



Product Documentation

ER/Studio® Data Architect

Installation Guide

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ABOUT THIS GUIDE

This guide contains information to help you install, upgrade, and uninstall the following ER/Studio products and add-on products:

- [ER/Studio Data Architect](#): Provides a complete environment for you to analyze, design, create, and maintain database applications.

NOTE: When you upgrade ER/Studio Data Architect, upgrade ER/Studio Repository to the corresponding release and vice versa.

- [ER/Studio Repository](#): The server-side Repository provides for improved teamwork and enterprise collaboration. ER/Studio Repository is included in the ER/Studio Enterprise.

NOTE: ER/Studio also includes the ER/Studio Portal and EA/Studio. EA/Studio is a business process and conceptual modeling tool. EA/Studio installation details are described in the EA/Studio Installation Guide.

- [Metawizard](#): Integrate metadata across modeling tools, business intelligence, ETL platforms and industry-standard exchange formats (XMI, XML and XSD). This tool enables ER/Studio Data Architect to integrate with more than seventy other applications by sharing metadata through an import-export capability.
- [Universal Data Models](#): Standard and Industry-specific data model templates for ER/Studio Data Architect that reduce the development time of database-related projects by an average of 60 percent, as well as improve the quality of existing and new data models.
- [ER/Studio Viewer](#): View, navigate, and print ER/Studio Data Architect models in a view-only environment. ER/Studio Viewer features the same sophisticated and advanced viewing, navigation, and printing functionality that ER/Studio Data Architect provides.

ER/STUDIO DATA ARCHITECT

ER/Studio Data Architect provides a complete environment for you to analyze, design, create, and maintain database applications. This section is comprised of the following topics:

- [ER/Studio Data Architect Installation Checklist](#)
- [Licensing ER/Studio Data Architect](#)
- [Upgrading ER/Studio Data Architect](#)
- [Uninstalling ER/Studio Data Architect](#)

ER/STUDIO DATA ARCHITECT INSTALLATION CHECKLIST

Use the following checklist to ensure you correctly install and configure ER/Studio Data Architect.

Done	N/A	Requirements
		Download ER/Studio Data Architect You can download a 14-day trial version of ER/Studio Data Architect, which you can license later, from www.embarcadero.com/downloads
		Review ER/Studio Data Architect ReadMe For the most current installation and usage information, see the ReadMe at docs.embarcadero.com .
		Ensure System Compatibility For system requirements, see System Requirements .
		Install ER/Studio Data Architect For installation details, see Installing ER/Studio Data Architect .
		License ER/Studio Data Architect For ER/Studio Data Architect licensing details, see Licensing ER/Studio Data Architect .
		Run and Test ER/Studio Data Architect For step-by-step instructions on using ER/Studio Data Architect, see the <i>ER/Studio Data Architect Evaluation Guide</i> at docs.embarcadero.com .

SYSTEM REQUIREMENTS

Review the requirements before you install ER/Studio Data Architect. Adhering to these requirements optimizes ER/Studio Data Architect performance.

ER/Studio Data Architect Requirements		
Hardware	Processor	Pentium III, 600 MHz or higher
	RAM	1 GB
	Disk Space	340 MB
		175 MB in the System TEMP directory for temporary file storage during installation.
	DVD Reader	
Operating System	Any of the following: <ul style="list-style-type: none"> • Windows 7 • Windows Server 2008 • Windows Vista • Windows XP Professional • Windows 2003 (32-bit mode) • Windows 2000 Pro Server • Advanced Server with Service Pack 2 	
Software	To use an Open Data Base Connectivity (ODBC) database as a data source, install the ODBC driver on your client computer. To connect to the DBMS using native connectivity, install the native client libraries available from the DBMS vendor.	
Privileges	Local administrator privileges (required for installation only).	

INSTALLING ER/STUDIO DATA ARCHITECT

NOTE: To ensure compatibility, the release dates of ER/Studio Repository and ER/Studio Data Architect must be the same.

- 1 Log on to Windows with local administrator privileges.
- 2 Start the ER/Studio Data Architect installation program.
- 3 Walk through the installation wizard following the onscreen prompts.

The following provides additional information for some options that are not self-explanatory:

- **Default Notation:** Choose the notation type you want ER/Studio Data Architect to use by default to display the model.
 - **IDEF1X:** Data modeling technique used by many branches of the United States Federal Government.
 - **IE (Martin/Finkelstein):** Information Engineering (IE) as developed by Martin and later revised by Finkelstein.
 - **IE (Crow's Feet):** Uses IE notation and represents relationships with connecting lines between entities, and symbols at the ends of those lines to represent the cardinality of the relationship. This is the notation used in Oracle texts and in other applications such as Visio. Foreign keys are displayed in entity boxes.
 - **IE (Hide Foreign Keys):** Uses standard IE notation, but foreign keys are not displayed in entity boxes.

NOTE: You can change the notation setting at a later time. To change the notation, choose **Tools > Options** from the ER/Studio Data Architect Main menu, and then click the Logical or Physical tab where you can choose the notation type.

