

Product Documentation

IDERA DBArtisan

Quick Start Guide

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Introducing DBArtisan

DBArtisan is an industry-leading database administration solution for managing Oracle, Microsoft SQL Server, Sybase, PostgreSQL, IBM DB2, and MySQL databases. 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 the vendor.

About DBArtisan

Your new application 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.

Datasource and Server Management: 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: Your application 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.

Coding Environments/Editors: Fully-featured environments dedicated to SQL, DDL and Active Script development are provided. 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 (DBArtisan only): 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.

Project Management, Version Control, and Script Library: Database project management facilities help you organize, alter, and keep track of changes to database objects or SQL scripts. The project management facilities act as a repository to maintain all source code for a database project. DBArtisan also incorporates version control functions and build management facilities to help you manage and build projects.

Other Time-savers and Productivity Tools: Working within the DBArtisan environment, you have access to database and file search facilities, use the 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 DBArtisan Analyst Series includes advanced space, capacity, performance and backup management capabilities. They let you predict and prevent storagerelated 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 SQL Server, let you test functions and procedures. A Profiler is available for Oracle datasources.

Technical Requirements

For information on the technical requirements of DBArtisan, including supported operating systems and databases, see the ReadMe at //www.idera.com/support/productdocuments.

DBMS Support and Connectivity Options

Dedicated Support Connectivity Options

DBArtisan provides dedicated connectivity to a specific version range of IBM DB2 for Linux, UNIX, and Windows, IBM DB2 for z/OS, Microsoft SQL Server, MySQL, PostgreSQL, Oracle, Sybase, and Teradata databases. The following connectivity options are provided:

- o Native drivers: DBArtisan is packaged with a set of native drivers, each requiring a DBMS-specific client to be installed.
- o JDBC drivers: DBArtisan can connect to a datasource more directly using one of the packaged, third-party JDBC drivers. No additional connectivity components need to be installed. One or more third-party drivers, tested against DBArtisan, are installed with DBArtisan.

The following table provides a summary of resources/requirements for connectivity to dedicated DBMS platforms. For each platform, it lists supported versions, the client software that must be installed if using native IDERA clients, and the third-party, Type 4 JDBC drivers packaged with DBArtisan.

DBMS	Supported	Client Required for use with native IDERA drivers	Packaged JDBC	Source &
Platform	Versions		Driver	License
IBM DB2 for z/OS	9 - 10.x, and 11.x*	DB2 UDB Client for Windows 8.0 or later	IBM Data Server Driver for JDBC	-
IBM DB2 for	9 - 10.x, and	IBM DB2 LUW Client for	IBM Data Server	-
LUW	11.x*	Windows 8.0 or later	Driver for JDBC	
Microsoft SQL Server	2008 2012 2014* 2016*	Microsoft SQL Server Client Library	jTDS Type 4 JDBC Driver for Microsoft SQL Server Microsoft SQL Server JDBC Driver	LGPL source, license

DBMS Support and Connectivity Options

MySQL	4.x	MySQL Connector/ODBC Driver 5.2.x Driver - MySQL Connector/ODBC driver 3.51.x Driver	MySQL Connector/J JDBC Driver	GPL, source & license
Oracle	9i, 10g, 11g, and 12c*	Oracle SQL*Net Client	Oracle JDBC Thin Driver	-
PostgreSQL	9.3 minimum Specifically- supported PostgreSQL-based database products include Greenplum, Pivotal HAWQ, and BigSQL.	PostgreSQL ODBC Driver (latest version recommended)	PostgreSQL JDBC Driver	BSD, license
Sybase ASE	12.5 - 15.7, 16.0	Sybase Open Client	jTDS Type 4 JDBC Driver for Microsoft SQL Server Sybase jConnect JDBC Driver	LGPL, source, license
Sybase IQ	12.7 - 15.4, 16.0	SQL Anywhere ODBC drivers for Sybase IQ 12.7 Sybase IQ 32-bit ODBC drivers	Sybase jConnect JDBC Driver for Sybase IQ	-

^{*} For these databases, DBArtisan supports a subset of this database versionís features/functions.

IDERA Team Server 2016 Support

DBArtisan can make use of datasource definitions stored on an IDERA Team Server 2016 (16.0.1).

