IBM Optim

Edit User Manual

Version 7 Release 3

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Note
Before using this information and the product it supports, read the information in "Notices" on page 79.

Version 7 Release 3 (September 2010)

This edition applies to version 7, release 3 of IBM Optim and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

About this Guide

The IBM™ Optim™ solution includes the components Archive, Compare, Edit, and Move. This User Manual provides information on how to use Edit to browse and edit sets of relational data.

This release runs in the Microsoft™ Windows™ environment and supports the IBM DB2™, Oracle, Sybase Adaptive Server Enterprise (ASE), Microsoft SQL Server, and IBM Informix™ database management systems. Additional database management systems may be supported in future releases.

Organization of Edit User Manual

The information provided here is organized as follows:

Chapter 1. Purpose of Edit component

Edit browses and edits sets of relationally intact data in database tables. Edit handles an arbitrarily complex data model consisting of any number of tables and relationships and ensures a referentially intact set of data.

Edit is easy to use, simple in concept, yet powerful in supporting complex database structures. Intuitive dialogs simplify data entry tasks and provide data options for browsing and editing relationally intact sets of data.

Programmers and DBAs can easily inspect and edit sets of related data at the same time in the same window. Edit eliminates the time-consuming efforts of manually "assembling" data from different tables and database management systems.

Intelligent window handling technology allows you to display multiple dialogs, pop-up windows, context sensitive online help, and tutorials.

Common Elements and Utilities

To carry out its functions, components of Optim™ (Archive, Compare, Edit, and Move) rely upon user-defined objects as supplements to objects defined to the database (for example, tables, primary keys, relationships, stored procedures). These user-defined objects (collectively, Optim objects) are stored in the Optim Directory.

The *Common Elements Manual* explains the Optim objects and features common to all or most of these products.

The Export and Import Utility, to copy Optim objects from one Optim Directory to another, is also explained in the *Common Elements Manual*.

Optim Directory and Common Optim Objects

The Optim Directory is a set of tables in which Optim tracks processing status and stores objects needed for processing. You must use the **Configuration** program to create or configure the Optim Directory tables and stored procedures needed to access the Directory.

Objects in the Optim Directory that are common to the Optim components include:

- **Access Definitions**. An Access Definition identifies a set of related data to be processed. It references the database tables and their relationships, and provides criteria to select specific rows within tables.

  An Access Definition is sometimes used in an Edit Process.
- **DB Aliases**. A DB Alias provides parameters needed to connect with a specific database. It is used as a high-order qualifier for an object or table name, in order to access the appropriate database.

  A DB Alias is needed anytime a process references a database object; for example, to qualify the name of a Optim primary key, Optim relationship, or a database table referenced in an Access Definition.
- **Primary Keys**. Primary key columns uniquely identify each row in a database table.

A primary key can be used to create an Optim relationship, and is also required to enable the row selection (Point and Shoot) feature for an Access Definition.

- **Relationships**. A relationship is a defined connection between the rows of two tables that determines the parent or child rows to be processed and the order in which they are processed.

  Relationships determine the data to be retrieved from related tables and may be available in the database. However, you can also define relationships to supplement those in the database. Generally, a relationship is needed in a process that uses an Access Definition.

Options

Options are used to maintain the environment. Generally, Product Options parameters enforce site and system requirements, while you can use Personal Options to customize Optim use at each workstation.

Refer to the *Installation and Configuration Guide* and the *Common Elements Manual* .

Security options allow you to establish as many as three levels of security for using Optim. Functional security allows you to control user access to the interface for functions provided by Optim, object security allows you to control access to specific objects in the Optim Directory, and Archive File security allows you to control access to data in Archive Files. All security options are documented in the *Installation and Configuration Guide* .

Edit processing is discussed in the following sections.

Chapter 2. Processing Flow

Edit has a powerful Table Editor for browsing and editing related data that spans any number of tables. An overview of the use of the Table Editor and the processing flow when editing data are exemplified in this section.

Components of the Table Editor are explained in detail in "Using the Table Editor" on page 32.

This sample scenario proceeds through the basics of selecting and editing data, using tables that correlate to those in the sample database distributed with Optim.

Use the comprehensive **Help** facility in Edit at any time to obtain more information about a specific topic or function. You can select **Help** from the menu in most dialogs or right-click and select **What's This** from the shortcut menu to obtain context-specific help. Help is also available by pressing **F1**.