- **Shared Application Data Location:** By default, ER/Studio Data Architect installs shared directories and application files such as the DatatypeMapping, Macros, and Sample Models directories in the following locations:
 - **Windows XP:** C:\Documents and Settings\All Users\Application Data\Embarcadero\ERStudio_X.X
 - **Windows Vista:** C:\ProgramData\Embarcadero\ERStudio_X.XIf you prefer to store these files in another directory, follow the procedure in [Changing the Location of ER/Studio Data Architect Shared Files](#).
- For step-by-step instructions on how to use ER/Studio Data Architect, see the *ER/Studio Data Architect Evaluation Guide* at docs.embarcadero.com.

Changing the Location of ER/Studio Data Architect Shared Files

NOTE: You must have local administrator privileges to change the location where ER/Studio Data Architect stores and searches for shared application data.

- 1 Choose **Help > About ER/Studio Data Architect**, and then click **File Path**.
- 2 In the **File Path** dialog, browse to an existing directory where you want to store your shared files.

NOTE: The directory path you choose must be the location where you have created an Embarcadero\ERStudioDA_X.X directory or where you want ER/Studio Data Architect to create this directory.

ER/Studio Data Architect creates **C:\Documents and Settings\All Users\Application Data\Embarcadero\ERStudioDA_X.X** directory, if it does not already exist.

- 3 In the **File Path** dialog, click **OK**, and then in the **About ERStudio** dialog, click **OK** again. ER/Studio Data Architect searches for the datatype mappings in this directory.
- 4 Choose **Tools > Options > Directories**, specify where you want to store your macros, and then click **OK**.
- 5 Copy the contents of the **DatatypeMapping**, **Macros**, and **Sample Models** directories to the new location.
- 6 To effect the changes, restart ER/Studio Data Architect.

LICENSING ER/STUDIO DATA ARCHITECT

ER/Studio Data Architect requires one or more licenses in order to run. A baseline license provides basic feature support for the product. In addition, incremental licenses may be required to support specific DBMS platforms, product add-ons or other functions.

ER/Studio Data Architect supports three types of licenses:

- **Trial licenses:** A license for a 14-day, full-featured trial version of the product. The trial license must be registered before you can use the product. For more information, see [Registering a Trial or Workstation License at Application Startup](#).
- **Workstation licenses:** A license or set of licenses that is tied to a particular workstation. The product can only be used on that workstation. For more information, see [Registering a Workstation License after Application Startup](#).

- **Networked licenses:** Networked licenses are administered and distributed by a central License Server (Embarcadero License Center or Acresto FLEXnet Publisher). There are two types of networked licenses:
 - **Concurrent licensing:** Users on different machines take turns using licenses from a shared pool.
 - **Networked Named User licensing:** Licenses are pre-assigned to specific users that are setup on the license server's user list. Those users are guaranteed to have licenses available any time.

For more information, see [Registering a Networked License](#).

If you have problems registering, see [Registering by Phone](#).

REGISTERING A TRIAL OR WORKSTATION LICENSE AT APPLICATION STARTUP

Shortly after downloading a trial version of an Embarcadero product, you should receive an e-mail from Embarcadero with a serial number, which must be registered as follows. These instructions also apply if you have purchased a product and received a serial number prior to running the application for the first time, or if the trial period has expired.

- 1 Start the application.

The Embarcadero License Registration dialog appears.

- 2 Copy the serial number from the e-mail, and then paste it into the **Serial Number** field.
- 3 Enter your Embarcadero Developer Network (EDN) account credentials in the **Login or Email** and **Password** fields.

If you have not previously created an EDN account, or have forgotten your password, click **I need to create ...** or **I've lost my password**.

- 4 Click **Register**.

The activation file should be downloaded and installed automatically. If this does not happen, click the **Trouble Connecting? Try Web Registration** link in the license registration dialog and follow the prompts. If you still have problems, see [Registering by Phone](#).

REGISTERING A WORKSTATION LICENSE AFTER APPLICATION STARTUP

The following instructions assume that you have received a workstation license by e-mail and that you currently have a valid trial license. If you did not install a trial version or if the trial period has expired, follow the instructions in [Registering a Trial or Workstation License at Application Startup](#) instead.

- 1 Choose **Help > Launch License Manager**.
- 2 In the License Manager dialog, select the version of ER/Studio Data Architect the license applies to: **Standard**, **Developer**, or **Enterprise**.
- 3 Choose **Serial > Add**.
- 4 Copy the serial number from the e-mail, paste it into the **Add Serial Number** dialog, and then click **OK**.
- 5 Expand **Unregistered Serial Numbers**, right-click the serial number just added, and then click **Register**.

A registration dialog appears.

NOTE: The Registration Code box shows a machine-specific identifier required with other registration methods.

- 6 Ensure that **Register using Online Registration** is selected.
- 7 Provide Developer Network credentials in the **Login name or Email** and **Password** fields.
- 8 Click **Register**.

The activation file should download and install automatically. If this does not happen, click the **Trouble Connecting? Try Web Registration** link and follow the prompts. If you still have problems, see [Registering by Phone](#).