Generic JDBC/ODBC Connectivity

Generic JDBC/ODBC connectivity to non-dedicated DBMS systems or non-database datasources is also provided. DBArtisan can connect to a datasource using a customer-provided, third-party JDBC version 4.0 or ODBC version 3.0 driver. Minimal DBArtisan functionality is provided, including a basic Explorer tree and SQL querying.

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:

- o DSNWZP
- o DSNUTILS
- o ADMIN_COMMAND_DSN
- o 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 <u>IBM DB2 for z/OS documentation</u> for more information.

Specifically-tested JDBC/ODBC Connectivity Products: Apache Hive/Hadoop

DBArtisan has been successfully tested against Apache Hive/Hadoop datasources using the Hortonworks ODBC driver. Similarly, Cloudera Impala datasources have been tested using the Cloudera JDBC driver. In both cases, SQL querying and a Datasource Navigator/Explorer tree are available.

DBMS Versions no Longer Supported

DBArtisan is no longer being tested against Sybase ASE versions before 15.7.

Installing and Licensing DBArtisan

Before you can register any IDERA 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:

- o Installing DBArtisan
- o <u>Licensing Your Product</u>

Installing DBArtisan

To install the application successfully, you must complete each panel of the installation wizard. 64-bit and 32-bit versions of DBArtisan are available with the trial version, which can be downloaded from https://www.idera.com/dbartisan-database-administration-solution.

The DBArtisan installation wizard installs all corresponding files on your machine. The installer offers common options such as license agreement, file and folder selections, and shortcut options. An application-specific option lets you associate file suffixes of elements such as SQL scripts with DBArtisan.

The panels presented by the wizard vary depending on whether you are upgrading or performing an initial installation.

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 Your Product.

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

Licensing Your Product

Each IDERA client application requires one or more licenses to run. An IDERA product, such as DBArtisan, has a baseline license that provides basic feature support for that product. Also, incremental licenses may be required to support specific DBMS platforms, product add-ons, or other functions.

For more information, see the following topics:

- o <u>Licensing Overview</u>
- o <u>Licensing Your Application</u>
- o Selecting a License Category During Startup
- o 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
- Directing Queries Regarding Licenses

Viewing Your License Type and Modules

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

Understanding 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 A license or set of licenses is tied to a particular workstation. The product can licensing

only be used on that workstation.

Networked Networked licenses are administered and distributed by a central License Server licensing (IDERA License Center or Acresso 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.

DBArtisan License Modules, DBMS Support, and Feature Availability

Simplified licensing now offers a single DBArtisan license for single and multiplatform environments. Standard, Professional, and Workbench editions now are a single edition called DBArtisan, which also includes the previously optional Analyst Pack. Furthermore, the previously optional Analyst Pack now is included in DBArtisan.

Directing Queries Regarding Licenses

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

- o If you work in an organization that uses networked licensing, direct any questions to your siteís DBArtisan administrator.
- o If you are using workstation licensing, direct licensing questions to your IDERA representative.

Licensing Your Application

See the following topics for details on registering your product:

- o Registering a Trial or Workstation License during Installation
- o Registering a Workstation License After Application Startup
- o Registering By Phone
- o Registering a Networked License

Registering a Trial or Workstation License during Installation

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

- 1. Start the installation. An IDERA License Registration dialog appears.
- 2. Copy the serial number from the email and paste it in the Serial Number field.
- 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 live 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 <u>Registering By Phone</u>.

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 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, and 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 live 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, <u>Registering By Phone</u>.

Registering By Phone

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

- o Developer Network credentials
- The registration code displayed in the IDERA License Registration dialog that appears when you start an unlicensed application
- o The product base license serial number
- o 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 through 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 through 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 productís main installation folder (typically $C:\Program$

Files\IDERA\ coduct><version>\license\), then restart the application.

No additional steps are necessary.

Selecting a License Category during Startup

During 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 the use of a siteís 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 on startup and checked back in on shutdown.

You can also use a license in offline mode. When you explicitly check out a license for offline use, you can use the license 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 the license 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.

DBArtisan Tutorial exercises

The exercises that follow walk you through DBArtisanís 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 DBArtisanís standard cross-platform console. Also, you will have a solid understanding of DBArtisanís more advanced Space, Performance, and Capacity management capabilities.

