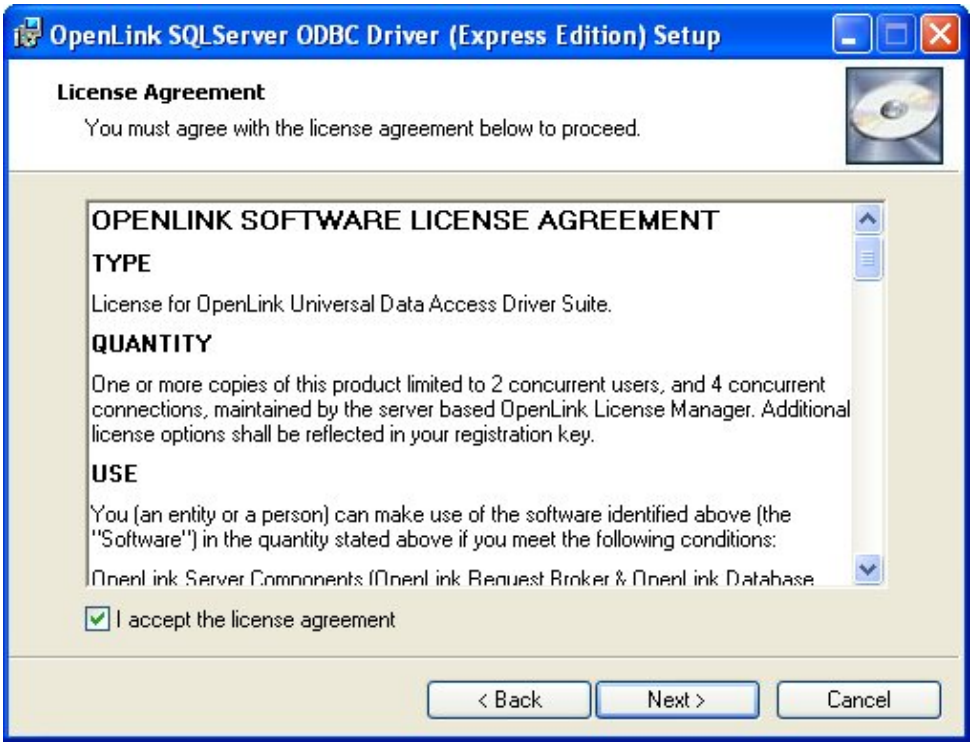
Installer Welcome Dialog for the OpenLink ODBCDriver for Microsoft SQLServer(Express Edition):

Figure 10.27. EEWinSQLServerScreen1i.png



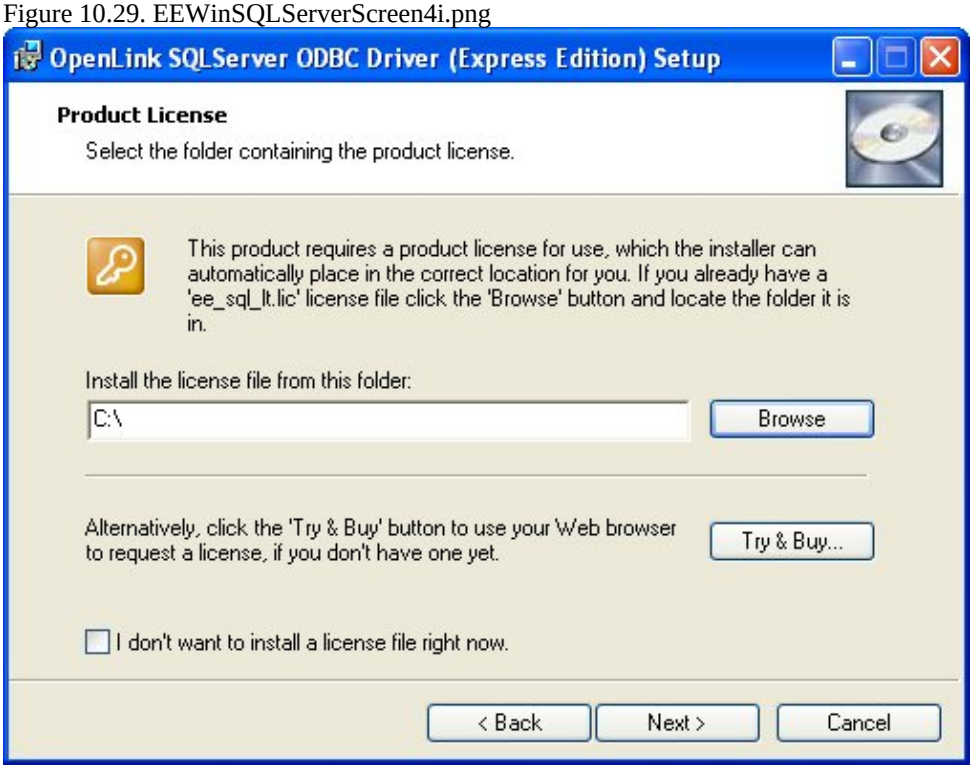
Please read the software license agreement and accept before continuing your installation:

Figure 10.28. EEWinSQLServerScreen3i.png



Before installation, you will be prompted for a license file. If a license file already exists on the machine, then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtained by selecting the 'try and buy' option which loads OpenLink's online try and buy web page:

Figure 10.29. EEWinSQLServerScreen4i.png

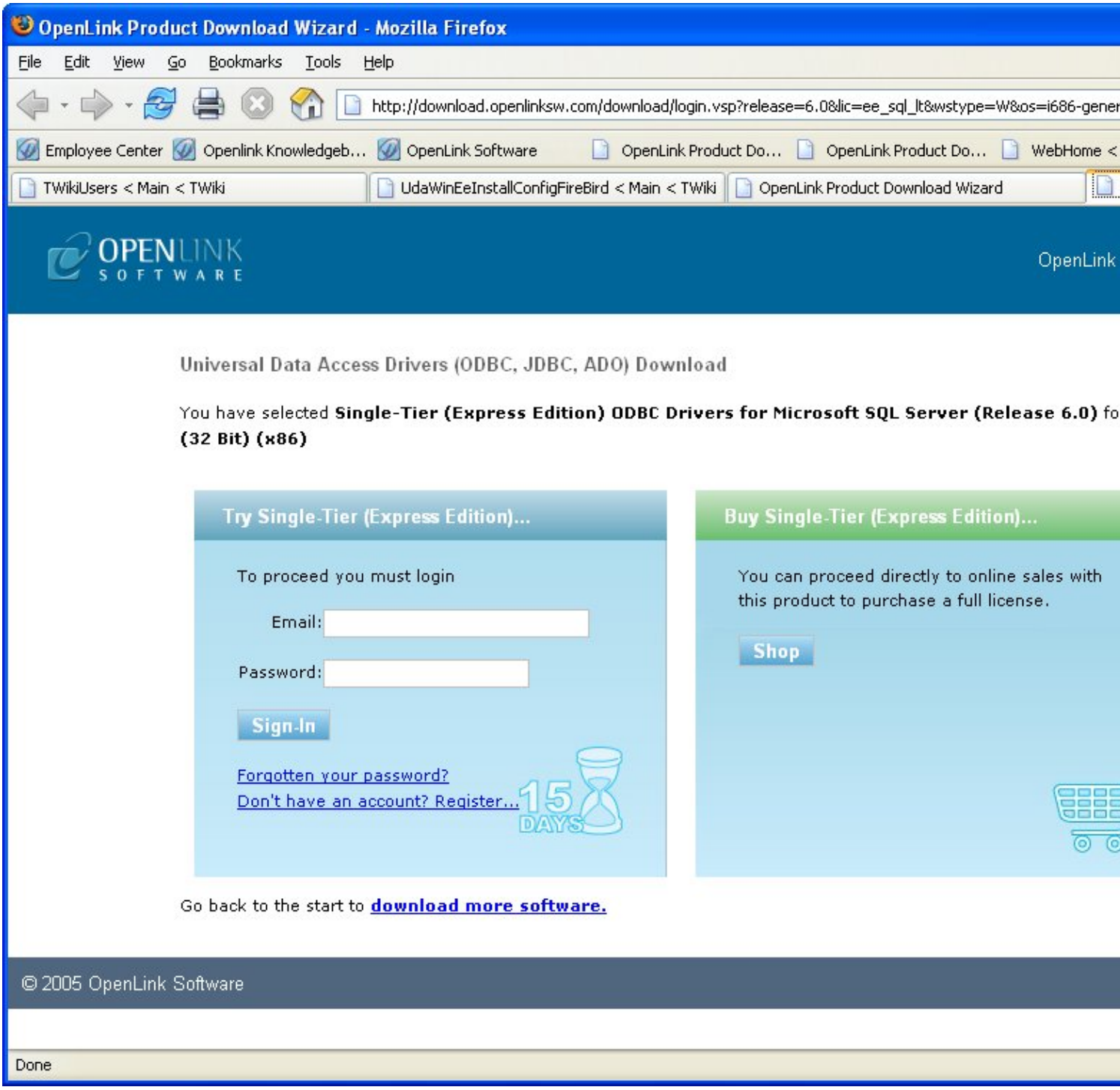


If you are using Nortons Anti-Virus Software, you may encouter this warning message. Choose the Allow the Entire Script once option:

Figure 10.30. EEWinSQLServerScreen5i.png

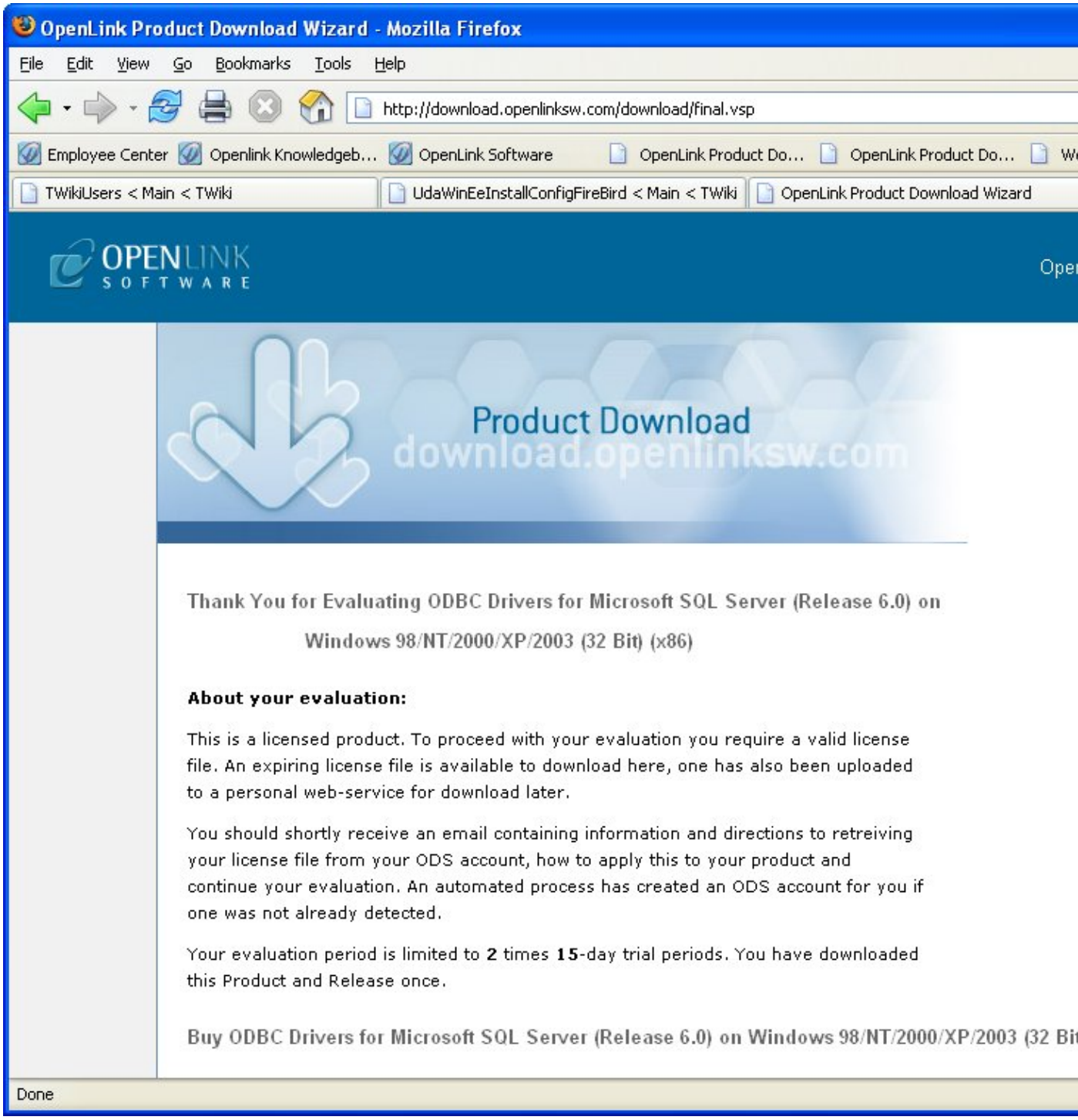
To obtain the trial license, you must be a registered user on the OpenLinkWeb site and login with your username (e-mail address) and password for that user. Click on the 'Shop' link to visit Openlink's online shop cart to purchase a full license, if required:

Figure 10.31. EEWinSQLServerScreen6i.png



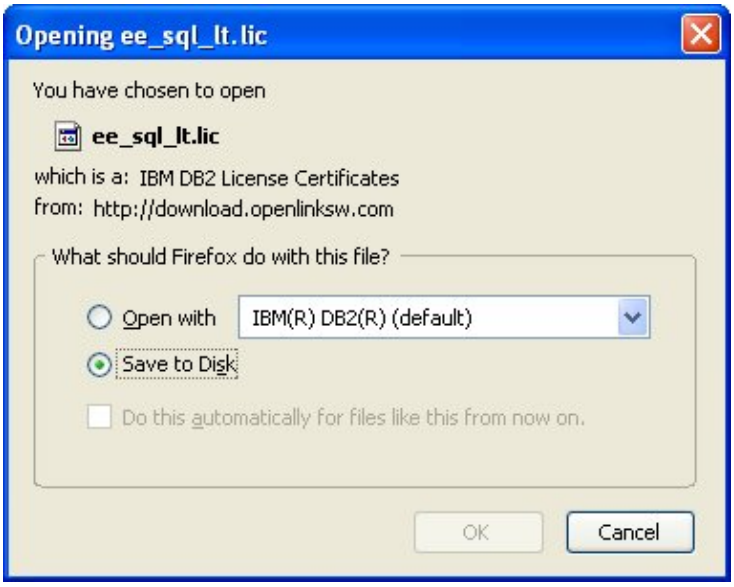
Click on the 'download license' button to immediatly obtain the license file and save it to your desktop. Alternatively, an auto-generated e-mail will be sent to your registered user's e-mail address with a link to your OpenLinkData Space (ODS), which contains all trial and full licenses in a Briefcase for download at a later date.

Figure 10.32. EEWinSQLServerScreen7i.png



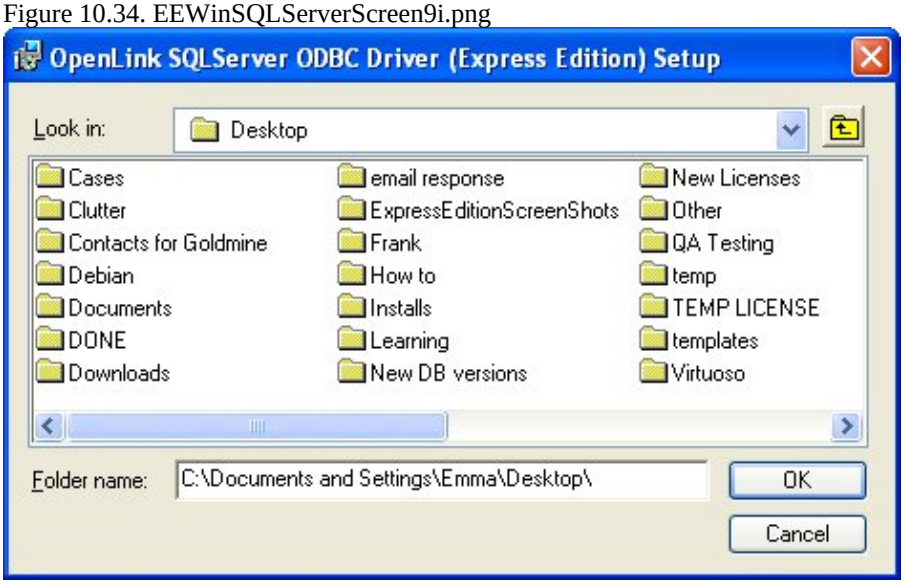
You will want to save the file to disk:

Figure 10.33. EEWinSQLServerScreen8i.png



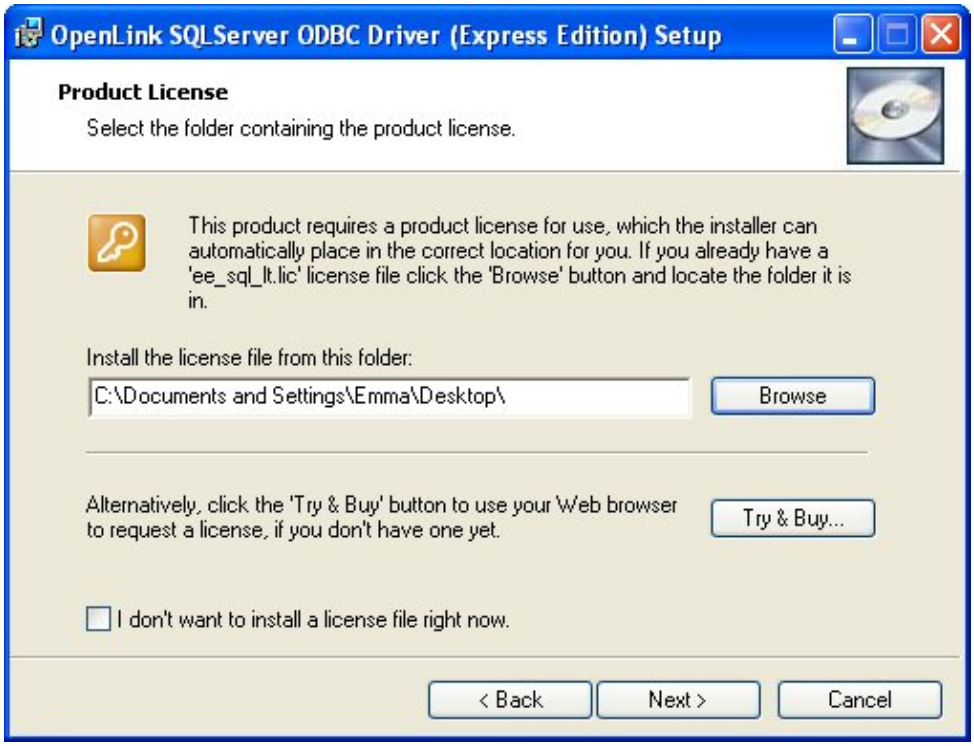
Select the license file to be used for the installation:

Figure 10.34. EEWinSQLServerScreen9i.png



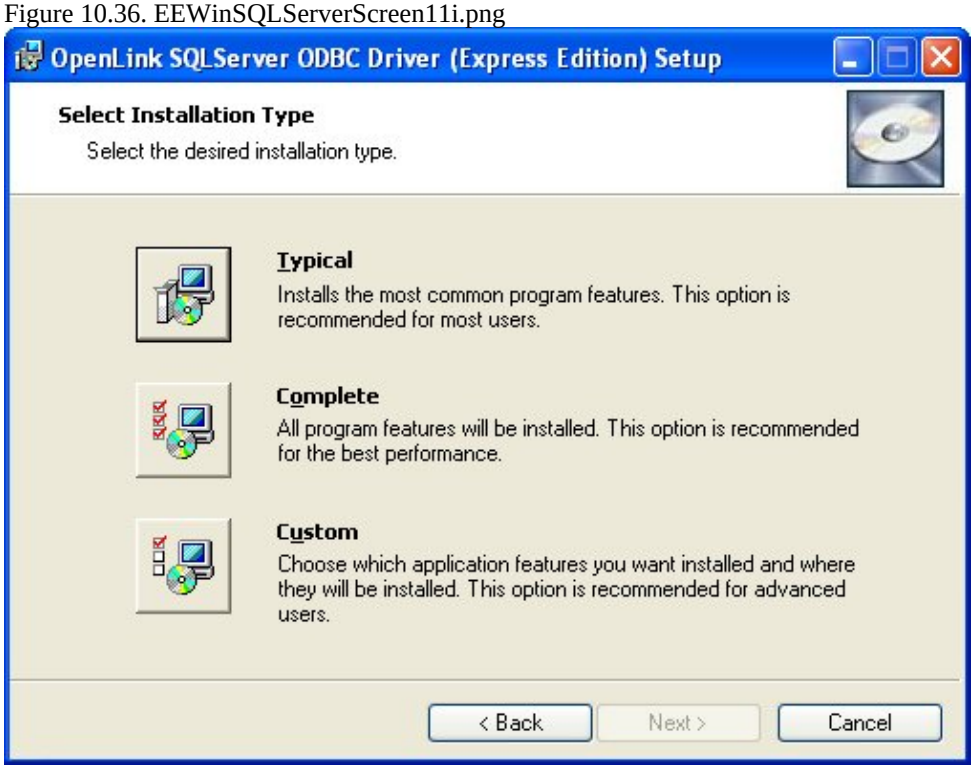
Make sure that the path to where the license file is located is correct before selecting Next:

Figure 10.35. EEWinSQLServerScreen10i.png



Choose to perform a custom, typical, or complete installation of the driver:

Figure 10.36. EEWinSQLServerScreen11i.png



With a custom installation, you can decide the directory where the installation will reside:

Figure 10.37. EEWinSQLSErverCustom1.png

Select the features to be installed:

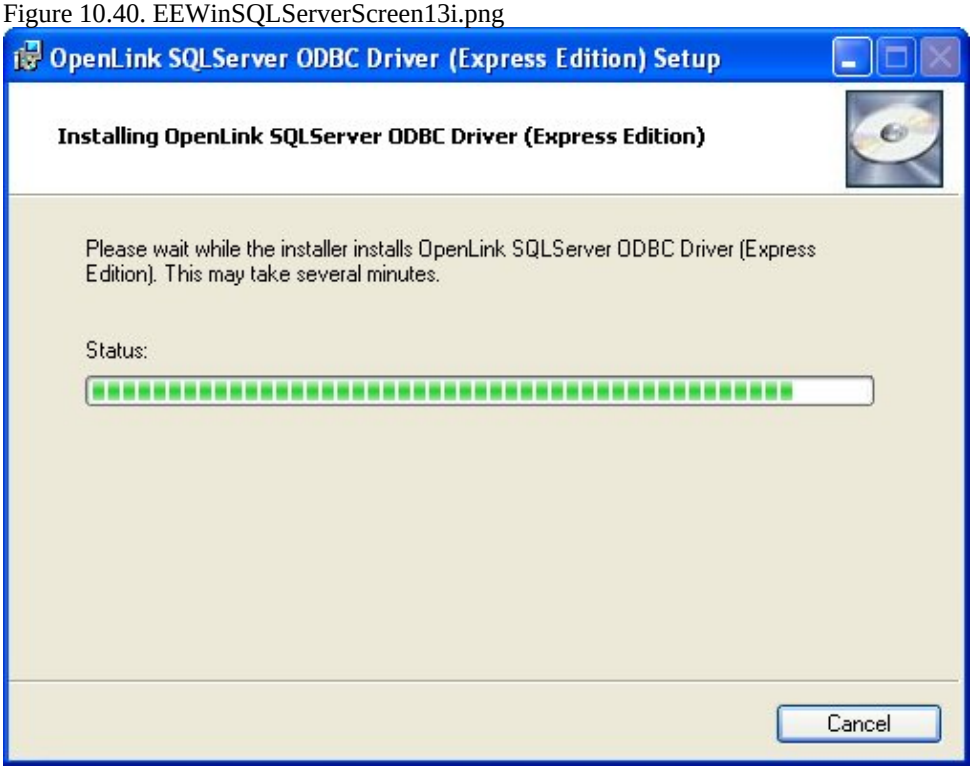
Figure 10.38. EEWinSQLSErverCustom2.png

Click the install button to begin installation of the components:

Figure 10.39. EEWinSQLSErverCustom3.png

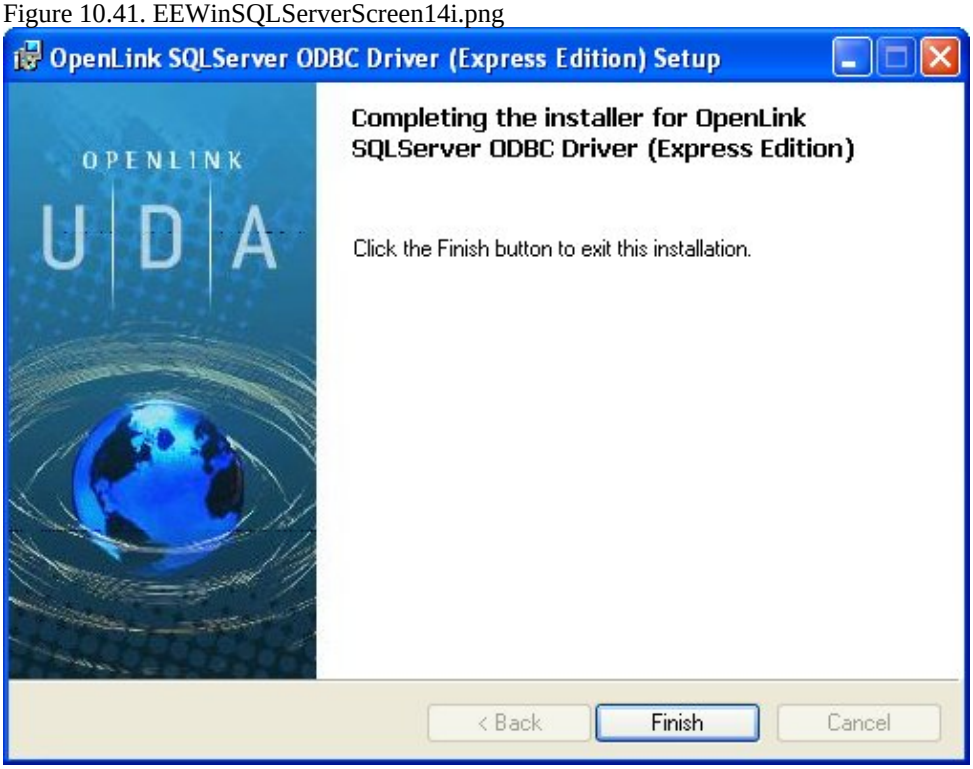
Installation in progress:

Figure 10.40. EEWinSQLServerScreen13i.png



The software installation is complete and ready for use:

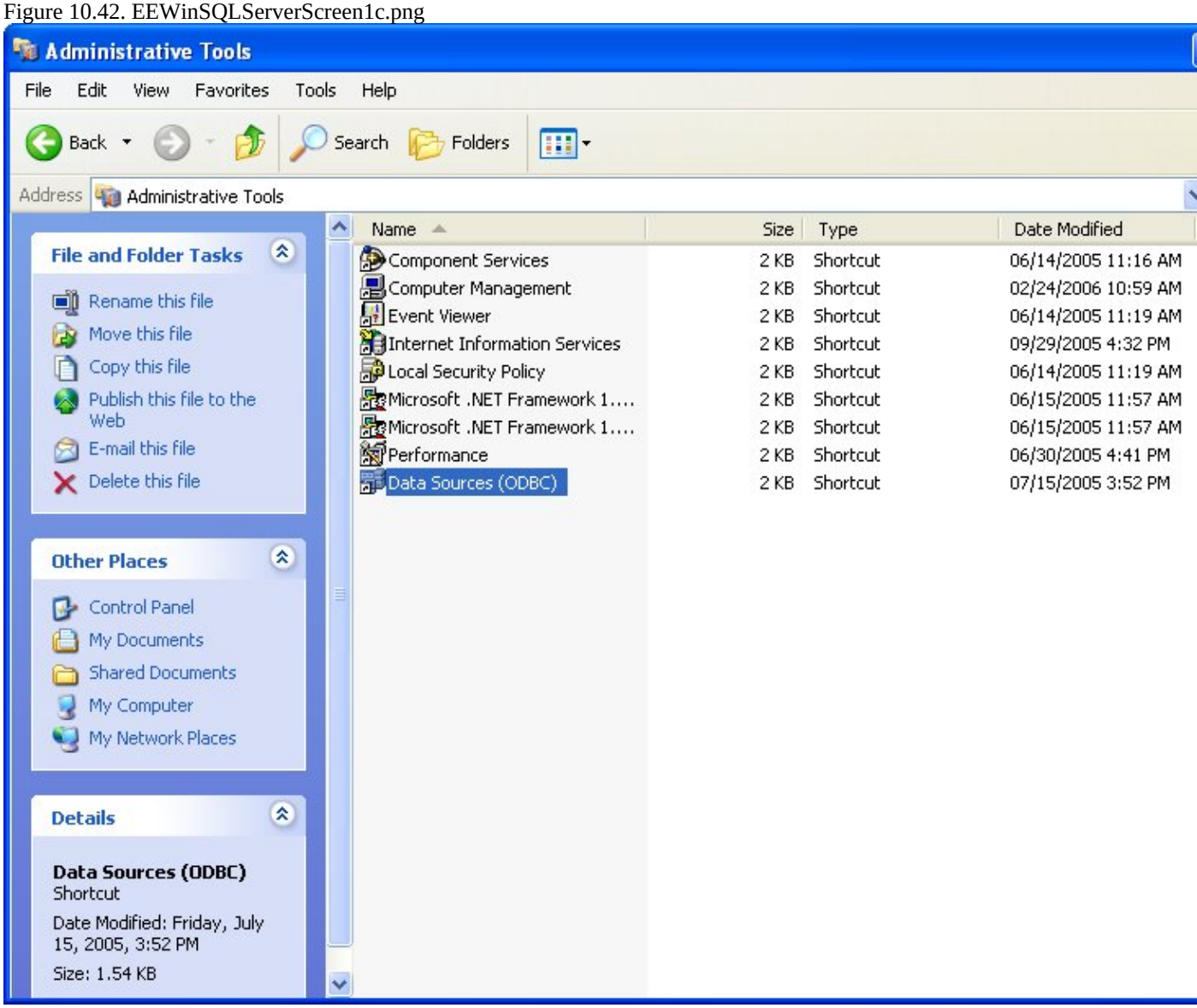
Figure 10.41. EEWinSQLServerScreen14i.png



11.2.2 Configuration

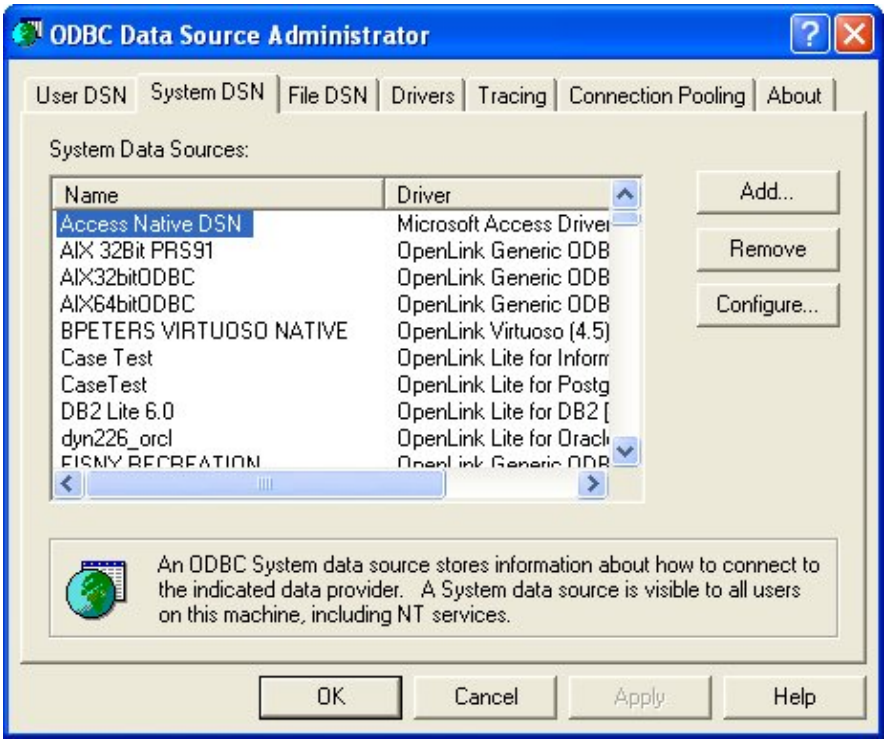
To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 10.42. EEWinSQLServerScreen1c.png



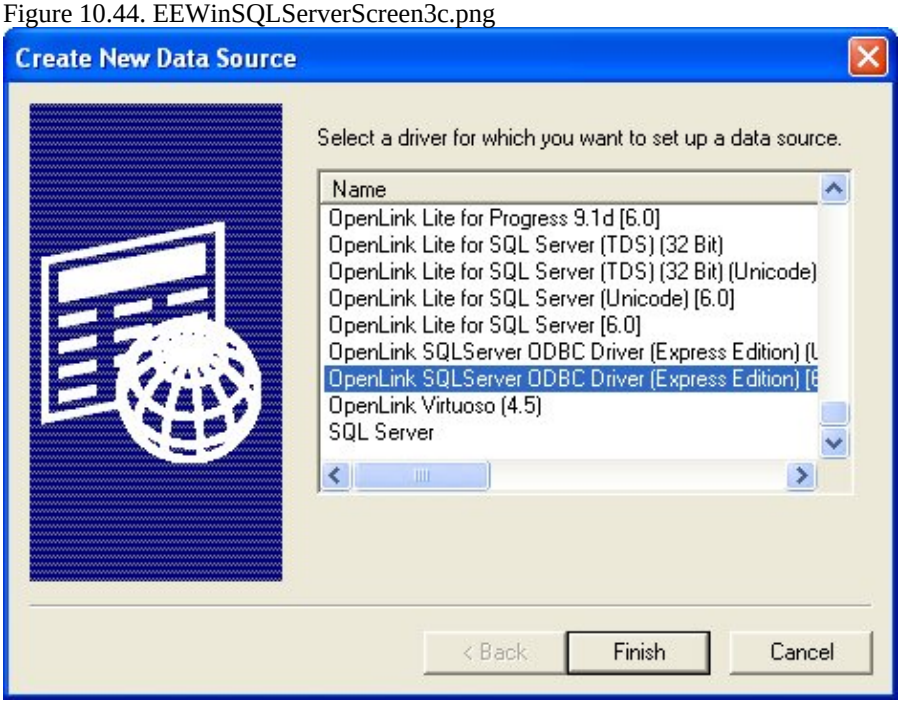
From either the User or System DSN tab, click on the Add button:

Figure 10.43. EEWinSQLServerScreen2c.png



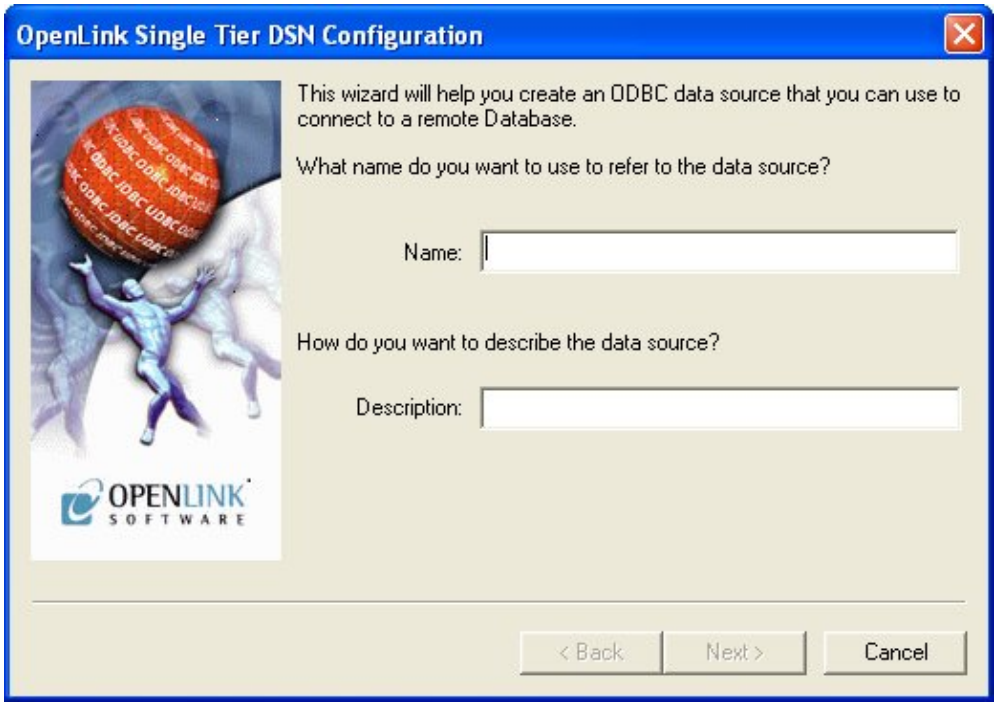
Select the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] from the list presented:

Figure 10.44. EEWinSQLServerScreen3c.png



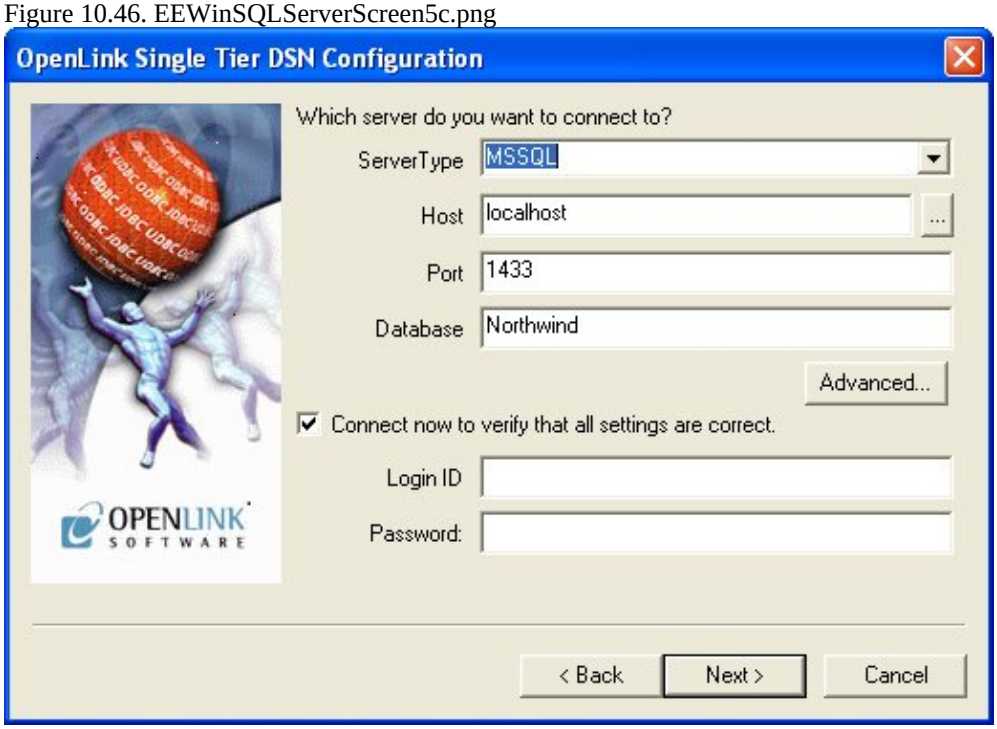
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 10.45. EEWinSQLServerScreen4c.png



The Connection tab requests the minimum parameters required to make a connection to the target database:

Figure 10.46. EEWinSQLServerScreen5c.png



- *Server Type* : This parameter should be set to MSSQL, which can be selected from the drop down list box.
- *Host* : This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port that SQL Server is listening on
- *Database* : This is the SQL Server database to which you want to connect

- *Login ID* : This is a valid user on for the SQL Server Database
- *Password* : This is a valid password on for the SQL Server Database

Click next to verify that all settings are correct or uncheck the check box to delay testing to a later stage.

The advanced button displays additional, optional parameters that can be configured:

Figure 10.47. EEWinSQLSErverAdvanced.png

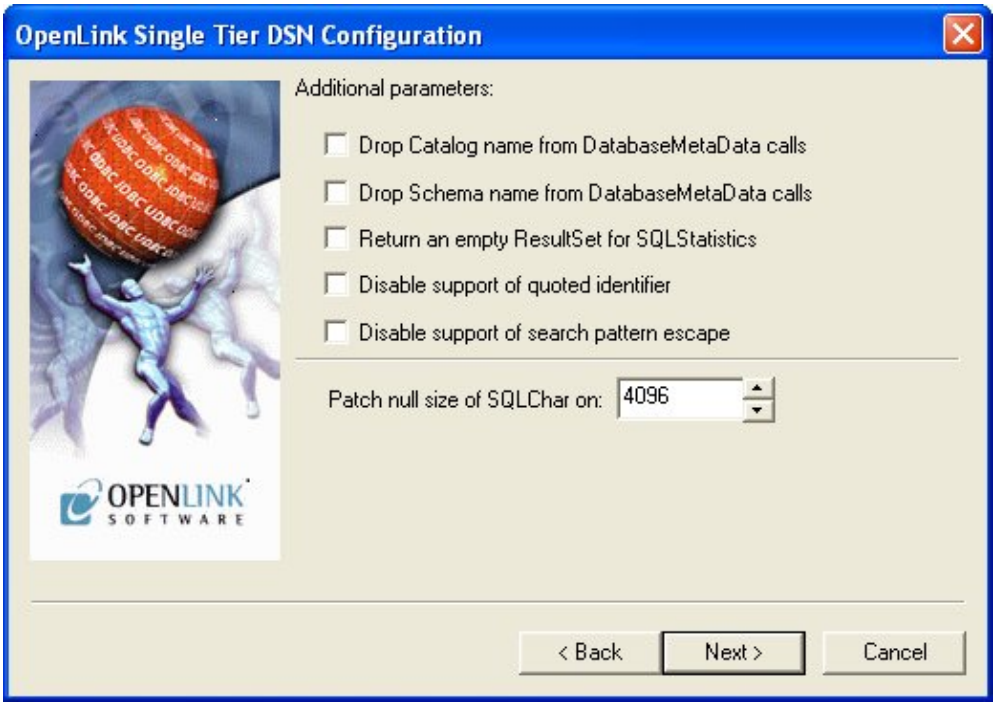
Table 10.2.

Tds	The version of TDS to be used.(default - '8.0')
Cachemetadata	When used with prepareSQL=3, setting this property to true will cause the driver to cache column meta data for SELECT statements. Use with care.(default - false)
Charset	Very important setting, determines the byte value to character mapping for CHAR/VARCHAR/TEXT values. Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values, does not have any effect, since these are stored using Unicode. (default - the character set the server was installed with)
Language	Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values, does not have any effect since these are stored using Unicode. (default - the character set the server was installed with)
Domain	Specifies the Windows domain to authenticate in. If present and the user name and password are provided, it uses Windows (NTLM) authentication instead of the usual SQL Server authentication (i.e., the user and password provided are the domain user and password). This allows non-Windows clients to log in to servers, which are only configured to accept Windows authentication.
Instance	Named instance to connect to. SQL Server can run multiple so-called 'named instances' (i.e., different server instances, running on different TCP ports) on the same machine. When using Microsoft tools, selecting one of these instances is made by using '[host_name]\[instance_name]' instead of the usual '[host_name]'. You will have to split the two and use the instance name as a property.
AppName	Application name. No practical use; it's displayed by Enterprise Manager or Profiler associated with the connection.
ProgName	Client library name. No practical use; it's displayed by Enterprise Manager or Profiler associated with the connection.
Wsid	Workstation ID. No practical use; it's displayed by Enterprise Manager or Profiler associated with the connection. (default - the client host name)
MacAddress	Network interface card MAC address. (default - '000000000000')
SendStringParametersAsUnicode	Determines whether string parameters are sent to the SQL Server database in Unicode or in the default character encoding of the database. (default - true)
LastUpdateCount	If true, only the last update count will be returned by executeUpdate(). This is useful in case you are updating or inserting into tables that have triggers (such as replicated tables); there's no way to make the difference between an update count returned by a trigger and the actual update count, but the actual update count is always the last, as the triggers execute first. If false, all update counts are returned; use getMoreResults() to loop through them. (default - true)
PrepareSQL	This parameter specifies the mechanism used for Prepared Statements. (default - 3 for SQL Server)
PacketSize	The network packet size (a multiple of 512). (default - 4096 for TDS 7.0/8.0; 512 for TDS 4.2/5.0)
TcpNoDelay	True to enable TCP_NODELAY on the socket; false to disable it. (default - true)
LobBuffer	The amount of LOB data to buffer in memory before caching to disk. The value is in bytes for Blob data and chars for Clob data. (default - 32768)
MaxStatements	The number of statement prepares each connection should cache. A value of 0 will disable statement caching.(default - 500)

LoginTimeout	The amount of time to wait (in seconds) for a successful connection before timing out. If namedPipe is true and loginTimeout is non-zero, the value of loginTimeout is used for the retry timeout when 'All pipe instances are busy' error messages are received while attempting to connect to the server. If namedPipe is true and loginTimeout is zero (the default), a value of 20 seconds is used for the named pipe retry timeout. (default - 0)
SocketTimeout	The amount of time to wait (in seconds) for network activity before timing out. Use with care! If a non zero value is supplied, this must be greater than the maximum time that the server will take to answer any query. Once the timeout value is exceeded, the network connection will be closed. This parameter may be useful for detecting dead network connections in a pooled environment. (default - 0)
NamedPipe	When set to true, named pipe communication is used to connect to the database instead of TCP/IP sockets. When the os.name system property starts with 'windows' (case-insensitive), named pipes (both local and remote) are accessed through the Windows filesystem by opening a RandomAccessFile to the path. When the SQL Server and the client are on the same machine, a named pipe will usually have better performance than TCP/IP sockets since the network layer is eliminated.
Ssl	Specifies if and how to use SSL for secure communication. (default - off)
BatchSize	Controls how many statements are sent to the server in a batch. The actual batch is broken up into pieces this large that are sent separately.(default - 0[unlimited] for SQL Server)
UseCursors	Instructs the driver to use server side cursors instead of direct selects (AKA firehose cursors) for forward-only read-only result sets (with other types of result sets server- or client-side cursors are always used). (default - false)
BufferMaxMemory	Controls the global buffer memory limit for all connections (in kilobytes). When the amount of buffered server response packets reaches this limit, additional packets are buffered to disk; there is however one exception: each Statement gets to buffer at least '[bufferMinPackets]' to memory before this limit is enforced. This means that this limit can and will usually be exceeded. (default - 1024)
BufferMinPackets	Controls the minimum number of packets per statement to buffer to memory. Each Statement will buffer at least this many packets before being forced to use a temporary file if the [bufferMaxMemory] is reached, to ensure good performance even when one Statement caches a very large amount of data. (default - 8)
UseLOBs	Controls whether large types (IMAGE and TEXT/NTEXT) should be mapped by default (when using getObject()) to LOBs . The default type constant returned is also controlled by this property: BLOB for IMAGE and CLOB for TEXT/NTEXT when true, LONGVARBINARY for IMAGE and LONGVARCHAR for TEXT/NTEXT when false. (default - true)

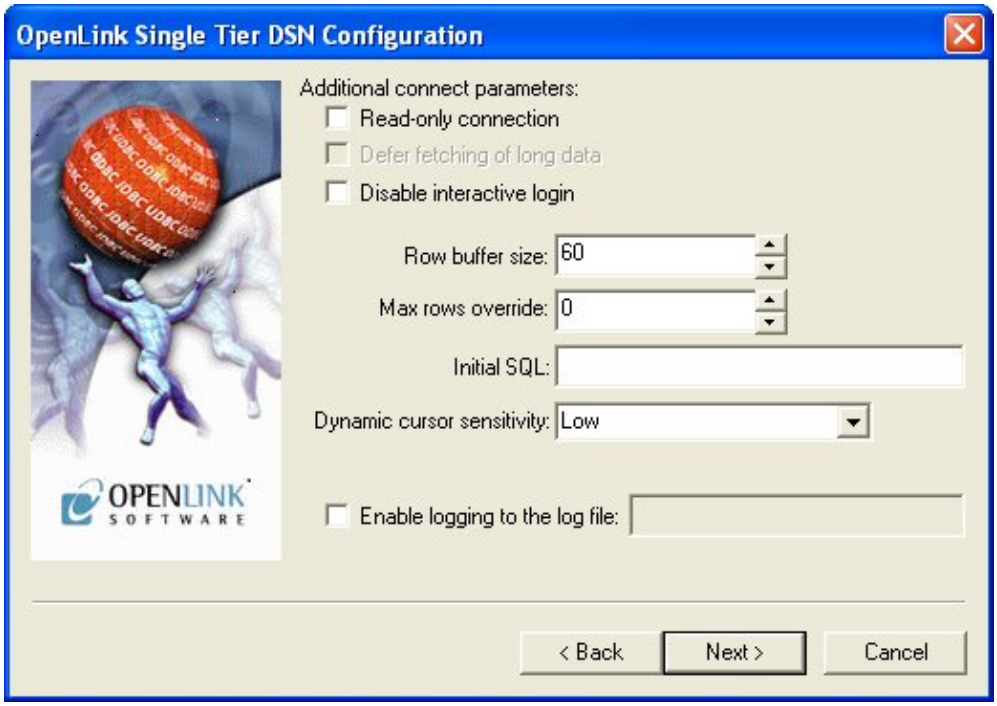
As indicated above, the parameters on the options and preferences tabs are not required for a basic connection.