REGISTERING BY PHONE

If you have problems with either of the above procedures, you can register licenses by phone. You must provide the following information:

- Developer Network credentials
- The registration code displayed in the Embarcadero License Registration dialog that appears when you start an unlicensed application
- The product base license serial number
- The license serial numbers for any additional features you have purchased.

For North America, Latin America, and Asia Pacific: call (415) 834-3131 option 2, and then follow the prompts. The hours are Monday to Friday, 6:00 A.M. to 6:00 P.M. Pacific time.

For Europe, Africa, and the Middle East: Call +44 (0)1628-684 494. The hours are Monday to Friday, 9 A.M. to 5:30 P.M. U.K. time.

Shortly after phoning in, you will receive an e-mail containing an activation file. Then do the following:

- 1 Save the activation file to the desktop or to a scratch directory such as `c:\temp`.
- 2 From within the application, choose **Help > Launch License Manager**.
- 3 Choose **License > Import**.
- 4 Navigate to the directory where you saved the activation file, and then double-click the activation file.
- 5 Click the **Import** button to import the activation file, and then click **Finish**.

REGISTERING A NETWORKED LICENSE

If your organization uses networked licensing, an administrator, department head, or someone providing a similar function, will provide you with activation files: `license.dat` and `license.txt`. In the ER/Studio Data Architect About dialog, ensure that the File Path field contains the correct location of these files.

Once you receive the files, save them to the license subdirectory of the main installation directory (typically `C:\Program Files\Embarcadero\<product><version>\license\`), then restart the application.

No additional steps are necessary.

UPGRADING ER/STUDIO DATA ARCHITECT

Use the following checklist to ensure ER/Studio Data Architect is correctly upgraded.

Upgrade Checklist		
Done	N/A	Requirements
		Download ER/Studio Data Architect Upgrade To download the most current release, go to www.embarcadero.com/downloads
		Review the ER/Studio Data Architect ReadMe For the most current installation and usage information, see the ReadMe at docs.embarcadero.com/ .
		Prepare to Upgrade For what to do before you upgrade to the latest version, see Preparing to Upgrade .
		Upgrade ER/Studio Data Architect For ER/Studio Data Architect upgrade details, see Upgrading ER/Studio Data Architect .

Upgrade Checklist		
Done	N/A	Requirements
		Upgrade ER/Studio Data Architect Diagrams For ER/Studio Data Architect diagram upgrade details, see Upgrading Diagrams .

Important Notes

- You can install ER/Studio Data Architect 8.x and an earlier ER/Studio Data Architect version on the same workstation.
- If you have an ER/Studio Enterprise installation, which includes ER/Studio Repository, you must also upgrade the Repository to coincide with the build date of ER/Studio Data Architect.
- Any *.dm1 files from the previous version you open will be upgraded to 8.x format when you open them for the first time. You can then choose to save the file in the new format using the same or a different name. Previous versions of ER/Studio Data Architect cannot read version 8.x files.
- Upgrading diagrams can be time consuming and memory intensive. The number and size of ER/Studio Data Architect diagrams managed in the upgraded Repository will dictate how long the upgrade process takes.
- Reference Models supported in previous versions are not supported in ER/Studio Data Architect 7.x and later releases.

PREPARING TO UPGRADE

- 1 Ensure you have backed up all your .dm1 files.

NOTE: The steps that follow are for ER/Studio Enterprise installations only, which include ER/Studio Repository.

- 2 Check in all your diagrams and objects.

NOTE: If you attempt check in a file from a previous-version that has the same name as an existing file, the existing file will become corrupted.

- 3 Rename all local copies of Repository diagrams in the active file directory as follows:

From the ER/Studio Data Architect Main menu, choose **Repository > Options**.

Make note of the name of the **Active File Directory**.

Switch to **Windows Explorer** and rename all the diagrams in the **Active File Directory**.

- 4 Ensure no one is logged into the Repository.
- 5 Backup the current Repository database.
- 6 Remove the previous version of the Repository application.

Choose **Control Panel > Add Remove Programs > Repository x.x**, and then click **Remove**.

- 7 Restart the Repository host computer.

UPGRADING ER/STUDIO DATA ARCHITECT

Follow the instruction for installing ER/Studio Data Architect, see [ER/Studio Data Architect Installation Checklist](#).

UPGRADING DIAGRAMS

- If you have an ER/Studio Data Architect installation that does not include ER/Studio Repository, see [Upgrading ER/Studio Data Architect Standard Diagrams](#).
- If you have ER/Studio Enterprise, which includes ER/Studio Repository, see [Upgrading ER/Studio Data Architect Diagrams](#).

UPGRADING ER/STUDIO DATA ARCHITECT STANDARD DIAGRAMS

NOTE: This procedure is for ER/Studio Data Architect Standard installations only, which do not include the Repository.

Once you have installed the new version of ER/Studio Data Architect, from the new version of ER/Studio Data Architect, open each of your old *.dm1 files. ER/Studio Data Architect will convert the files to the new format before opening them. Then save the files with a new name or overwrite the previous version by using the same name.

UPGRADING ER/STUDIO DATA ARCHITECT DIAGRAMS

NOTE: This procedure is for ER/Studio Enterprise installations only, which include ER/Studio Repository.