This guide is divided into 10 sessions:

- o Session 1: Getting Started with DBArtisan
- o Session 2: Object and Schema Management
- o Session 3: Database Security Management
- o <u>Session 4: Space Management</u>
- o Session 5: SQL Management
- o Session 6: Job Management
- o Session 7: Data Management
- o Session 8: Performance Management
- o Session 9: Capacity Management
- o 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

Your first tasks in getting familiar with DBArtisan are as follows:

- o Starting the DBArtisan Application
- o Registering Cross-Platform Datasources to DBArtisan
- o <u>Setting up the Datasource Explorer</u>
- o Exploring General Usability Features

Starting the DBArtisan Application

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

- o InstantOn version: start the application by double-clicking the file you downloaded.
- o Fully-installed version: The Start menu sequence for DBArtisan is always in the form Programs > IDERA DBArtisan version identifier 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 IDERA tools, DBArtisan can find any active datasources being used by those tools. Also, DBArtisan provides a Discover Datasources feature that automatically searches the DBMS configuration files on your system for datasources that are not currently registered. Because other IDERA tools let you export datasource definitions to file, you also have the option of importing these definitions.

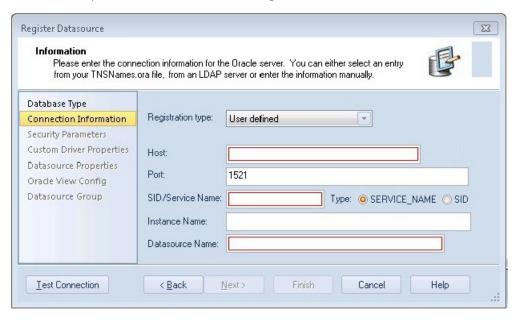
2. For the purpose of this tutorial, click Cancel. You will be registering a datasource manually.

Proceed to Registering Cross-Platform Datasources to DBArtisan.

Registering Cross-Platform Datasources to DBArtisan

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.



- 3. Ensure that User defined is selected 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.

Registering Cross-Platform Datasources to DBArtisan

- 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.

The same easy-to-use Datasource Registration Wizard is available for directly-supported DBMS platforms as well as JDBC and ODBC datasources. Datasource information is stored in the registry, is editable, and datasources can be deleted. If you run multiple IDERA products on the same machine, they can share the same datasource catalog.

A number of datasource catalog storage options are available:

- o A local, file-based alternative lets you easily move a datasource catalog between users.
- o A remote, file-based alternative lets multiple users share a single catalog. Settings can be changed locally but are not propagated to other users or retained over shutdown/startup

Another way of centralizing datasource definition maintenance is available if you use IDERA Team Server 2016 or later. Datasource definitions can be stored on Team Server 2016 (and later versions) and subsequently registered as local datasources. Local connection details for a datasource are synchronized with Team Server on each attempt to connect to a datasource.

For details on datasource options, refer to the DBArtisan online Help.

Proceed to Setting up the Datasource Explorer.

Setting up the Datasource Explorer

The first time you start DBArtisan, the Datasource Navigator occupies the left side of the main window. It is a single pane window that lets you navigate the datasources that you register and initiate actions against databases and database objects.

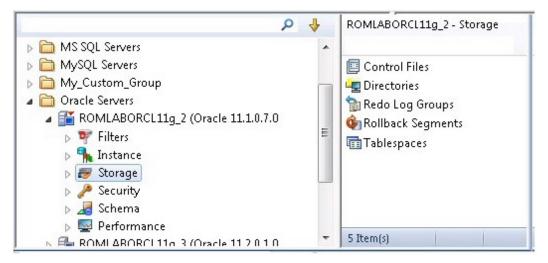


For the following set of exercises, you will be using a similar aid.

To prepare for subsequent exercises

- 1. Dismiss the Navigator by clicking the close button (X) at the top of the Navigator window.
- 2. Select View > Activate Explorer.

The Datasource Explorer is a two pane window that provides most of the same functions as the Navigator.



One key difference is the right pane of the window. It displays details for the node currently selected in the left pane. This might be individual database objects such as tables or primary keys, configuration parameters, and so on.

