



Product Documentation

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# Embarcadero® DBArtisan™

Quick Start Guide

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# INTRODUCTION

DBArtisan is an industry-leading database administration solution for managing Oracle, Microsoft SQL Server, Sybase Adaptive Server, IBM DB2 for Windows, Unix, and Linux, IBM DB2 for z/OS databases, and MySQL. Its cross-platform capability allows users to efficiently manage heterogeneous database platforms easily using a single front-end tool. Using DBArtisan, users boost their productivity by using a single tool for all their databases, regardless of vendor.

## ABOUT DBARTISAN

DBArtisan provides tools that can be used by a number of functions within an organization using DBMS from multiple vendors, in testing, development, or production environments.

### MAJOR FUNCTIONAL AREAS

**Datasource management tools** - Before use with DBArtisan, datasources must be registered. Datasources can be registered manually or semi-automatically. Storage can be registry-based or file-based, and a network storage option facilitates shared use of datasource catalogs.

**Object management tools** - DBArtisan supports a wide range of database objects and related elements for each DBMS. You can create new objects, edit existing objects, and use a range of object operations that support common, general or DBMS-specific actions.

**Scripting environments** - DBArtisan offers fully-featured environments dedicated to SQL, DDL, Java and Active Script development. Execution options are available as appropriate, and environment-specific related features, such as rollback/commit and query plan options, are provided. Related coding aids include on-the-fly semantic and syntactic validation, text substitution shortcuts, and visual query building tools. Related execution tools include script and file execution facilities.

**Schema and data utilities** - Schema extraction, migration, and publication wizards let you quickly extract and move schema and data across environments and even across DBMS types. DBMS-specific import/export, load/unload, and backup/restore utilities are also available. A Data Editor lets you edit your tables in real-time, supports all editable datatypes, and provides Unicode options. Table data can also be imported from formats such as spreadsheets.

**Other Time-savers and Productivity Tools** - Working within the DBArtisan environment, you have access to database and file search facilities, use visual difference to compare files or database objects, and access the Microsoft Windows task scheduler.

**License-specific Add-ons** - Depending on the licenses you purchased, you have access to the following tools:

- The Analyst Series includes advanced space, capacity, performance and backup management capabilities. They let you predict and prevent storage-related problems, trend data and object growth over time, and pinpoint performance bottlenecks.
- Debuggers, available for IBM DB2 for Linux, Unix, and Windows, Oracle, Sybase, and SL Server, let you test functions and procedures. A Profiler is available for Oracle datasources.

## BENEFITS TO SPECIFIC USERS

DBArtisan provides benefits to the following users:

<b>Database Administrators</b>	<p>DBArtisan lets database administrators accomplish more with the limited time they have. It eliminates the tedious tasks associated with researching schema dependencies when making object changes. Also included are a host of utilities, which condense DBA tasks taking hours or days down to minutes.</p> <p>DBArtisan provides an easy-to-use graphical user interface (GUI), which allows Database Developers to be immediately productive in a cross-platform environment without having platform specific knowledge. The GUI in general, and wizards and editors specifically, provide time-savings over traditional hand-coding or other manual methods.</p>
<b>Developers</b>	<p>In addition to a fully-featured scripting environment, DBArtisan offers several cross-platform code-generation options, which help Developers build SQL code that is syntactically and functionally correct the first time.</p> <p>Complementing coding facilities, the object creation wizards and graphical object editors greatly reduce the time and effort to build an application database from the ground up.</p> <p>DBArtisan facilitates moving applications and complete database systems between environments.</p>
<b>Project Managers</b>	<p>Project management facilities and Version Control System integration provide fundamental project management.</p>

## ABOUT THIS BOOK

This book has three major components:

- [Installing DBArtisan](#) lists technical requirements, provides details on DBMS version support, summarizes the installation process, and includes licensing details.
- [Tutorial exercises](#) provide learning curve material on DBArtisan. It walks you through the major areas of functionality, getting you ready for independent work.
- [New Features](#) describe all feature updates for the current major release.

# INSTALLING DBARTISAN

Before you can register any Embarcadero Technologies application, you must meet the minimum technical requirements. If you meet all the minimum technical requirements, you can install DBArtisan. After installation, you must license the application.

The following topics walk you through this process:

- [Technical Requirements](#)
- [Database Support and Connectivity Options](#)
- [Installing DBArtisan](#)
- [Licensing](#)

Lastly, for more information, see "[Additional Product Resources](#)" on page 17.

## TECHNICAL REQUIREMENTS

DBArtisan is a 32-bit application that runs in a Microsoft Windows environment. Before using DBArtisan, please verify that your environment meets the following requirements:

- Microsoft Internet Explorer 7 or later
- [Hardware Requirements](#)
- [Operating System Requirements](#)

**NOTE:** Users need full registry privileges during the installation and access to the keys under HKEY\_CURRENT\_USER in the registry after installation.

## HARDWARE REQUIREMENTS

Embarcadero Technologies recommends the following minimum hardware requirements:

- 1024 MB of memory
- 512 MB of disk space

## OPERATING SYSTEM REQUIREMENTS

DBArtisan supports the following operating systems:

- Windows XP SP2 (32-bit and 64-bit)
- Windows Vista (32-bit and 64-bit)
- Windows 7 (32-bit and 64-bit)

For more detailed information, see the following topics:

- [XP Support](#)
- [Vista and Windows 7 Support](#)
- [32-bit Versus 64-bit Operating System Support and Restrictions](#)

#### XP SUPPORT

Windows XP has two user security groups:

- Users
- Power Users

Microsoft intentionally does not grant members of the Users Group the authority to install applications or make global changes to the system. Restricted Users are members of the Users Group. Standard users belong to the Power Users Group. Microsoft grants members of the Power Users Group the authority to install programs. You must be a member of the Administrators Group in order to install and use Embarcadero Technologies applications.

Because Restricted Users are members of the Users Group, they cannot install and run Embarcadero Technologies applications.

**CAUTION:** You must be a member of the Administrators Group in order to install and use Embarcadero Technologies applications.

To open the Group Membership tab where you can determine your group and review the Microsoft security guidelines:

- 1 On the **Control Panel**, open **User Accounts**.
- 2 On the **Users** tab, select a user and then click the **Properties** button.
- 3 Click the **Group Membership** tab.

#### VISTA AND WINDOWS 7 SUPPORT

Windows Vista UAC and Windows 7 provide two user types:

- Standard user
- Administrator

DBArtisan can be installed or uninstalled by an administrator or by a standard user using an administrator token. Standard users can run DBArtisan.

**CAUTION:** For the purposes of running DBArtisan, default standard user token privileges should not be modified. Modifying standard user token privileges can result in licensing issues which will prevent DBArtisan from operating properly.



### 32-BIT VERSUS 64-BIT OPERATING SYSTEM SUPPORT AND RESTRICTIONS

DBArtisan is a 32-bit application that runs emulated on 64-bit versions of Windows. The only requirement is that DBArtisan supports only 32-bit versions of the client software that must be installed for connectivity to each DBMS that DBArtisan will work against.

## DATABASE SUPPORT AND CONNECTIVITY OPTIONS

DBArtisan provides dedicated DBMS platform support with the following connectivity options:

- For use with IBM DB2, SQL Server, MySQL, Oracle, and Sybase ASE datasources, DBArtisan is packaged with a set of proprietary drivers that work in conjunction with a supported set of clients that must be installed.

For information on the DBMS clients that must be installed, see "[Packaged Embarcadero Drivers with Native Client Support](#)" on page 10.

- Alternatively, you can connect to a supported DBMS using a Type 4 JDBC driver packaged with DBArtisan. For a listing of the third-party JDBC drivers, see "[Third-party JDBC drivers](#)" on page 10.

The following table lists the DBMS platform versions for which dedicated support is provided, and the connectivity options supported:

DBMS Version	Native Embarcadero Driver Support	Packaged Third-party JDBC Client Support
IBM DB2 for z/OS 8 and 9	✓	✓
IBM DB2 LUW 8.0 - 9.7	✓	✓
Microsoft SQL Server 2000, 2005, and 2008 For SQL Server 2005 and 2008, only object types like users, logins, roles, config parameters, etc., are supported. We do NOT support Microsoft .NET extensions at this time.	✓	✓
MySQL 4.x. (DBArtisan is tolerant of 5.x but does not support Stored Procedures, Triggers, or Views)	✓	✓
Oracle 9i, 10g, and 11g	✓	✓
Sybase ASE 12.5 - 15.0.3	✓	✓
Sybase IQ 12.7 - 15.4		✓

## PACKAGED EMBARCADERO DRIVERS WITH NATIVE CLIENT SUPPORT

If you are using the prepackaged Embarcadero drivers to connect to supported DBMS platforms, ensure that the relevant clients are installed and configured:

DBMS	Client
IBM DB2 for z/OS	IBM DB2 Client for Windows 8 or later.
IBM DB2 for Linux, Unix, and Windows	IBM DB2 Client for Windows 8 or later.
Microsoft SQL Server	Microsoft SQL Server Client Library
MySQL	MySQL ODBC driver 3.5.1 and above
Oracle	Oracle SQL*Net Client
Sybase ASE	Sybase Open Client

**NOTE:** Since DBArtisan is a 32-bit application that runs emulated on 64-bit versions of Windows, only 32-bit versions of the DBMS client software are supported.

## THIRD-PARTY JDBC DRIVERS

If policy or preference dictates use of Type 4 JDBC drivers, the following table includes the drivers supplied for each supported DBMS platform:

Platform	JDBC Driver
IBM DB2 for Linux, Unix and Windows IBM DB2 for z/OS	IBM Data Server Driver for JDBC
Microsoft SQL Server	jTDS Type 4 JDBC Driver for Microsoft SQL Server Microsoft SQL Server JDBC Driver
MySQL	MySQL Connector/J JDBC Driver
Oracle	Oracle JDBC Thin Driver
Sybase ASE	jTDS Type 4 JDBC Driver for Microsoft SQL Server Sybase jConnect JDBC Driver
Sybase IQ	Sybase jConnect JDBC Driver for Sybase IQ

## IBM DB2 FOR Z/OS STORED PROCEDURE REQUIREMENTS

When working against an IBM DB2 for z/OS data source, DBArtisan relies on the following stored procedures, provided as an optional installation step in setting up the DB2 subsystem:

- DSNWZP
- DSNUTILS
- ADMIN\_COMMAND\_DSN
- ADMIN\_COMMAND\_DB2

Prior to using DBArtisan against an IBM DB2 for z/OS data source, ensure that these components are installed on the server. See <http://publib.boulder.ibm.com/infocenter/dzichelp/v2r2/topic/com.ibm.db2.doc.inst/stpadd.htm#stpadd> for more information.

## INSTALLING DBARTISAN

To install DBArtisan successfully, you must complete each panel of the installation wizard. For more information, see "[Installation Wizard](#)" on page 11.

After the installation is complete, we recommend that you reboot your machine before using DBArtisan.

**CAUTION:** To install DBArtisan from the command line, you should be sure to manually uninstall all prior versions of DBArtisan.

## INSTALLATION WIZARD

The DBArtisan Installation Wizard installs all corresponding files on your machine. The panels presented by the wizard vary depending on whether you are upgrading or performing an initial installation. To proceed to the next panel of the wizard, click **Next**. To cancel the installation process at any time, click **Cancel**.

**NOTE:** Before installing DBArtisan from Embarcadero ToolCloud, see <http://docs.embarcadero.com/products/xs/> for additional requirements or revised instructions.

**CAUTION:** If you have not registered a license when you start a DBArtisan installation, you will be prompted to register a license. For more information, see "[Licensing](#)" on page 12.

Use the following table as a guide to understanding the panels you may encounter when installing DBArtisan:

Panel	Description
Welcome...	The start of the install process.
License Agreement	This panel of the Installation Wizard displays the license agreement. To continue the installation, click <b>I accept the terms in the license agreement</b> . You cannot proceed to the next step in the installation if the <b>I DO NOT accept the terms in the license agreement</b> option is selected.
Destination Folder	Identify the folder where you want the program files to reside. The default directory is <b>C:\Program Files\Embarcadero\DBA&lt;version identifier&gt;\</b> .
Start Menu	Lets you provide a Start menu group and optionally have an application icon created on the desktop.
Associate Files	Specify whether you want files with extensions of .sql or .eqb to be associated with the DBArtisan application.
Ready to install the program	Review your settings and click <b>Install</b> to continue the installation process.

Panel	Description
Installing...	Displays the installation progress.
Setup Complete	Finishes the installation process.

## LICENSING

Each Embarcadero client application requires one or more licenses in order to run. An Embarcadero product, such as DBArtisan or ER/Studio, has a baseline license which provides basic feature support for that product. In addition, incremental licenses may be required to support specific DBMS platforms, product add-ons, or other functions.

For more information, see the following topics:

- [Licensing Overview](#)
- [Licensing Your Application](#)
- [Selecting a License Category During Startup](#)
- [Online/Offline Mode and Concurrent License Checkout](#)

## LICENSING OVERVIEW

The following topics provide a high-level discussion of key licensing topics and directs you to sources of more detailed information.

- [Viewing Your License Type and Modules](#)
- [Understanding Trial, Workstation, and Networked Licenses](#)
- [DBArtisan License Modules, DBMS Support, and Feature Availability](#)
- [DBArtisan XE License Modules, DBMS Support, and Feature Availability](#)
- [Directing Queries Regarding Licenses](#)

## VIEWING YOUR LICENSE TYPE AND MODULES

The **About...** dialog, available from the **Help** menu, displays your license type and each individual license module currently registered.

## UNDERSTANDING TRIAL, WORKSTATION, AND NETWORKED LICENSES

Three kinds of licenses are available: Trial, Workstation, and Networked.

### **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.

- Workstation licensing** A license or set of licenses is tied to a particular workstation. The product can only be used on that workstation.
- Networked licensing** 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* and *Networked Named User*. With Concurrent licensing, users on different machines take turns using licenses from a shared pool. With Networked Named User licensing, licenses are pre-assigned to specific users setup on the license server's user list. Those users are guaranteed to have licenses available any time.
- NOTE: Concurrent licenses can be borrowed for use without a network connection. For details, see "[Online/Offline Mode and Concurrent License Checkout](#)" on page 16.

For a detailed description of licensing options, see <http://www.embarcadero.com/software/licensing-solutions>.

#### DBARTISAN LICENSE MODULES, DBMS SUPPORT, AND FEATURE AVAILABILITY

Individual license modules correspond to the DBMS platforms you are licensed to use. In addition, each DBMS license module corresponds to a product edition. Feature availability for each license module edition is as follows:

- **Standard** - Provides baseline support including datasource management, object management, SQL editing and execution, and standard tools and utilities.
- **Professional** - Standard edition features plus SQL Debugger and SQL Profiler.
- **Workbench** - Professional edition features plus Performance Analyst, Space Analyst, Capacity Analyst, and Backup Analyst.

#### DBARTISAN XE LICENSE MODULES, DBMS SUPPORT, AND FEATURE AVAILABILITY

An XE license provides access to all supported DBMS platforms. XE module and feature availability is as follows:

- **XE Pro** - Provides baseline support including datasource management, object management, SQL editing and execution, and standard tools and utilities, SQL Debugger and SQL Profiler.
- **Analyst Pack** - Provides access to Performance Analyst, Space Analyst, Capacity Analyst, and Backup Analyst.

#### DIRECTING QUERIES REGARDING LICENSES

Questions regarding license availability, feature availability, and client or server licensing, should be directed as follows:

- If you work in an organization that uses networked licensing, direct any questions to your site's DBArtisan administrator.
- If you are using workstation licensing, direct licensing questions to your Embarcadero Technologies representative.

## LICENSING YOUR APPLICATION

See the following topics for details on registering your product:

- [Registering a Trial or Workstation License during Installation](#)
- [Registering a Workstation License After Application Startup](#)
- [Registering By Phone](#)
- [Registering a Networked License](#)

### REGISTERING A TRIAL OR WORKSTATION LICENSE DURING INSTALLATION

Shortly after initiating download of a trial version of an Embarcadero product, you should receive an email with a serial number you must register during installation. Similarly, if you purchase an Embarcadero product while no trial version is active, you will receive a serial number that must be registered during installation.

- 1 Start the installation. An **Embarcadero License Registration** dialog appears.
- 2 Copy the serial number from the email and paste it in the **Serial Number** field.
- 3 Enter your Embarcadero Developer Network 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**.

Your activation file should be downloaded and installed 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](#)" on page 15.