Update your existing diagrams before you check out any diagrams or do any work with the new version of ER/Studio Data Architect.

Upgrading diagrams can be time consuming and memory intensive. The number and size of ER/Studio Data Architect diagrams managed in the upgraded Repository will dictate how long the upgrade process takes.

- 1 Start **ER/Studio Data Architect**.
- 2 Update the **Repository Options** to recognize the new ER/Studio Repository as follows:
From the ER/Studio Data Architect **Main** menu, choose **Repository > Repository Options**. In the **Server Machine** box, type the host name or IP address of the Repository machine, and then click **OK**.
- 3 Log on to the **Repository** using an account with Super User privileges.
- 4 Run the **Diagram Data Version Upgrade** utility as follows:
From the ER/Studio Data Architect **Main** menu, choose **Repository > Administration > Diagram Data Version Upgrade**.
This will update your existing diagrams to the latest version.

Notes

- By default, the Super User role is assigned to the Admin user. The default Admin user name and password are: Admin and Admin.
- The diagram data version upgrade does not upgrade Named Releases. The system prompts you to upgrade named releases the first time you open them after you upgrade ER/Studio Data Architect.
- After the diagrams are updated, each user must perform a clean get of all Repository diagrams they were working on previously.

UNINSTALLING ER/STUDIO DATA ARCHITECT

If you no longer need it, uninstall the previous version of ER/Studio Data Architect and ER/Studio Repository.

NOTE: Be sure to backup any custom SQL files or other work files in the Program Files\Embarcadero\ERStudio directory because they will be removed during this process.

Uninstall ER/Studio Data Architect using the Windows **Add/Remove Programs** application.

Uninstalling the application does not remove shared and user-specific application data, such as macros, sample diagrams, and user diagrams.

ER/STUDIO REPOSITORY

The server-side Repository provides for improved teamwork and enterprise collaboration. ER/Studio Repository is included in the Enterprise edition of ER/Studio. ER/Studio Repository is comprised of two components:

- **Repository Server:** The link between ER/Studio Data Architect and the Repository database. The server is responsible for creating the SQL code necessary to query the database to retrieve data or to insert data into the database. The Repository Server consists of the following components:
 - Repository Communication Server
 - Repository Event and Dispatch Server
 - Repository Database Server
- **Repository Database:** Stores information about the Repository Diagrams and their objects.

This section is comprised of the following topics:

- [Purchasing ER/Studio Repository](#)
- [ER/Studio Repository Installation Checklist](#)
- [Upgrading ER/Studio Repository](#)
- [Uninstalling ER/Studio Repository](#)

PURCHASING ER/STUDIO REPOSITORY

NOTE: Trial versions of ER/Studio Enterprise include a 14-day license. You must purchase a license at the end of the trial to continue using the product.

To purchase ER/Studio Enterprise, which includes a license for ER/Studio Data Architect, ER/Studio Repository, ER/Studio Business Architect, and ER/Studio Portal, contact Embarcadero Sales:

Embarcadero Sales Contact Information		
Region	Telephone	E-mail
North America, Latin America, and Asia Pacific	415.834.3131 ext. 3	sales@embarcadero.com
Europe, Africa, and the Middle East	+44 (0) 1628 684400	uk.sales@embarcadero.com

ER/STUDIO REPOSITORY INSTALLATION CHECKLIST

Use the following checklist to ensure ER/Studio Repository is correctly installed and configured.

Done	N/A	Requirements
		Download ER/Studio Enterprise, which includes the Repository. You can download a 14-day trial version of ER/Studio Enterprise, which you can license later, from www.embarcadero.com/downloads .
		Review the ER/Studio ReadMe. For the most current installation and usage information, see the ReadMe at docs.embarcadero.com .
		Ensure system compatibility. For system requirements, see System Requirements .
		Optimize the repository database. For information on how to optimize Repository performance, see Preparing to Install ER/Studio Repository .
		Plan for repository growth. For information on how to estimate the required size of the Repository database, see Planning for Repository Database Growth .
		Install ER/Studio Repository For instructions on how to install the Repository, see Installing the Repository .
		Connect to the Repository For instructions on how to connect to the Repository from ER/Studio Data Architect, see Connecting to the Repository .
		Run and test ER/Studio Data Architect For instructions on how to use ER/Studio Data Architect, see the <i>ER/Studio Data Architect Evaluation Guide</i> at docs.embarcadero.com .

SYSTEM REQUIREMENTS

Review the following requirements before you install ER/Studio Repository. Adhering to these requirements optimizes ER/Studio Repository performance.