Figure 10.48. EEWinSQLServerScreen6c.png



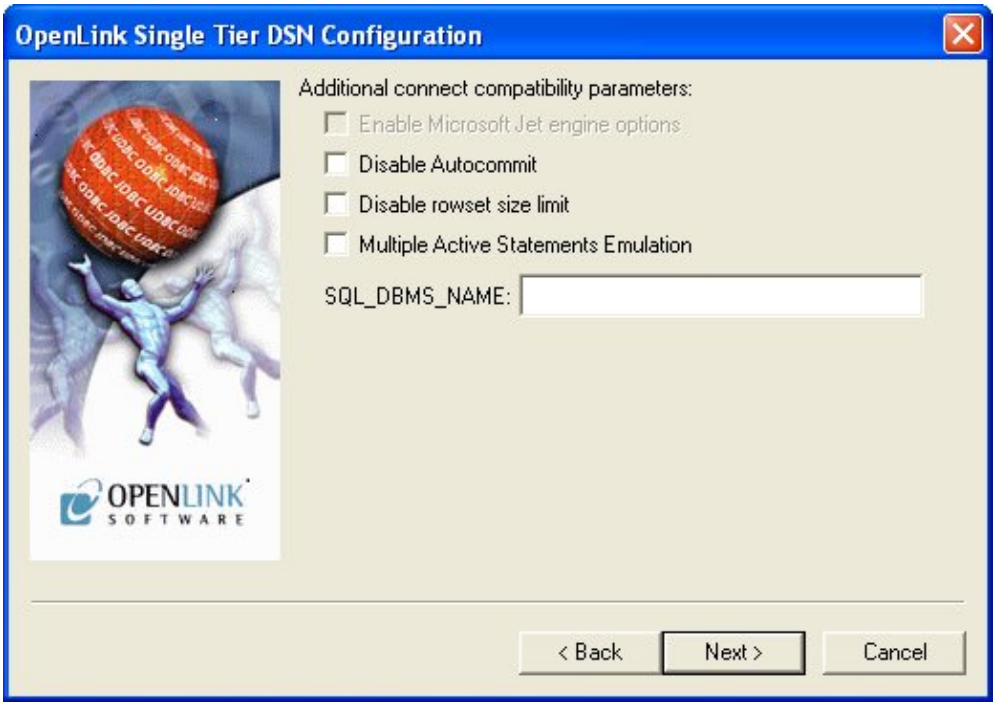
- *Drop Catalog name from DatabaseMetaData calls* - Enable this option to have the catalog name not appear for tables, views, and procedures when requesting database meta-data.
- *Drop Schema name from DatabaseMetaData calls* - Enable this option to have the schema-name not appear for tables, views, and procedures when requesting database meta-data.
- *Return an empty ResultSet for SQLStatistics* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g., what indexes there are on it).
- *Disable support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS does not support quoted SQL, e.g., select * from "account."
- *Disable support of search pattern escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS does not support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set, this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0, the driver uses the size returned by the database.

Figure 10.49. EEWinSQLServerScreen7c.png



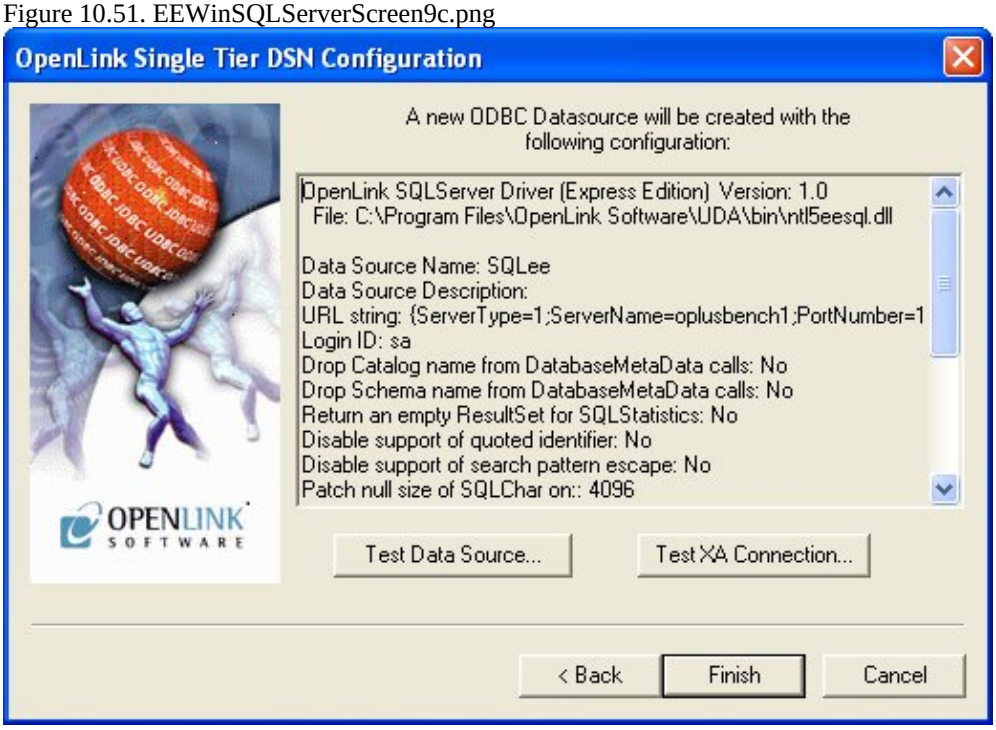
- *Read Only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection.
- *Disable interactive login* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Max Rows Override* - Allows you to define a limit on the maximum number of rows to be returned from a query. The default value of 0 means no limit.
- *Initial SQL* - Lets you specify a file containing SQL statements that will be automatically run against the database upon connection.
- *Dynamic Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched, and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED, when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows do not appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset, if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate OpenLink script for the target database.
- *Enable logging to the log file:* - Specifies the full path to a text file. If the associated checkbox is checked, and a file is passed, the driver will log auto-generate a clientside ODBC trace.

Figure 10.50. EEWinSQLServerScreen8c.png



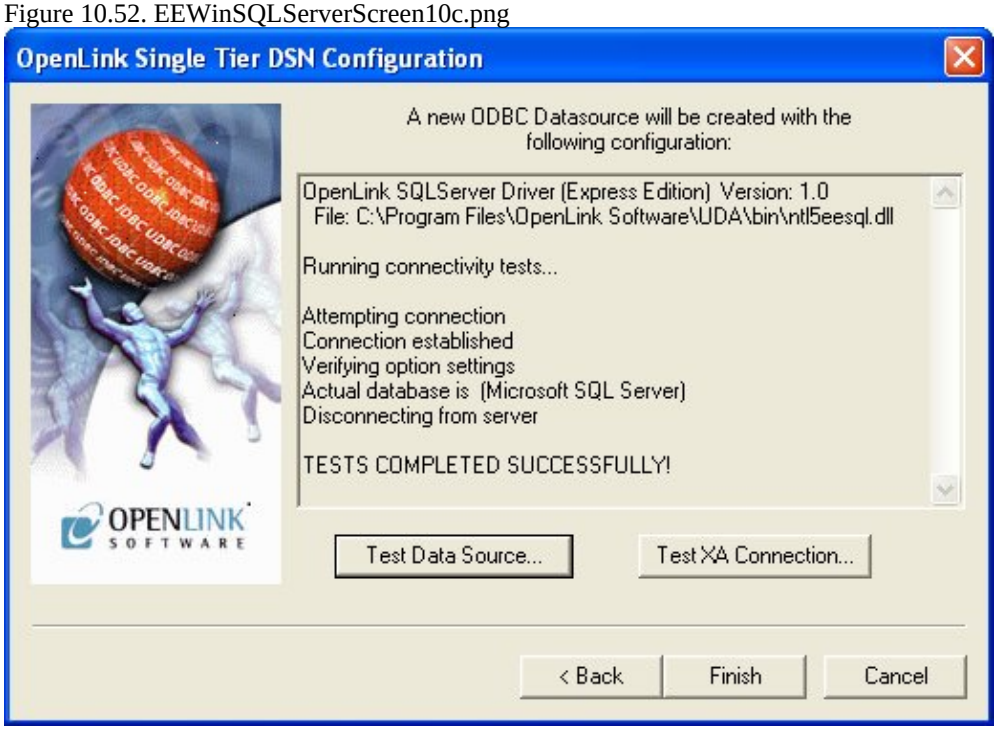
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is required for products like Microsoft InfoPath for which the return the value must be "SQL Server".

Figure 10.51. EEWinSQLServerScreen9c.png



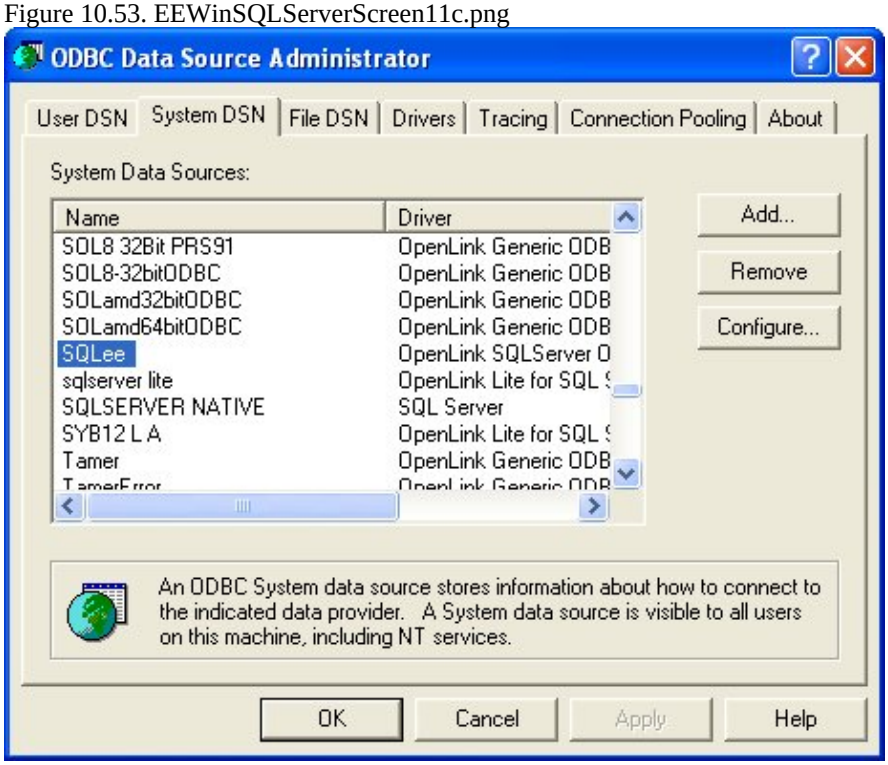
Click on the *Test Data Source*button to verify that a successful connection can be made to the database.

Figure 10.52. EEWinSQLServerScreen10c.png



When you click finish, you will go back to the ODBCData Source Administrator, and you should see the new DSN in the list of available DSN's:

Figure 10.53. EEWinSQLServerScreen11c.png



12 Chapter 11. OpenLink ODBC Driver for Sybase (Express Editon)

Table of Contents

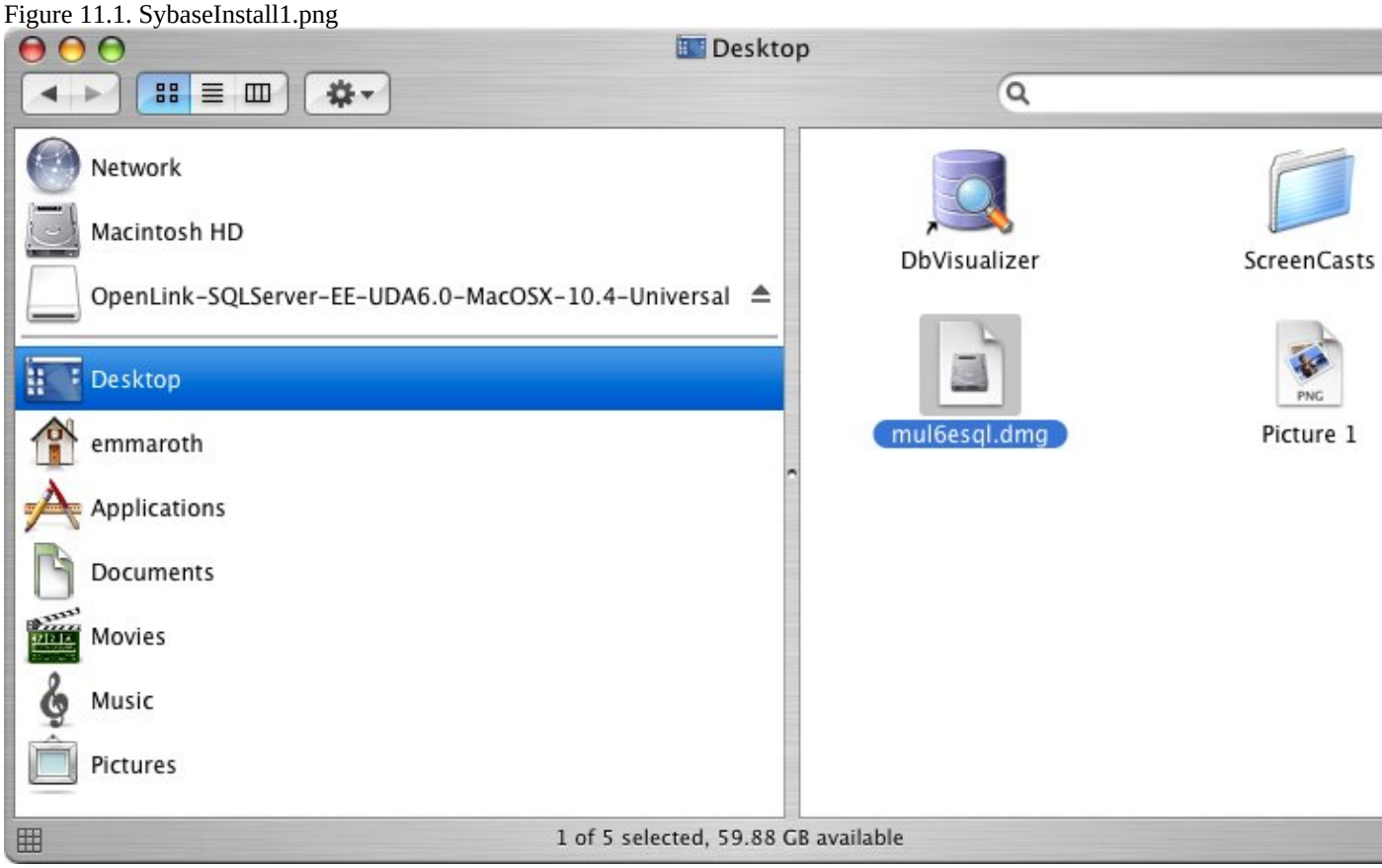
- OpenLink ODBC Driver for Sybase (Express Editon) for Mac OS X
  - Installation Guide
  - Configuration
- OpenLink ODBC Driver for Sybase (Express Editon) for Windows
  - Installation
  - Configuration

12.1 OpenLink ODBC Driver for Sybase (Express Editon) for Mac OS X

12.1.1 Installation Guide

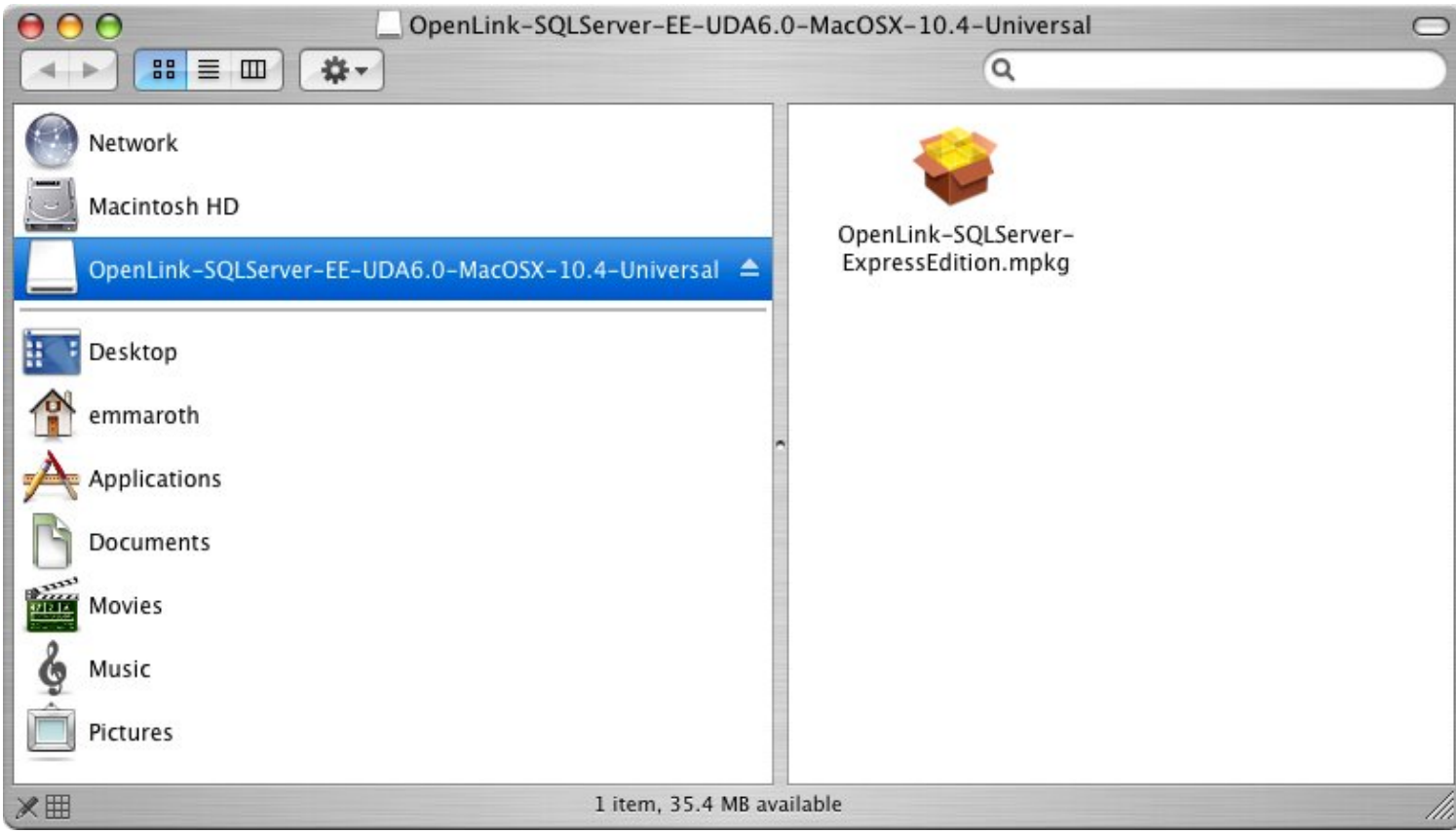
The OpenLink ODBC Driver for Sybase (Express Edition is a distributed as a Disk Image (DMG) file. Simply double click on the disk image 'mul6esql.dmg' to extract the installer mpkg file:

Figure 11.1. SybaseInstall1.png



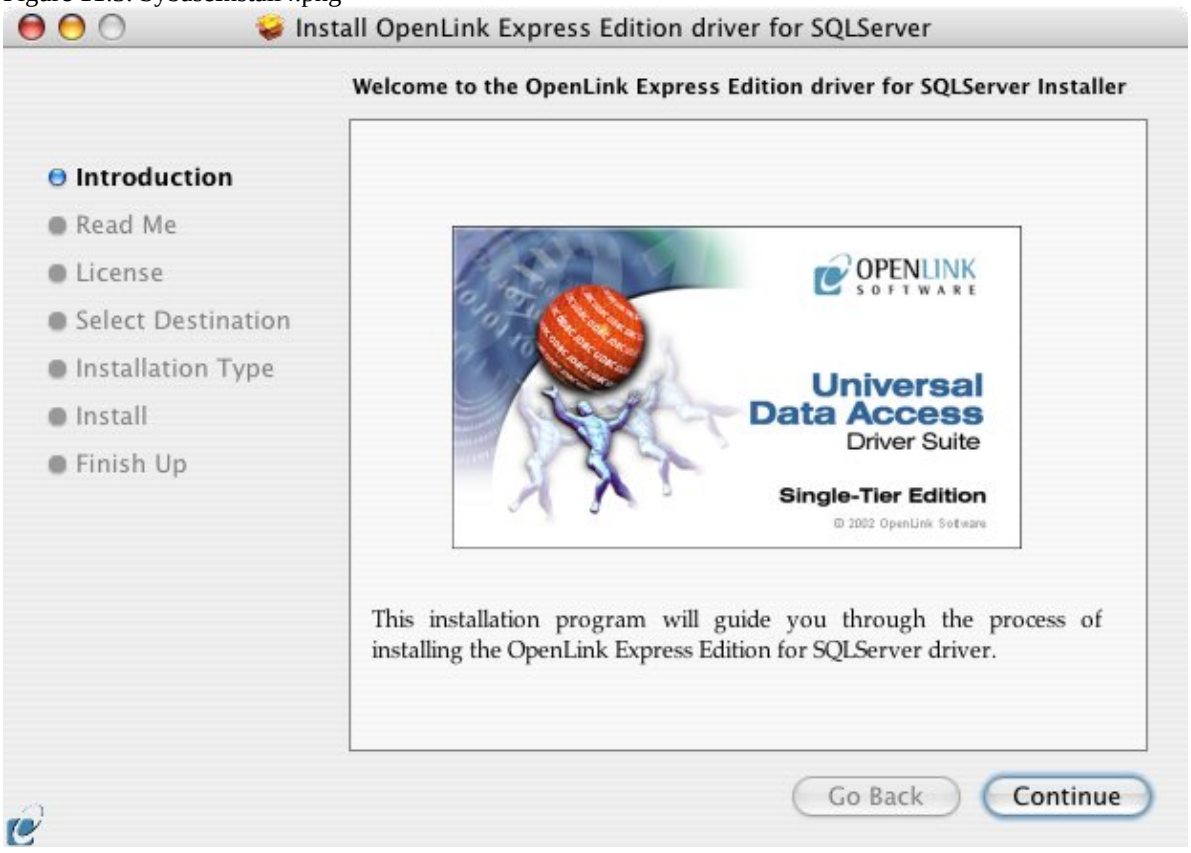
Double-click on the mpkg file to run the installer and following the on-screen instruction as indicated below to complete the installation:

Figure 11.2. SybaseInstall2.png



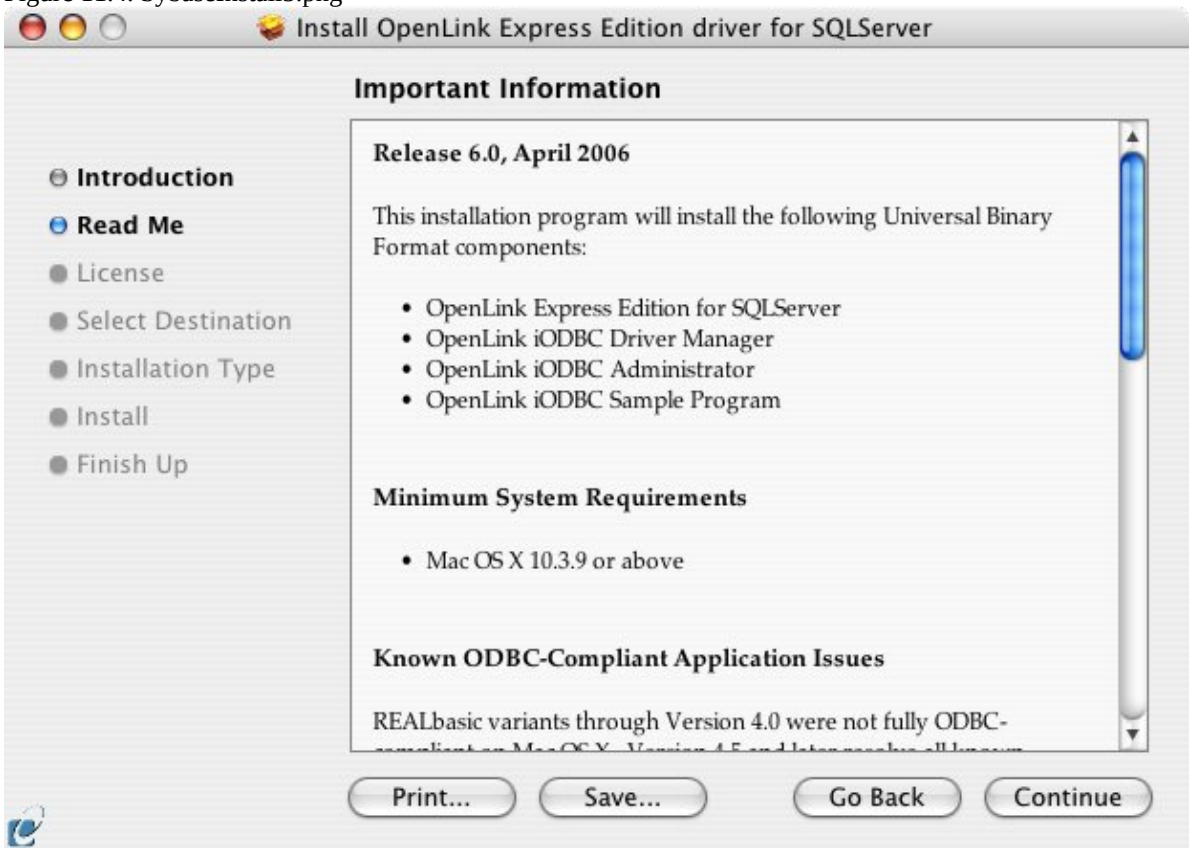
Installer Welcome Dialog for the OpenLink ODBC Driver for SQL Server (Express Edition):

Figure 11.3. SybaseInstall4.png



Please review the readme file for installation requirements and known issues:

Figure 11.4. SybaseInstall5.png



Please read the software license agreement before continuing your installation:

Figure 11.5. SybaseInstall6.png

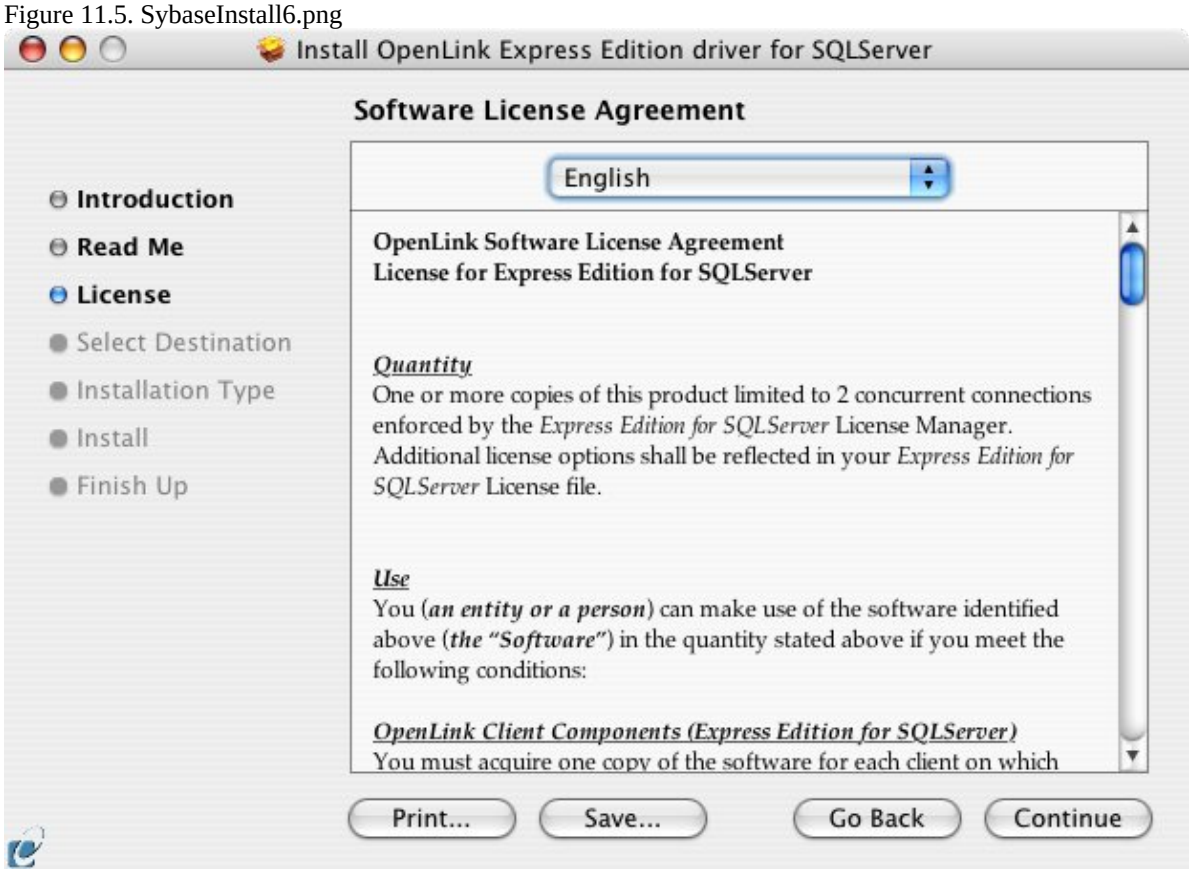


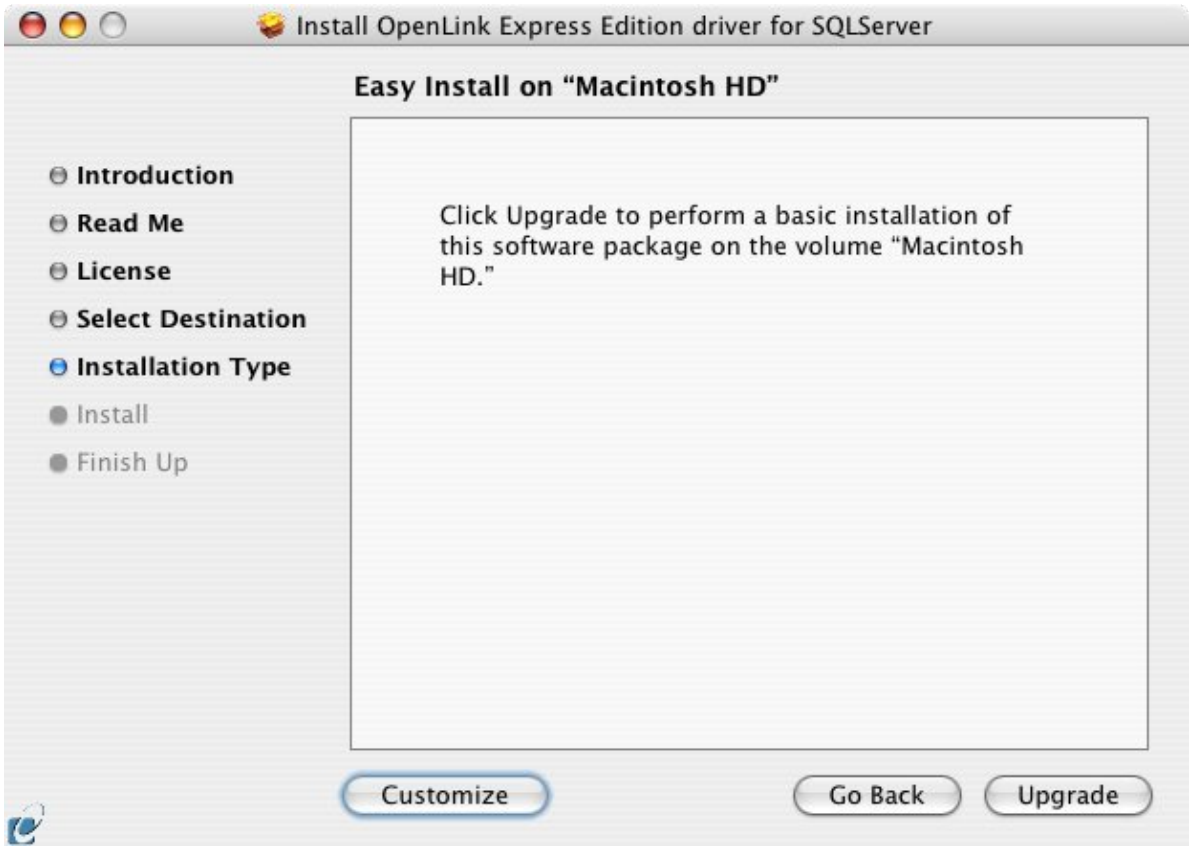
Figure 11.6. SybaseInstall7.png

Select destination volume for driver installation:

Figure 11.7. SybaseInstall8.png

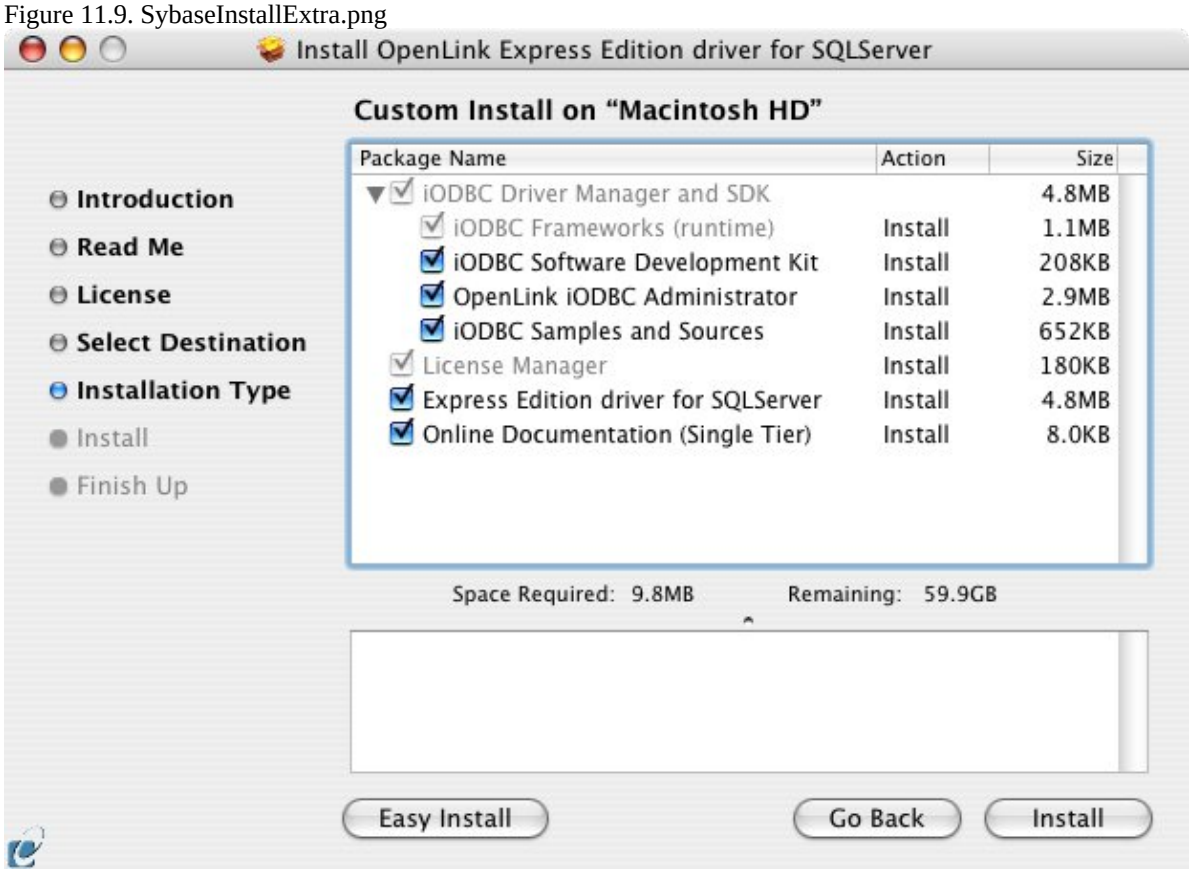
Choose to perform a custom or default installation of the driver:

Figure 11.8. SybaseInstall9.png



If you chose the custom option select which of the components below are to be installed:

Figure 11.9. SybaseInstallExtra.png

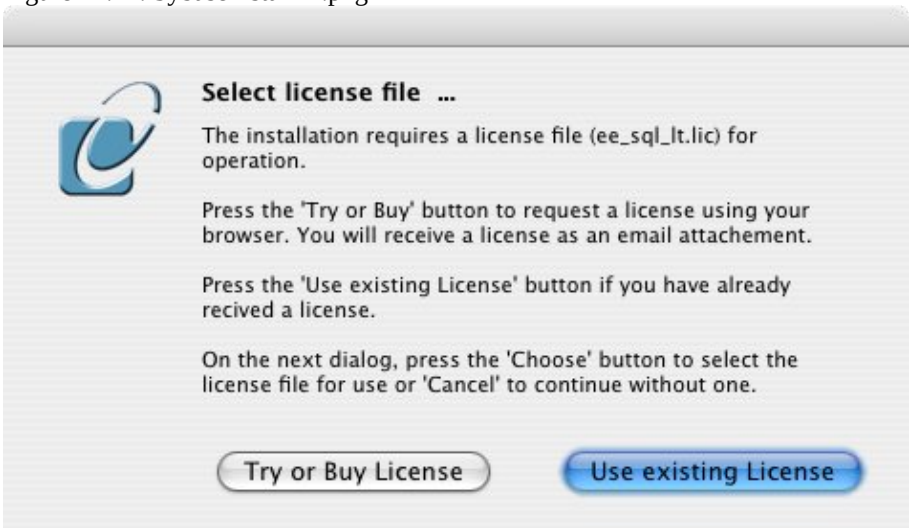


The software must be installed as a user with Administrative privileges on the machine:

Figure 11.10. SybaseInstall10.png

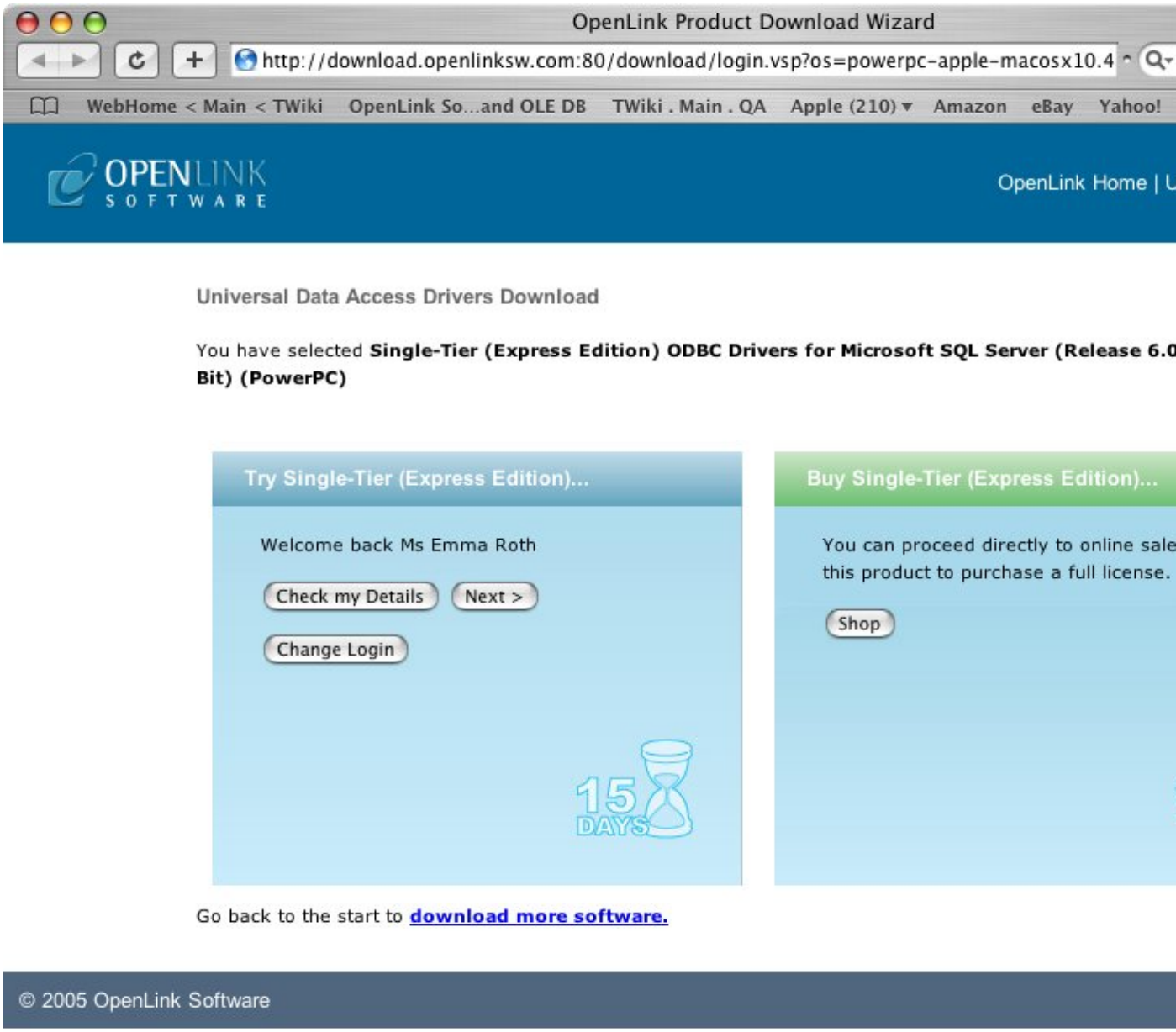
After the driver has been installed you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try-and-buy web page:

Figure 11.11. SybaseInstall11.png



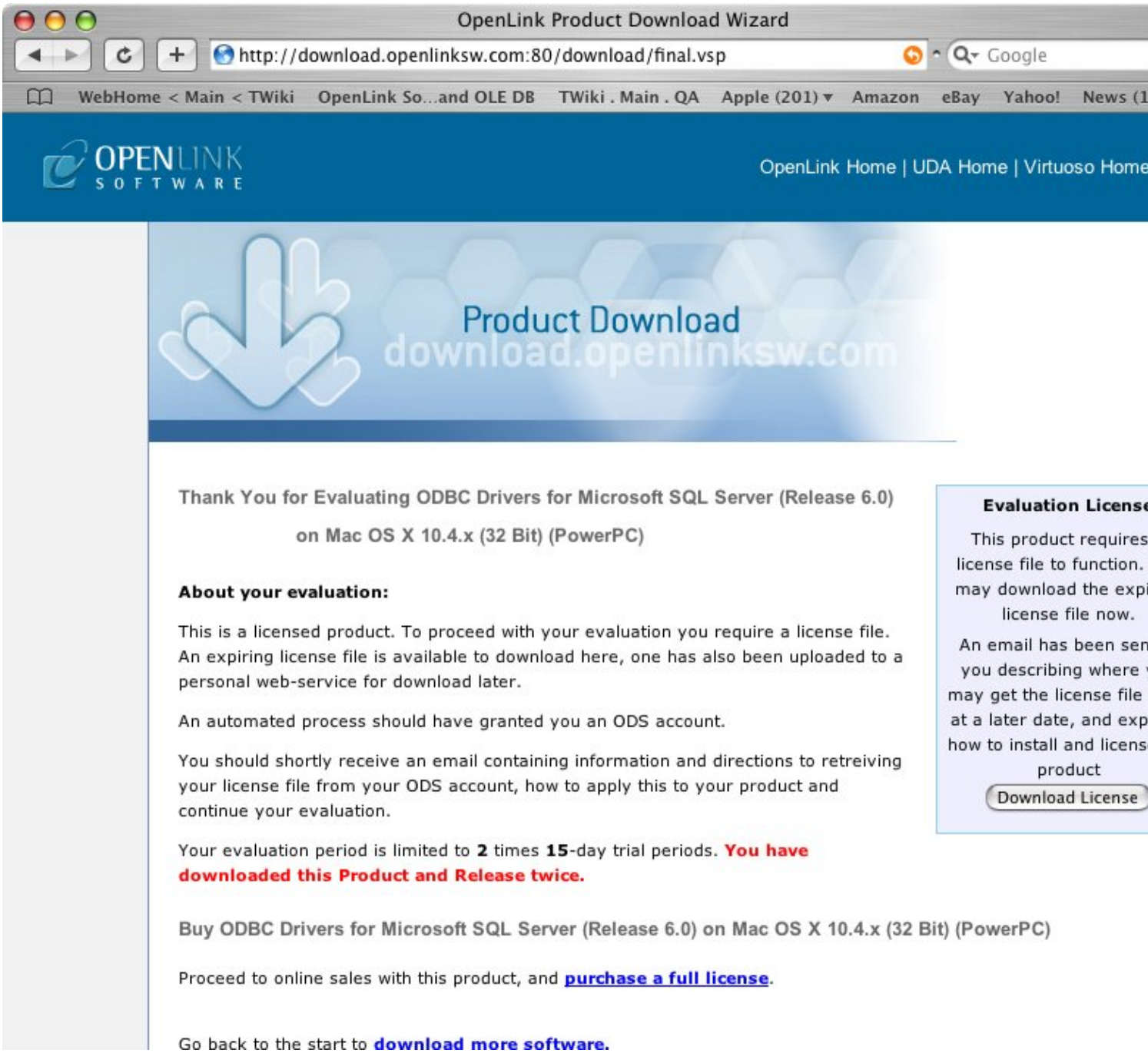
To obtain the trial license you must be a registered user on the OpenLink Web site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

Figure 11.12. SybaseInstall12.png



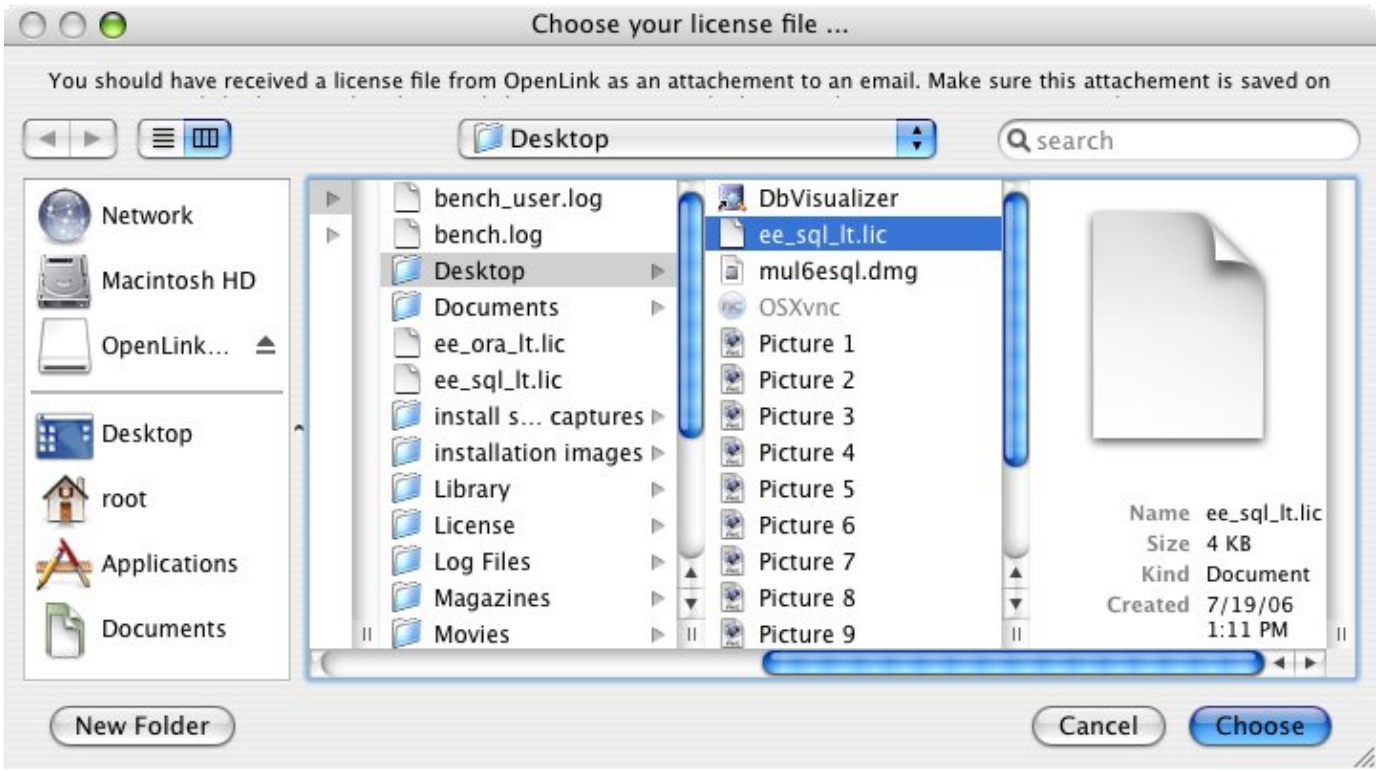
Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLink Data Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 11.13. SybaseInstall13.png



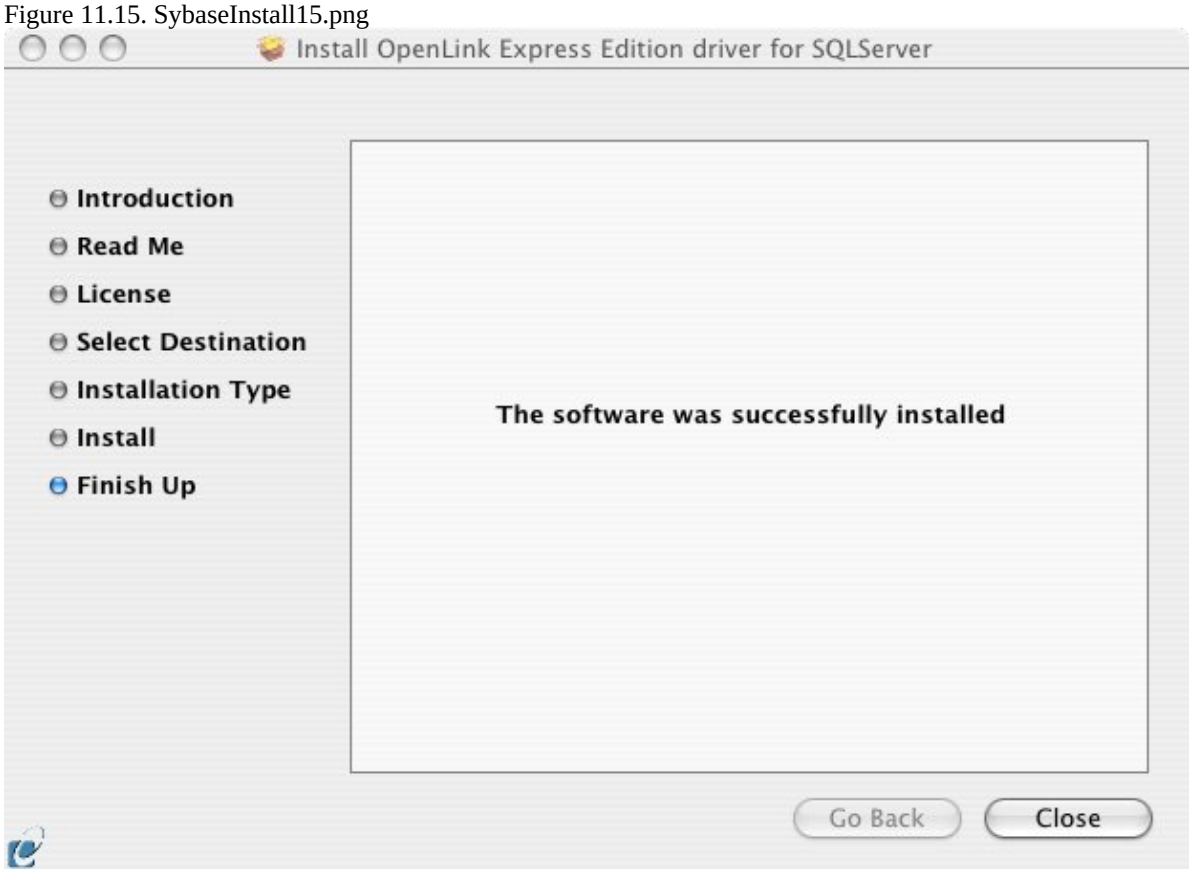
Select the license file to be used for the installation:

Figure 11.14. SybaseInstall14.png



Installation is complete:

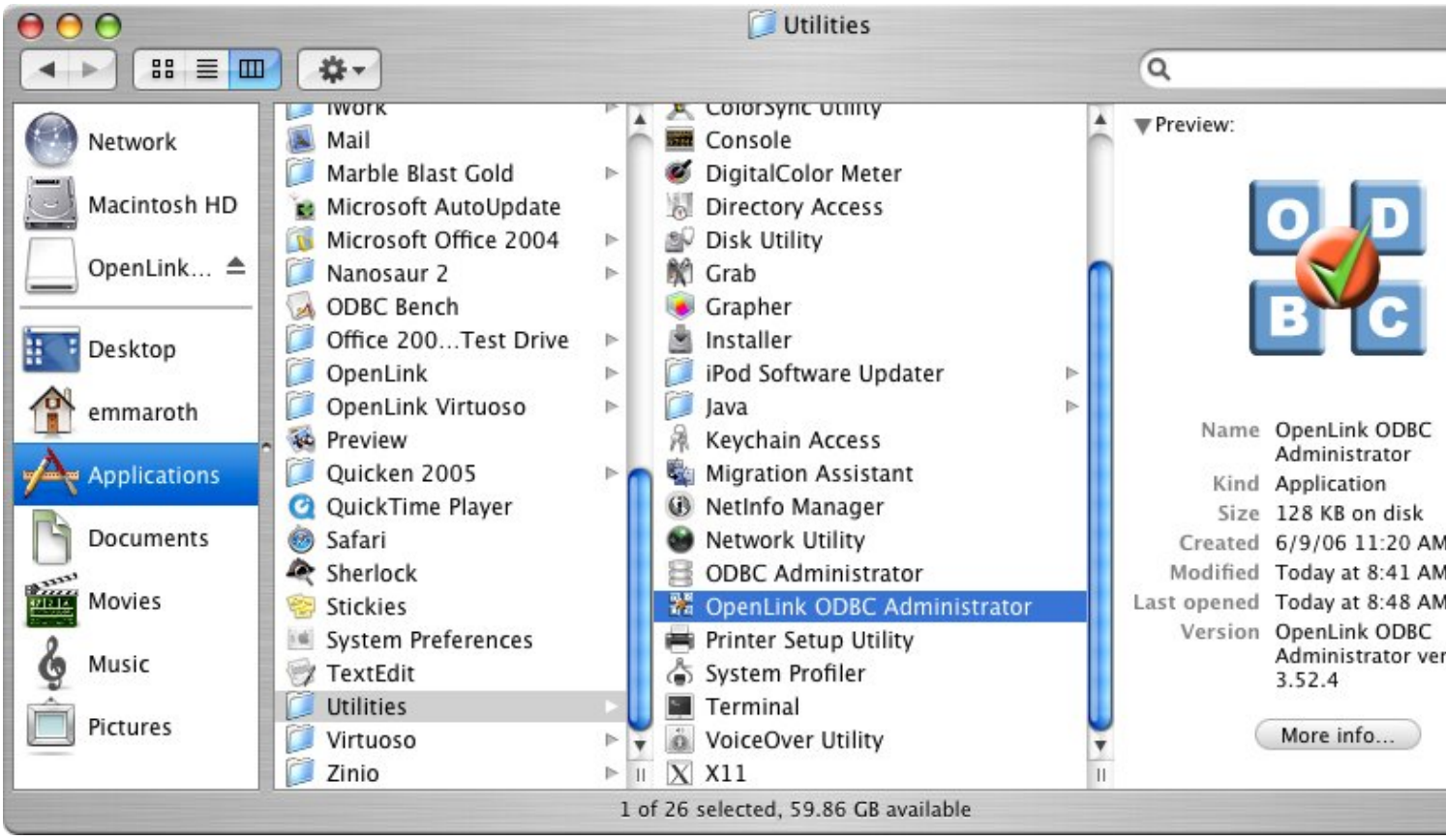
Figure 11.15. SybaseInstall15.png



12.1.2 Configuration

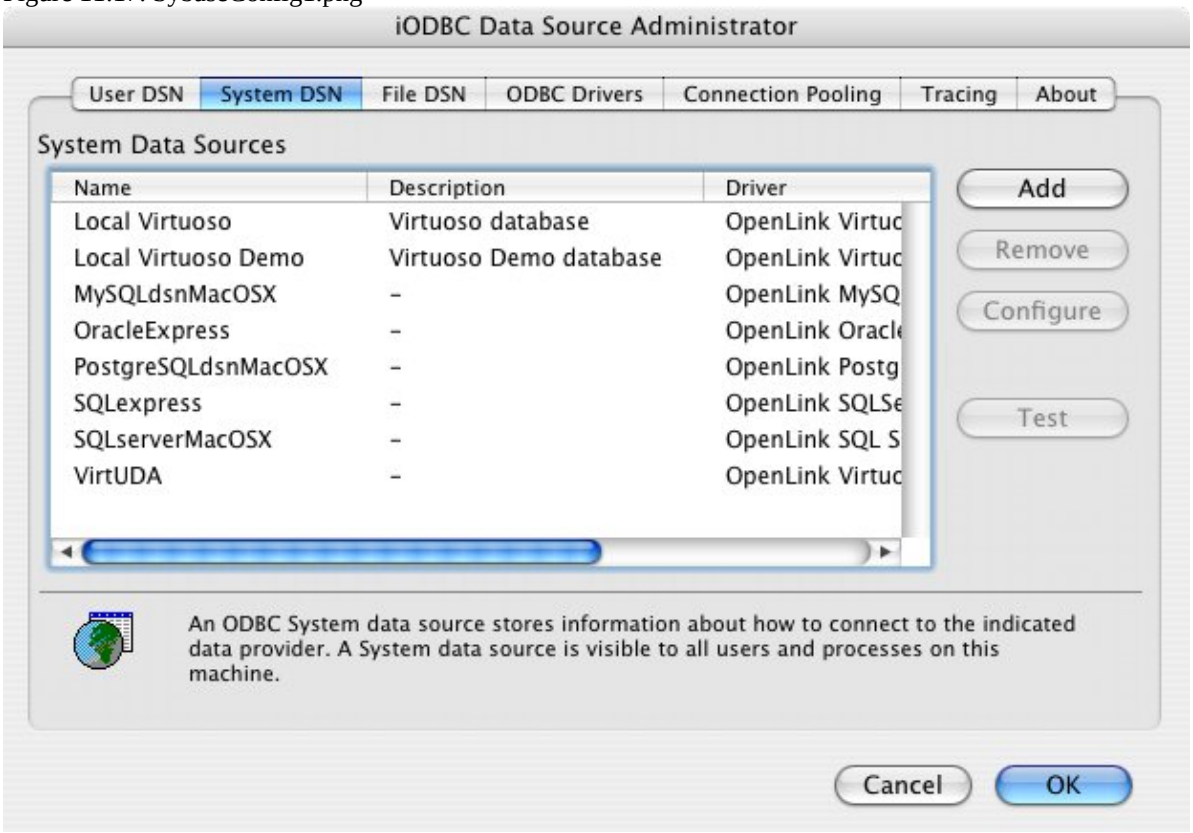
To configure an ODBC DSN, run the OpenLink iODBC Administrator located in the /Applications/iODBC folder:

Figure 11.16. ODBCadmin.png



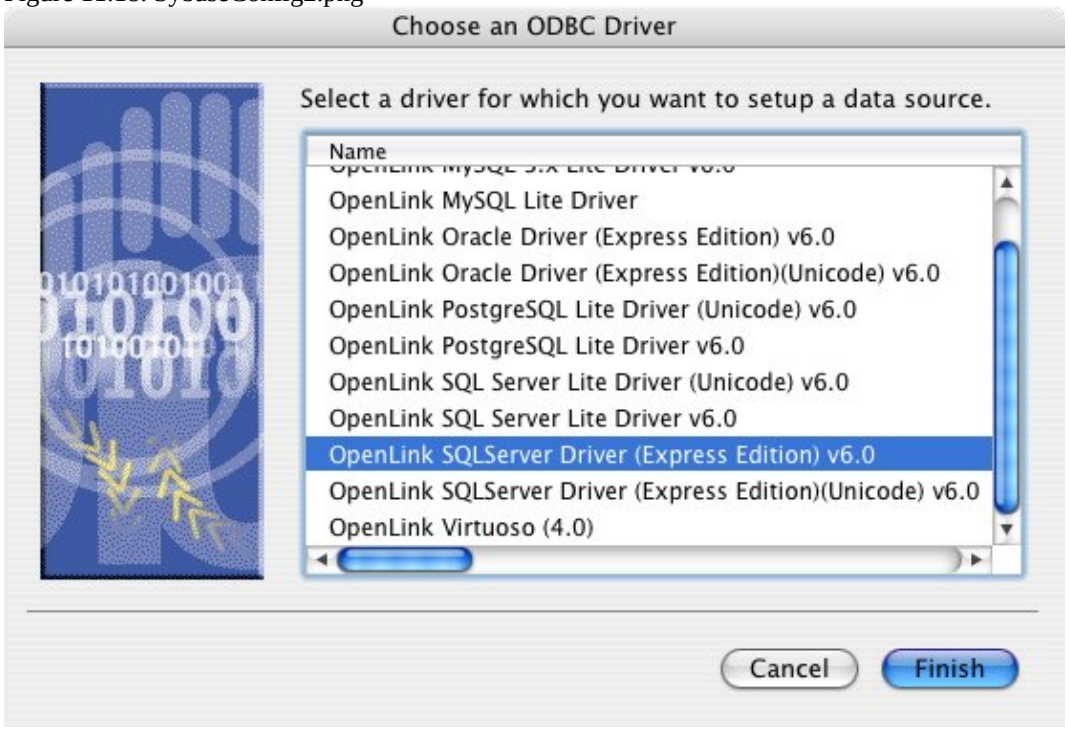
Click on the add button to Choose the ODBC Driver the DSN should be created for:

Figure 11.17. SybaseConfig1.png



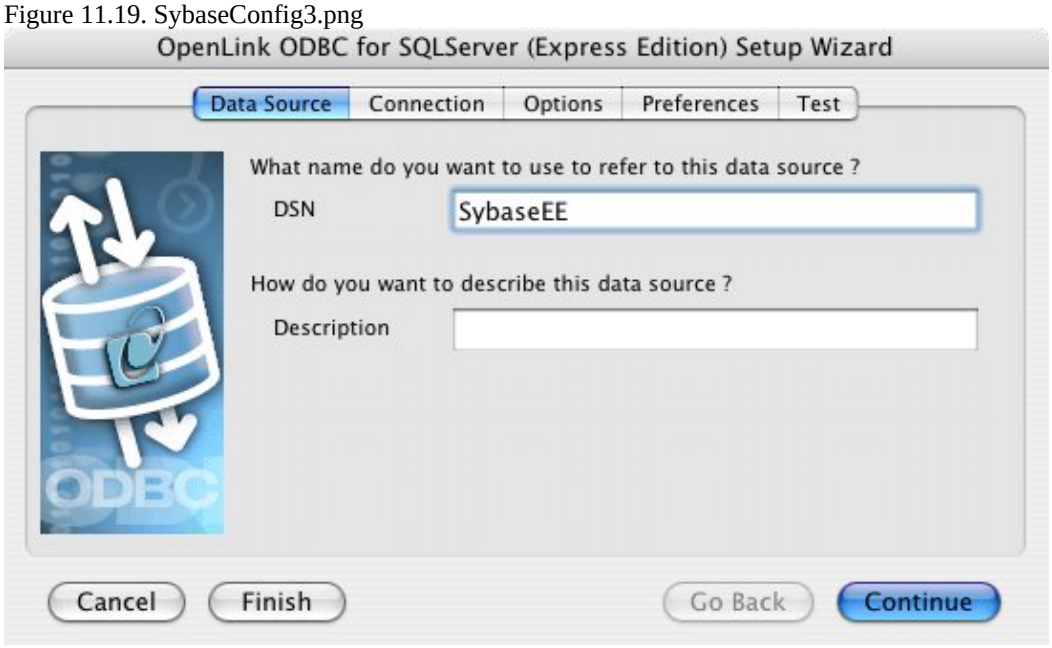
Choose the OpenLink Sybase Driver (Express Edition) v6.0 from the list of available drivers:

Figure 11.18. SybaseConfig2.png



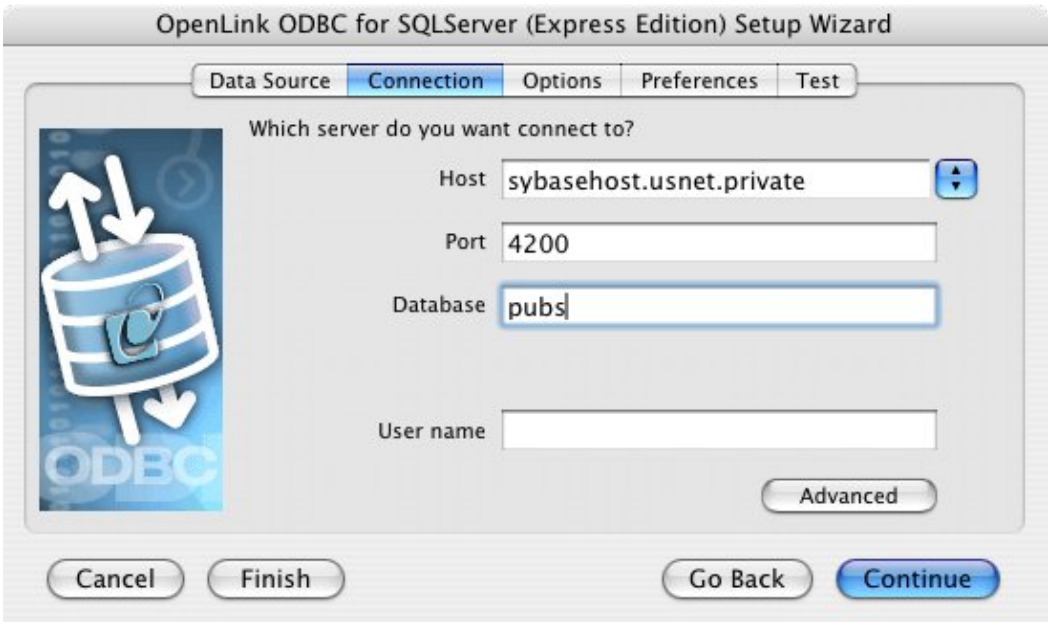
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 11.19. SybaseConfig3.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 11.20. SybaseConfig4.png



Host: This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.