Before proceeding, familiarize yourself with the View menu commands for opening the Navigator and Explorer, and the ways to close those windows. As you proceed with DBArtisan, you will develop a preference for either the Navigator or Explorer, or find that each has benefits that are preferable in different situations.

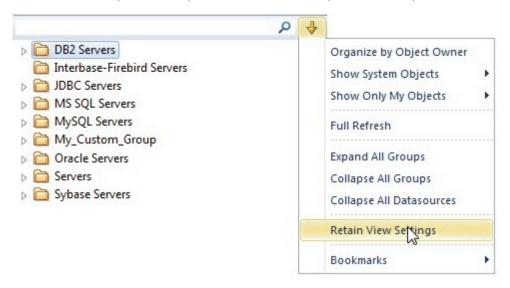
Proceed to Exploring General Usability Features.

Exploring General Usability Features

DBArtisan provides many inser in mindificatures 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.

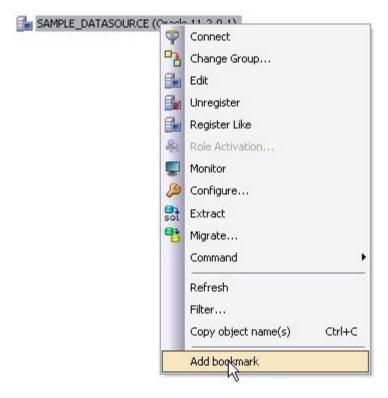


2. Select Retain View Settings.

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

Working with Datasource Explorer Bookmarks

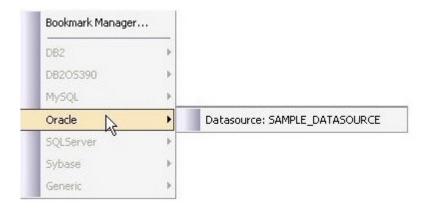
1. In the Explorer tree, right-click the datasource you registered and select Add bookmark from the context menu.



DBArtisan opens the Add Friendly Bookmark Name dialog.

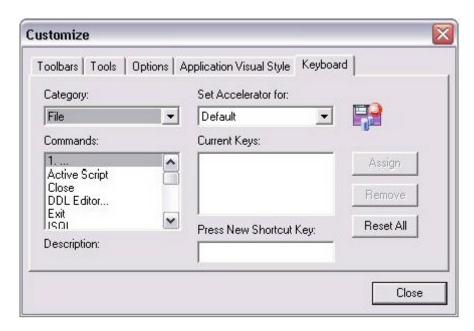
2. Click OK.

After Bookmarks are defined you can use them to easily navigate to commonly used datasource resources using the dropdown at the top of the Explorer and selecting the 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.

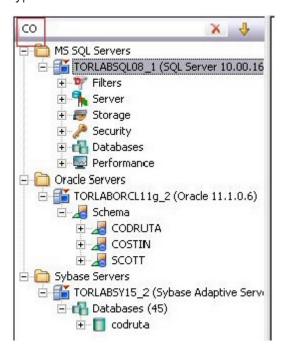


The Keyboard tab can be used to set keyboard shortcut hot keys for all areas of DBArtisan functionality.

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.

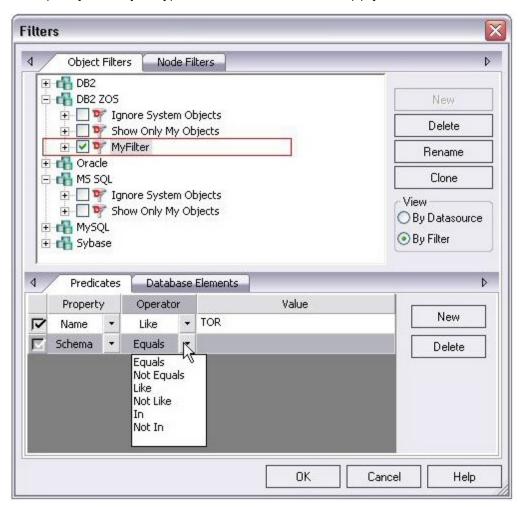


If you are interested in a more permanent filtering method, you can create filters at the DBMS or datasource level. Filters are available under the Filters node for each datasource.