ER/Studio Repository Requirements			
	Repository Database Server		Repository Server
Hardware	Processor	Pentium 4 or higher	Pentium 4 or higher
	RAM	1 GB	2 GB
	Disk Space	350 MB, with the possibility for expansion	50 MB
	DVD Reader	yes	yes
Operating System	Any of the following: <ul style="list-style-type: none"> • Windows Server 2008 • Windows Vista • Windows XP • Windows 2000 • Windows 2003 (32-bit mode) • Linux • UNIX 		Any of the following: <ul style="list-style-type: none"> • Windows Server 2008 • Windows Vista • Windows XP • Windows 2000 • Windows 2003 (32-bit mode)
Software	Transaction Control Protocol (TCP) up and running. Western European character set (UNICODE and UTF8 are not supported)		TCP up and running
	Supported DBMS (see Database Server Requirements)		
Privileges	DBMS privileges to create objects on the server		DBMS privileges to create objects on the server
	Local administrator privileges		Local administrator privileges

NOTE: The hardware requirements are based on an ER/Studio Repository installation with five to 10 users. For more than 10 users, ensure your hardware surpasses the previously stated hardware requirements to accommodate the number of transactions that increase as the number of users increases.

DATABASE SERVER REQUIREMENTS

The following table lists the databases the Repository supports. In order for the Repository to communicate with the database, the machine running the Repository must also have the corresponding RDMS client utility installed. The RDMS client utilities must also be installed on the machine running ER/Studio Data Architect if you want to use ER/Studio Data Architect to reverse engineer databases originating at any of these platforms.

ER/Studio Repository Database Server Requirements	
Supported Repository DBMS	Corresponding RDBMS Client Utility Software
IBM DB2 LUW 7.x *, 8.x, and 9.x Server	Corresponding version of IBM DB2 UDB Client Utilities (7.x, 8.x or 9.x)
Microsoft SQL Server 2000, 2005, and 2008	Corresponding version of SQL Server Client Access (2000, 2005 or 2008)
Microsoft SQL Server 7.0	Microsoft Data Access Component (MDAC) 2.6 or later
Oracle 8.1.x, 9.0.x, 9.2.0.x, 10g, and 11g	Corresponding version of Oracle Client Utilities (8.1.7.4, 9.0, 9.2.0, 10g, or 11g)
Sybase ASE 12.x or 15.x	Sybase 11.9 or later Client Utilities

Important Notes

- If you install the ER/Studio Repository Server and the ER/Studio Repository database on the same machine, consider surpassing the hardware requirements described previously.
- You must use ER/Studio Data Architect 8.x or later with ER/Studio Repository 5.x.
- If you are upgrading ER/Studio Repository and are also using ER/Studio Portal, upgrade ER/Studio Portal to the latest version.
- The RDBMS Client Utility software must be installed before installing the Repository server.
- If you are using Microsoft SQL Server and use case-sensitive nomenclature, you may get connection error messages from the Repository. To avoid this, create an empty database with a non-case-sensitive character set (such as Latin_General_CI_AS), then initialize the database with the Repository Database Maintenance utility.
- For an IBM DB2 UDB 7.x server, the machine where your DB2 instance resides must have the C++ compiler for the Stored Procedures to work correctly.
- For all versions of an IBM DB2 UDB server, to ensure optimal Repository performance, you must have a user temporary tablespace and the database must be tuned so it does not run out of memory or log space. For more information, see [Preparing to Install ER/Studio Repository](#).

PLANNING FOR REPOSITORY DATABASE GROWTH

Regardless of the platform, allocate at least 300 MB of space to the database and implement auto extend so that the database can accommodate increases in the size and number of models. Also, allocate 50 MB of space to the database logfile.

The table below describes the initial size of some sample Repository databases before any diagrams are added, and the approximate database sizing for sample small, medium, and large diagrams.

RDBMS	Initial Size (MB)	Small Diagram (MB)	Medium Diagram (MB)	Large Diagram (MB)
Oracle 8	6	0.5	14	64
Microsoft SQL Server 7	7.8	0.7	14.7	40.9
Sybase ASE 12	3.9	0.8	28.9	89.1
IBM DB2 UDB	3.2	0.8	14.6	50

The table below describes the characteristics of small, medium, and large sample diagrams:

Sample Diagrams	Entities	Attributes	Views	Relationships	DM1 File Size (KB)
Small	22	125	2	20	184
Medium	302	2516	32	606	2153
Large	722	10629	0	1542	6967

To ensure the Repository is installed correctly, see the following:

- [Preparing to Install ER/Studio Repository.](#)
- [Installing the Repository.](#)

NOTE: If you are installing ER/Studio Repository 5.x, install ER/Studio Data Architect 8.x or later. Previous versions of ER/Studio Data Architect are not compatible with ER/Studio Repository 5.x.

PREPARING TO INSTALL ER/STUDIO REPOSITORY

For Microsoft SQL Server

If you are using Microsoft SQL Server and case-sensitive nomenclature, you may get connection error messages from ER/Studio Repository. To remedy this, create an empty database with a non-case-sensitive character set (such as Latin1_General_CI_AS), then initialize the database with the Repository utility. Also, ensure you are using Mixed Authentication for server security.

For IBM DB2 for LUW

If ER/Studio Repository will be stored on IBM DB2 for LUW, perform the following procedures to ensure optimal Repository performance:

- [Creating an IBM DB2 for LUW User Temporary Tablespace.](#)
- [Tuning the IBM DB2 for LUW Database.](#)

CREATING AN IBM DB2 FOR LUW USER TEMPORARY TABLESPACE

The DB2 UDB database must have a user temporary tablespace with at least a 4 KB page size to create the temporary tables.