### REGISTERING A WORKSTATION LICENSE AFTER APPLICATION STARTUP

The following instructions assume that you have received a workstation license by email and that you currently have a valid trial license. If you did not install a trial version or the trial period has expired, follow the instructions in "[Registering a Trial or Workstation License during Installation](#)" on page 14 instead.

- 1 On the **Help** menu select **About** and then on the dialog that opens, click **Manage** to open a license manager dialog.
- 2 On the **Serial** menu, select **Add**.
- 3 Copy the serial number from the email and paste it in the **Add Serial Number** dialog, then click **OK**.
- 4 Right-click on the serial number you added, and then select **Register** from the context menu. A registration dialog opens.

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

- 5 Ensure that the **Register using Online Registration** radio box is selected.
- 6 Provide Developer Network credentials in the **DN Login name or Email** and **DN Password** boxes. 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**.
- 7 Click **Register**.
- 8 If prompted to restart the application, click **Yes**.

Your activation file should be downloaded and installed automatically. If this does not happen, click the **Trouble Connecting? Try Web Registration** link and follow the prompts. If you still have problems, "[Registering By Phone](#)" on page 15.

#### REGISTERING BY PHONE

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

- 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 email containing an activation file. Then do the following:

- 1 Save the file to the desktop or a scratch directory such as `c:\temp`.
- 2 On the Help menu select **About** and then on the dialog that opens, click **Register**. A registration dialog opens.
- 3 Select the **I have received an activation file (\*.slip or reg\*.txt)** radio box.
- 4 Click the **Browse** button and use the **Select License Activation File** dialog to locate and select the activation file you installed.
- 5 Click the **Import** button to import the activation file and when complete, click the **Finish** button.
- 6 If prompted to restart the application, click **Yes**.

### REGISTERING A NETWORKED LICENSE

If you work in an organization using Networked licensing, an administrator, department head, or someone performing a similar function will provide you with an activation file.

Once you receive the file, save it to the `license` subfolder of your product's main installation folder (typically `C:\Program Files\Embarcadero\<product><version>\license\`), then restart the application.

No additional steps are necessary.

### SELECTING A LICENSE CATEGORY DURING STARTUP

During DBArtisan startup, if multiple concurrent license categories are available, you are prompted to select a category to use for this DBArtisan session. Multiple license categories can be set up to provide differing feature access or access to different DBMS versions. Feature and DBMS version access are typically distributed across multiple license categories to optimize use of a site's purchased licenses.

**NOTE:** This dialog also includes the option to remember your selection on subsequent startups. If you select that option, you can subsequently use the **Select Licenses** button on the **About...** dialog (**Help > About**) to select a different license.

Contact your License Administrator for details on individual license categories or requests for additional feature or DBMS support.

### ONLINE/OFFLINE MODE AND CONCURRENT LICENSE CHECKOUT

Concurrent licenses can be used in both online and offline modes. In online mode, you must have a continuous network connection to your License Center. Licenses are checked out when you start DBArtisan and checked back in when you shut DBArtisan down.

You can also use a license in offline mode. When you explicitly check out a license for offline use, you can use DBArtisan without a connection to your License Center for a specified duration. This lets you work while travelling or commuting, work away from your primary work area, or use DBArtisan when a network connection is unavailable or not required.

**NOTE:** Contact your site administrator for information on offline license availability, the maximum duration, offline license policy at your site, or any other issues arising from online license usage.

#### To check out a license for offline use:

- 1 On the **Help** menu, select **Checkout License**. The **Check Out Licenses For Offline Use** dialog opens.
- 2 Select the check box associated with each individual license you want to check out.
- 3 In the **Checkout Duration** box, type the number of hours that you can use the offline license without a network connection to the License Center.



- 4 Click **OK**.

You can work offline for the specified duration. The duration period begins immediately.

If you subsequently establish a network connection to the License Center before the license duration expires, you can indicate to the License Center that the offline license is no longer required.

**To indicate that an offline license is no longer required:**

- 1 On the **Help** menu, select **Checkin License**.

There is no interruption in DBArtisan usage. The license is not actually checked in until you shut down DBArtisan.

## ADDITIONAL PRODUCT RESOURCES

The Embarcadero Web site is an excellent source for product information and access to additional resources:

- Release notes and product documentation
- Information on other Embarcadero application and database development tools
- Embarcadero Development Network
- Product and technical support
- Educational and product expertise material in the form of online demos, white papers, and video presentations
- Access to sales staff and Embarcadero resellers

For access, direct your browser to [www.embarcadero.com](http://www.embarcadero.com).



## TUTORIAL EXERCISES

The exercises that follow walk you through DBArtisan's major functional areas. After completing these exercises, you will have the foundation you need to explore the many features and benefits of DBArtisan. You'll have learned how to competently manage the major database administration disciplines using DBArtisan's standard cross-platform console. In addition, you will have a solid understanding of DBArtisan's more advanced Space, Performance, and Capacity management capabilities.

This guide is divided into 10 sessions:

- [Session 1: Getting Started with DBArtisan](#)
- [Session 2: Object and Schema Management](#)
- [Session 3: Database Security Management](#)
- [Session 4: Space Management](#)
- [Session 5: SQL Management](#)
- [Session 6: Job Management](#)
- [Session 7: Data Management](#)
- [Session 8: Performance Management](#)
- [Session 9: Capacity Management](#)
- [Session 10: General Utilities and Tools](#)

You can use this basic tutorial as a roadmap of product highlights, but also to help you find your own path to explore DBArtisan.

Once you've started, you can select **Help Topics** from the **Help** menu to find many additional resources that complement and build on many of the activities shown in this tutorial.

## SESSION 1: GETTING STARTED WITH DBARTISAN

How you start DBArtisan depends on the type of application you are evaluating:

- InstantOn version – start the application by double-clicking the file you downloaded.
- Fully-installed version – The **Start** menu sequence for DBArtisan is always in the form **Programs > Embarcadero DBArtisan version identifier > Embarcadero DBArtisan version identifier**, where *version identifier* reflects the version you are running.

## To get started

- 1 Run DBArtisan.

The first time DBArtisan starts, a dialog opens, prompting you to set up datasources. In addition to letting you manually set up individual datasources, a number of more automated methods are available. If you have installed and used other Embarcadero tools, DBArtisan can find any active datasources being used by those tools. In addition, DBArtisan provides a Discover Datasources feature that automatically searches the DBMS configuration files on your system for datasources that are not currently registered. Since other Embarcadero tools let you export datasource definitions to file, you also have the option of importing these definitions.

- 2 For the purpose of this tutorial, click **Cancel**. You will be registering a datasource manually.

## REGISTERING CROSS-PLATFORM DATASOURCES

The Datasource Registration Wizard walks you through the process of registering a datasource for use with DBArtisan.

- 1 On the **Datasource** menu, select **Register Datasource**. DBArtisan opens the wizard, initially prompting you for the DBMS type.
- 2 Select **Oracle** as the database type and then click **Next**. DBArtisan opens the next panel of the Datasource Registration Wizard.

**Datasource Registration**

**Information**  
Please enter the connection information for the Oracle server. You can either select an entry from your TNSNames.ora file, or enter the information manually.

**Database Type**

**Connection Information**

Security Parameters

Oracle View Config

Datasource Group

Use TNS Names Alias

Oracle Alias:

Host:

Port:

SID/Service:  Type:  SERVICE\_NAME  SID

Instance Name:

Datasource Name:

- 3 Ensure that **Use TNS Names Alias** is deselected and provide the **Host** machine name associated with an Oracle datasource.

- 4 Type a **Port** number. The default is 1521, but you can change it to wherever the Oracle listener is set up.
- 5 Specify a **Type** of **SERVICE\_NAME** or **SID** and enter the corresponding value in the **SID/Service** box.
- 6 In the **Datasource Name** text box, type **SAMPLE\_DATASOURCE** for the purpose of this example.
- 7 Click **Next**. DBArtisan saves your selections and opens the next panel of the wizard. This is where you enter login credentials.
- 8 Provide a **User ID** and **Password**.
- 9 To save and encrypt your password so that you do not have to provide credentials each time you connect, select **Auto-Connect?**.
- 10 Click **Datasource Group** to display the last panel.
- 11 In the **Managed Datasources** tree, select the folder corresponding to the type of DBMS you are registering.
- 12 Click **Finish**. DBArtisan prompts you as to whether you want to connect to the datasource.
- 13 Click **Yes**.

DBArtisan offers the same easy-to-use Datasource Registration Wizard for IBM DB2, Microsoft SQL Server, Oracle, MySQL, and Sybase connections. The connection information only needs to be set up one time for each datasource and can be saved locally or in a common datasource catalog for use by other Embarcadero products.

You can configure Embarcadero database applications to use a datasource catalog stored in the system registry of your machine (local) or to use a datasource catalog located in the registry of another computer (remote). This capability makes it easy to share datasource catalogs among multiple users so that maintenance can be administered from one location.

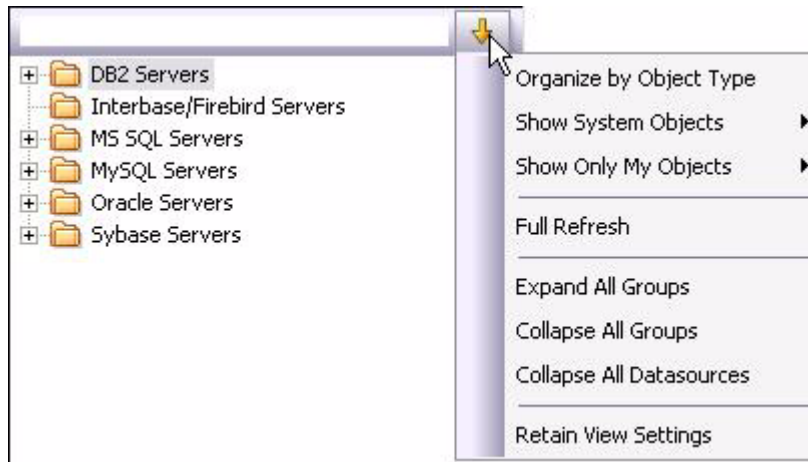
All Embarcadero database administration products share the datasource catalog, which means that when you set up your datasource catalog using one product such as DBArtisan, the same list of datasources is available in other Embarcadero Technologies products. Any changes you make to the datasource catalog are reflected in all Embarcadero database management products.

## GENERAL USABILITY FEATURES

DBArtisan provides many “user in mind” features that make the product configurable to meet individual needs and preferences. These features are designed to shave time off the tasks that you perform many times on any given working day.

## Retaining Datasource Explorer View Settings

- 1 At the top of the Explorer tree, click to expand the drop-down menu.

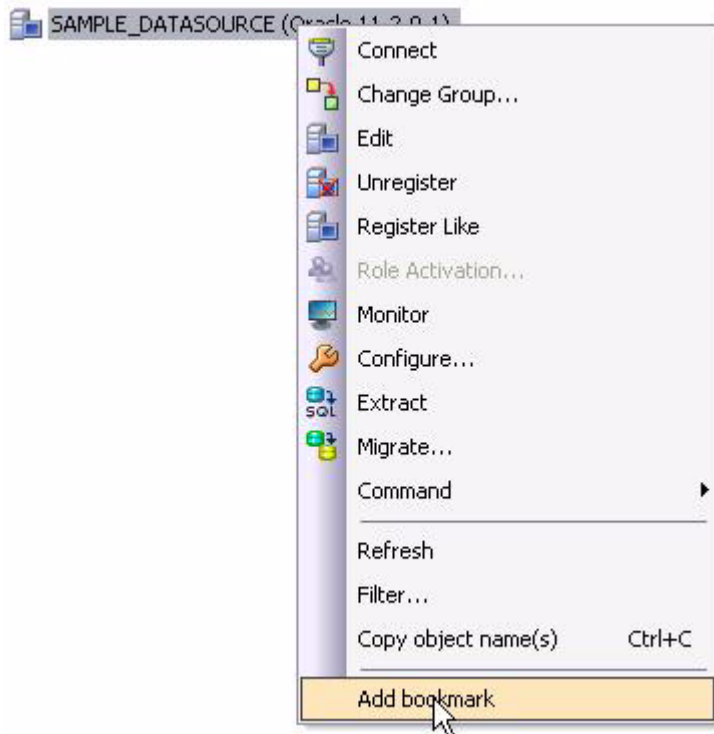


- 2 Select **Retain View Settings**.

The next time you open DBArtisan, the Explorer appears just as you left it.

## Working with Datasource Explorer Bookmarks

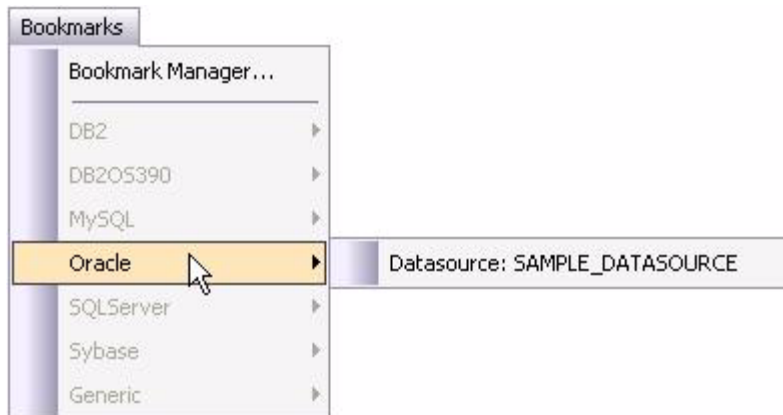
- 1 In the Explorer tree, right-click the datasource you registered and select **Add Bookmark** from the context menu.



DBArtisan opens the **Add Friendly Bookmark Name** dialog.

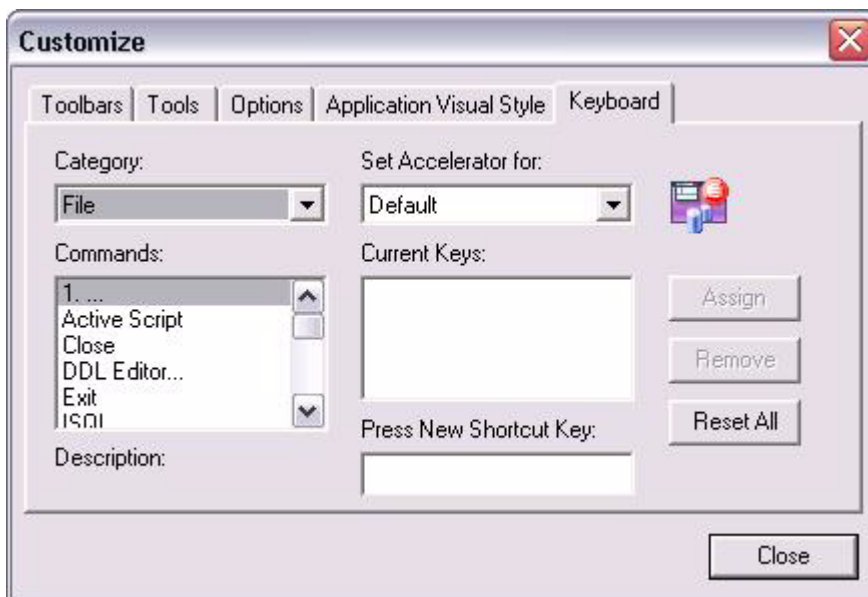
- 2 Click **OK**.

After Bookmarks are defined you can use them to easily navigate to commonly used datasource resources via the main menu **Bookmarks** item.



### Setting Keyboard Shortcuts and Hotkeys

- 1 From the **Tools** menu, select **Customize**. The **Customize** dialog opens.
- 2 In the **Customize** dialog, open the **Keyboard** tab.

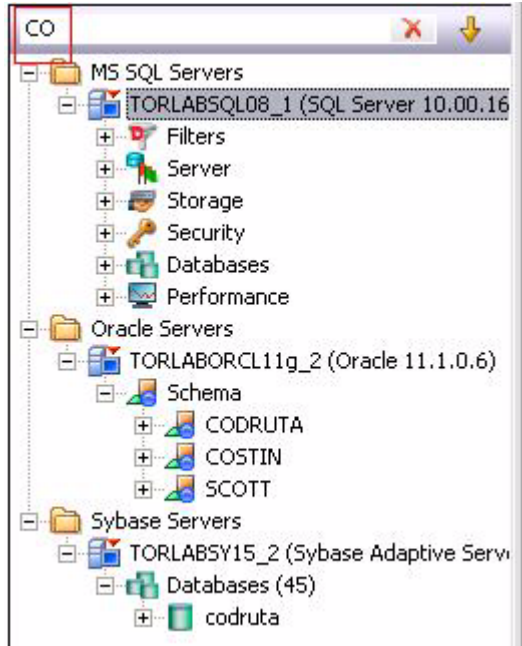


The **Keyboard** tab can be used to set keyboard shortcut hot keys for all areas of DBArtisan functionality.