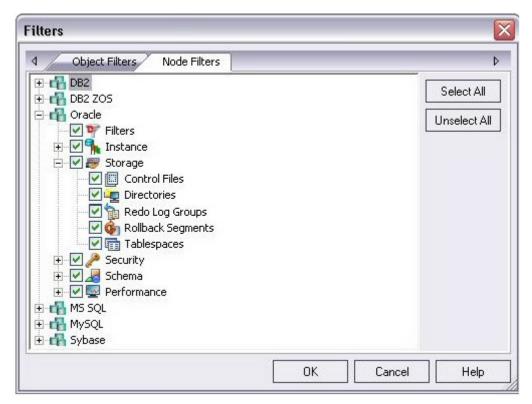
Right-clicking in the tree and selecting Filter opens the Filters dialog. It lets you filter out object types at the DBMS platform level. It also lets you create object filters.

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.

Proceed to Session 2: Object and Schema Management.

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 off 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 an 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:



2. Close the PL/SQL Editor pane.

Proceed to Session 3: Database Security Management.

Session 3: Database Security Management

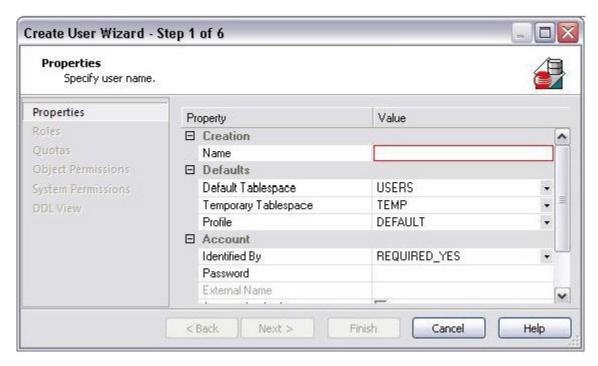
DBArtisan can help you efficiently establish and maintain database security. Whether you are managing an existing production database or setting up a new environment, you'll find consistent support across all of the supported platforms.

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.

Proceed to Session 4: Space Management.

Session 4: Space Management

Managing space is vital to ensure 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 storage. The following examples walk you through a review of DBArtisanís built-in support for reporting Oracle tablespace storage and space data.

- o <u>Built-in Space Management</u>
- o Advanced Space Management (Oracle and SQL Server only)

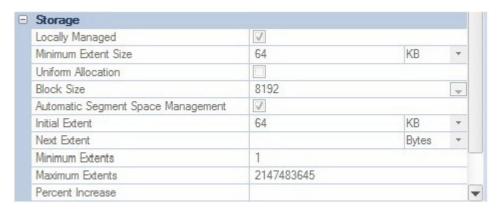
Built-in Space Management

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

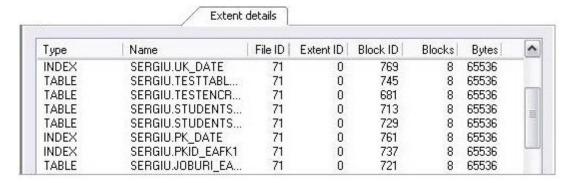
- 1. On the Datasource Explorer, expand any Oracle datasource.
- 2. On the Oracle datasource, expand the Storage node, and then select Tablespaces.
- 3. Right-click any tablespace listed in the right pane of the Explorer window, and then click Open.

IDERA 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.