TIP: Use a system-managed user temporary tablespace because when managed by the system the user temporary tablespace can grow automatically.

TIP: You can use DBArtisan to create a system managed user temporary tablespace.

Create a user temporary tablespace using the tool of your choice or you can use the following SQL:

NOTE: Before you run this script, modify the path for the container.

```
CREATE USER TEMPORARY TABLESPACE REPOTEMP
  PAGESIZE 4096
  MANAGED BY SYSTEM
  USING ('D:\DB2\NODE0000\SQL00002\SQLT0004.0')
// here you specify the physical location of the table space
  EXTENTSIZE 32
  PREFETCHSIZE 16
  BUFFERPOOL IBMDEFAULTBP
  OVERHEAD 24.10
  TRANSFERRATE 0.90
;
```

TUNING THE IBM DB2 FOR LUW DATABASE

This procedure tunes the DB2 database so that it does not run out of memory and log space.

- 1 Increase the application heap size and application control heap size to 2048×4KB.

TIP: To increase the application heap size, right-click the database in the DB2 Control Center, and then click Configure. Then, switch to Performance and modify the values for Application Heap Size (applheapsz) and Application Control Heap Size (appctlheapsz).

- 2 Increase the log file space to 10,000×4 KB (or 40 MB).

- 3 Change the number of primary and secondary log files from 3 and 2, to 10 and 10. This provides for a total of 400 MB of primary log space, which should be sufficient for medium to large diagrams.

TIP: To increase primary and secondary log file sizes, use the Logs tab of the Database Configuration page in the IBM Control Center.

INSTALLING THE REPOSITORY

NOTE: You need an account on the DBMS server Database with administrator privileges to create a new Repository database.

- 1 Log on to Windows with local administrator privileges.
- 2 Start the **Repository 5.x** installation program.
- 3 Walk through the installation wizard.

The options are straightforward, but make sure you choose the following option:

- **Create new Repository database**

Notes

The installation adds tables, indexes, views, and stored procedures. The installer is for the most part self-explanatory. Follow the instructions onscreen. The following are notes for those parts that require additional explanation:

- **Database name:** To install a Repository server on a DBMS server that already has a Repository server installed on it, enter a unique database name for the new server. Any changes to the database name are also applied to the data and log file names.
- **Automatic Growth for Microsoft SQL Server 7.0 or later:** To allow for automatic growth of the database file, click Allow Growth, and then enter a Growth Rate. Express the growth rate as either a percentage of the current database size or the number of MB to add to the database when the database is becoming full. Select the maximum size of the file as either Unlimited or click Size, and then enter the maximum file size in MB.

- Use the **New Oracle User** dialog to create a new user and provide temporary tablespace information for the user. The dialog is self-explanatory, except for the following user identification options:
 - **Password:** If selected, indicates that Oracle should identify the user with the password provided.
 - **Externally:** If selected, indicates that Oracle should verify the database user name against an existing operating system user name.
 - **Globally:** If selected, indicates that Oracle will permit access to the user by obtaining user name and password information from the security domain central authority. This option is only available for Oracle 8.
- **Error Log Viewer:** The Error Log View appears if there is a problem creating your Repository database. If you get an error, review the Repository Database requirements to make sure you meet them. For further assistance with creating your Repository Database, contact Embarcadero Technologies Technical Support.

CONNECTING TO THE REPOSITORY

NOTE: This section applies if you have purchased or are evaluating ER/Studio Enterprise, which includes ER/Studio Repository, or ER/Studio Viewer.

- 1 Start **ER/Studio Data Architect** or **ER/Studio Viewer**.
- 2 From the **Main** menu, choose **Repository > Repository Options**.
- 3 In the **Server Machine** field, type the host name or IP address of the Repository server machine, and then click **OK**.
- 4 Log on to the Repository as follows:
Choose **Repository > Log In**, enter your user name and password, and then click **OK**.

You are now ready to use ER/Studio Data Architect with ER/Studio Repository. For details on using ER/Studio Repository, see the *ER/Studio Evaluation Guide* at docs.embarcadero.com

UPGRADING ER/STUDIO REPOSITORY

Use the following checklist to ensure ER/Studio Repository is correctly upgraded.

Upgrade Checklist		
Done	N/A	Requirements
		Download ER/Studio Enterprise Upgrade. To download the most current release, go to www.embarcadero.com/upgrade/upgrade.html
		Review the ER/Studio ReadMe. For the most current installation and usage information, see the ReadMe at www.embarcadero.com/resources/release_notes/ER/Studio.html .
		Prepare to upgrade. For what to do before you upgrade to the latest version, see Preparing to Upgrade .
		Upgrade ER/Studio Repository. For ER/Studio Enterprise installations, which include the Repository. For ER/Studio Repository upgrade details, see Upgrading the Repository .