- 3 Click **Close**.

## Datasource Explorer tree filtering

DBArtisan provides a number of ways to filter the Datasource Explorer tree, easing navigation. During a DBArtisan session, you can use the **Filter** box at the top of the Datasource Explorer to display only those objects whose name contains characters typed in the **Filter** box.



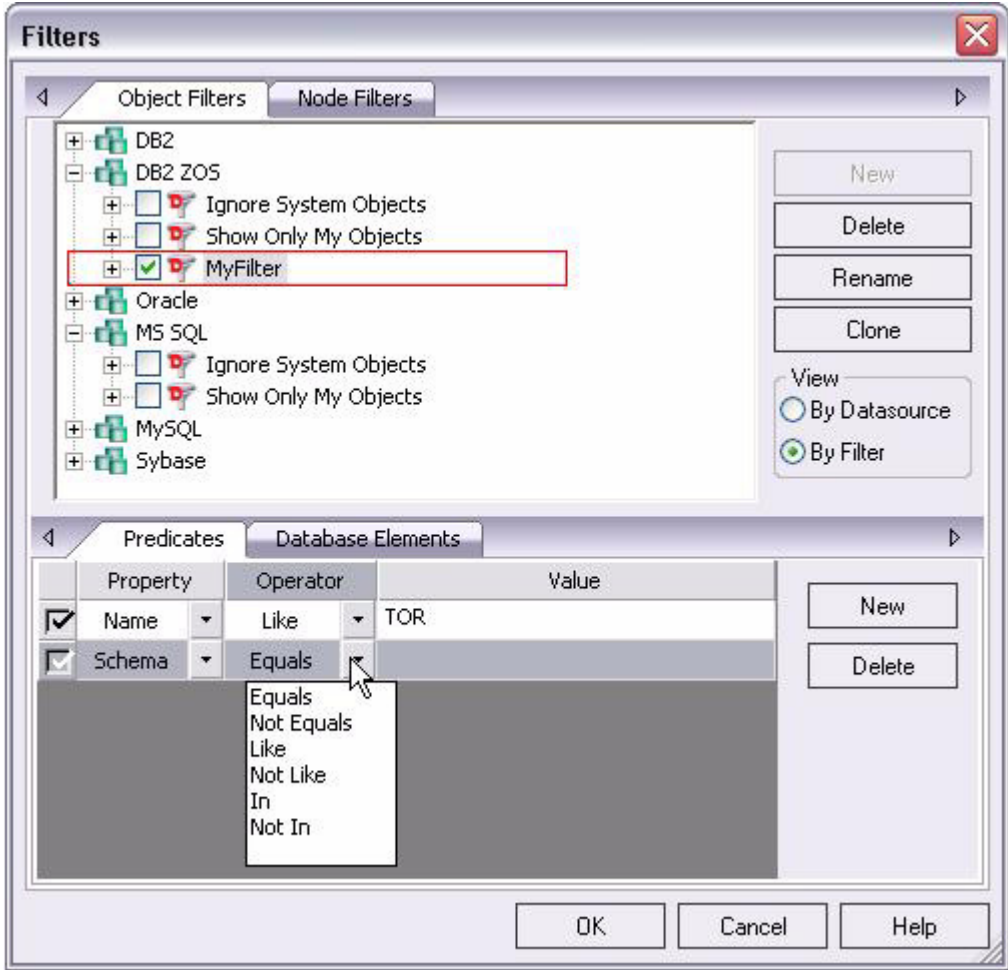
If you are interested in a more permanent filtering method, you can create filters at the DBMS or datasource level. Filters are available under the **Filters** node for each datasource.



Right-clicking in the tree and selecting **Filter** opens the **Filters** dialog. It lets you filter out object types at the DBMS platform level. It also lets you create object filters.

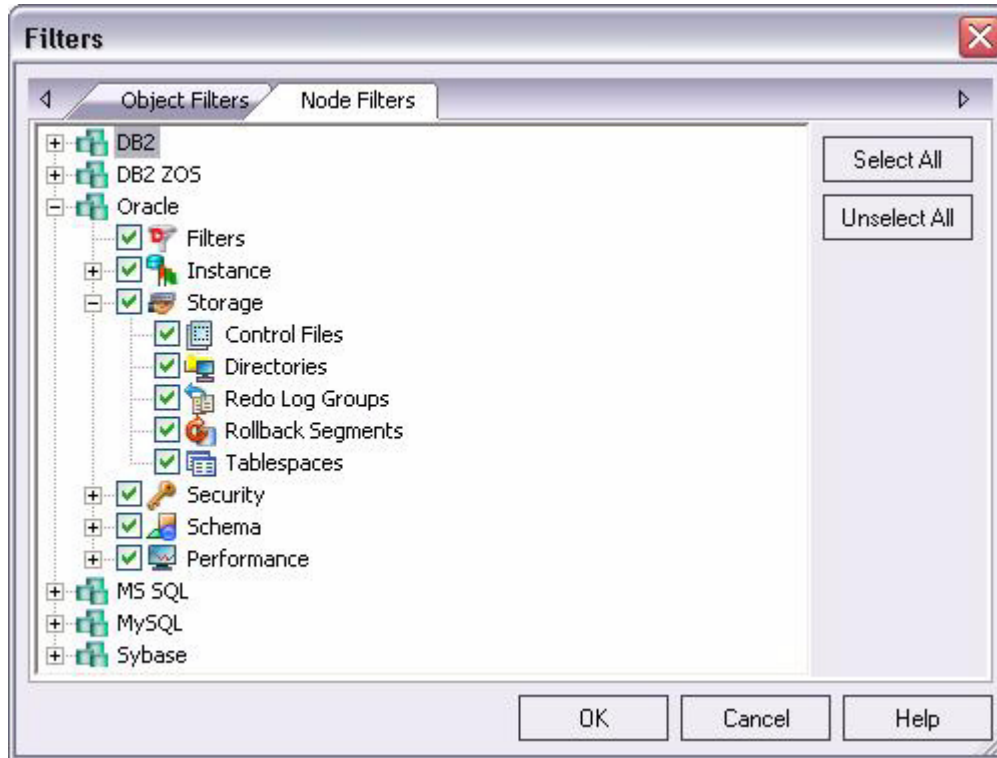
Object filters can be object name-based, schema-based, or some combination thereof. A name-based or schema-based filter consists of one or more ANDed conditions. You also specify the object types to which the filter is to apply.





Object filters are created at the DBMS or datasource level and can be enabled and disabled for individual datasources.

The **Filters** dialog also lets you hide or display nodes based on object type. Node filtering lets you filter out object types for all datasources of the same DBMS type.



In addition to any custom object filters you create, the **Filters** node also provides access to two default filters: **Ignore System Objects** and **Show Only My Objects**. They can be applied at the datasource level and cannot be deleted or modified.

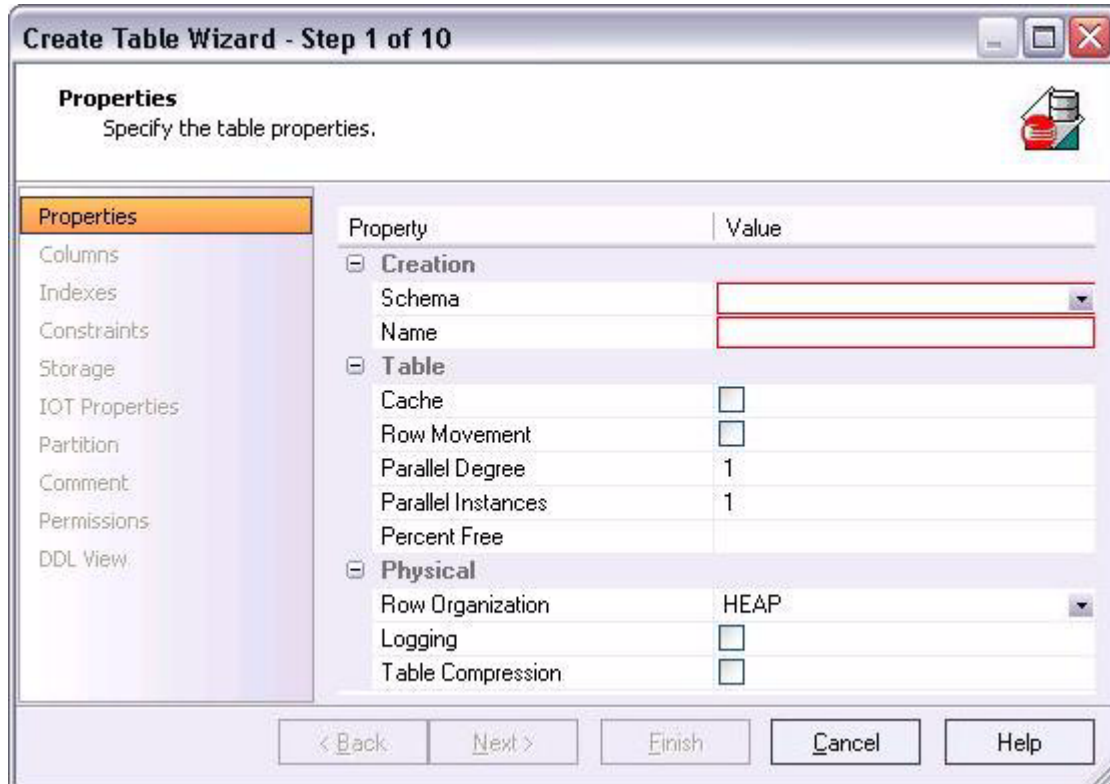
## SESSION 2: OBJECT AND SCHEMA MANAGEMENT

DBArtisan provides unparalleled database object management capabilities. Its database platform-specific and version-specific graphical object editors and wizards enable you to easily create, drop or alter any of your accessible database objects.

### CREATING A TABLE OBJECT

The following example walks you through creating a standard Oracle table object. This concept carries across all of the supported object types, across all of the supported platforms.

- 1 On the Datasource Explorer, expand the **Schema** node of an Oracle datasource.
- 2 Right-click the **Tables** node, and then select **Create**.
- 3 DBArtisan opens the Table wizard and leads you through the process of creating a table object.



- 4 Complete the wizard panels, and ensure that you create two or more columns in the table.
- 5 Click **Finish**.

DBArtisan lets you preview any and all generated scripts before you submit them to the database. This is standard for all object-related scripts.

## MAKING CHANGES TO AN EXISTING TABLE OBJECT

Changes to database tables, such as modifying column lengths, inserting new columns, or deleting unneeded ones, can require dropping of a table. This requires knowledge of the underlying object dependencies so that these dependent objects are rebuilt after the table has been recreated. DBArtisan provides the ability to perform “extended” table alterations by constructing a SQL script with the steps necessary to save off the original data, create the new table, and populate it with the original data. Once these steps are complete, all dependent objects are then rebuilt and permissions re-applied.

- 1 From the Explorer, **Tables** node, select the table you created in the previous example.
- 2 Double-click the table or from the **Command** menu, click **Open**.

DBArtisan opens the Table Editor. The Table Editor provides access to basic table properties, the list of table columns as well as any constraints, storage parameters, space allocation, partitioning, table dependencies, object privileges, table DDL and other attributes of the table.

- 3 Ensure that the **Columns** tab is selected and select one of the columns you created in this table you want to modify.

Details for the column are shown in the **Column Attributes** area on the right side of the pane.

- 4 In the **Width** or **Scale** text box, type a new value.
- 5 On the Table Editor toolbar, select the **Alter** button.

DBArtisan lets you preview the SQL script before you submit it to the database.

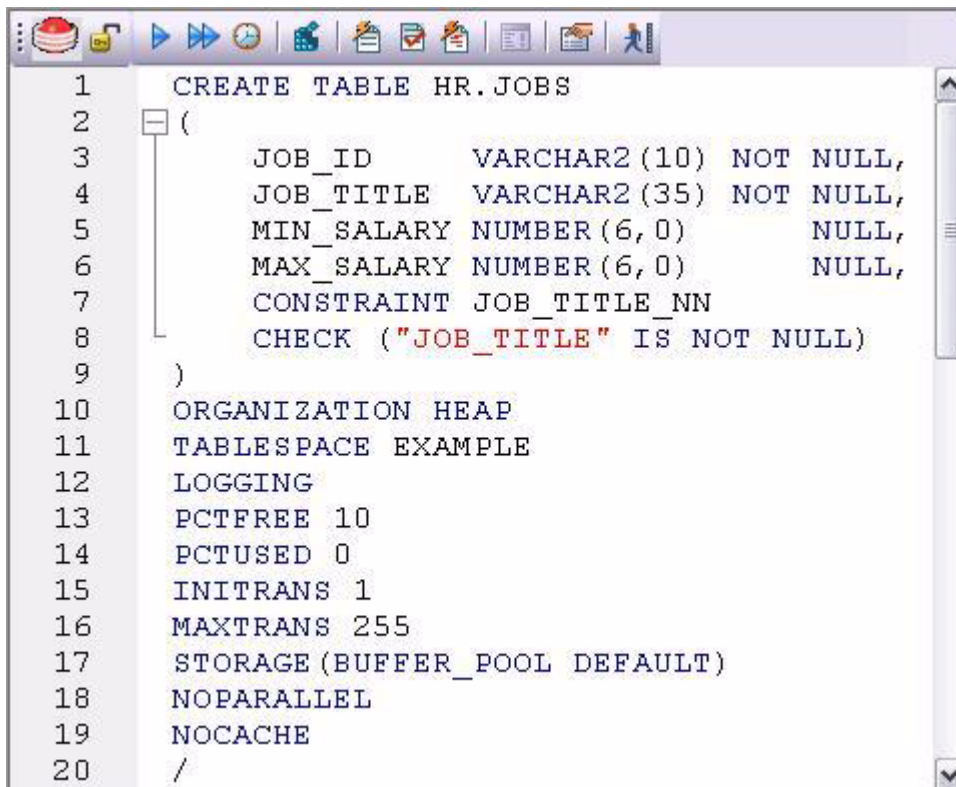
- 6 Close the Table Editor pane.

## WORKING WITH OBJECT DDL

DBArtisan allows you to easily extract DDL for single or multiple objects using several methods. The most straight-forward is described here:

- 1 On the Explorer, right-click the table you created earlier, and then select **Extract**.

The DDL for all highlighted objects is extracted directly in a DDL Editor where it can be altered, executed and saved to the database, with no intermediary steps required. For example:



```

1 CREATE TABLE HR.JOBS
2 (
3     JOB_ID      VARCHAR2(10) NOT NULL,
4     JOB_TITLE   VARCHAR2(35) NOT NULL,
5     MIN_SALARY  NUMBER(6,0)    NULL,
6     MAX_SALARY  NUMBER(6,0)    NULL,
7     CONSTRAINT JOB_TITLE_NN
8     CHECK ("JOB_TITLE" IS NOT NULL)
9 )
10 ORGANIZATION HEAP
11 TABLESPACE EXAMPLE
12 LOGGING
13 PCTFREE 10
14 PCTUSED 0
15 INITRANS 1
16 MAXTRANS 255
17 STORAGE (BUFFER_POOL DEFAULT)
18 NOPARALLEL
19 NOCACHE
20 /

```

- 2 Close the PL/SQL Editor pane.