Contents

This section briefly describes the sample database and provides an overview of the key functions for browsing and editing data in a sample scenario.

Included in this section are:

- Getting started
- Using the Table Editor
- Displaying a specific subset of data
- Editing data
- Using the shortcut menus
- Restoring editing changes
- Displaying multiple tables by joining
- Unjoining tables
- Manipulating the display
- Printing and saving

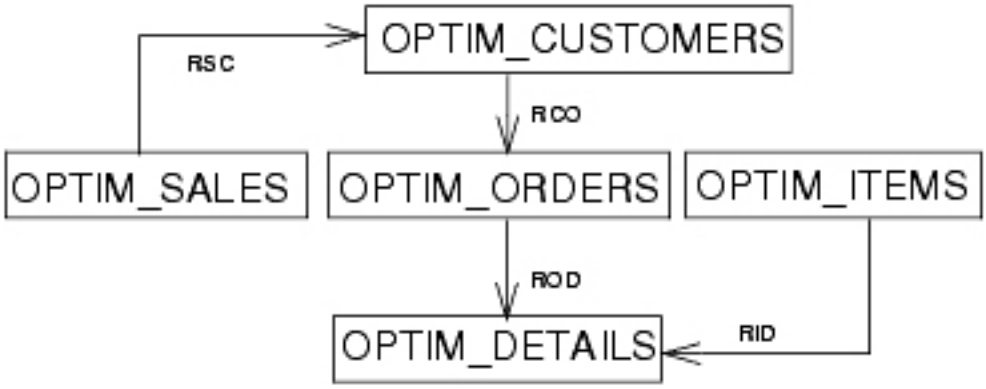
Sample Database Tables

The sample database tables distributed with Optim, which correlate to the tables used in examples in this manual, are as follows:

- OPTIM_SALES
- OPTIM_CUSTOMERS
- OPTIM_ORDERS
- OPTIM_DETAILS
- OPTIM_ITEMS
- OPTIM_MALE_RATES
- OPTIM_FEMALE_RATES
- OPTIM_SHIP_TO
- OPTIM_SHIP_INSTR
- OPTIM_STATE_LOOKUP

Note: The tables used in examples in this manual do not contain the prefix "OPTIM_" in their names.

The major relationships between pairs of tables in the sample database are shown in the following diagram. The arrows indicate the flow from parent to child.



In this diagram, the relationships between tables are represented by three-letter codes consisting of the letter "R", the first letter of the parent table, and the first letter of the child table.

The relationships between tables are as follows:

- OPTIM_SALES is a parent of OPTIM_CUSTOMERS (relationship RSC)
- OPTIM_CUSTOMERS is a parent of OPTIM_ORDERS (relationship RCO)
- OPTIM_ORDERS is a parent of OPTIM_DETAILS (relationship ROD)
- OPTIM_ITEMS is a parent of OPTIM_DETAILS (relationship RID)

The sample database includes four additional tables:

- OPTIM_CUSTOMERS2
- OPTIM_ORDERS2
- OPTIM_DETAILS2
- OPTIM_ITEMS2

These four tables are distributed empty and are related in the same way as the similarly named tables above. The empty tables are provided for demonstrating the facilities in Optim.

For a complete description of the sample database tables, see the *Installation and Configuration Guide* .