Important Notes

- When upgrading from earlier versions, such as from 4.5 to Repository 5.5, you must first upgrade the Repository to version 5.0, upgrade your 4.5 diagrams with ER/Studio DA 8.0, and then upgrade to Repository 5.5 and upgrade your diagrams with ER/Studio DA 8.5. Consult Embarcadero Technical Support when upgrading from versions prior to 4.5.
- If you are upgrading to ER/Studio Repository, upgrade your version of ER/Studio Data Architect also. Ensure the build date of ER/Studio Repository coincides with the build date of ER/Studio Data Architect.
- If you are also using ER/Studio Portal, you must also upgrade it to the latest version.
- You can install ER/Studio Data Architect 8.x and an earlier ER/Studio Data Architect version on the same workstation.
- Any *.dm1 files you use from the previous version will be copied and converted to 8.x format when you open them for the first time. You can then save the diagram with a different name or use the same name to write over the old file. Previous versions of ER/Studio Data Architect will not read 8.x and higher files.
- Upgrading diagrams can be time consuming and memory intensive. The number and size of ER/Studio Data Architect diagrams managed in the upgraded Repository dictates how long the upgrade process takes.
- Reference Models, supported in previous versions, are not supported in ER/Studio Data Architect 7.x and later versions.

PREPARING TO UPGRADE THE REPOSITORY

- 1 Ensure you have backed up all your .dm1 files.
- 2 Check in all your diagrams and objects.

NOTE: If you try to check in a file from the previous version with the same name as a current file, the current file will become corrupted.

- 3 Rename all local copies of Repository diagrams in the active file directory as follows:

Choose **Repository > Options**.

Make note of the **Active File Directory**.

Switch to the **Windows Explorer** and rename all the diagrams in the **Active File Directory**.

- 4 Ensure no one is logged into the Repository.
- 5 Backup the current Repository database.
- 6 Restart the Repository host computer.

UPGRADING THE REPOSITORY

NOTE: This procedure is for ER/Studio Enterprise installations only, which include the Repository. When you upgrade ER/Studio Data Architect you must also upgrade ER/Studio Repository to correspond with the same build date as ER/Studio Data Architect.

- 1 Log on to Windows with local administrator privileges.
- 2 Start the **Repository** installation program and follow the prompts.

The installation program starts the following services:

- Embarcadero Repository Communication Server
- Embarcadero Repository Database Server
- Embarcadero Repository Event and Dispatch Server

- 3 On the **Run Database Wizard?** page, click **Yes**.

- 4 When the wizard locates your existing database, select **Update previous Version Database to current version**.

NOTE: If you are upgrading from a Repository version prior to 4.0, you can delete the C:\Program Files\Embarcadero\Repository\Data directory. This directory is not used with Repository versions 4.0 and later.

UNINSTALLING ER/STUDIO REPOSITORY

From the Windows Add or Remove Programs Control Panel, select Embarcadero Repository X.X, click **Remove**, and then follow the prompts to remove all ER/Studio Repository components.

NOTE: This does not remove the Repository database. The database administrator must remove the Repository database.

METAWIZARD

Integrate metadata across modeling tools, business intelligence, ETL platforms and industry-standard exchange formats (XMI, XML and XSD). This tool enables ER/Studio Data Architect to integrate with more than seventy other applications by sharing metadata through an import-export capability. The Metawizard is installed in both the standard and enterprise editions of ER/Studio Data Architect but is not automatically activated. Once you have licensed the Metawizard, it will be activated.

To purchase ER/Studio Metawizard, contact Embarcadero Sales:

Embarcadero Sales Contact Information		
Region	Telephone	E-mail
North America, Latin America and Asia Pacific	415.834.3131 ext. 3	sales@embarcadero.com
Europe, Africa, and the Middle East	+44 (0) 1628 684400	uk.sales@embarcadero.com

SCHEMA EXAMINER

Embarcadero Schema Examiner automatically reviews and finds design errors in a database schema. Detailed reporting and graphical documentation then simplify the process of pinpointing and reviewing these problems.

- Simplifies the process of testing and validating database schema
- Reverse-engineer existing schema
- Detailed diagnostic reports increase productivity
- Recommends changes and automatically generates scripts to fix problems

Schema Examiner recommends changes to database schema and can automatically generate scripts to fix problems. This efficient and consistent approach to improving database design helps avoid costly data errors and performance problems.

Maximize the quality and efficiency of database designs.

Schema Examiner can examine database designs by directly interfacing with Embarcadero ER/Studio Data Architect. Schema Examiner can also reverse-engineer the schema of existing databases or read SQL scripts directly. Design changes can be simulated before implementation to reduce risk and allow users to check and validate design alterations as a result of maintenance or new inclusions to the database structure. Schema Examiner will also identify violations of best practices that are adversely affecting performance, with suggested changes scripted for easy implementation.

Comprehensive Diagnostics and Reporting

Schema Examiner provides detailed diagnostic reports that increase productivity by accelerating the review process. The innovative "Show Me" facility isolates specific design issues in database models, eliminating the task of finding the problem in large and complex models. There are over fifty issues that Schema Examiner can identify and isolate, such as missing relationships, disabled triggers, missing indexes, incorrectly defined relationships, or inconsistent definitions.