## SESSION 3: DATABASE SECURITY MANAGEMENT

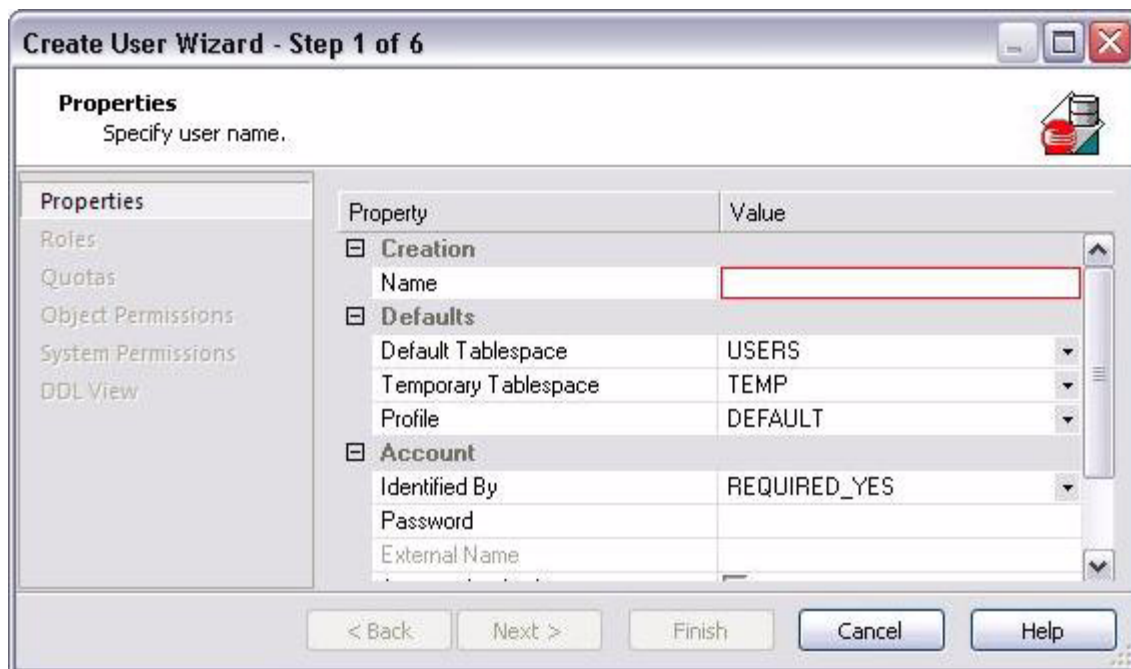
DBArtisan can help you efficiently establish and maintain database security. Whether you are managing an existing production database or setting up a new environment, you'll find consistent support across all of the supported platforms.

### ADDING A NEW DATABASE USER

While this example focuses on creating a new Oracle user, the same wizard-driven principle applies to all security objects (groups, roles, etc).

- 1 On the Datasource Explorer, expand an Oracle datasource, and then the **Security** node.
- 2 On the **Security** node, right-click **Users**, and then click **Create**.

DBArtisan opens the **Create User Wizard** and leads you through the process of adding a user.



- 3 Provide the information on each panel of the **Create User Wizard** until you reach the **DDL View** panel.

DBArtisan allows you to preview any and all generated scripts before they are submitted to the database. This is standard for all object-related scripts.

- 4 Click **Execute** to create the new user.

DBArtisan automatically opens the User Editor for the new user. The standard User Editor can be used to manage existing database users as shown below.

## GRANTING AND EDITING USER PRIVILEGES

Privileges can be easily granted, revoked, or viewed from within either of two editors within DBArtisan; the User Editor, or the individual object editor (Table, Procedure, etc.). The User Editor provides a tabbed interface, which can be used to view and modify individual attributes of the user.

- 1 In the User Editor, open the **Object Permissions** tab.
- 2 Use the **Object Type** dropdown to select a set of objects such as tables or views.
- 3 Right-click a cell (corresponding to a specific object and a specific permission, such as DELETE), and then click **Grant**.

A distinctive icon is shown in the cell, indicating that this permission is granted. You use a similar process to revoke privileges and perform other permission-based activities.

- 4 On the Object Editor toolbar, click **Alter** to implement the changes.

## SESSION 4: SPACE MANAGEMENT

Managing space is vital to ensuring the availability and performance of your databases. DBArtisan incorporates many built-in space features that let you smartly manage and exploit all aspects of your database's storage. The following example walks you through a review of DBArtisan's built-in support for reporting Oracle tablespace storage and space data.

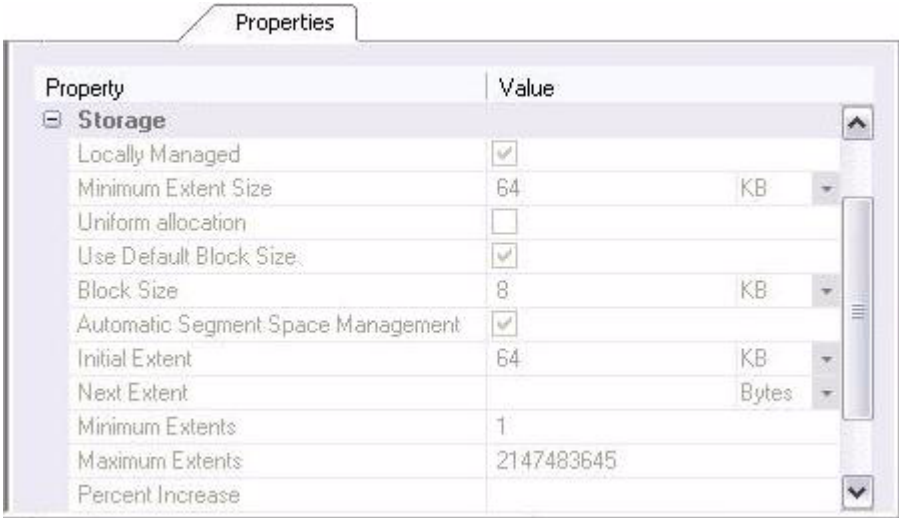
### BUILT-IN SPACE MANAGEMENT

While this example is specific to Oracle tablespaces, the same concept applies to all of the supported platforms.

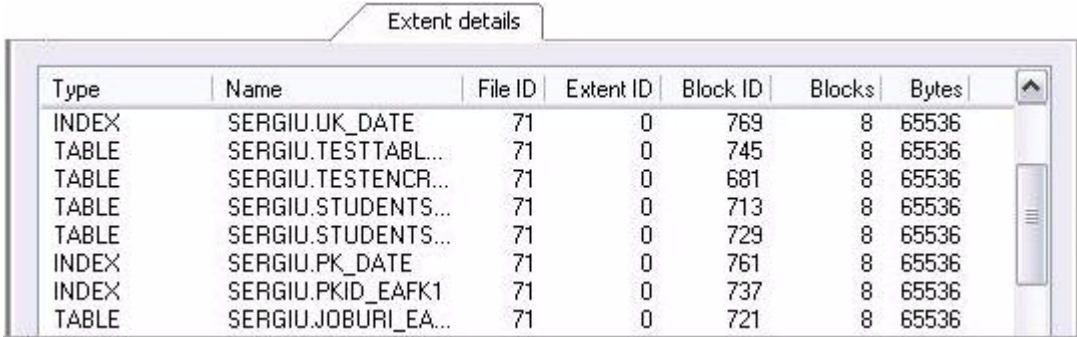
- 1 On the Datasource Explorer, expand any Oracle datasource.
- 2 On the Oracle datasource, expand the **Storage** node, and then select **Tablespaces**.
- 3 Right-click any tablespace listed in the right pane of the Explorer window, and then click **Open**.

Embarcadero DBArtisan opens the Tablespaces Editor.

- 4 Select the **Properties** tab. The **Storage** group on that tab provides a summary of the space settings for the tablespace.

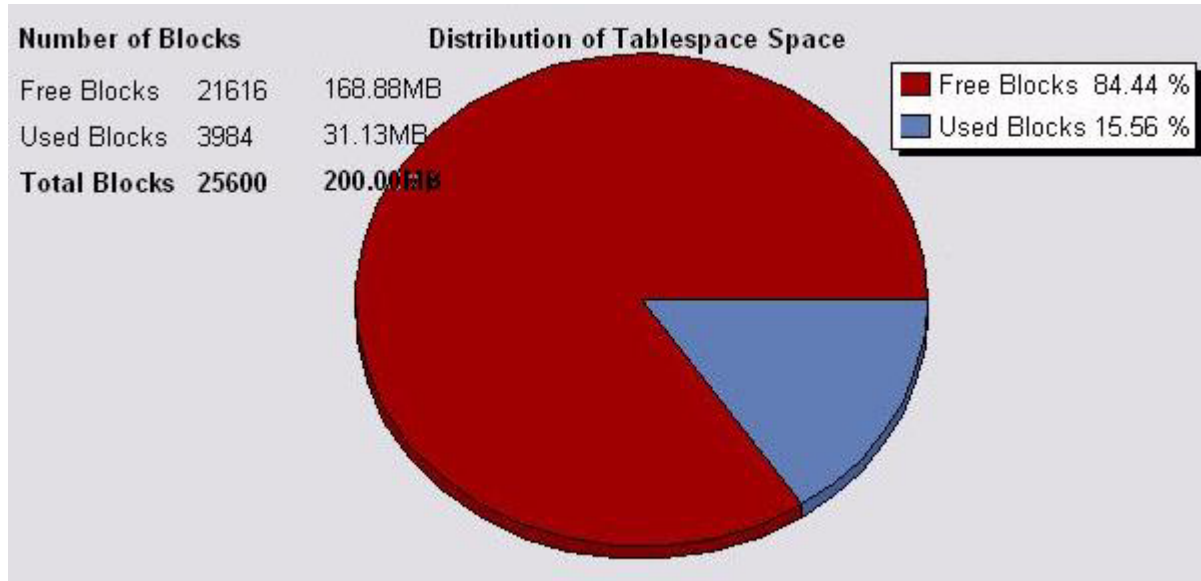


5 Select the **Extent Details** tab. It provides more detail on an extent-by-extent basis.



6 On the Tablespace Editor, click the **Space** tab.

The **Space** tab displays a graphical view of the free and used blocks for the target tablespace.



7 Finally, on the Tablespace Editor, click the **Map** tab.

The **Map** tab displays a color-coded map of the objects contained on the tablespace. The map segments are proportional to the actual size of the objects on the tablespace.

**Space Info**

Total:	200.00 MB	Free:	168.88 MB
Used:	31.13 MB	% Free:	84.44

Buttons: Reorganize..., Legend..., Display..., Fit In Window, Full Screen

**Map**

**Object Demographics**

	Name	Extents	Blocks
1	HR.VN	1	8
2	COSTIN.SYS_LOB0000347492C00003\$\$	1	8
3	COSTIN.SYS_C0086136	21	768
4	COSTIN.SYS_C0086135	1	8
5	COSTIN.SYS_I00000347492C00003\$\$	1	8

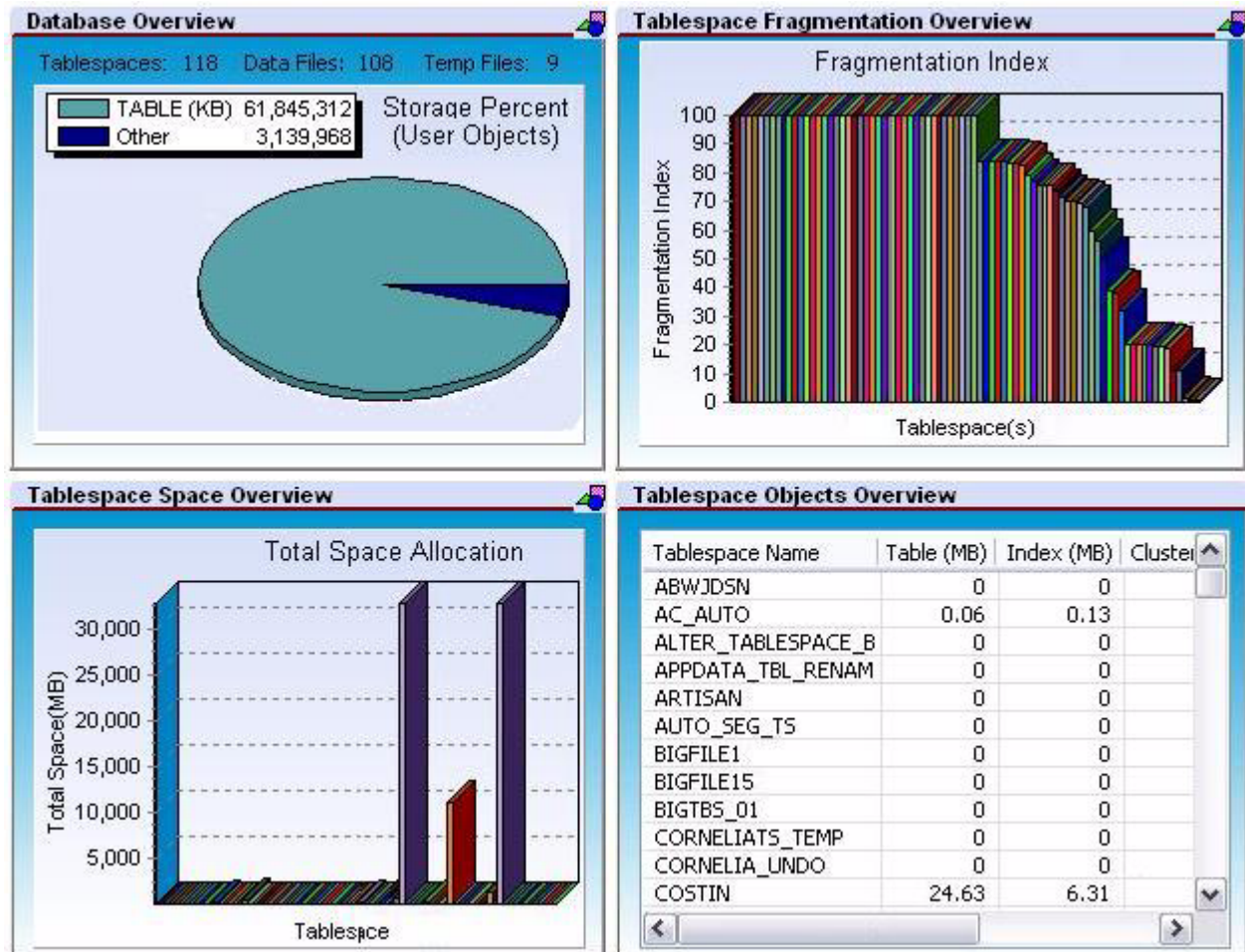
Note the additional **Reorganize** and display options.

8 Close the Tablespaces Editor pane.



## ADVANCED SPACE MANAGEMENT (ORACLE AND SQL SERVER ONLY)

For advanced space analysis and management, DBArtisan's optional Space Analyst component contains sophisticated diagnostics to help you pinpoint all space-related problems in your database, as well as an intelligent reorganization wizard that can reorganize all or selected parts of your database.



**NOTE:** Space Analyst is a separately-licensed component. If you are not working with an evaluation copy of DBArtisan or do not have a specific license, proceed to [Session 5: SQL Management](#). Contact your license administrator or your Embarcadero representative about obtaining a license.

### To see the sort of information provided by the Space Analyst

- 1 On the **Analyst** menu, select **Space Analyst**.

**NOTE:** If prompted to install components on the server, allow DBArtisan to install the components.

The Space Analyst launches in the DBArtisan workspace.

Embarcadero's Space Analyst provides sophisticated diagnostic capabilities to troubleshoot bottlenecks and performance inefficiencies that result in poor space management. See the DBArtisan online help for a detailed walkthrough of all available features and functionality.

- 2 Select the **Data Files, Tablespace Map, Tables,** and **Indexes** tabs available at the bottom of the Space Analyst pane.
- 3 Close the Space Analyst pane.

## SESSION 5: SQL MANAGEMENT

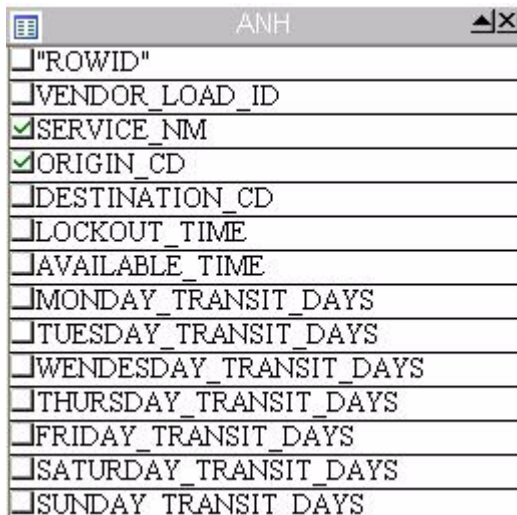
DBArtisan provides powerful visual tools for creating and analyzing complex SQL statements and server-side code objects. The following examples walk you through DBArtisan's Visual Query Builder, feature-rich ISQL facility and some of the advanced analysis and debugging capabilities provided by the Embarcadero SQL Debugger and SQL Profiler.

### VISUAL QUERY BUILDER

- 1 From the **Tools** menu, select **Query Builder**.

DBArtisan opens the Query Builder.