Port: This is the port on which Sybase is listening.

Database: This is the Sybase database to which you want to connect.

User Name: This is a valid user for the Sybase database.

The advanced button displays additional optional parameters that can be configured:

Figure 11.21. SybaseConfig5.png

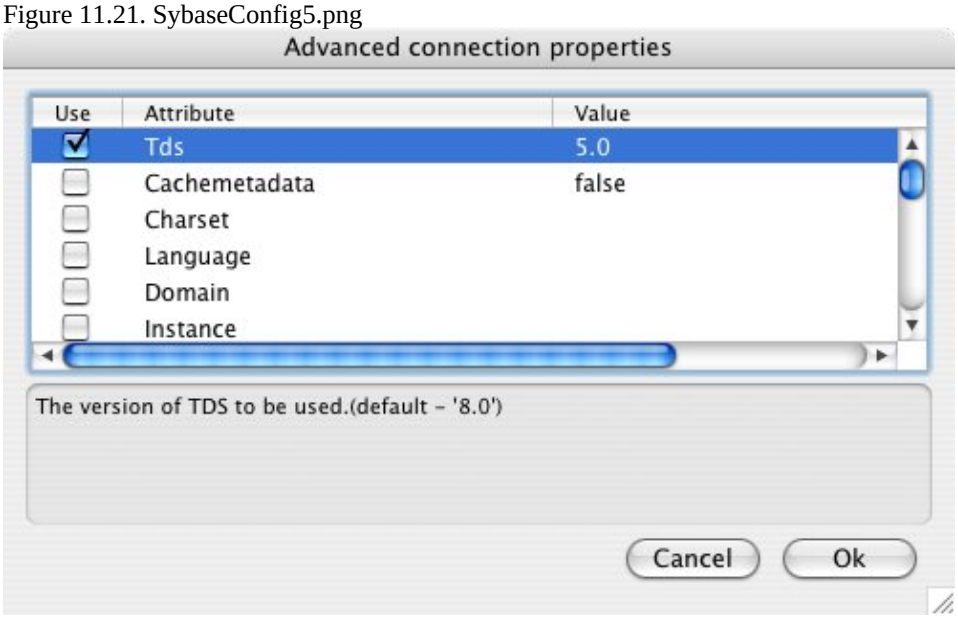


Table 11.1.

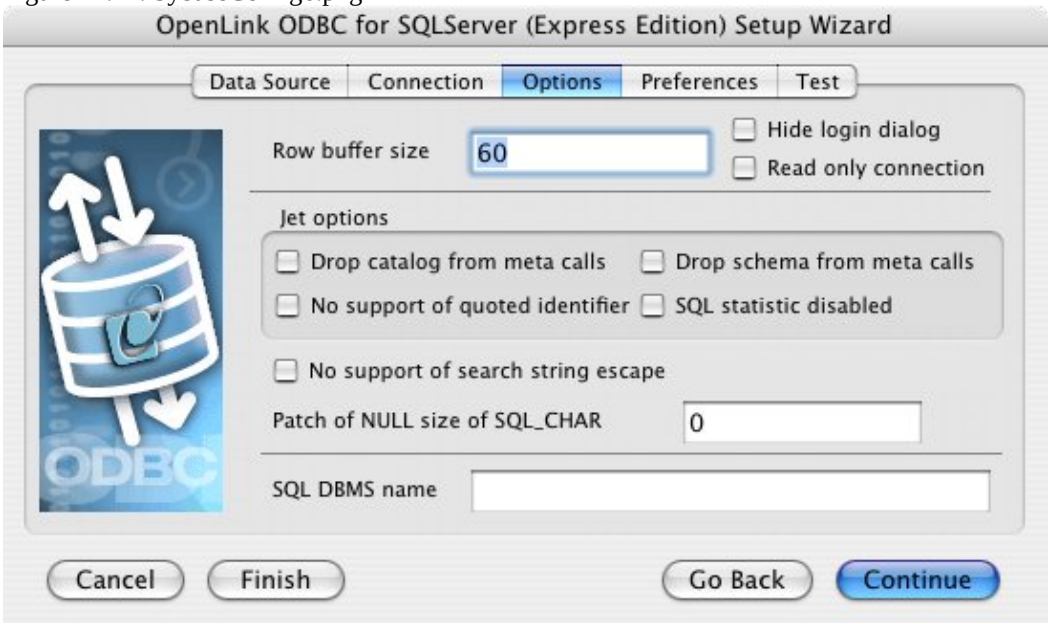
Tds	The version of TDS to be used.(default - '8.0')
Cachemetadata	When used with prepareSQL=3, setting this property to true will cause the driver to cache column meta data for SELECT statements. Use with care.(default - false)
Charset	A very important setting; this determines the byte value to character mapping for CHAR/VARCHAR/TEXT values. Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values doesn't have any effect since these are stored using Unicode. (By default set to the character set with which

	the server was installed.)
Language	Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values doesn't have any effect since these are stored using Unicode. (By default set to the character set with which the server was installed.)
Domain	Specifies the Windows domain in which to authenticate. If present and the user name and password are provided, it uses Windows (NTLM) authentication instead of the usual SQL Server authentication (i.e. the user and password provided are the domain user and password). This allows non-Windows clients to log in to servers which are only configured to accept Windoes authentication.
Instance	Named instance to connect to. Sybase can run multiple so-called 'named instances' (i.e. different server instances, running on different TCP ports) on the same machine. When using Microsoft tools, selecting one of these instances is made by using '[host_name]\[instance_name]' instead of the usual '[host_name]'. You will have to split the two and use the instance name as a property.
AppName	Application name. Of little practical use, it is displayed by Enterprise Manager or Profiler associated with the connection.
ProgName	Client library name. Of little practical use, it is displayed by Enterprise Manager or Profiler associated with the connection.
Wsid	Workstation ID. Of little practical use, it is displayed by Enterprise Manager or Profiler associated with the connection.(default - the client host name)
MacAddress	Network interface card MAC address.(default - '000000000000')
SendStringParametersAsUnicode	Determines whether string parameters are sent to the SQL Server database in Unicode or in the default character encoding of the database.(default - true)
LastUpdateCount	If true only the last update count will be returned by executeUpdate(). This is useful in case you are updating or inserting into tables that have triggers (such as replicated tables); there's no way to make the difference between an update count returned by a trigger and the actual update count but the actual update count is always the last as the triggers execute first. If false all update counts are returned; use getMoreResults() to loop through them. (default - true)
PrepareSQL	This parameter specifies the mechanism used for Prepared Statements.(default - 3 for SQL Server)
PacketSize	The network packet size (a multiple of 512).(default - 4096 for TDS 7.0/8.0; 512 for TDS 4.2/5.0)
TcpNoDelay	true to enable TCP_NODELAY on the socket; false to disable it.(default - true)
LobBuffer	The amount of LOB data to buffer in memory before caching to disk. The value is in bytes for Blob data and chars for Clob data. (By default, 32768)
MaxStatements	The number of statement prepares each connection should cache. A value of 0 will disable statement caching.(default - 500)
LoginTimeout	The amount of time to wait (in seconds) for a successful connection before timing out. If namedPipe is true and loginTimeout is non-zero, the value of loginTimeout is used for the retry timeout when 'All pipe instances are busy' error messages are received while attempting to connect to the server. If namedPipe is true and loginTimeout is zero (the default), a value of 20 seconds is used for the named pipe retry timeout. (default - 0)
SocketTimeout	The amount of time to wait (in seconds) for network activity before timing out. Use with care! If a non-zero value is supplied this must be greater than the maximum time that the server will take to answer any query. Once the timeout value is exceeded the network connection will be closed. This parameter may be useful for detecting dead network connections in a pooled environment. (By default, 0.)
NamedPipe	When set to true, named pipe communication is used to connect to the database instead of TCP/IP sockets. When the os.name system property starts with 'windows' (case-insensitive), named pipes (both local and remote) are accessed through the Windows filesystem by opening a RandomAccessFile to the path. When the SQL Server and the client are on the same machine, a named pipe will usually have better performance than TCP/IP sockets since the network layer is eliminated.

Ssl	Specifies if and how to use SSL for secure communication.(default - off)
BatchSize	Controls how many statements are sent to the server in a batch. The actual batch is broken up into pieces this large that are sent separately. (By default, 0 (unlimited) for SQL Server)
UseCursors	Instructs the driver to use server-side cursors instead of direct selects (AKA firehose cursors) for forward-only read-only result sets (with other types of result sets server- or client-side cursors are always used). (By default, false.)
BufferMaxMemory	Controls the global buffer memory limit for all connections (in kilobytes). When the amount of buffered server response packets reaches this limit additional packets are buffered to disk; there is however one exception: each Statement gets to buffer at least '[bufferMinPackets]' to memory before this limit is enforced. This means that this limit can and will usually be exceeded. (By default, 1024.)
BufferMinPackets	Controls the minimum number of packets per statement to buffer to memory. Each Statement will buffer at least this many packets before being forced to use a temporary file if the [bufferMaxMemory] is reached, to ensure good performance even when one Statement caches a very large amount of data. (By default, 8.)
UseLOBs	Controls whether large types (IMAGE and TEXT/NTEXT) should be mapped by default (when using getObject()) to LOBs. The default type constant returned is also controlled by this property: BLOB for IMAGE and CLOB for TEXT/NTEXT when true, LONGVARBINARY for IMAGE and LONGVARCHAR for TEXT/NTEXT when false. (By default, true.)

As indicated above the paramters of the options and preferences tabs are not required for a basic connection:

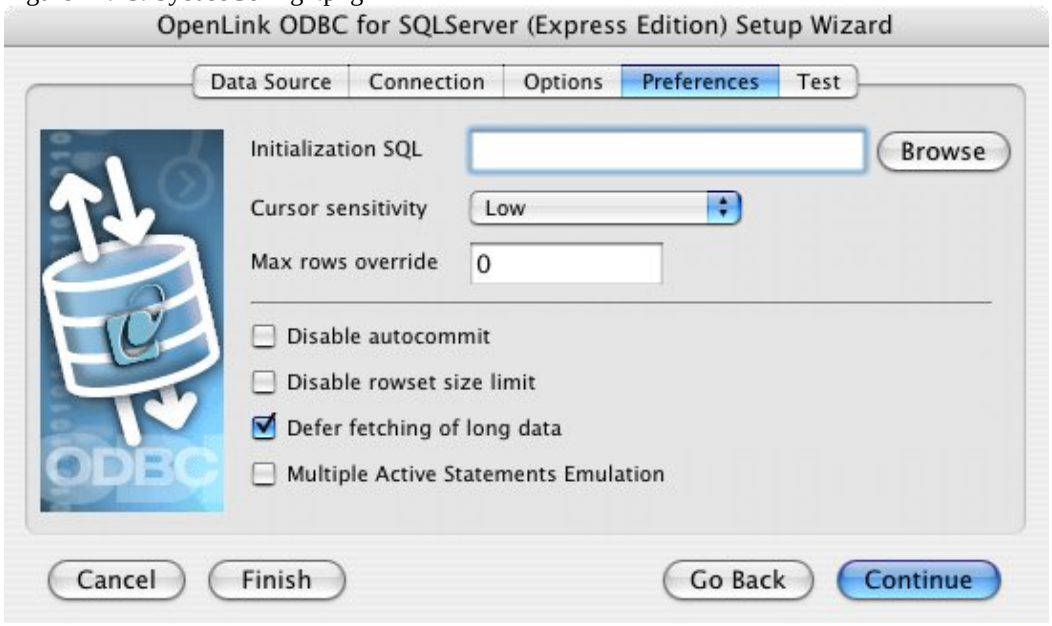
Figure 11.22. SybaseConfig6.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be read-only. Make sure the checkbox is unchecked to request a read/write connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database metadata.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database metadata.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).

- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL such as select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo (SQL_DBMS_NAME) response returned by the driver. This is known to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

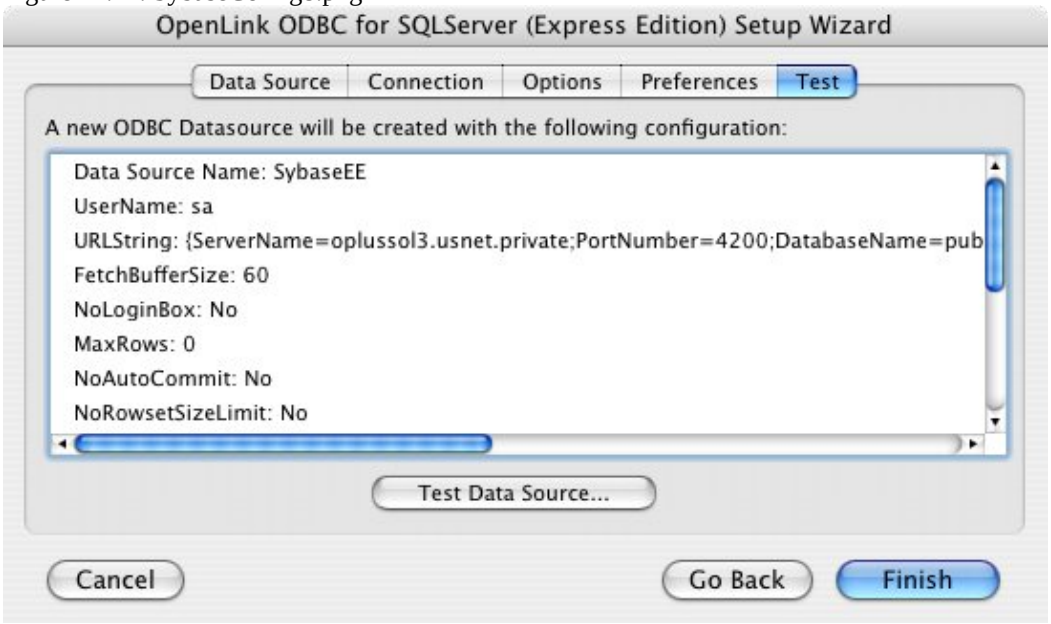
Figure 11.23. SybaseConfig7.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.
- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.
- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

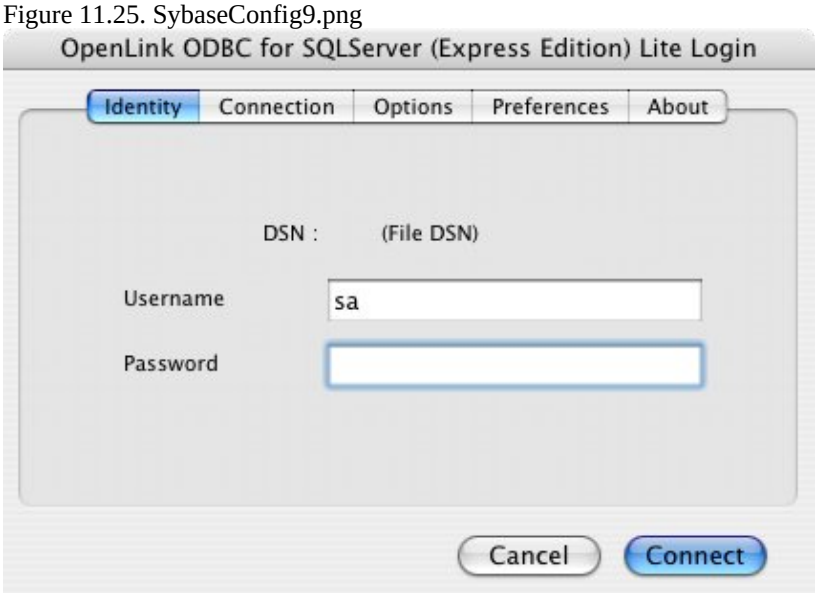
Click on the 'Test Data Source' button to make a connection to the database to verify connectivity:

Figure 11.24. SybaseConfig8.png



Enter a vaild username and pasword for the database:

Figure 11.25. SybaseConfig9.png



A successful connection to the database has been made:

12.2 OpenLink ODBC Driver for Sybase (Express Editon) for Windows

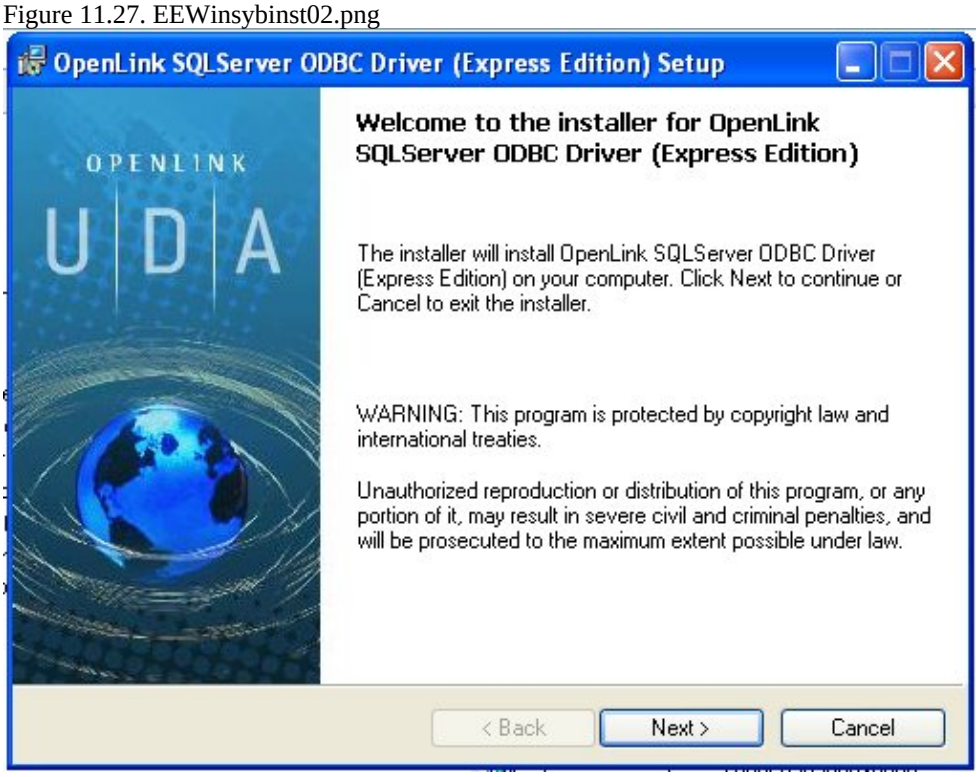
12.2.1 Installation

The OpenLink ODBCDriver for Sybase (Express Edition is a distributed as a Windows MSI installer. Simply double click on the installer 'ntl6esql.msi' to commence the installation:

Figure 11.26. EEWinsybinst01.png

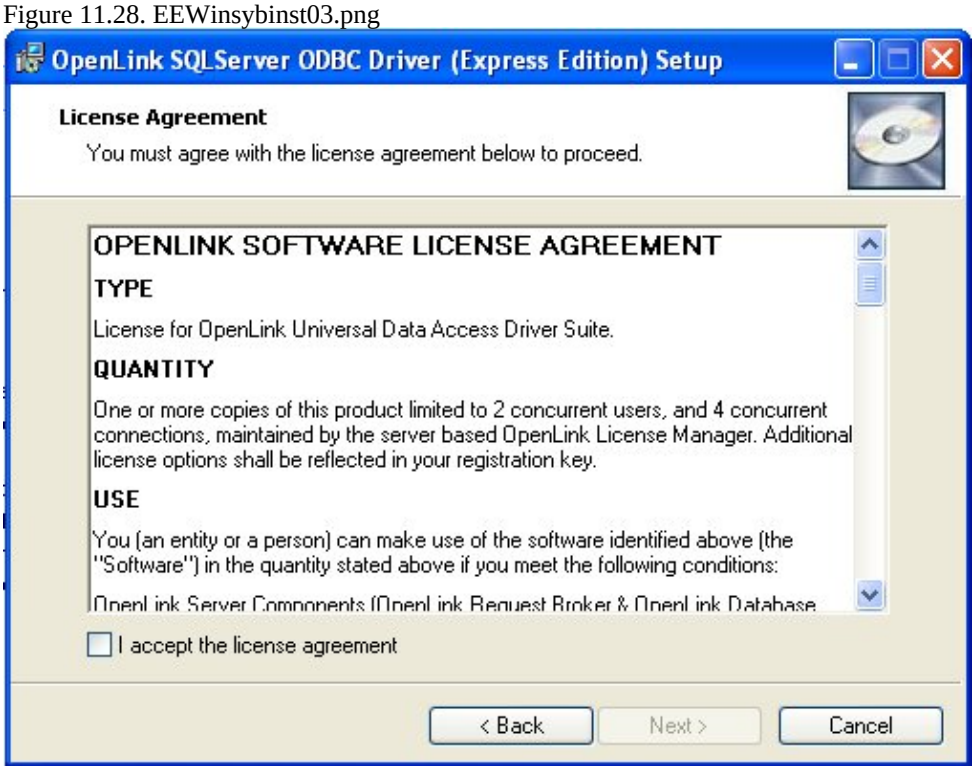
Installer Welcome Dialog for the OpenLink ODBCDriver for SQLServer (Express Edition):

Figure 11.27. EEWinsybinst02.png



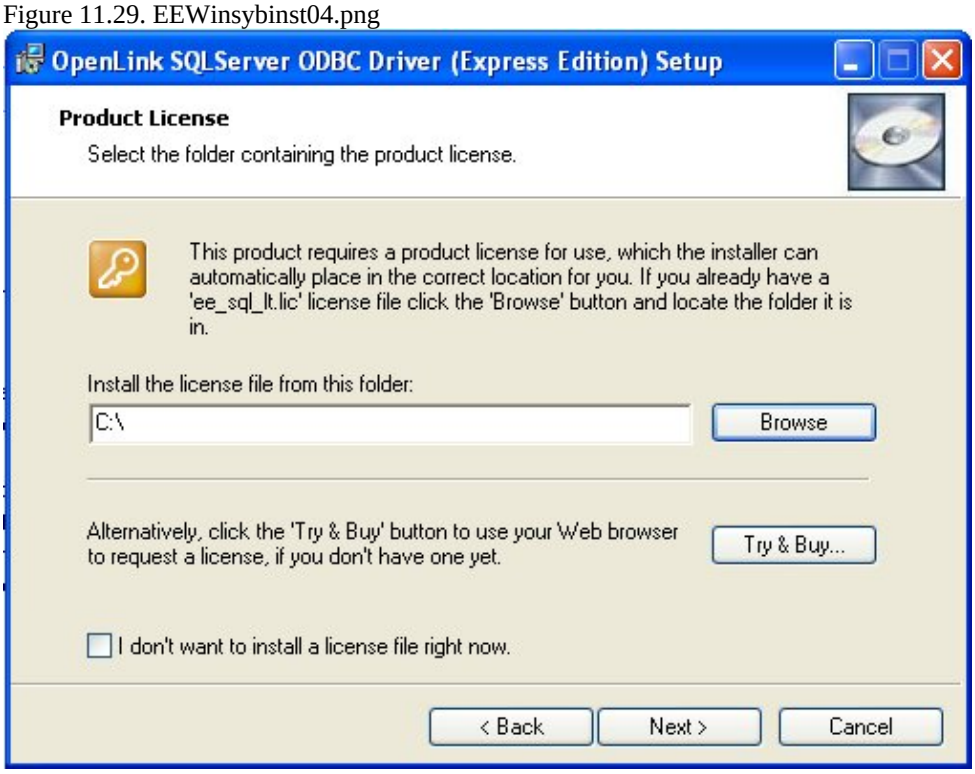
Please read the software license agreement and accept before continuing your installation:

Figure 11.28. EEWinsybinst03.png



Before installation you will be prompted for a license file. If a license file already exists on the machine then select the 'use exisiting file' option. A trial (try) or full (buy) license can be obtain by selecting the 'try and buy' option which loads our online try and buy web page:

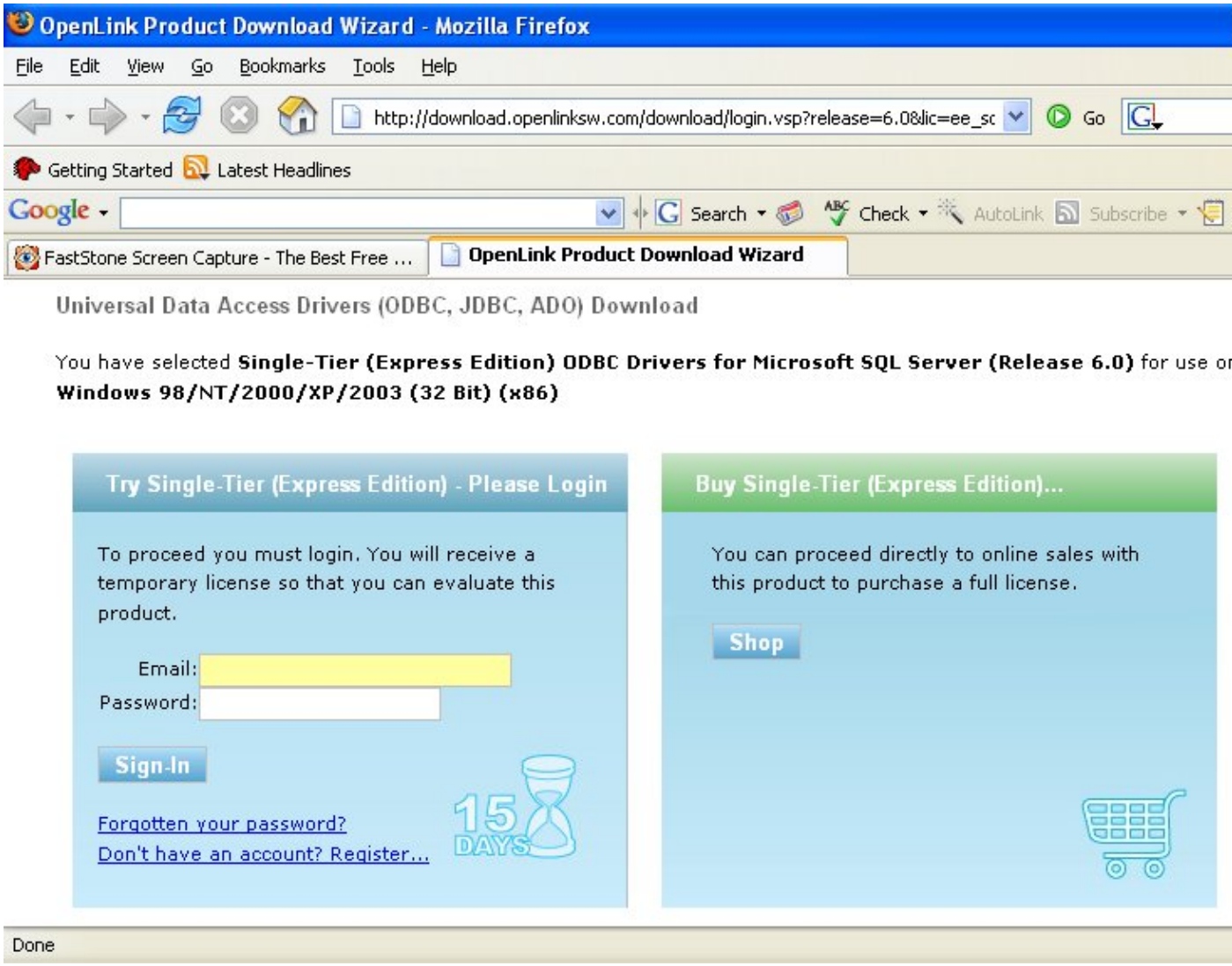
Figure 11.29. EEWinsybinst04.png



To obtain the trial license you must be a registered user on the OpenLinkWeb site and login with the username (e-mail address) and password for that user. Click on the 'Shop' link to visit our online shop cart to purchases a full license if required:

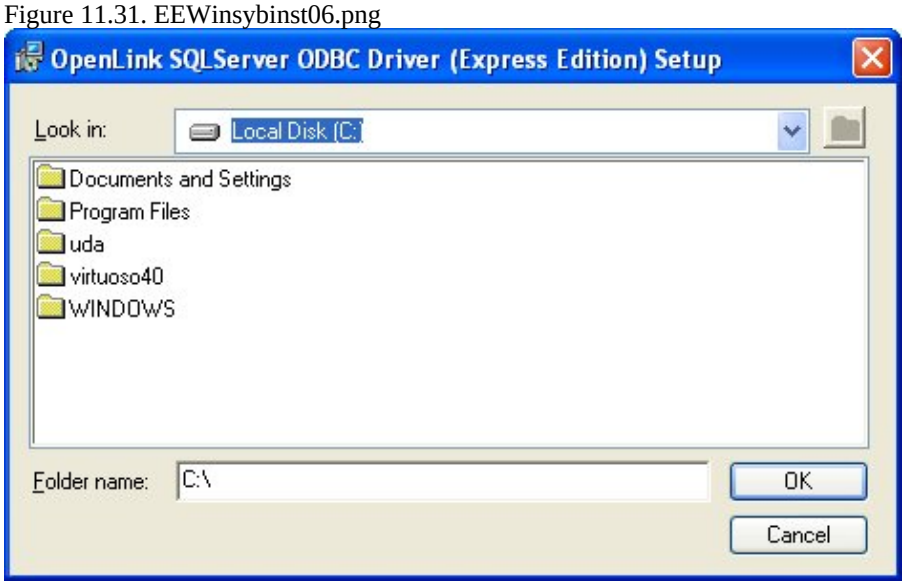
Click on the 'download license' button to obtain the license file immediately and save to your desktop. Alternatively an auto e-mail will be sent to the registered users e-mail address with a link to their OpenLinkData Space (ODS) where all trial and full license files will be stored in the Briefcase for download at a later date.

Figure 11.30. EEWinsybinst05.png



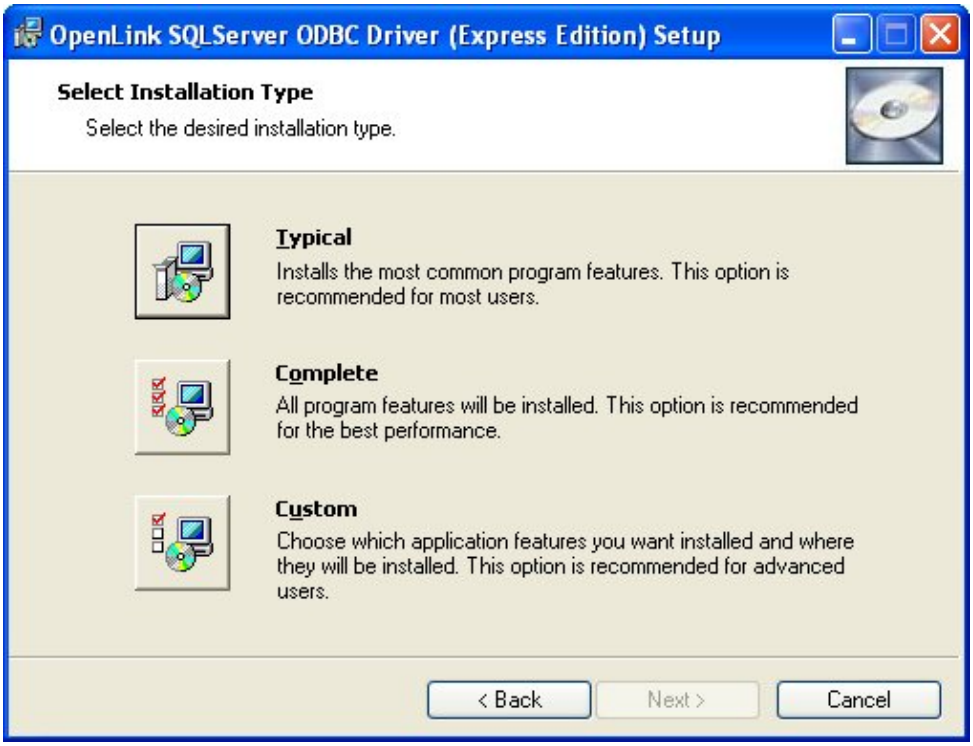
Select the license file to be used for the installation:

Figure 11.31. EEWinsybinst06.png



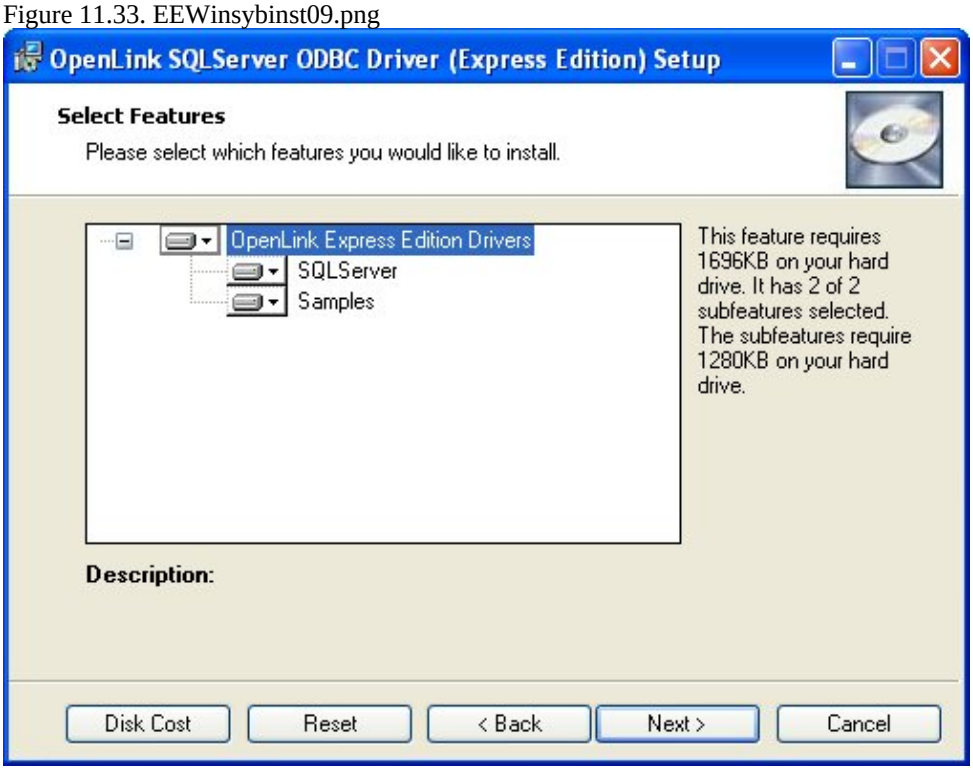
Choose to perform a custom, typical or complete installation of the driver:

Figure 11.32. EEWinsybinst07.png



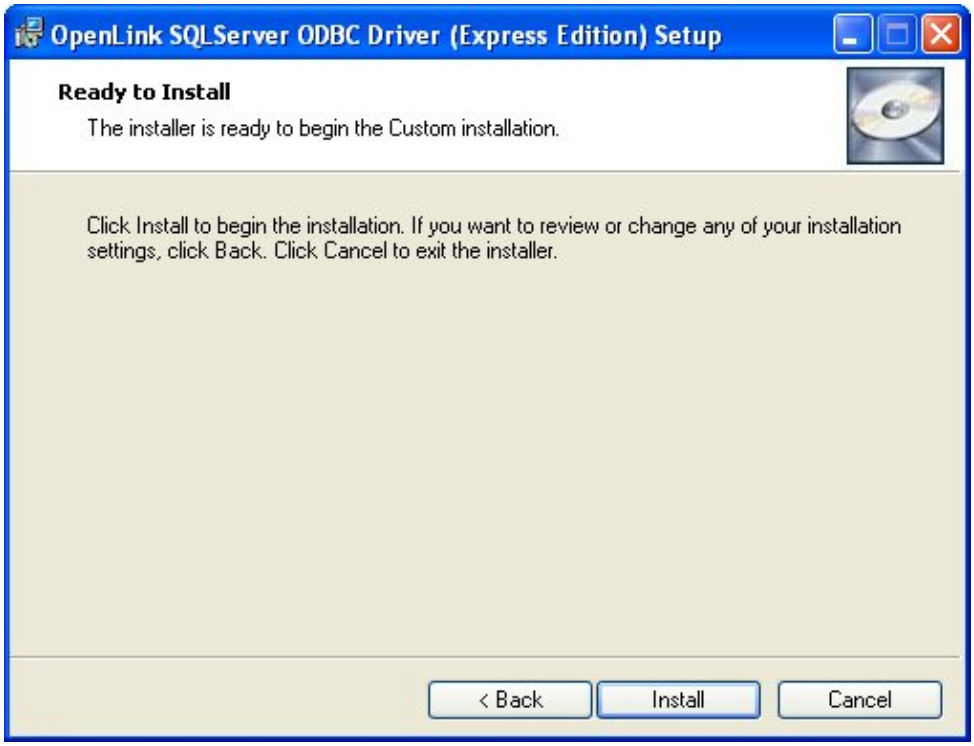
Select the features to be installed:

Figure 11.33. EEWinsybinst09.png



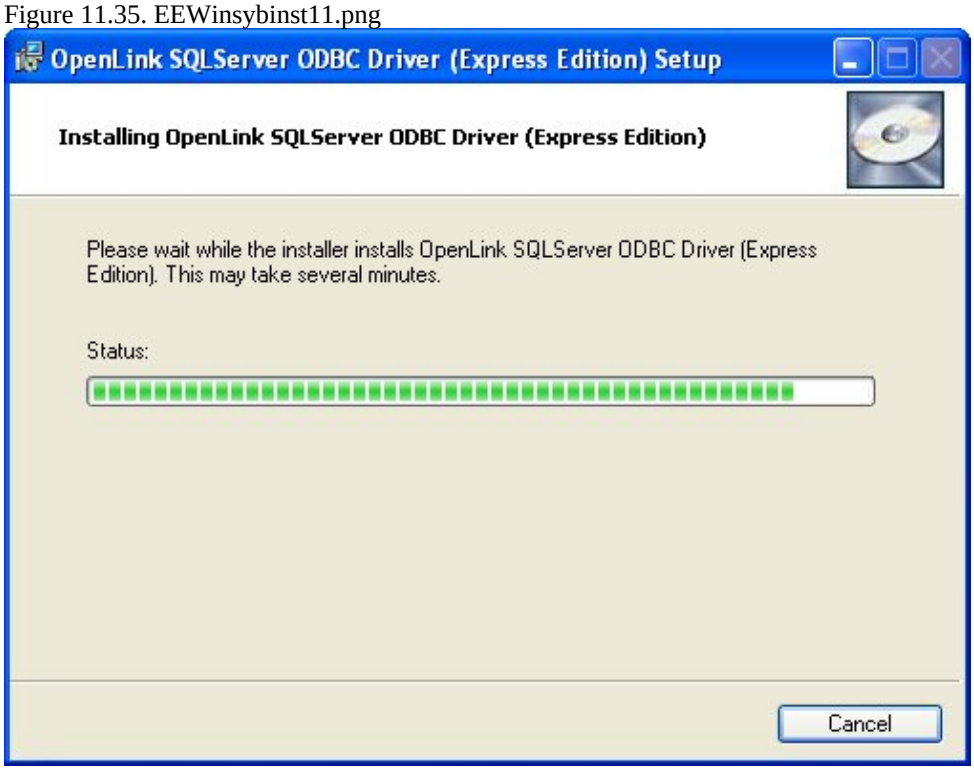
Click the install button to begin the installation of components:

Figure 11.34. EEWinsybinst10.png



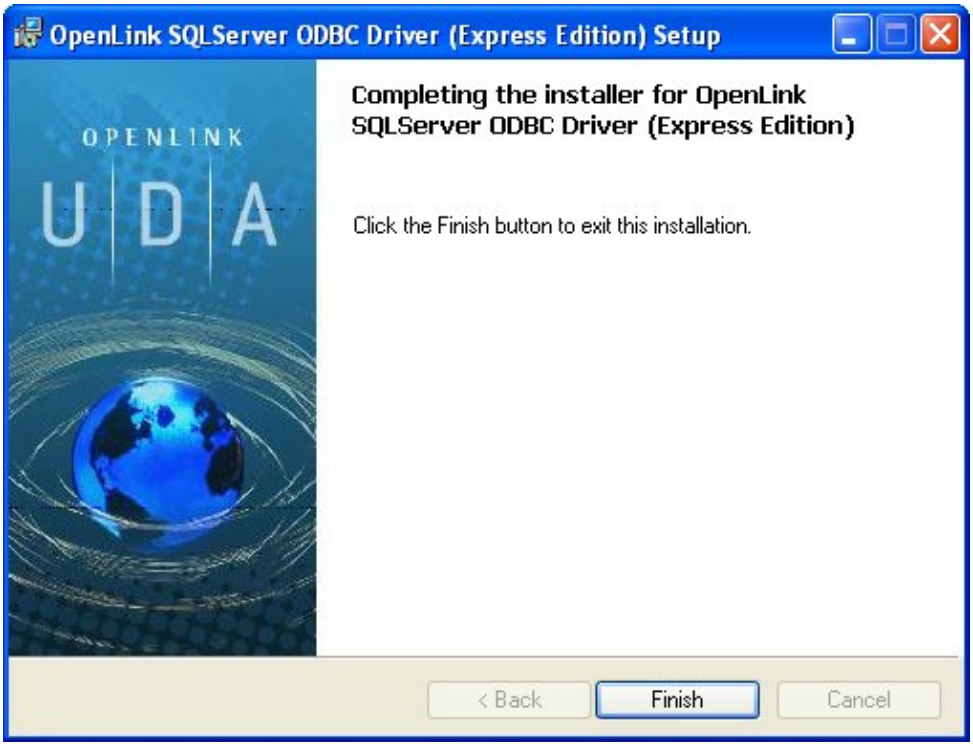
Installation in progress:

Figure 11.35. EEWinsybinst11.png



The Software installation is complete and ready for use:

Figure 11.36. EEWinsybinst12.png



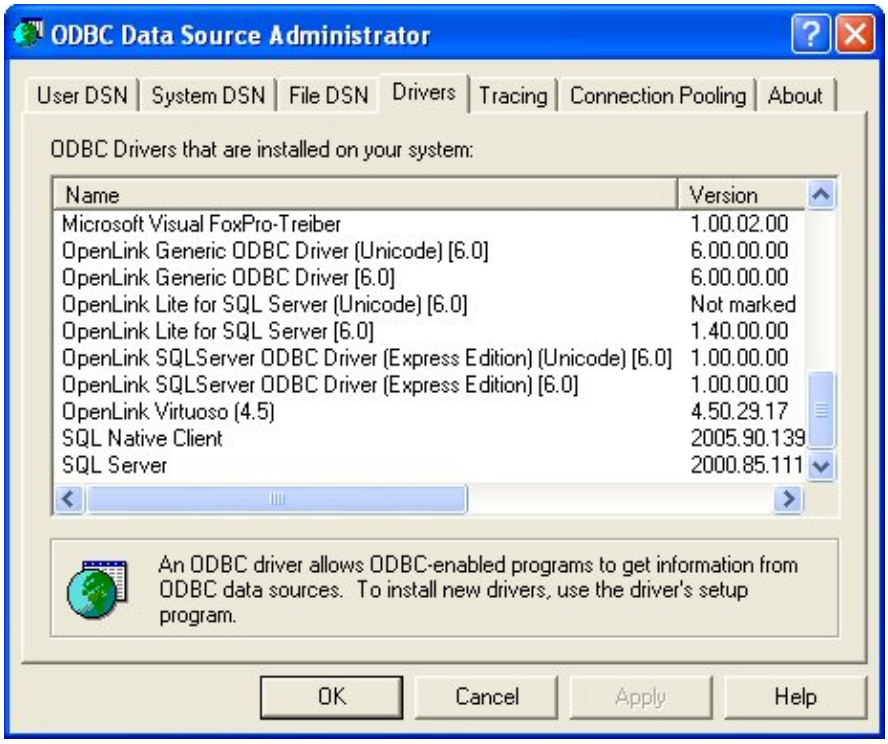
12.2.2 Configuration

To configure an ODBCDSN, run the ODBCAdministrator located in the Administrative Tools section of the Control Panel:

Figure 11.37. EEWinsybconf01.png

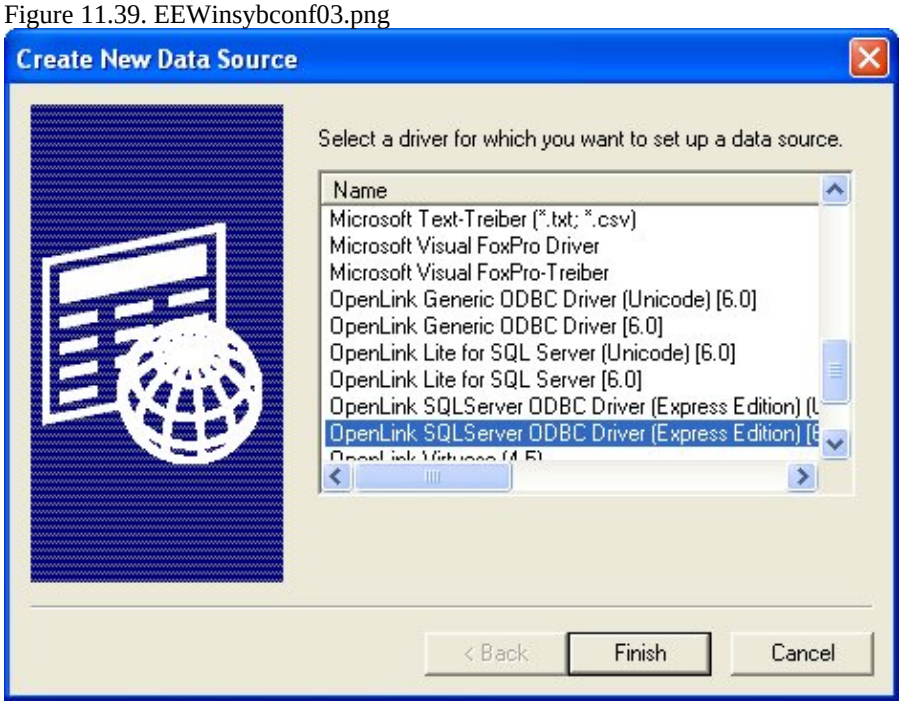
Click on the drivers Tab to confirm the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] has been successfully installed