Process Flow Scenario

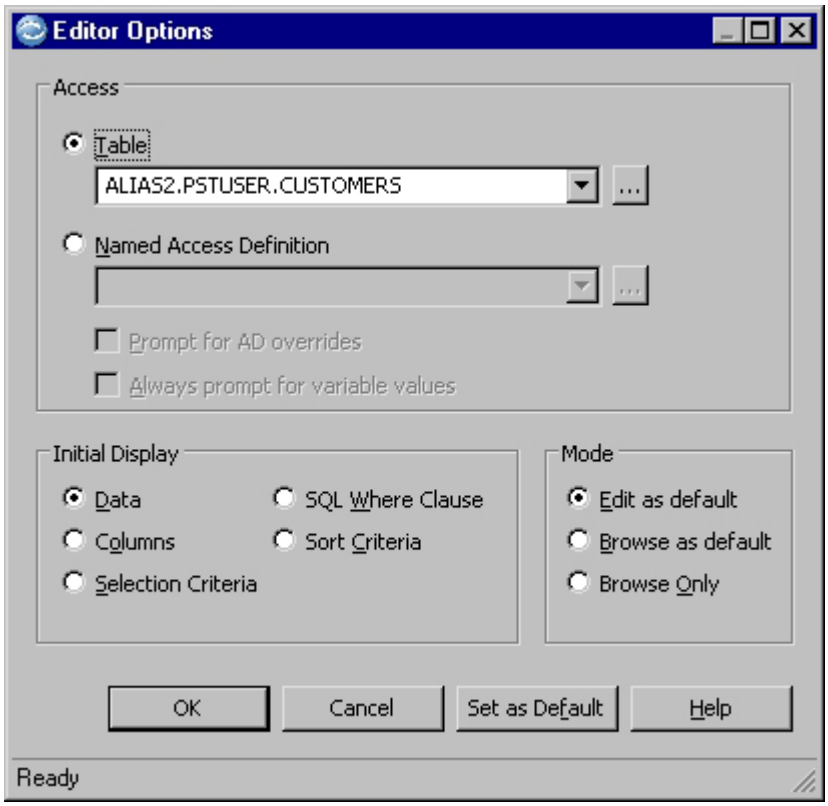
The following scenario directs you through the process of editing data. Using relational data from the sample database, you retrieve data, select a subset of the data, use various editing capabilities, and join related data.

As you follow these steps and use the Table Editor, you create an Edit Definition. An Edit Definition defines the set of data retrieved and displayed and can be saved and reused or shared with other users.

Getting Started

To open the Table Editor, select **New** from the **File** menu in the Edit main window, then select **Edit** from the **Actions** submenu to display the Table Editor and the Editor Options dialog.

Use the Editor Options dialog to specify parameters for the initial set of data to display in the Table Editor.

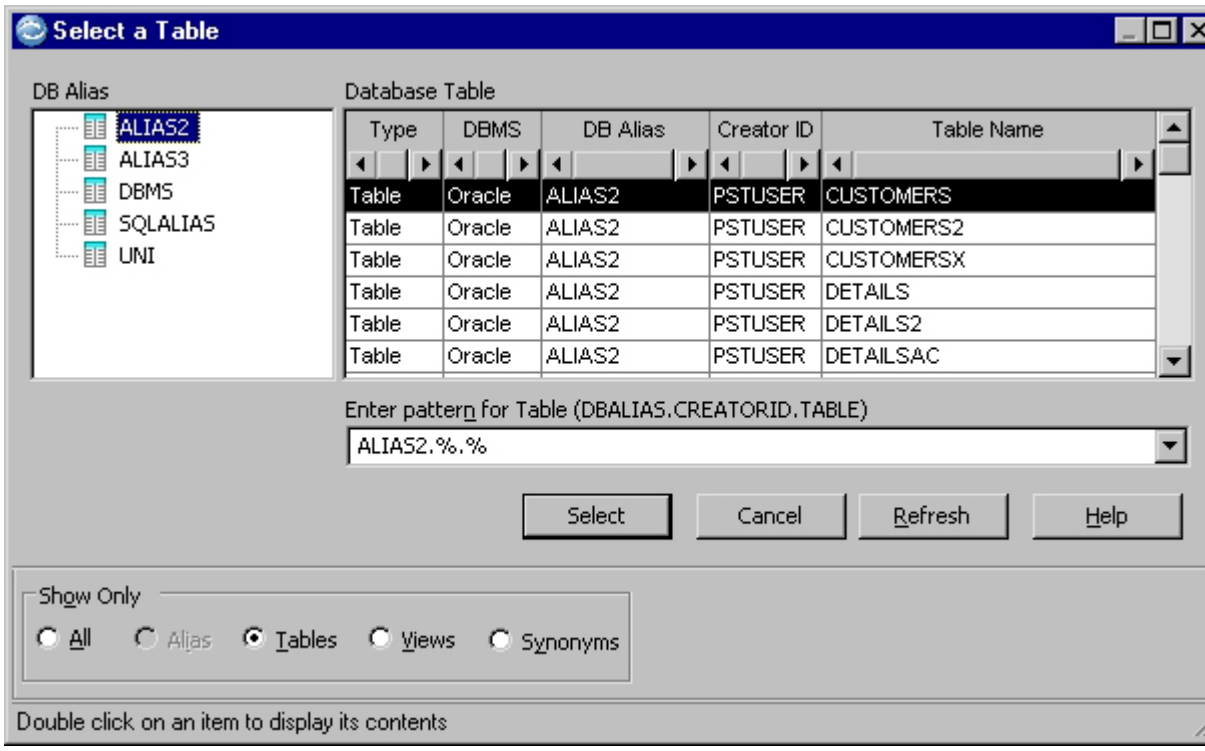


The Editor Options dialog contains three group boxes: Access, Initial Display and Mode. For this scenario, enter the following parameters.