- 2 In the **Tables/Views** tab, right-click a table or view and select **Add**.
- 3 In the window that opens, select the columns to return in the result. For example:



Query Builder generates the query text in the lower SQL window.

```

1  SELECT SYSTEM.ANH.SERVICE_NM,
2      SYSTEM.ANH.ORIGIN_CD
3  FROM SYSTEM.ANH
4
5

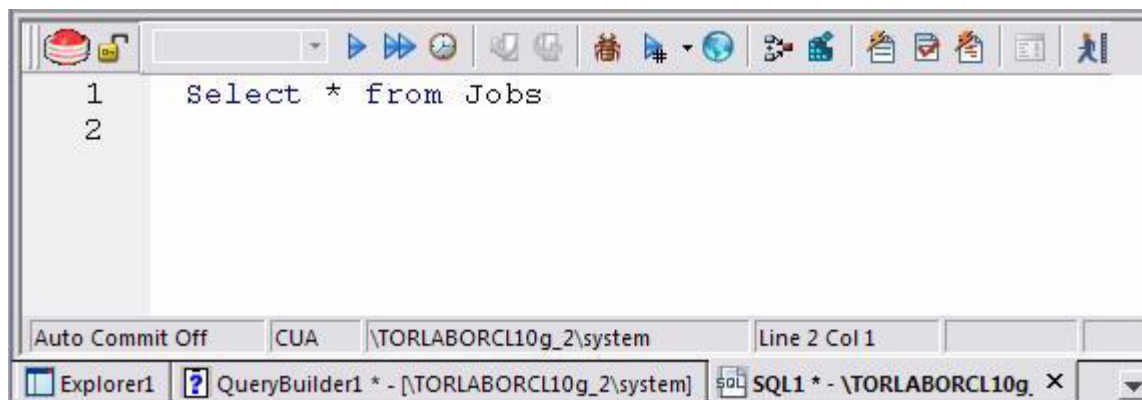
```

You can build advanced queries using the options supplied on the **DML** tab. You choose the type of query (SELECT, INSERT, and so on) using the dropdown on the Query Builder toolbar.

- 4 After the query is built, click the **Execute** button (green arrow) on the Query Builder toolbar. Query Builder displays results in the lower SQL window.
- 5 Close the Query Builder pane.

## ISQL WINDOW

DBArtisan offers a fully-featured SQL editor. In addition to basic text processing features, the editor environment offers testing/debugging and execution facilities. In combination with supporting features, the ISQL editor eases and speeds up the process of developing working scripts.



### AUTOMATED ERROR DETECTION AND CODING ASSISTANCE

DBArtisan provides a range of features that detect or help you avoid errors and save keystrokes in developing your scripts.

#### To enable these features:

- 1 On the **File** menu select **Options**. The **Options** dialog opens.
- 2 In the left-hand pane, expand the **ISQL** node and then select **Code Assist**.

- 3 On the **Code Assist** panel:
  - Ensure that **Enable Code Complete** is selected.
  - Ensure that **Enable Real-time syntax checking** is selected.
  - Ensure that **Severity levels for semantic validation problems** has **Warning** selected.
- 4 Click **OK**.

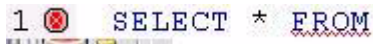
### To see these features in action:

- 1 On the **File** menu, select **New > ISQL**.

DBArtisan opens the ISQL Editor window. You can add SQL code via your method of choice (free-form typing, retrieve from a file, paste copied code, etc.).

- 2 Experiment with the automated error detection and coding assistance as follows:

- Type `SELECT * FROM` and stop typing. Note the error condition.



By default, DBArtisan runs a syntax check any time there is an interval of 1.5 seconds between keystrokes. You can also disable automatic syntax checking and only run a check when you manually initiate it. Syntax error annotation persists until you correct the problem.

- This time type a fragment that includes the name of a nonexistent object, `SELECT * FROM NON.OBJECT`, for example. For now, ignore any popups. The warning condition is a result of on-the-fly semantic validation. DBArtisan notifies you when a script contains a reference to an object that DBArtisan cannot resolve.
  - Type `SELECT * FROM` followed by a space and then stop typing. If no popup appears, press `CTRL+SPACE`. The Code Complete suggestion box lets you select from objects or object name components such as databases or schema. This feature saves keystrokes and minimizes typing errors. See the online help for full descriptions of these features.
- 3 If you want to disable the automated error detection and coding assistance features, select **File > Options** and on the **Code Assist** page, click **Restore defaults**.

### FEATURE SUMMARY

The ISQL Editor window includes the following features and options:

- The ISQL window highlights all platform-specific and general keywords, and provides options for SQL code formatting and analysis.
- Once code is executed you have control over whether your transaction is committed or rolled back from the database.
- For all open ISQL windows, there are also options for connection locking, scheduling, executing your code across multiple datasources, explain plan generation, and SQL Tuning.

## SETTING ENVIRONMENT OPTIONS

DBArtisan lets you set platform-specific query options to immediately determine if your code is optimized.

- 1 Press F8.

DBArtisan opens the **Query Option** dialog.

Option	Value
<b>Query Analysis</b>	
Network Activity	<input type="checkbox"/>
Execution Information	<input type="checkbox"/>
I/O Activity	<input type="checkbox"/>
Sort Activity	<input type="checkbox"/>
Index Activity	<input type="checkbox"/>
Parse Activity	<input type="checkbox"/>
Table Activity	<input type="checkbox"/>
OS Activity	<input type="checkbox"/>
Wait Activity	<input type="checkbox"/>
<b>Miscellaneous</b>	
Batch Delimiter	/
Row Count	0
LONG Size (bytes)	8192
Max Errors Before Aborting (0 = off)	0
Check syntax when executing	<input type="checkbox"/>
Run script with batch execution	<input checked="" type="checkbox"/>

- 2 Either close the **Query Options** dialog and then the SQL Editor window or enter a valid query in the ISQL editor and then execute your query by clicking the **Execute** button.



- 3 When complete, ensure that only the Datasource Explorer window is open.

## SQL DEBUGGING, ANALYSIS AND TUNING

To analyze and debug your SQL code, DBArtisan provides cross-platform SQL code debuggers, and for your Oracle databases, a robust PL/SQL code profiler that helps you to pinpoint and eliminate “hot spots” within poorly running server-side code. To ensure code efficiency, the ISQL window provides tight integration with Embarcadero’s SQL Tuner, so you can perform multiple “test then tune” iterations without having to leave an open ISQL window.

While this example is specific to Oracle PL/SQL Debugging, the same interface and functionality applies to all of the supported platforms.

**To see debugging in action**

- 1 On the Datasource Explorer, expand any Oracle datasource node.
- 2 On the Oracle datasource, select the **Procedures** node.
- 3 In the right pane of the Explorer, right-click any stored procedure, and then select **Debug**.
- 4 If prompted, enter any input parameters and then click **Continue**.

After the SQL Debugger interface is displayed you can step through code, step into dependencies, set and watch variables, and even perform basic code profiling for each line of executed code. See the DBArtisan online help for a detailed listing of all available SQL features.

- 5 Experiment with debugging features and then close the debugger window.

## SESSION 6: JOB MANAGEMENT

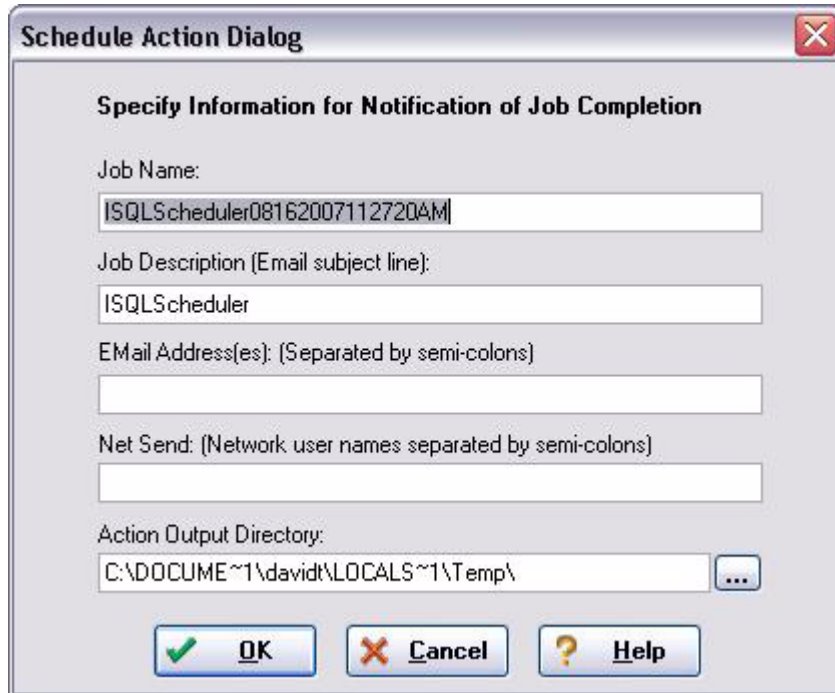
DBArtisan freely integrates with the Microsoft Windows Task Scheduler, which allows you to virtually schedule any task to run on your own computer whenever and how often you'd like. While this example is specific to an Oracle table redefinition, the same concept applies to any job or script that can be scheduled.

**To schedule a job, do the following:**

- 1 On the Explorer, expand any Oracle datasource.
- 2 On the Oracle datasource, expand the **Tables** node, right-click any table, and select **Extract**. DBArtisan extracts the DDL that defines the selected table and opens an ISQL Editor window on the DDL.
- 3 From the ISQL window toolbar, click the **Schedule** button.



The **Schedule Action** dialog opens. You can provide a name, set notifications, and specify an output directory for the new job.



- 4 After you have completed the dialog, click **OK**. The **Job Scheduler** dialog opens.
- 5 Proceed as prompted to schedule your job. When finished, close the ISQL window.

You can use the **Oracle Job Queue** explorer node to monitor your job.

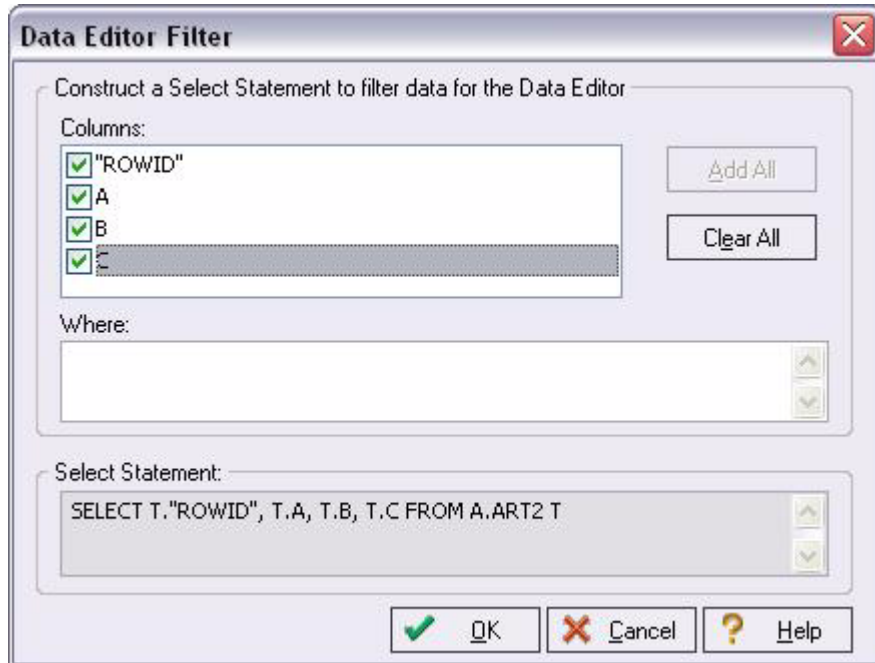
## SESSION 7: DATA MANAGEMENT

DBArtisan provides comprehensive facilities to help you manage the data in all of your databases. A visual data editor helps you add, change, and delete data from your tables with all referential integrity enforced. You can create INSERT statements for tables using current data and also extract data as XML documents for certain databases. Rounding out its rich Schema Management capabilities, DBArtisan also allows you to migrate schema objects and associated table data from one database server to another, across the same or different platforms.

### VISUAL DATA EDITING

**To start the Visual Data Editor, do the following:**

- 1 In the Datasource Explorer, right-click any table and select **Edit Data**. DBArtisan opens the **Data Editor Filter** dialog.
- 2 In **Columns**, select the columns that are to be included in the editable data.



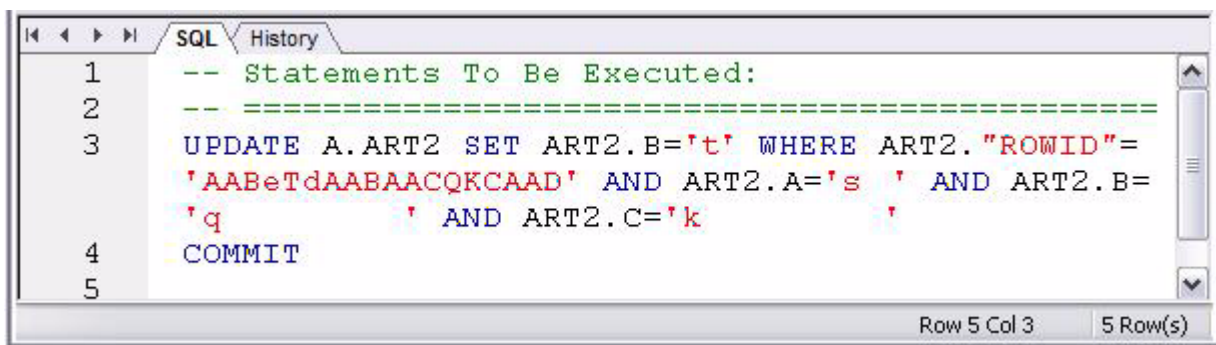
You can also filter the editable rows by including your own SELECT statement.

3 Click **OK**.

In Live mode all changes are applied to the database when you move off of an updated or inserted row. Deleted rows are immediately removed from the database. Batch mode allows you to make changes and then save all when all are complete. Mode is controlled by a dropdown in the Data Editor toolbar.

4 Experiment with editing your data, and when complete, on the Data Editor toolbar, click the **Execute** (blue arrow) button.

DBArtisan commits your changes. Regardless of mode, all of the generated DML statements are viewable in the lower SQL window.



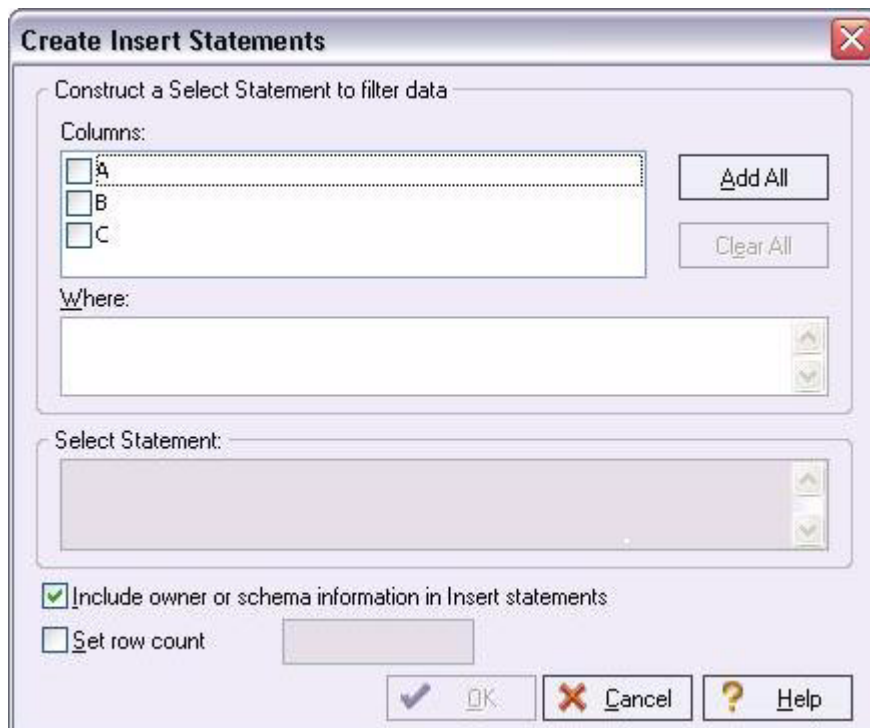
5 Close the Data Editor pane.



## WORKING WITH TABLE DATA – CREATE INSERT STATEMENTS

DBArtisan lets you generate a set of INSERT statements based on rows of an existing table.

- 1 On the Datasource Explorer, select any Oracle datasource.
- 2 On the Oracle datasource, expand the **Tables** node.
- 3 In the right pane of the Explorer window, right-click any table, and then select **Create Insert Statements**. DBArtisan opens the **Create Insert Statements** dialog. For example:



- 4 In **Columns**, select the columns you want to include in the INSERT statement.
- 5 You can also filter what rows are included by adding your own WHERE clause.
- 6 Click **OK**.