Figure 11.38. EEWinsybconf02.png



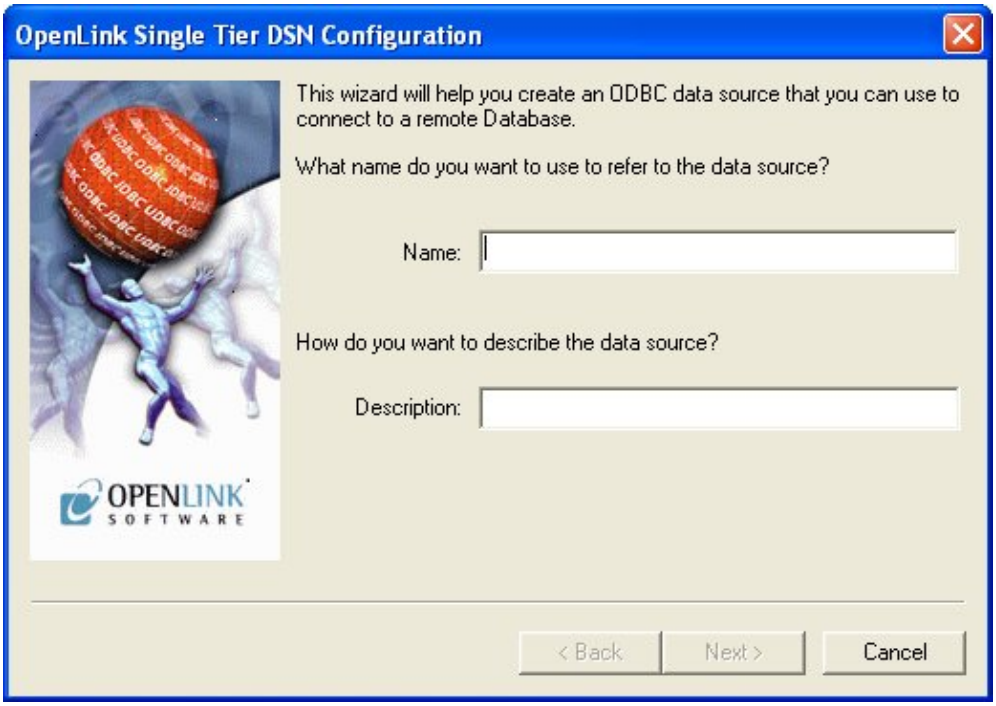
From either the User or System DSN tabs click on the Add button and select the OpenLinkSQLServer ODBCDriver [Express Edition][6.0] from the list presented to create an ODBCDSN :

Figure 11.39. EEWinsybconf03.png



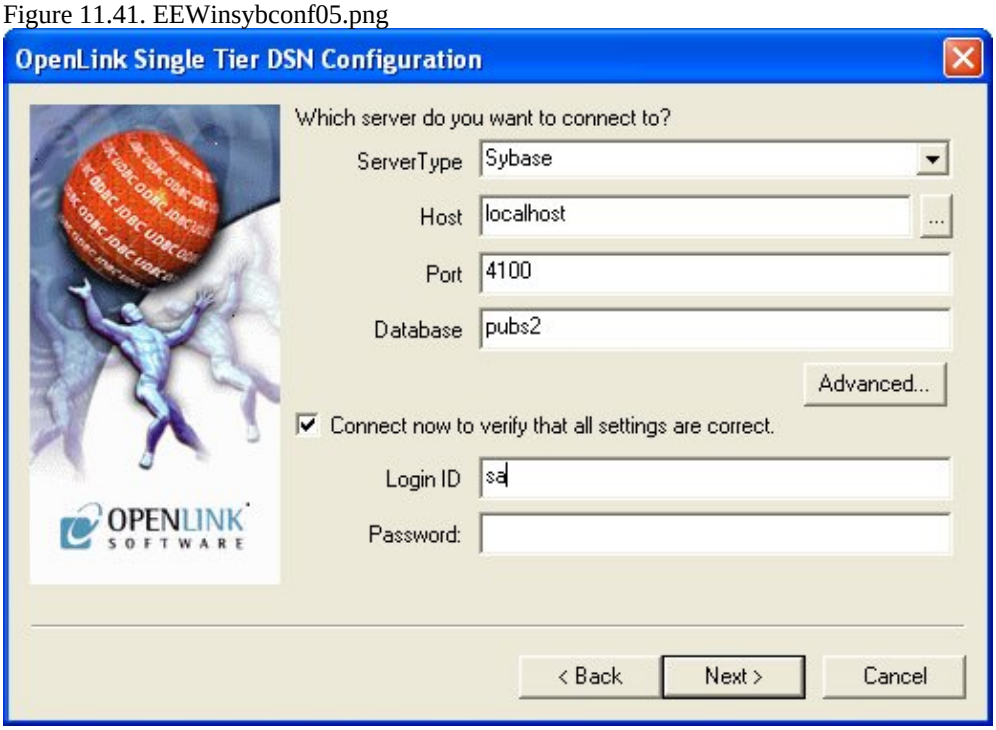
In the Data Source tab, select a suitable DSN name and optional description for the Data Source to be created:

Figure 11.40. EEWinsybconf04.png



The Connection Tab request the minimum paramters required to make a connection to the target database:

Figure 11.41. EEWinsybconf05.png



- *Server Type* : This paramter should be set to Sybase which can be selected from th drop down list box
- *Host* : This is the fully qualified hostname, or IP address, of the machine hosting the DBMS you wish to access, e.g., dbms-server.example.com, or 192.168.155.123. Any hostname which will be resolved by your local DNS is acceptable.
- *Port* : This is the port that SQL Server is listening on
- *Database* : This is the SQL Server database that you want to connect to

- *Login ID* : This is a valid user on for the SQL Server Database
- *Password* : Enter valid password and click next to verify that all settings are correct or uncheck check box to delay this to a later stage.

The advanced button displays additional optional parameters that can be configured:

Figure 11.42. EEWinsybconf06.png

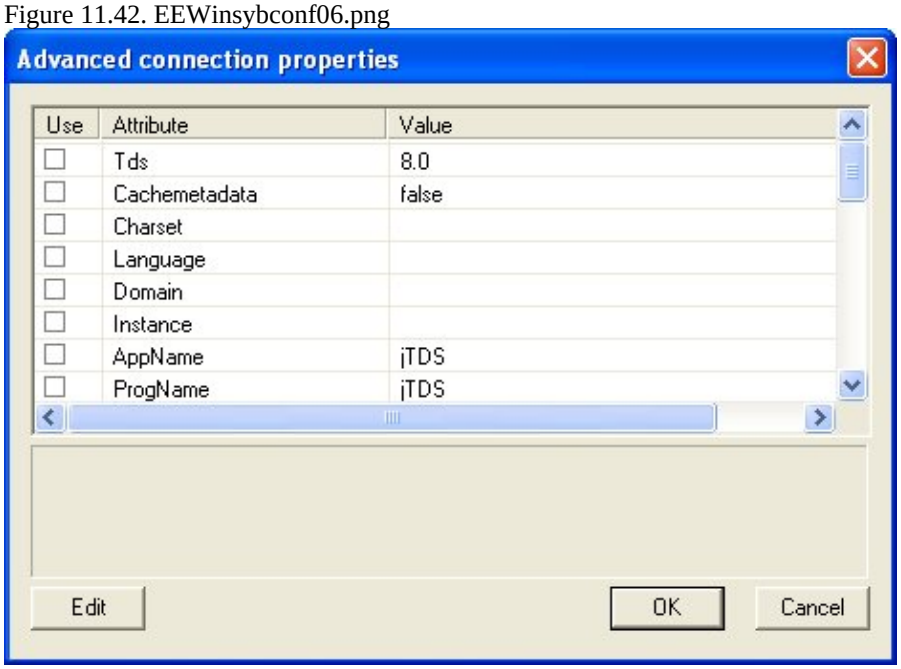


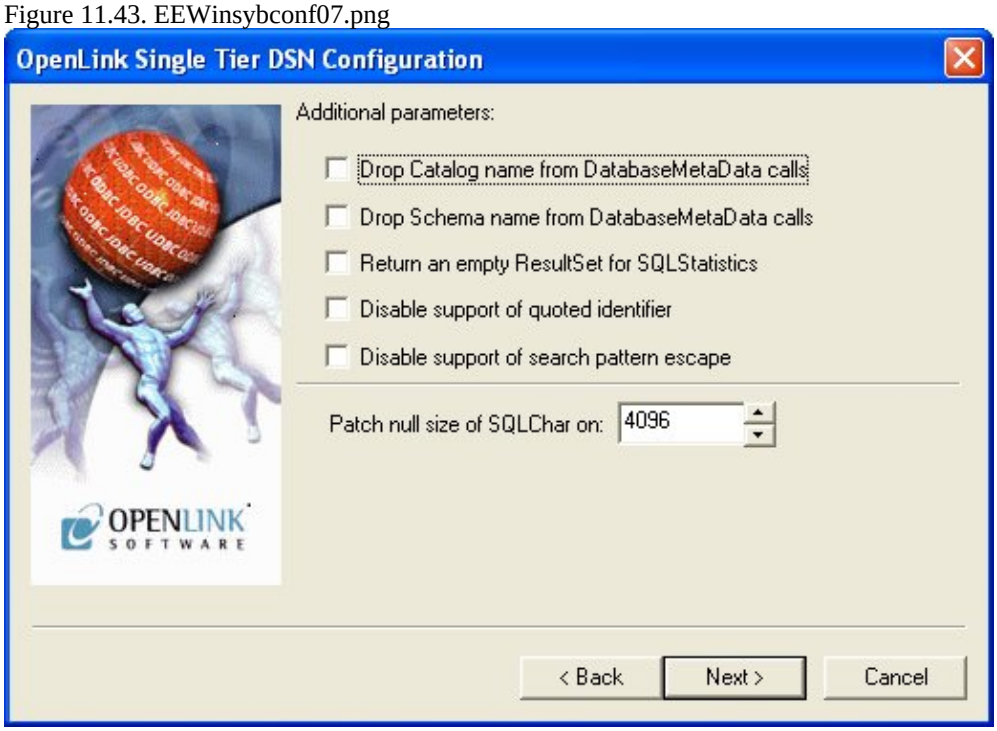
Table 11.2.

Tds	The version of TDS to be used.(default - '8.0')
Cachemetadata	When used with prepareSQL=3, setting this property to true will cause the driver to cache column meta data for SELECT statements. Use with care.(default - false)
Charset	Very important setting, determines the byte value to character mapping for CHAR/VARCHAR/TEXT values. Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values doesn't have any effect since these are stored using Unicode.(default - the character set the server was installed with)
Language	Applies for characters from the extended set (codes 128-255). For NCHAR/NVARCHAR/NTEXT values doesn't have any effect since these are stored using Unicode.(default - the character set the server was installed with)
Domain	Specifies the Windows domain to authenticate in. If present and the user name and password are provided, it uses Windows (NTLM) authentication instead of the usual SQL Server authentication (i.e. the user and password provided are the domain user and password). This allows non-Windows clients to log in to servers which are only configured to accept Windoes authentication.
Instance	Named instance to connect to. SQL Server can run multiple so-called 'named instances' (i.e. different server instances, running on different TCP ports) on the same machine. When using Microsoft tools, selecting one of these instances is made by using '[host_name]\[instance_name]' instead of the usual '[host_name]'. You will have to split the two and use the instance name as a property.
AppName	Application name. No practical use, it's displayed by Enterprise Manager or Profiler associated with the connection.
ProgName	Client library name. No practical use, it's displayed by Enterprise Manager or Profiler associated with the connection.
Wsid	Workstation ID. No practical use, it's displayed by Enterprise Manager or Profiler associated with the connection.(default - the client host name)
MacAddress	Network interface card MAC address.(default - '000000000000')

SendStringParametersAsUnicode	Determines whether string parameters are sent to the SQL Server database in Unicode or in the default character encoding of the database.(default - true)
LastUpdateCount	If true only the last update count will be returned by executeUpdate(). This is useful in case you are updating or inserting into tables that have triggers (such as replicated tables); there's no way to make the difference between an update count returned by a trigger and the actual update count but the actual update count is always the last as the triggers execute first. If false all update counts are returned; use getMoreResults() to loop through them. (default - true)
PrepareSQL	This parameter specifies the mechanism used for Prepared Statements.(default - 3 for SQL Server)
PacketSize	The network packet size (a multiple of 512).(default - 4096 for TDS 7.0/8.0; 512 for TDS 4.2/5.0)
TcpNoDelay	true to enable TCP_NODELAY on the socket; false to disable it.(default - true)
LobBuffer	The amount of LOB data to buffer in memory before caching to disk. The value is in bytes for Blob data and chars for Clob data.(default - 32768)
MaxStatements	The number of statement prepares each connection should cache. A value of 0 will disable statement caching.(default - 500)
LoginTimeout	The amount of time to wait (in seconds) for a successful connection before timing out. If namedPipe is true and loginTimeout is non-zero, the value of loginTimeout is used for the retry timeout when 'All pipe instances are busy' error messages are received while attempting to connect to the server. If namedPipe is true and loginTimeout is zero (the default), a value of 20 seconds is used for the named pipe retry timeout. (default - 0)
SocketTimeout	The amount of time to wait (in seconds) for network activity before timing out.Use with care! If a non zero value is supplied this must be greater than the maximum time that the server will take to answer any query. Once the timeout value is exceeded the network connection will be closed. This parameter may be useful for detecting dead network connections in a pooled environment.(default - 0)
NamedPipe	When set to true, named pipe communication is used to connect to the database instead of TCP/IP sockets. When the os.name system property starts with 'windows' (case-insensitive), named pipes (both local and remote) are accessed through the Windows filesystem by opening a RandomAccessFile to the path. When the SQL Server and the client are on the same machine, a named pipe will usually have better performance than TCP/IP sockets since the network layer is eliminated.
Ssl	Specifies if and how to use SSL for secure communication.(default - off)
BatchSize	Controls how many statements are sent to the server in a batch. The actual batch is broken up into pieces this large that are sent separately.(default - 0[unlimited] for SQL Server)
UseCursors	Instructs the driver to use server side cursors instead of direct selects (AKA firehose cursors) for forward-only read-only result sets (with other types of result sets server- or client-side cursors are always used).(default - false)
BufferMaxMemory	Controls the global buffer memory limit for all connections (in kilobytes). When the amount of buffered server response packets reaches this limit additional packets are buffered to disk; there is however one exception: each Statement gets to buffer at least '[bufferMinPackets]' to memory before this limit is enforced. This means that this limit can and will usually be exceeded.(default - 1024)
BufferMinPackets	Controls the minimum number of packets per statement to buffer to memory. Each Statement will buffer at least this many packets before being forced to use a temporary file if the [bufferMaxMemory] is reached, to ensure good performance even when one Statement caches a very large amount of data.(default - 8)
UseLOBs	Controls whether large types (IMAGE and TEXT/NTEXT) should be mapped by default (when using getObject()) to LOBs . The default type constant returned is also controlled by this property: BLOB for IMAGE and CLOB for TEXT/NTEXT when true, LONGVARBINARY for IMAGE and LONGVARCHAR for TEXT/NTEXT when false.(default - true)

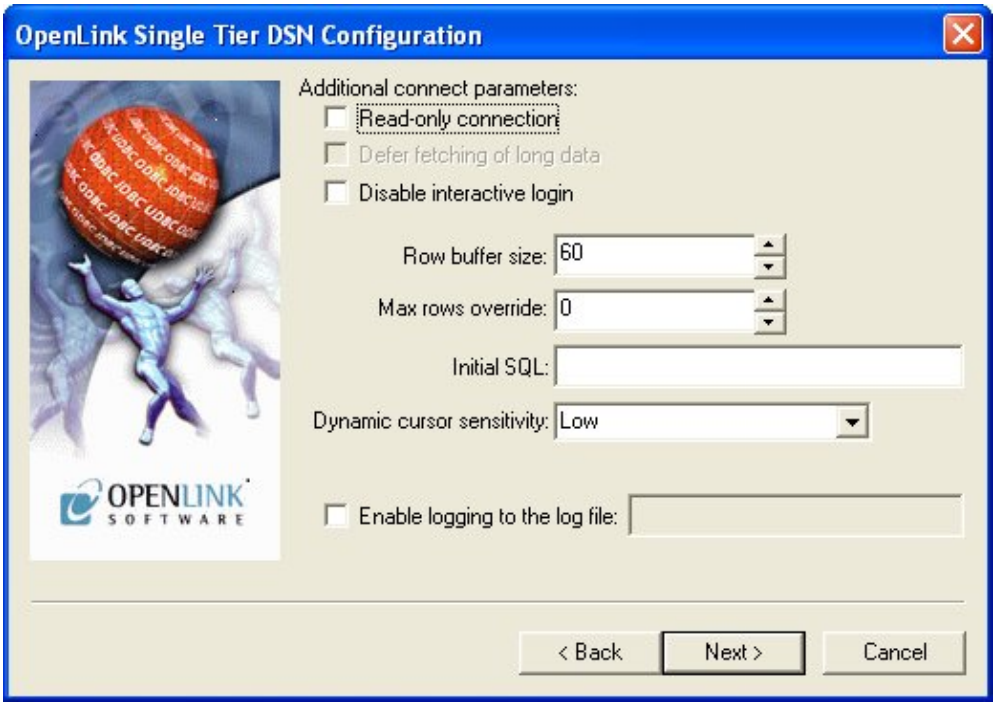
As indiacted above the paramters of the options and preferences tabs are not required for a basic connection.

Figure 11.43. EEWinsybconf07.png



- *Row Buffer Size* - This attribute specifies the number of records to be transported over the network in a single network hop. Values can range from 1 to 99.
- *Hide Login Dialog* - Suppress the ODBC "Username" and "Password" login dialog box when interacting with your ODBC DSN from within an ODBC compliant application.
- *Read Only connection* - Specify whether the connection is to be "Read-only". Make sure the checkbox is unchecked to request a "Read/Write" connection.
- *Drop Catalog from Meta calls* - Enable this option to have the catalog name not appear for tables, views and procedures when requesting database meta-data.
- *Drop Schema from Meta calls* - Enable this option to have the schema-name not appear for tables, views and procedures when requesting database meta-data.
- *SQLStatistics disabled* - Check this box to have SQLStatistics() return an empty resultset. Use this if the underlying database does not support retrieving statistics about a table (e.g. what indexes there are on it).
- *No support of quoted identifier* - If it is set, the call SQLGetInfo for 'SQL_IDENTIFIER_QUOTE_CHAR' will return the space (" "). It can be used if DBMS doesn't support quoted SQL like select * from "account"
- *No support of search string escape* - If it is set, the call SQLGetInfo for 'SQL_LIKE_ESCAPE_CLAUSE' will return the space (" "). It can be used if DBMS doesn't support SQL escape patterns
- *Patch of NULL size of SQL_CHAR* - If set this option overrides the size of SQL_CHAR column type returned by the database with the value set in the text box (in bytes). With the default value of 0 the driver uses the size returned by the database.
- *SQL_DBMS Name* - Manually override the SQLGetInfo(SQL_DBMS_NAME) response returned by the driver. This is know to be required for products like Microsoft InfoPath for which the return the value should be "SQL Server".

Figure 11.44. EEWinsybconf08.png



- *Initialization SQL* - Lets you specify a file containing SQL statements that will be run against the database upon connection, automatically.

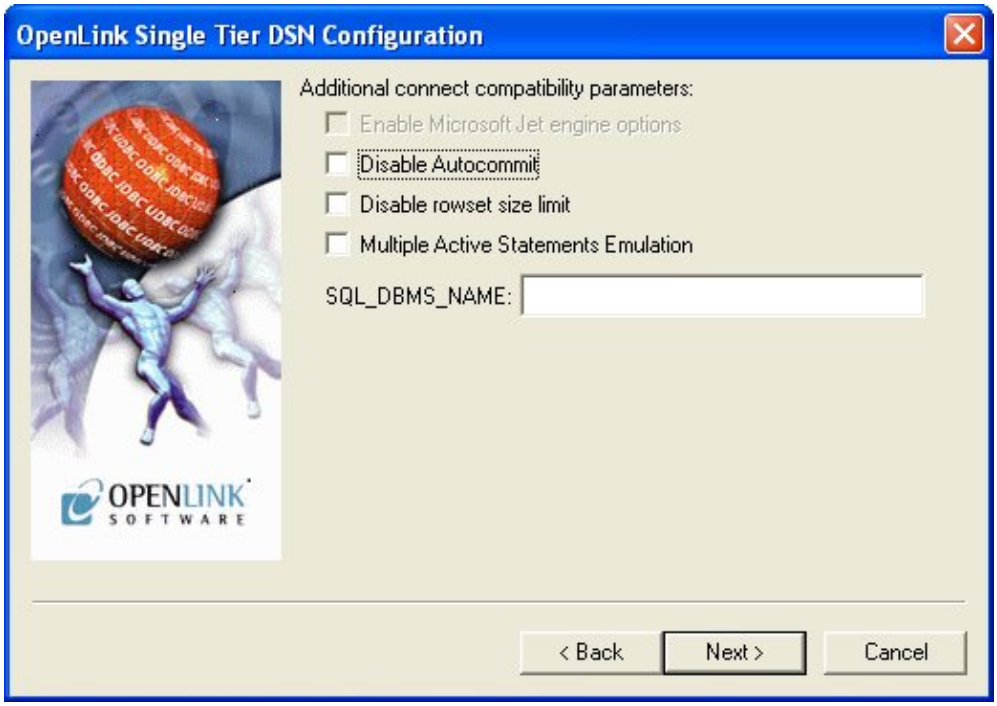
- *Cursor Sensitivity* - Enables or disables the row version cache used with dynamic cursors. When dynamic cursor sensitivity is set high, the Cursor Library calculates checksums for each row in the current rowset and compares these with the checksums (if any) already stored in the row version cache for the same rows when fetched previously. If the checksums differ for a row, the row has been updated since it was last fetched and the row status flag is set to SQL_ROW_UPDATED. The row version cache is then updated with the latest checksums for the rowset. From the user's point of view, the only visible difference between the two sensitivity settings is that a row status flag can never be set to SQL_ROW_UPDATED when the cursor sensitivity is low. (The row status is instead displayed as SQL_ROW_SUCCESS.) In all other respects, performance aside, the two settings are the same - deleted rows don't appear in the rowset, updates to the row since the row was last fetched are reflected in the row data, and inserted rows appear in the rowset if their keys fall within the span of the rowset. If your application does not need to detect the row status SQL_ROW_UPDATED, you should leave the 'High Cursor Sensitivity' checkbox unchecked, as performance is improved. The calculation and comparison of checksums for each row fetched carries an overhead. If this option is enabled, the table oplrvc must have been created beforehand using the appropriate script for the target database.

- *MaxRows Override* - Allows you to define a limit on the maximum number of rows to returned from a query. The default value of 0 means no limit.

- *Defer fetching of long data* - Defer fetching of LONG (BINARY, BLOB etc.) data unless explicitly requested in query. This provides significant performance increase when fields in query does not include LONG data fields.

- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

Figure 11.45. EEWinsybconf09.png



- *Disable AutoCommit* - Change the default commit behaviour of the OpenLink Lite Driver. The default mode is AutoCommit mode (box unchecked).
- *Disable Rowset Size Limit* - Disable the limitation enforced by the cursor library. The limitation is enforced by default to prevent the Driver claiming all available memory in the event that a resultset is generated from an erroneous query is very large. The limit is normally never reached.
- *Multiple Active Statements Emulation* - Enables use of Multiple Active statements in an ODBC application even if the underlying database does not allow this, as it is emulated in the driver.

Click on the *Test Data Source*button to verfiy successful connection can be made to the database.

Figure 11.46. EEWinsybconf10.png