Access Group Box

The Access group box defines how the Table Editor fetches data. You can select a table name or an Access Definition. An Access Definition can be used to define a set of related data, including the list of tables, selection criteria, and editor layout attributes. If you edit the same set of data repeatedly, an Access Definition can be used to save time by storing these specifications for reuse.

For this scenario, select the **Table** button, then click the browse button  next to the Table box to display the Select a Table dialog.



Tables are organized in the Select a Table dialog by the fully qualified name. The fully qualified name of a table consists of: *dbalias.creatorid.tablename*.

dbalias The DB Alias is the set of specifications that Edit uses to identify, locate, and access a particular database. In the left pane of the dialog, double–click the DB Alias that represents the database that contains the sample database tables.

For details on DB Aliases, refer to the *Common Elements Manual* .

creatorid

Creator IDs are assigned when Edit is installed and configured. Determine the Creator ID of the sample database from your system administrator.

Note: This qualifier may be referred to by a different name based on the DBMS (for example, schema or owner ID).

tablename

The table name to use for this scenario is CUSTOMERS.

The Select a Table dialog is divided into two areas. The DB Aliases are listed on the left, and the corresponding database table names appear on the right. The list is sorted alphabetically.

To display a list of table names for a particular DB Alias, double-click the DB Alias. You can also click the DB Alias and select **Refresh**.

Use any of the following methods to select the CUSTOMERS table name:

- Select the table name and press **Enter**.
- Select the table name and click **Open**.
- Double-click the table name.
- Type the entire table name directly into the **Pattern** box and click **Open**.

Initial Display Group Box

You can specify which data to display in the Table Editor. Choose to include all rows, or assign selection criteria to define a specific subset of data.

For this scenario, select **Data** to include all rows.

Mode Group Box

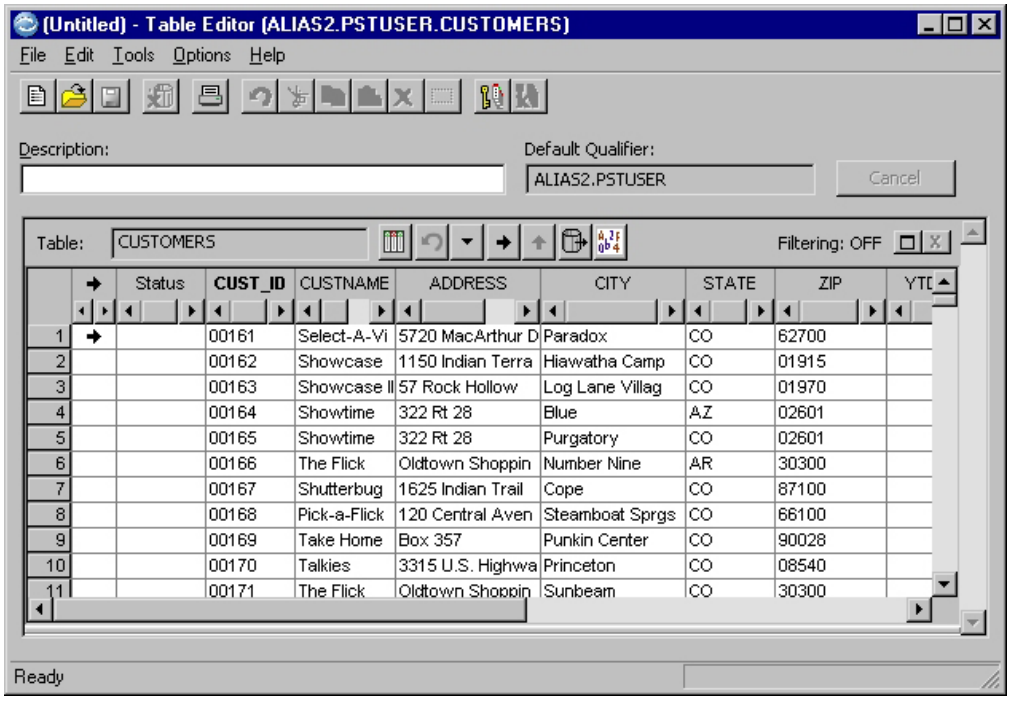
Select **Edit as Default** in the Mode box because this scenario demonstrates the edit capabilities. Browse as Default mode and Browse Only mode are used when data is to be browsed, but not edited.