The resulting INSERT statements are created and presented in an active ISQL window. At this point they can be executed immediately, scheduled to later or saved. Note that all extracted INSERT statements can be run against the same or different databases containing a similar schema.

```

--
-- TABLE INSERT STATEMENTS
--
INSERT INTO HR.JOB_HISTORY ( JOB_HISTORY.EMPLOYEE_ID,
JOB_HISTORY.START_DATE, JOB_HISTORY.END_DATE,
JOB_HISTORY.JOB_ID,    JOB_HISTORY.DEPARTMENT_ID )
      VALUES ( 113, TO_DATE('11/04/2006 12:43:24 PM',
'MM/DD/YYYY HH12:MI:SS AM'),
TO_DATE('01/15/2007 12:43:24 PM',
'MM/DD/YYYY HH12:MI:SS AM'), 'PU_MAN', 270 )
/
INSERT INTO HR.JOB_HISTORY ( JOB_HISTORY.EMPLOYEE_ID,
JOB_HISTORY.START_DATE, JOB_HISTORY.END_DATE,
JOB_HISTORY.JOB_ID,    JOB_HISTORY.DEPARTMENT_ID )
      VALUES ( 102, TO_DATE('01/13/1993 12:00:00 AM',
'MM/DD/YYYY HH12:MI:SS AM'),
TO_DATE('07/24/1998 12:00:00 AM',
'MM/DD/YYYY HH12:MI:SS AM'), 'IT_PROG', 60 )
/

```

- 7 Close the editor pane.

## WORKING WITH TABLE DATA – EXTRACT DATA AS XML

DBArtisan lets you generate an XML representation of table data.

### To extract data as XML

- 1 On the Datasource Explorer, expand any Oracle datasource.
- 2 On the Oracle datasource, expand the **Tables** node.
- 3 In the right pane of the Explorer window, right-click any table listed, and then select **Extract Data as XML**.
- 4 Select the columns to include in the SELECT statement.
- 5 You can also filter what rows are included by adding a WHERE clause in the **Select Statement** box.
- 6 Click **OK**.

The resulting XML document is created and presented in an active XML Editor. At this point the document can be saved in XML format.

```

1  <?xml version="1.0"?>
2  <ROWSET>
3  <ROW>
4  <ROWID>AAAHM/AAF AAAABsAAA</ROWID>
5  <EMPLOYEE_ID>113</EMPLOYEE_ID>
6  <START_DATE>11/04/2006 12:43:24 PM</START_DATE>
7  <END_DATE>01/15/2007 12:43:24 PM</END_DATE>
8  <JOB_ID>PU_MAN</JOB_ID>
9  <DEPARTMENT_ID>270</DEPARTMENT_ID>
10 </ROW>
11 <ROW>
12 <ROWID>AAAHM/AAF AAAABuAAA</ROWID>
13 <EMPLOYEE_ID>102</EMPLOYEE_ID>
14 <START_DATE>01/13/1993 12:00:00 AM</START_DATE>
15 <END_DATE>07/24/1998 12:00:00 AM</END_DATE>
16 <JOB_ID>IT_PROG</JOB_ID>
17 <DEPARTMENT_ID>60</DEPARTMENT_ID>
18 </ROW>

```

7 Close the editor pane.

## ADVANCED DATA MANAGEMENT – SCHEMA AND DATA MIGRATION

DBArtisan provides advanced data management tools that help you to move schema and corresponding table data across the same or different platforms. You can copy a single database object, all objects owned by a specific user, or an entire database all guided by a wizard-driven process.

While this example is specific to an Oracle to SQL Server schema and data migration the same concept applies to any migration involving any combination of the supported platforms.

### To open the Schema Migration Wizard:

- 1 On the **Utilities** menu, select **Schema Migration**. DBArtisan opens the Migration Wizard.
- 2 Select the **Perform new migration** option.
- 3 Click **Next**. DBArtisan opens the next panel of the Migration Wizard. For example:



- 4 Select an Oracle datasource from the **Source Datasource** list and a Microsoft SQL Server datasource from the **Target Datasource** list.
- 5 Click **Next** and provide login credentials if prompted. DBArtisan opens the next panel of the Migration Wizard.

Since Microsoft SQL Server supports multiple databases per datasource, you must choose a database.

- 6 Select an entry from the **Target Database** list and then click **Next**. DBArtisan opens the next panel of the Migration Wizard.

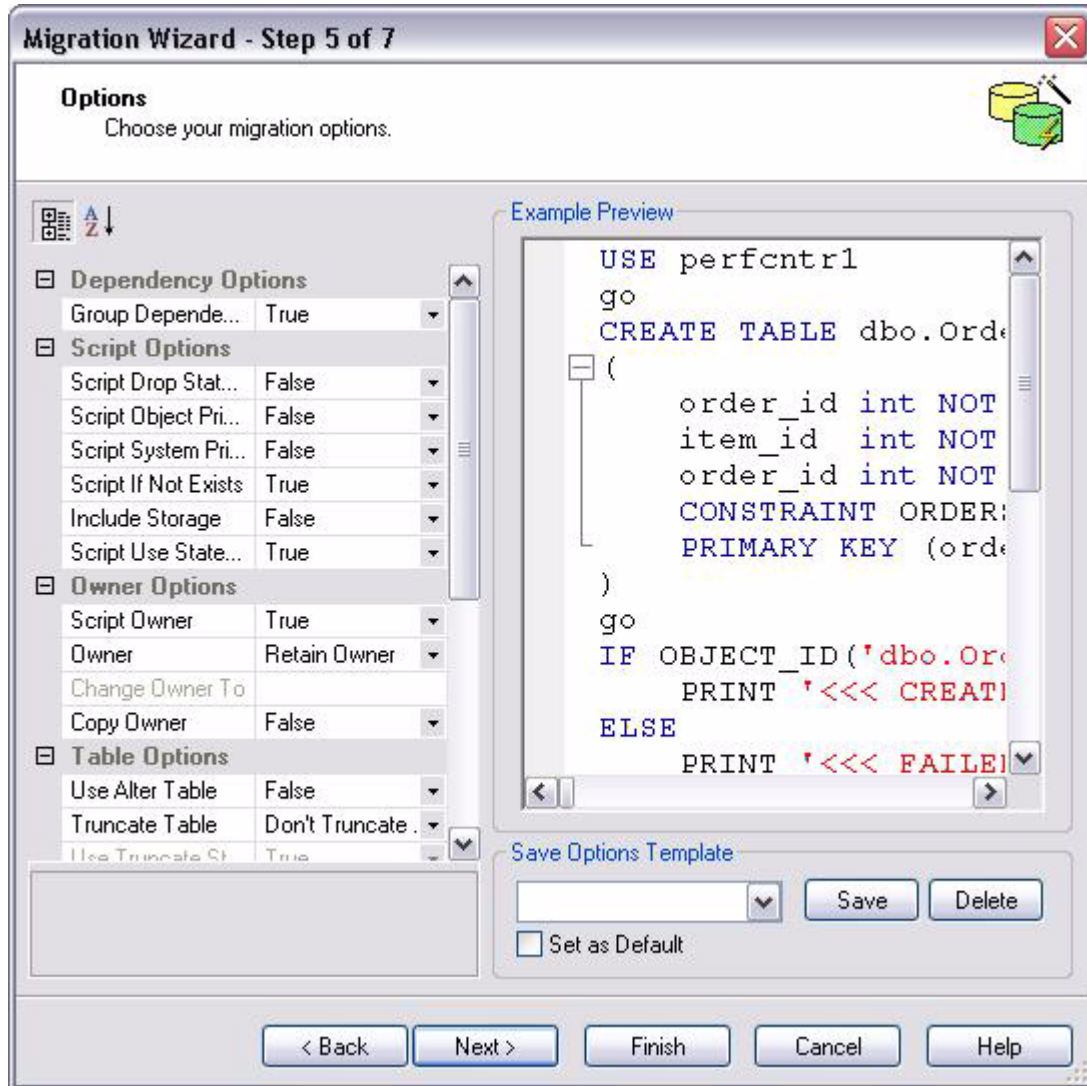


7 In the **Object Types** list, select the object types to be migrated to the target datasource.

As you select object types, the **Objects** list is updated to let you select specific objects to migrate. The **Expand/Collapse** icons let you drill down through dependencies/containment.

8 Use the **Objects** list to select the specific objects to migrate.

9 Click **Next**. DBArtisan opens the next panel of the Migration Wizard.



10 Examine the migration options offered but leave the default settings for now.

11 Click **Next**. DBArtisan opens the next panel of the Migration Wizard.

Clicking **Finish** executes the migration and lets you view the progress of the job.

## SESSION 8: PERFORMANCE MANAGEMENT

DBArtisan offers a number of different options to help you manage the performance of your databases. First, DBArtisan ships with a built-in process monitor that helps you understand who is connected to your database along with each user's current activity and session-related data. For more robust performance details DBArtisan's Performance Analyst add-on is a powerful client-side database monitor that runs fully contained in the DBArtisan console.

## MONITORING SESSIONS

While this example is specific to Oracle the Process Monitor is available for all of the supported platforms.

### To start the DBArtisan Process Monitor:

- 1 On the Datasource Explorer, select any Oracle datasource.
- 2 From the **Utilities** menu, select **Database Monitor**.

SID	Status	O.S.	Serial #	Type	DB User	Client Us	Logon Time	Serv
170	ACTIVE	3828	1	BACKGROUND	PMON	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
158	ACTIVE	736	4	BACKGROUND		SYSTEM	9/3/2010 11:03:07.000 AM	DEDIC
168	ACTIVE	3856	1	BACKGROUND	MMAN	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
167	ACTIVE	3900	1	BACKGROUND	DBWD	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
166	ACTIVE	3816	1	BACKGROUND	LGWR	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
165	ACTIVE	3812	1	BACKGROUND	CKPT	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
164	ACTIVE	316	1	BACKGROUND	SMON	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
163	ACTIVE	340	1	BACKGROUND	RECO	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
162	ACTIVE	392	1	BACKGROUND	CJQD	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
154	ACTIVE	708	1	BACKGROUND	QMNC	SYSTEM	9/3/2010 11:02:57.000 AM	DEDIC
161	ACTIVE	432	1	BACKGROUND	MMON	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
160	ACTIVE	3932	1	BACKGROUND	MMNL	SYSTEM	9/3/2010 11:02:43.000 AM	DEDIC
139	ACTIVE	9548	8331	USER	SYS	davidt	9/22/2010 2:11:42.000 AM	DEDIC
144	ACTIVE	9332	16254	USER		SYSTEM	9/22/2010 2:17:31.000 AM	DEDIC

The Database Monitor includes the following options and features:

- Highlight any session and any currently running SQL is displayed in the lower pane.
- You can drill-down into a specific session to display session-level statistical details, historical and current wait events along with a working copy of the currently running SQL that can be copied to an ISQL for Explain Plan generation.
- By using the **Monitor** dropdown options you can display more advanced database-level monitoring data such as locks, blocking locks, hit ratio by user, Top 20 SQL etc.



3 Close the Database Monitor pane.



## ADVANCED CLIENT-SIDE PERFORMANCE MONITORING

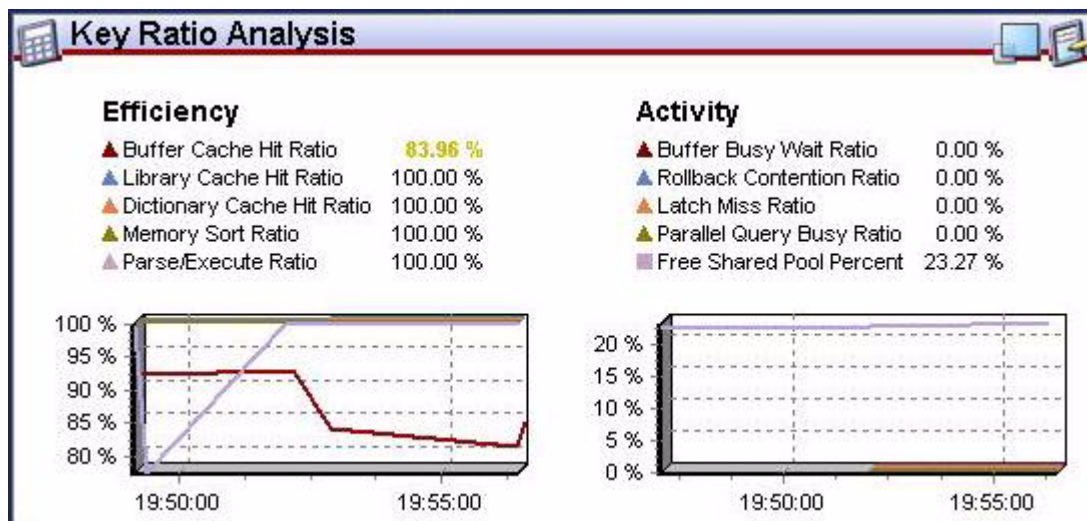
For advanced performance monitoring and management, DBArtisan's optional Performance Analyst provides intelligent diagnostic information and strong drilldown details to help you get to the heart of any episode of performance degradation. Performance Analyst integrates completely with DBArtisan so you can fix any performance problems with a few clicks of the mouse.

**NOTE:** Performance Analyst is available for Oracle, SQL Server, Sybase ASE and DB2 for Unix, Windows, and Linux.

**NOTE:** Performance Analyst is a separately-licensed component. If you are not working with an evaluation copy of DBArtisan or do not have a specific license, proceed to [Session 10: General Utilities and Tools](#). Contact your license administrator or your Embarcadero representative about obtaining a license.

- 1 On the Datasource Explorer, select any Oracle datasource.
- 2 On the **Analyst** menu, select **Performance Analyst**. The Performance Analyst opens in the DBArtisan workspace for the target datasource.

In addition to the **Home** page displayed initially, Performance Analyst presents several pages of statistics. Page categories include **Memory**, **I/O**, **Space**, **Objects**, **Users**, and **OS**. Each page contains several panes of related statistics, the **Home** page's **Key Ratio Analysis** pane, for example:



Note the toolbar at the top of the Performance Analyst. It lets you navigate among the Performance Analyst statistics pages.



- 3 Experiment with displaying the various pages available from the toolbar dropdowns.

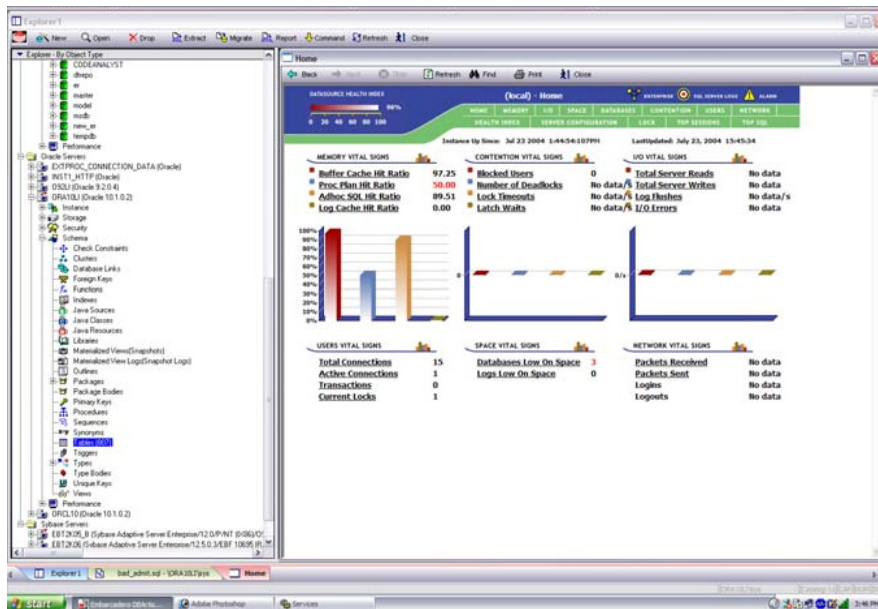
See the DBArtisan online help Performance Analyst topics for a detailed walkthrough of all available features and functionality.

For enterprise performance monitoring, DBArtisan integrates with the Embarcadero Performance Center Web Client. While integration requires a licensed Performance Center server, there are no upgrade requirements for the DBArtisan console.

**NOTE:** You should only work through the following exercise if you are a current Performance Center user. If you are not a Performance Center customer, please read the following for information purposes only.

Use the following to establish a quick connection to your Performance Center server:

- 1 On the **File** menu select **Options**.
- 2 On the **Options** Editor, select the **Perf Center** tab.
- 3 Select the **Web Client** radio button and enter the Performance Center server info as indicated.
- 4 Perform a test to ensure the configuration is correct.
- 5 After a connection is established you can use the **Tools > Performance Center** option to launch the Web Client within the DBArtisan console. If you are using the full Performance Center client you can use this same Options editor tab to switch back.