INSTALLING SCHEMA EXAMINER

See www.embarcadero.com/products/schema_examiner/index.php for a free trial version of Schema Examiner. Installation details are described in the Install Guide which you can download from www.embarcadero.com/products/schema_examiner/documentation_and_manuals.php.

UNIVERSAL DATA MODELS

Universal data models are standard and Industry-specific data model templates for ER/Studio Data Architect that reduce the development time of database-related projects by an average of 60 percent, as well as improve the quality of existing and new data models. The Universal Data Models are .dm1 files that you can copy to a storage device and are accessed the same as any other .dm1 file. They do not need to be installed or uninstalled, just copied and deleted.

ER/STUDIO VIEWER

You can use ER/Studio Viewer to view, navigate, and print ER/Studio Data Architect models in a view-only environment. ER/Studio Viewer features the same sophisticated and advanced viewing, navigation, and printing functionality that ER/Studio Data Architect provides.

This section is comprised of the following topics:

- [Installing ER/Studio Viewer](#)
- [Upgrading ER/Studio Viewer](#)
- [Uninstalling ER/Studio Viewer](#)

INSTALLING ER/STUDIO VIEWER

Use the following checklist to ensure ER/Studio Viewer is correctly installed and configured.

Done	N/A	Requirements
		Download ER/Studio Viewer You can download a 14-day trial version of ER/Studio Viewer, which you can license later, from www.embarcadero.com/downloads/download.html
		Review ER/Studio Viewer ReadMe For the most current installation and usage information, see the ReadMe at docs.embarcadero.com .
		Ensure System Compatibility For system requirements, see System Requirements .
		Install ER/Studio Viewer For installation details, see Installing ER/Studio Data Architect .
		Run and Test ER/Studio Viewer For step-by-step instructions on how to use ER/Studio Data Architect and Viewer, see the <i>ER/Studio Data Architect Evaluation Guide</i> at www.embarcadero.com/products/ER/Studio/erdocs.html .

SYSTEM REQUIREMENTS

Review the requirements before you install ER/Studio Viewer. Adhering to these requirements optimizes ER/Studio Viewer performance.

ER/Studio Viewer Requirements	
Hardware	
Processor	Pentium III, 600 MHz or higher
RAM	1 GB

ER/Studio Viewer Requirements	
Disk Space	340 MB
	175 MB in the System TEMP directory for temporary file storage during installation
DVD Reader	yes
Operating System	Any of the following: <ul style="list-style-type: none"> • Windows 2003 Server • Windows XP • Windows 2000 • Windows 98 • Windows NT
Software	To use an Open Data Base Connectivity (ODBC) database as a data source, install the ODBC driver on your client computer. To connect to the DBMS using native connectivity, install the native client libraries available from the DBMS vendor.
Privileges	Local Administrator Privileges (required for installation only)

INSTALLING ER/STUDIO VIEWER

- 1 Log on to Windows with local administrator privileges.
- 2 Double-click **setup.exe** inside the ER/Studio Viewer installation folder.
- 3 Walk through the installation wizard.

The options are straightforward, but make sure you choose the following:

- Do not select a Repository Server.
If you have ER/Studio Repository, follow the instructions in [Connecting to the Repository](#).

NOTE: Before the 14-day trial period expires, purchase ER/Studio Viewer. For details, see [Purchasing ER/Studio Viewer](#)

PURCHASING ER/STUDIO VIEWER

NOTE: Trial versions of ER/Studio Viewer include a 14-day license. Purchase a license at the end of the trial to continue using the product.

To purchase ER/Studio Viewer, contact Embarcadero Sales:

Embarcadero Sales Contact Information		
Region	Telephone	E-mail

Embarcadero Sales Contact Information		
North America, Latin America and Asia Pacific	415.834.3131 ext. 3	sales@embarcadero.com
Europe, Africa, and the Middle East	+44 (0) 1628 684400	uk.sales@embarcadero.com

UPGRADING ER/STUDIO VIEWER

Use the following checklist to ensure ER/Studio Viewer is correctly upgraded.

Upgrade Checklist		
Done	N/A	Requirements
		Download ER/Studio Viewer Upgrade To download the most current release, go to www.embarcadero.com/upgrade/upgrade.html
		Review the ER/Studio Viewer ReadMe For the most current installation and usage information, see the ReadMe at docs.embarcadero.com .
		Prepare to Upgrade For what to do before you upgrade to the latest version, see Preparing to Upgrade .
		Upgrade ER/Studio Viewer For ER/Studio Viewer upgrade details, see Upgrading ER/Studio Viewer .

UPGRADING ER/STUDIO VIEWER

- 1 Log on to Windows with local administrator privileges.
- 2 Start the **ER/Studio Viewer Upgrade** installation program.
- 3 Walk through the installation wizard.

The options are straightforward, but make sure you choose the following:

- Do not select a Repository Server.
If you have a Repository Server, to configure and connect to the Repository, see [Connecting to the Repository](#).

UNINSTALLING ER/STUDIO VIEWER

If you no longer need it, uninstall the previous version of ER/Studio Viewer.

From the ER/Studio Data Architect program group, click **Uninstall ERStudio Viewer**, and then follow the prompts to uninstall all ER/Studio Viewer components.