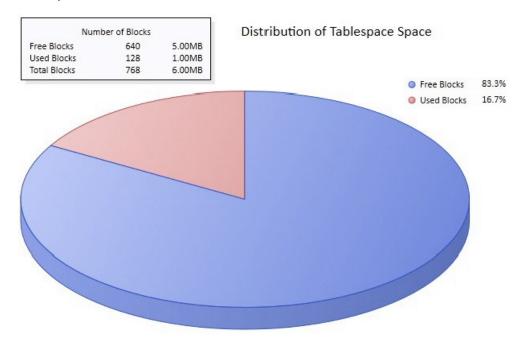


5. Select the Extent Details tab. It provides more detail on an extent-by-extent basis.



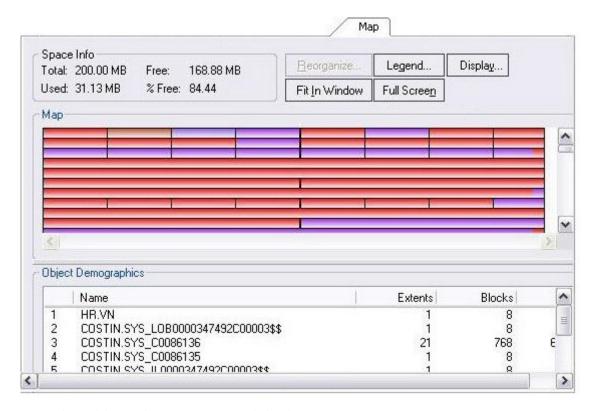
6. On the Tablespace Editor, click the Space tab.

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.



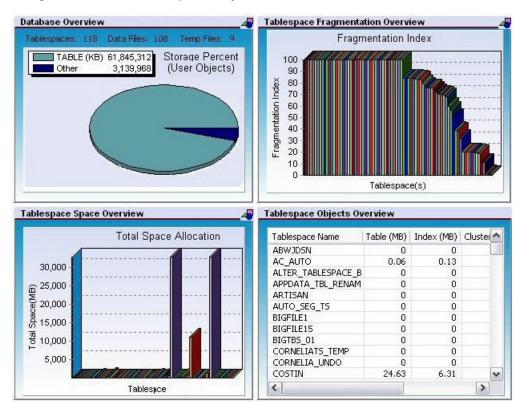
Note the additional Reorganize and display options.

8. Close the Tablespaces Editor pane.

Proceed to Advanced Space Management (Oracle and SQL Server only).

Advanced Space Management (Oracle and SQL Server only)

For advanced space analysis and management, DBArtisanís 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 <u>Session 5:</u> <u>SQL Management</u>. Contact your license administrator or your IDERA 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.

IDERA 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.

Proceed to <u>Session 5: SQL Management</u>.

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 DBArtisanís Visual Query Builder, feature-rich ISQL facility and some of the advanced analysis and debugging capabilities provided by the IDERA SQL Debugger and SQL Profiler:

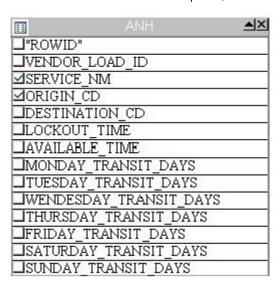
- o Working with Query Builder
- o ISQL Window
- o SQL Debugging, Analysis and Tuning.

Working with 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 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.

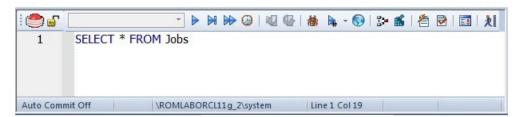
Query Builder displays results in the lower SQL window.

5. Close the Query Builder pane.

Proceed to ISQL Window.

ISOI 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.

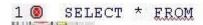
- Ensure that Severity levels for semantic validation problems has Warning selected.
- 4. Click OK.

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.
- 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:

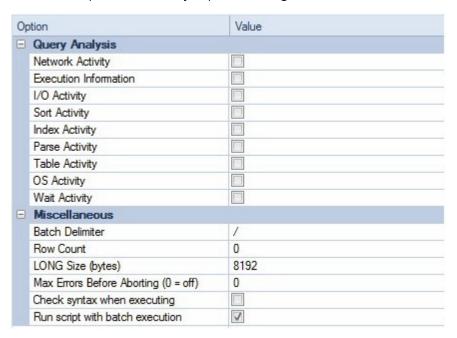
- o The ISQL window highlights all platform-specific and general keywords, and provides options for SQL code formatting and analysis.
- o Once the code is executed, you have control over whether your transaction is committed or rolled back from the database.
- For all open ISQL windows, there are also 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.



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.

Proceed to <u>SQL Debugging</u>, <u>Analysis and Tuning</u>.

SQL Debugging, Analysis and Tuning

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.

Proceed to <u>Session 6: Job Management</u>.