**NOTE:** The Performance Center web client provides read-only access to the monitored datasources. To perform edits or maintenance you must switch to the full Performance Center client.

Please see the relevant DBArtisan online help topics for a detailed walkthrough of all available features and functionality.

## SESSION 9: CAPACITY MANAGEMENT

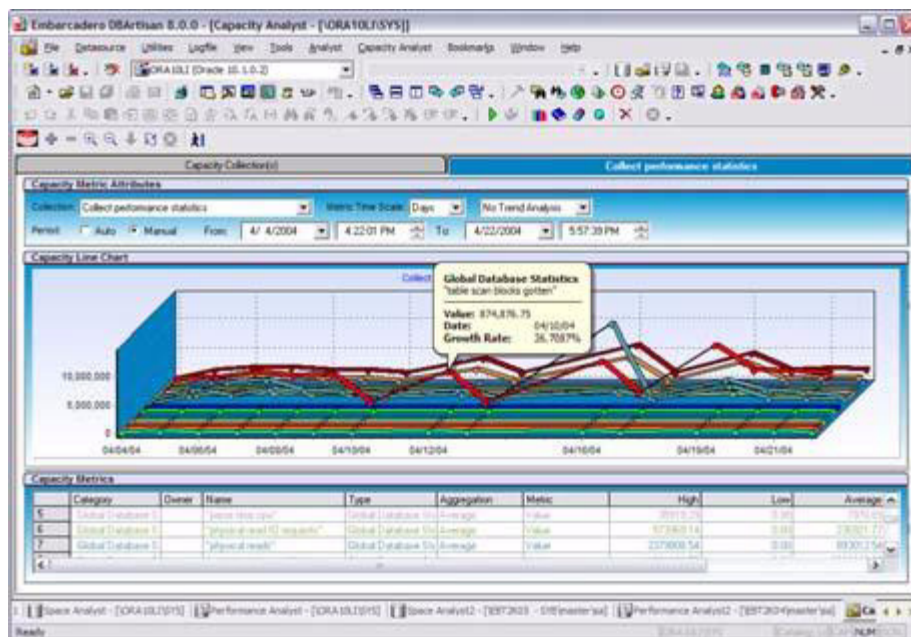
Planning for the future of your critical databases used to be a difficult task. However, DBArtisan's optional Capacity Analyst tool makes it easy to understand where your databases are today and where they are headed in the future. Capacity Analyst lets you track key database metadata and performance metrics over time so you can perform trend analysis on key areas like growth, object fragmentation, I/O and session load. Like all of the Analyst Series products, Capacity Analyst runs fully contained within DBArtisan so you have access to smart, built-in forecasting mechanisms that allow you to predict when your databases run out of space and the ability to proactively manage your storage assets, all from the same console.

Performance Analyst is available for DB2 for Unix, Windows, and Linux, Sybase ASE, Oracle, and SQL Server.

- 1 On the Datasource Explorer, select any Oracle datasource.
- 2 From the **Analyst** menu select **Capacity Analyst**.

**NOTE:** Capacity Analyst is a separately-licensed component. If you are not working with an evaluation copy of DBArtisan or do not have a specific license, proceed to [Session 10: General Utilities and Tools](#). Contact your license administrator or your Embarcadero representative about obtaining a license.

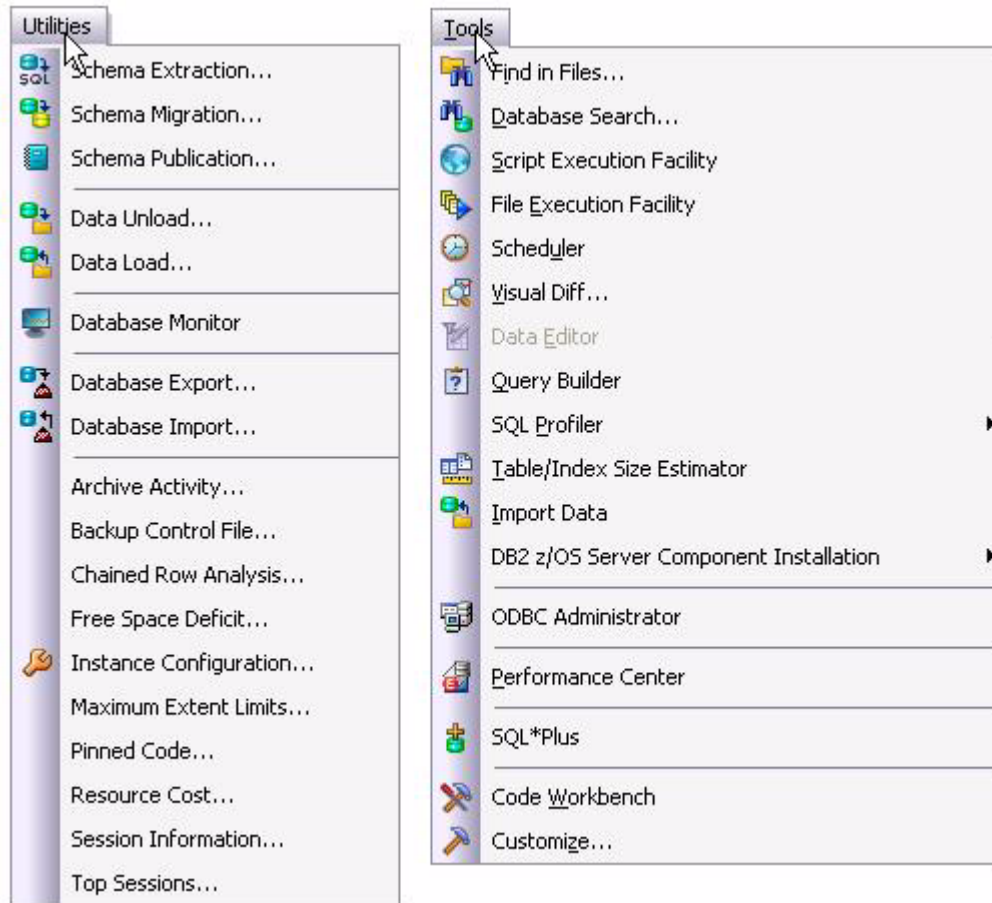
The Capacity Analyst opens in the DBArtisan workspace for the target Oracle datasource.



See the relevant DBArtisan online help topics for a detailed walkthrough of all available features and functionality.

## SESSION 10: GENERAL UTILITIES AND TOOLS

No evaluation of DBArtisan would be complete without a mention of the general utilities and tools that are available across all of the supported platforms. The **Utilities** menu offers primarily DBMS-specific operations while those offered on the **Tools** menu are more generic.



The **Utilities** menu contains the more advanced DBArtisan features. The available menu items are context-sensitive and version-specific for the selected datasource DBMS platform. This example above shows the **Utilities** menu features that are available for Oracle.

The **Tools** menu contains those features that are common across all DBMS platforms. The example above shows the **Tools** menu features that are available for all supported DBMS platforms. Note that if any other Embarcadero products are installed on your client they will be available on the **Tools** menu.

All DBArtisan utilities and tools provide a common interface that walks you through all input and execution requirements. All results are consistently presented so you can easily move between features without effort or confusion.

## NEW FEATURES

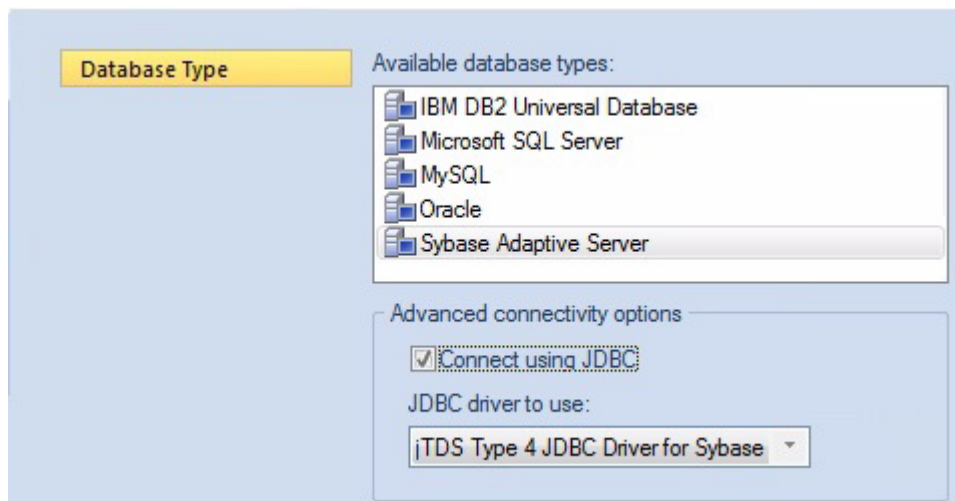
- [Connectivity Updates](#)
- [Sybase IQ Support](#)
- [Updated DBMS Platform Version Support](#)
- [Database Monitor Updates](#)
- [SQL Server Feature Support](#)
- [Sybase Feature Support](#)
- [SQL Editor Improvements](#)
- [User interface changes and related features](#)

## CONNECTIVITY UPDATES

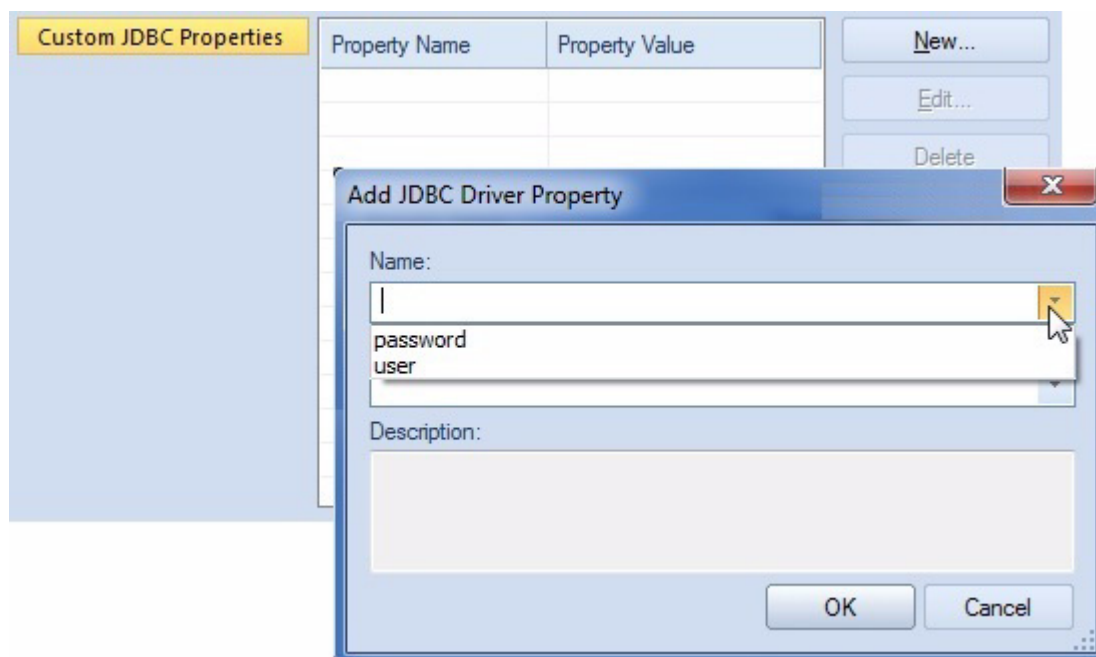
### Direct Type 4 JDBC Driver Support

In previous releases, DBArtisan connectivity was primarily restricted to native Embarcadero drivers. These proprietary drivers, packaged with DBArtisan, work in conjunction with a supported set of third-party clients that must be installed. While this remains the default, a new **Connect Using JDBC** control lets you specify a more direct Type 4 connection that does not require a native client.

One or more Type 4 JDBC drivers for each supported platform are now packaged with DBArtisan.



DBArtisan queries the selected driver to determine the properties, options, or parameters that the JDBC driver accepts. The Datasource Registration Wizard's new **Custom JDBC Properties** panel lets you provide these name/value pairs.

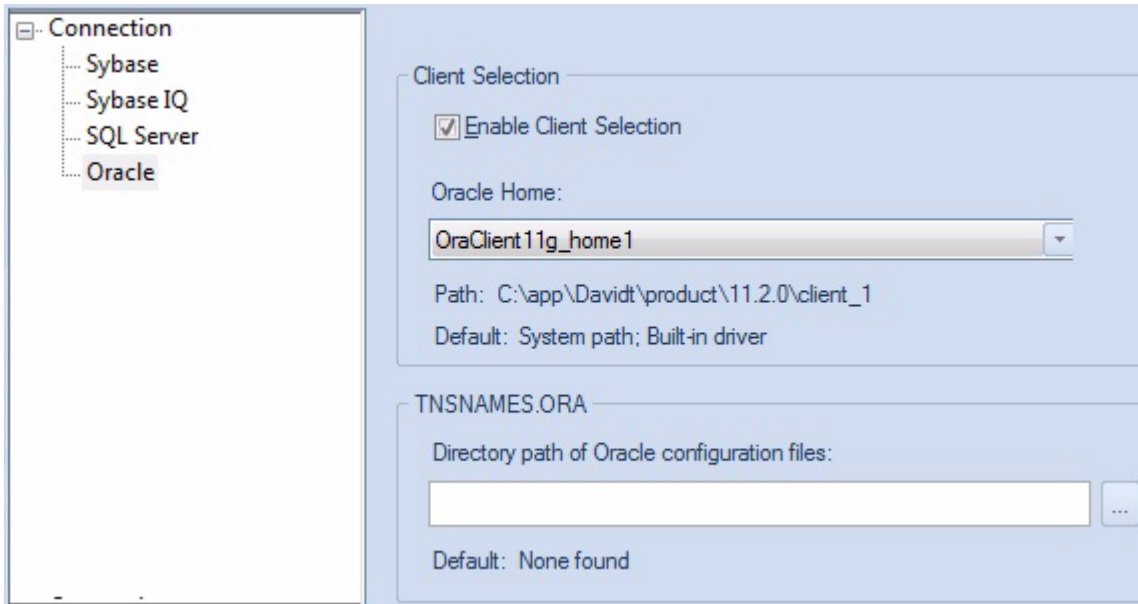


### Oracle/Sybase Client Selection Support

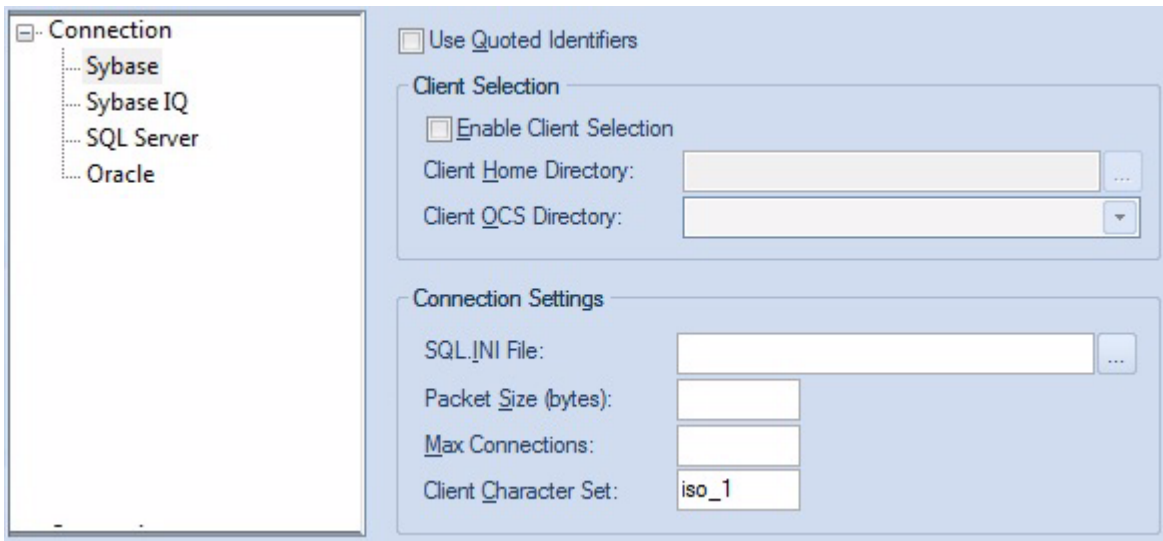
If you are using Embarcadero native drivers to connect to Oracle and Sybase datasources, then for cases where multiple client versions are installed, DBArtisan selects the default client as defined by system/environment variables. For this release, DBArtisan now lets you override the default, indicating the specific client version to be used with Sybase ASE and Oracle datasource connections.

Against Oracle, the Options Editor lets you specify:

- The directory associated with the client software
- The path to the TNSNAMES.ORA configuration file



The Options editor offers similar functionality for Sybase connectivity. In addition to letting you select the main Sybase directory, you also select the sub-directory associated with the specific client you wish to use. You can also select the specific configuration file (typically named SQL.INI) to be used for DBArtisan connections.



## SYBASE IQ SUPPORT

This release introduces for Sybase IQ, Sybase's column-oriented DBMS. This release will offer the following:

- The ability to register and connect to Sybase IQ datasources

- Explorer visibility of the following object types: DBSpaces, Domains, Foreign Keys, Functions, Groups, Indexes, Join Indexes, Primary Keys, Procedures, System Indexes, System Tables, System Triggers, Tables, Triggers, Users, and Views
- **Extract** and **Drop** object actions are available for all supported object types. An **Object Properties** action, providing `sp_iqhelp` procedure call output, is available against domains, functions, procedures, system tables, tables, and views.
- Database Monitor functionality providing live details on connected users and table locks as well as status information
- SQL Editor support

## UPDATED DBMS PLATFORM VERSION SUPPORT

DBArtisan now provides support for Sybase ASE version 15.5. All current DBArtisan functionality is now available on this platform version.

## DATABASE MONITOR UPDATES

Against Oracle datasources, the Database Monitor now offers a **Long Operations** tab. This tab shows statistics and status information from the Oracle `V$SESSION_LONGOPS` view.

SID	START TIME	TIME REMAINING	PERCENT COMPLETE	UNITS SO FAR	TOTAL WORK	UNIT OF MEASUREMENT	ELAPSED SECONDS
MESSAGE		SERIAL #	OPERATION NAME		TARGET OBJECT		
TARGET DESCRIPTION				LAST UPDATE TIME	CONTEXT	USERNAME	

The primary criterion for inclusion of an operation in the `V$SESSION_LONGOPS` view is an operation duration of six seconds or more.

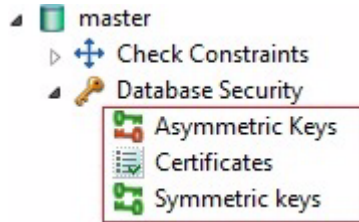
## SQL SERVER FEATURE SUPPORT

The following topics describe updated support for SQL Server features.

### Enhanced Public Key Encryption Support

DBArtisan now offers Certificate, Asymmetric Key, and Symmetric Key objects.





A dedicated wizard and editor are available for creating and editing each of the new object types. Each provides the basic properties required to generate CREATE ASYMMETRIC KEY, CREATE CERTIFICATE, or CREATE SYMMETRIC KEY statements.

### Asymmetric Key Properties

Asymmetric Key Properties	Certificate Properties	Symmetric Key Properties
<ul style="list-style-type: none"> <li>Creation               <ul style="list-style-type: none"> <li>Authorization Owner</li> <li>Name</li> <li>Use Existing Keys</li> </ul> </li> <li>Key Source               <ul style="list-style-type: none"> <li>Provider Name</li> </ul> </li> <li>Key Options               <ul style="list-style-type: none"> <li>Key Algorithm</li> <li>Key Name in Provider</li> <li>Creation Disposition</li> </ul> </li> <li>Encrypting Mechanism               <ul style="list-style-type: none"> <li>Encryption Password</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Creation               <ul style="list-style-type: none"> <li>Owner</li> <li>Name</li> <li>Use Existing Keys</li> </ul> </li> <li>Attributes               <ul style="list-style-type: none"> <li>Active For Begin Dialog</li> <li>Subject</li> <li>Start Date</li> <li>Expiry Date</li> </ul> </li> <li>Encrypting Mechanism               <ul style="list-style-type: none"> <li>Encryption Password</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Creation               <ul style="list-style-type: none"> <li>Authorization Owner</li> <li>Name</li> <li>Provider Name</li> </ul> </li> <li>Key Options               <ul style="list-style-type: none"> <li>Pass Phrase</li> <li>Key Algorithm</li> <li>Identity Phrase</li> <li>Creation Disposition</li> <li>Key Name in Provider</li> </ul> </li> </ul>

In addition, the following object actions are provided:

**Add Private Key** - changes the private key for a certificate, adds a private key to a certificate that currently does not have one, and optionally, specifies a decryption password.

**Backup Certificate** - backs up a certificate to file.

### Enhanced Backup/Restore Functionality

The SQL Server Backup Wizard now offers READ\_WRITE\_FILEGROUPS options, offering partial backups for both full and incremental backups. New BACKUP DATABASE statement support includes compression and checksum options.

The screenshot shows a backup configuration window with the following settings:

- Backup Type:**
  - Full Database (58 MB)
  - Partial Database
  - Partial Incremental
  - Incremental Database
  - File and File Group
  - Transaction Log (23 M)
- Overwrite all backup sets on the device
- Format the entire media before backup operation
- Specify when the backup set can be overwritten
  - Expire Date: Jan /16/2012
  - Retain Days: 0
- Skip backup set expiration and media name checking
- Copy-Only backup
- Compression: Use the default server setting
- Read and verify the integrity of the backup after finish
- Perform backup checksums
- Stop on checksums error
- Rewind the tape before unload
- Unload the tape after backup
- No recovery
- Standby file: [Empty text box] ...
- I/O buffers: 0 (0 = Use Server default value)
- Max transfer size: 0 (0 = Use Server default value)
- Report at each: 10 % (0 = Use Server default value)
- Backup Threads: 0 (0 = Use Server default value)

## SYBASE FEATURE SUPPORT

The following topics describe updated support for Sybase features.

### Proxy Tables

New properties let you add FOR PROXY\_UPDATE and DEFAULT\_LOCATION= parameters when creating a database, as well as to change the default location for an existing database.

Property	Value
Creation Properties	
Database Name	my_proxy_DB
Type	DEFAULT
In-memory	<input type="checkbox"/>
For Proxy Update	<input type="checkbox"/>
For Load	<input type="checkbox"/>
With Override	<input type="checkbox"/>
With Default Location	

A new **Resynchronize** action, available against databases defined with the **For Proxy Update** property selected, forces the resynchronization of proxy tables within the proxy database.

### Archive databases

A new **ARCHIVE Type** option and a new **Scratch Database** property lets you generate CREATE ARCHIVE DATABASE DDL and specify a WITH SCRATCH\_DATABASE value.

Property	Value
Creation Properties	
Database Name	My_Archive_DB
Type	ARCHIVE
Scratch Database	
In-memory	<input type="checkbox"/>
For Proxy Update	<input type="checkbox"/>
For Load	<input type="checkbox"/>
With Override	<input type="checkbox"/>
Durability	

### Relaxed Durability Databases

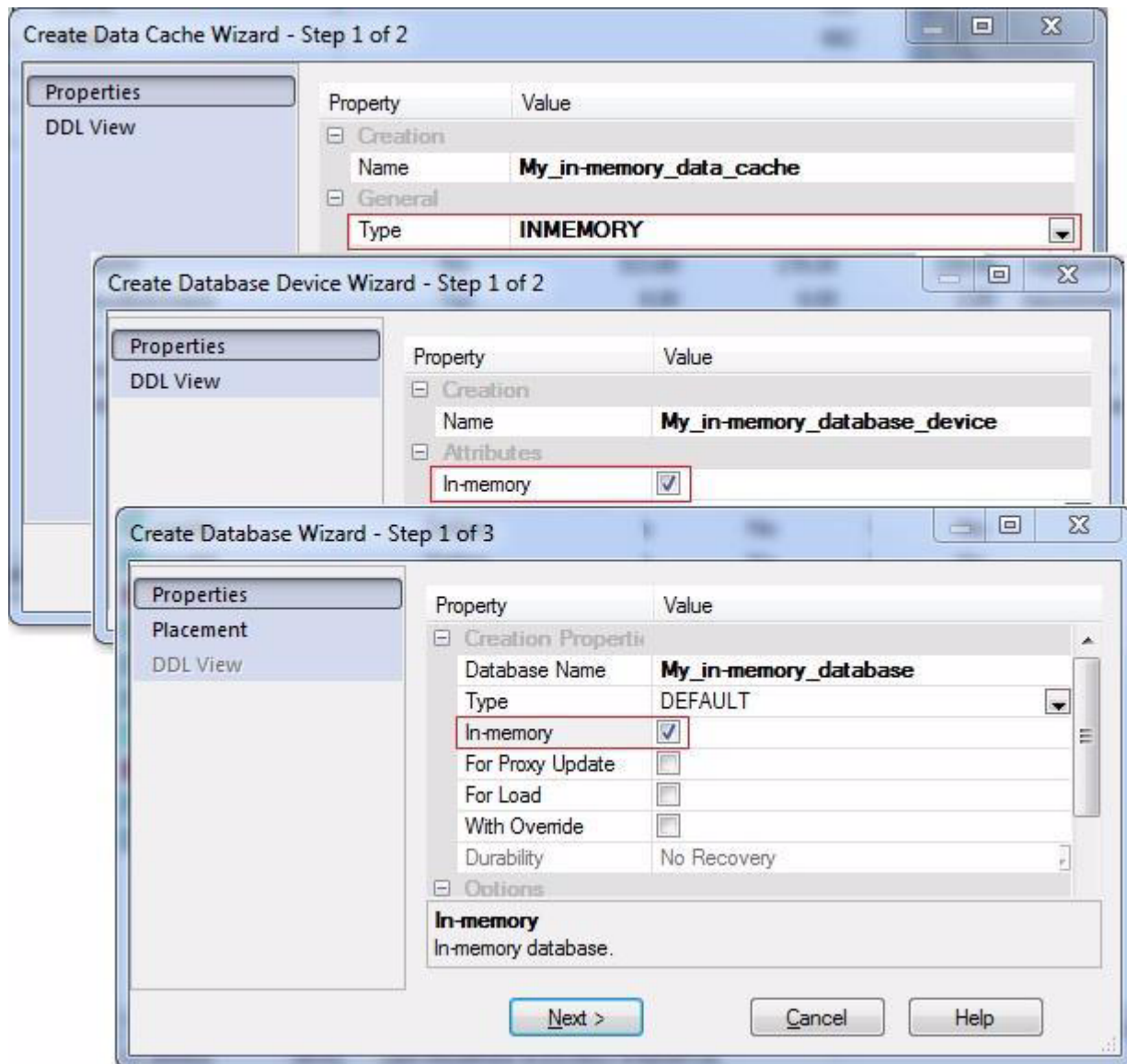
A new **Durability** property of the Database Wizard/Editor lets you control persistence of committed transactions.

Creation Properties	
Database Name	My_in-memory_database
Type	DEFAULT
In-memory	<input type="checkbox"/>
For Proxy Update	<input type="checkbox"/>
For Load	<input type="checkbox"/>
With Override	<input type="checkbox"/>
With Default Location	
Durability	No Recovery
Options	
abort tran on log full	Full
allow nulls by default	No Recovery
	At shutdown

Selecting one of the FULL, NO RECOVERY, or AT\_SHUTDOWN options includes a DURABILITY= option in the DDL generated to create or alter the database.

## In-memory Databases support

New properties on the Data Caches, Database Devices, and Database Wizards let you set up all resources required to create in-memory databases.



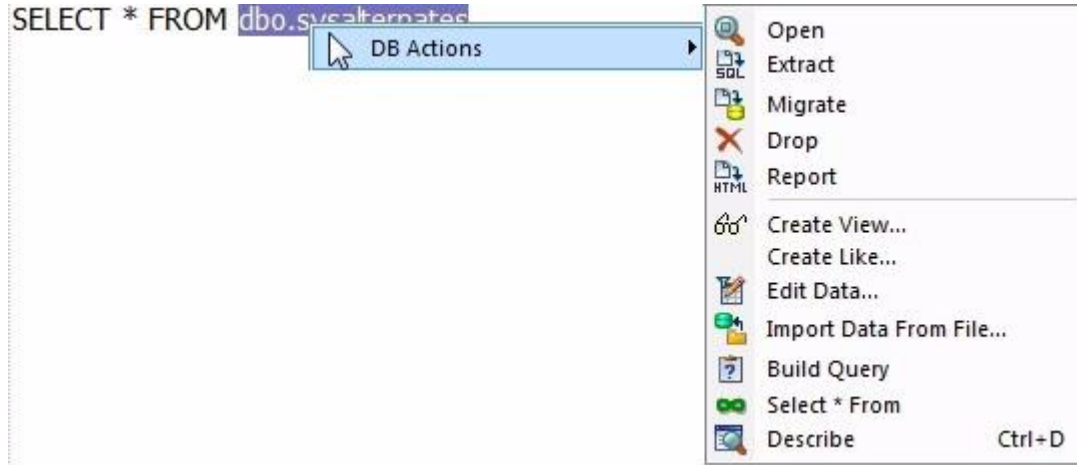
This lets you execute the DISK INIT... TYPE='inmemory', SP\_CACHECONFIG... INMEMORY\_STORAGE, and CREATE IMMEMORY DATABASE operations from within DBArtisan.

## SQL EDITOR IMPROVEMENTS

The following topics describe updates to the SQL Editor.

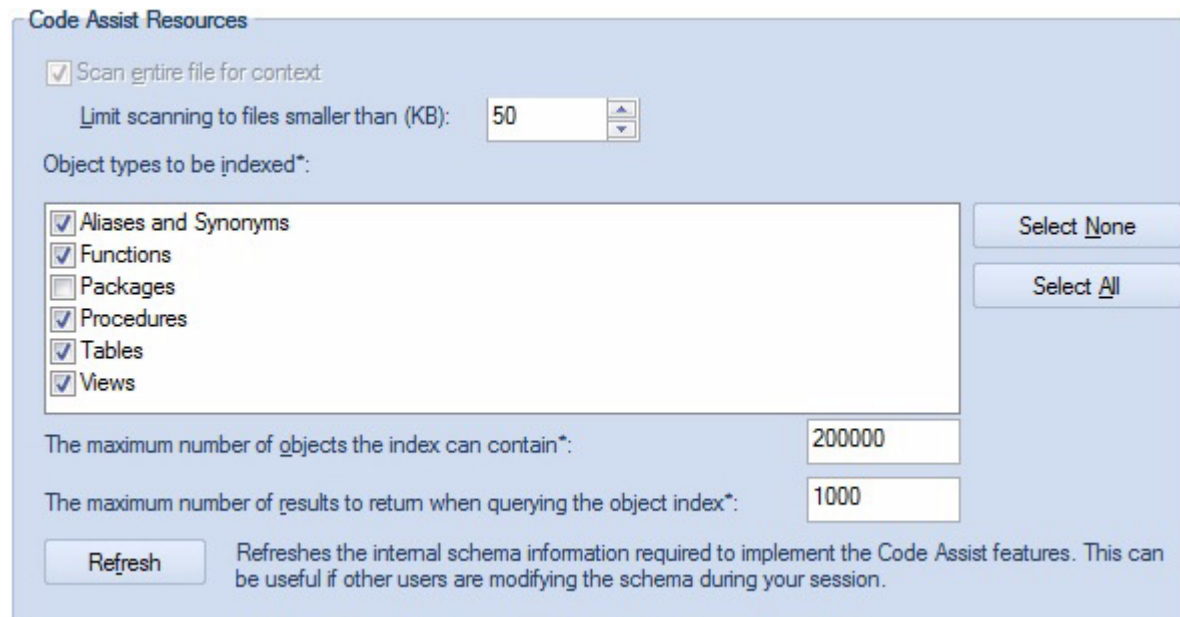
## Hyperlinks to Invoke Object Actions

Hyperlinks let you invoke common or object type-specific object actions against tables, views, functions, procedures, packages, and package bodies referenced in a script. A configurable keystroke combination (default, CTRL+Right-click) opens an object action menu.



## Datasource Index Control

Error detection and coding assistance features rely on a datasource index generated when you open an SQL Editor against a datasource. Semantic Validation, the new Hyperlinks object actions feature, and Code Assist all use the datasource index for tasks such as verifying object name spellings, recognizing object types, and populating suggestion lists. The Options Editor's new **ISQL > Code Assist > Advanced** provides control over the generated index.



You can now configure:

- The specific object types included in the index

## NEW FEATURES

- The maximum size of the index
- The maximum number of results returned when the index is queried

## USER INTERFACE CHANGES AND RELATED FEATURES

Continuing from previous releases, this release features reworked object management editors and wizards. By DBMS platform:

- **Oracle** - Job Queues
- **Sybase** - Segments