Session 6: Job Management

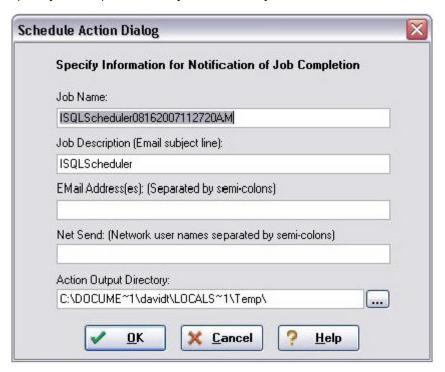
DBArtisan freely integrates with the Microsoft Windows Task Scheduler, which allows you to virtually schedule any task to run on your own computer whenever and how often you'd like. While this example is specific to an Oracle table redefinition, the same concept applies to any job or script that can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

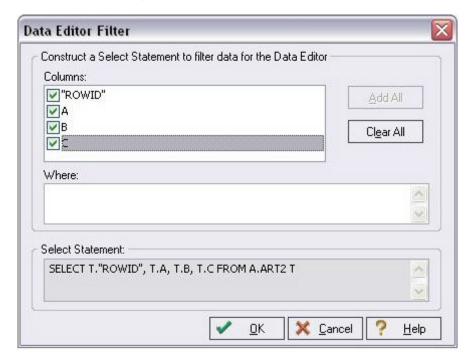
The following topics walk you through some of the data management features:

- o Visual Data Editing
- o Working with Table Data Create Insert Statements
- o Working with Table Data Extract Data as XML
- o Advanced Data Management Schema and Data Migration

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.



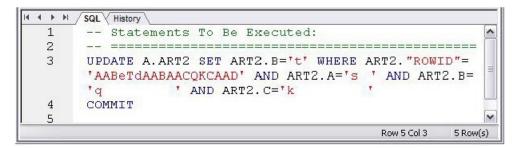
You can also filter the editable rows by including your SELECT statement.

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. The 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.



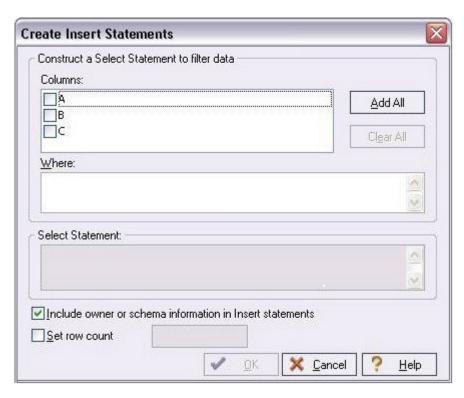
5. Close the Data Editor pane.

Proceed to Working with Table Data - Create Insert Statements.

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 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 execute 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.

Proceed to Working with Table Data - Extract Data as XML.

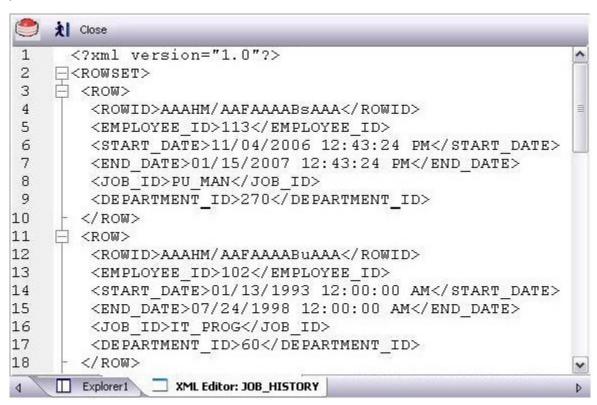
Working with Table Data - Extract Data as XML

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.



7. Close the editor pane.

Proceed to Advanced Data Management - Schema and Data Migration.

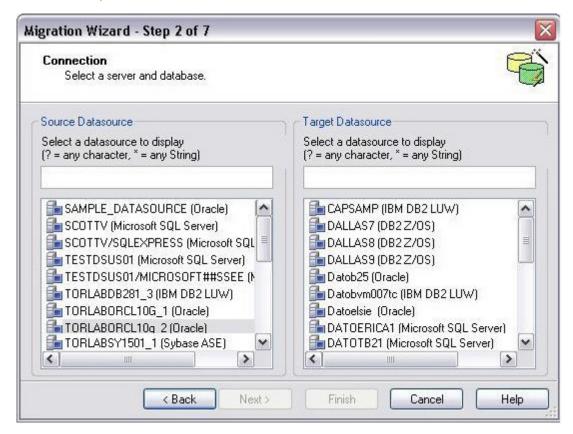
Advanced Data Management ñ Schema and Data Migration

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.

Proceed to Session 8: Performance Management.

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.

The following topics walk you through some of the performance management features:

- o Monitoring Sessions
- o Advanced Client-Side Performance Monitoring

Monitoring Sessions

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

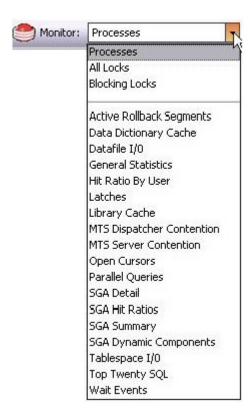
To start the DBArtisan Process Monitor:

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



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.

Proceed to Advanced Client-Side Performance Monitoring.

Advanced Client-Side Performance Monitoring

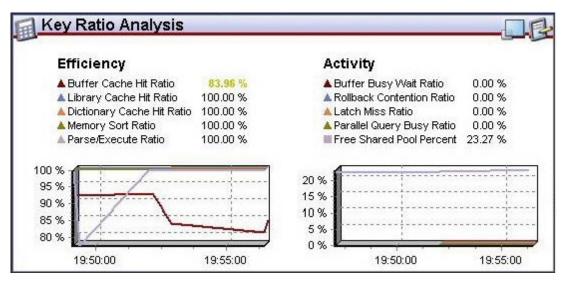
For advanced performance monitoring and management, DBArtisanís optional Performance Analyst provides intelligent diagnostic information and strong drill-down details to help you get to the heart of any episode of performance degradation. Performance Analyst integrates completely with DBArtisan so that 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.

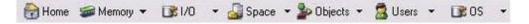
Note: Performance Analyst is a separately-licensed component. If you are not working with an evaluation copy of DBArtisan or do not have a specific license, proceed to Session 10: General Utilities and Tools. Contact your license administrator or your IDERA representative about obtaining a license.

- 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 pageis 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.



Advanced Client-Side Performance Monitoring

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.

Proceed to Session 9: Capacity Management.

Session 9: Capacity Management

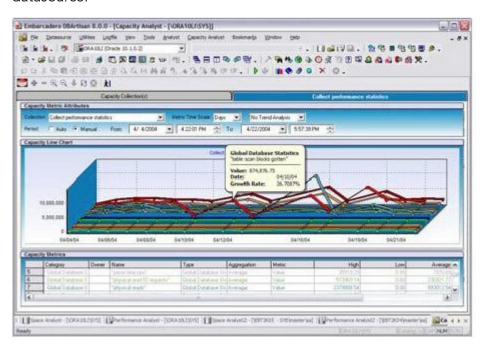
Planning for the future of your critical databases used to be a difficult task. However, DBArtisanís optional Capacity Analyst tool makes it easy to understand where your databases are today and where they are headed in the future. Capacity Analyst lets you track key database metadata and performance 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 <u>Session 10</u>: <u>General Utilities and Tools</u>. Contact your license administrator or your IDERA representative about obtaining a license.

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

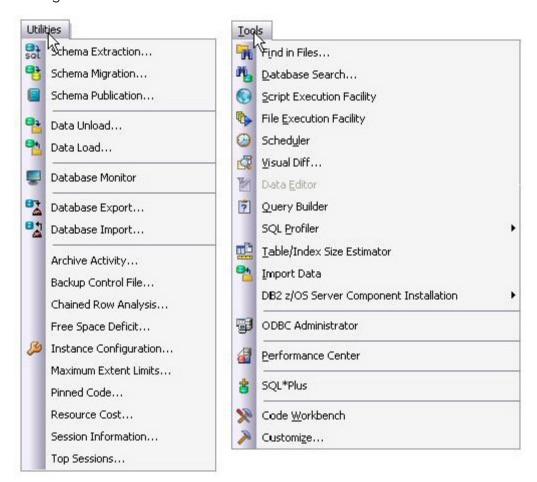


See the relevant DBArtisan online help topics for a detailed walkthrough of all available features and functionality.

Proceed to Session 10: General Utilities and Tools.

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 IDERA 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.