After you make your selections in the Editor Options dialog, click **OK** to display the first 500 rows of data from the CUSTOMERS table in the Table Editor.

Note: The default fetch limit is 500. You can change the Personal Options setting for fetch limit, if necessary, to suit your requirements. Refer to the *Common Elements Manual* . To cancel the retrieval of data, you can click **Cancel** in the Table Editor.

Using the Table Editor

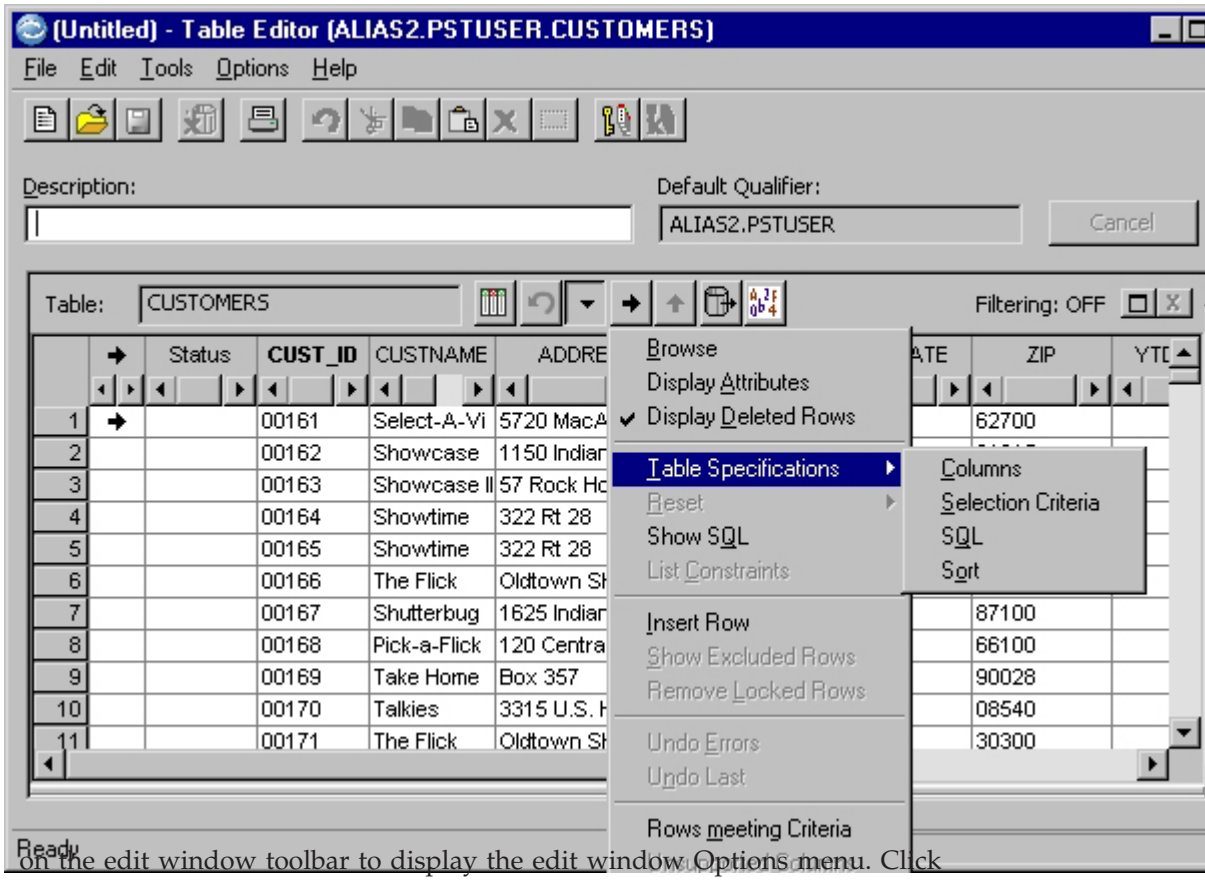
The Table Editor displays data from the selected table. The data displays in an edit window. An edit window contains toolbar buttons next to the table name in the heading. Toolbar buttons allow you to select display options and menu commands that pertain specifically to the corresponding table.



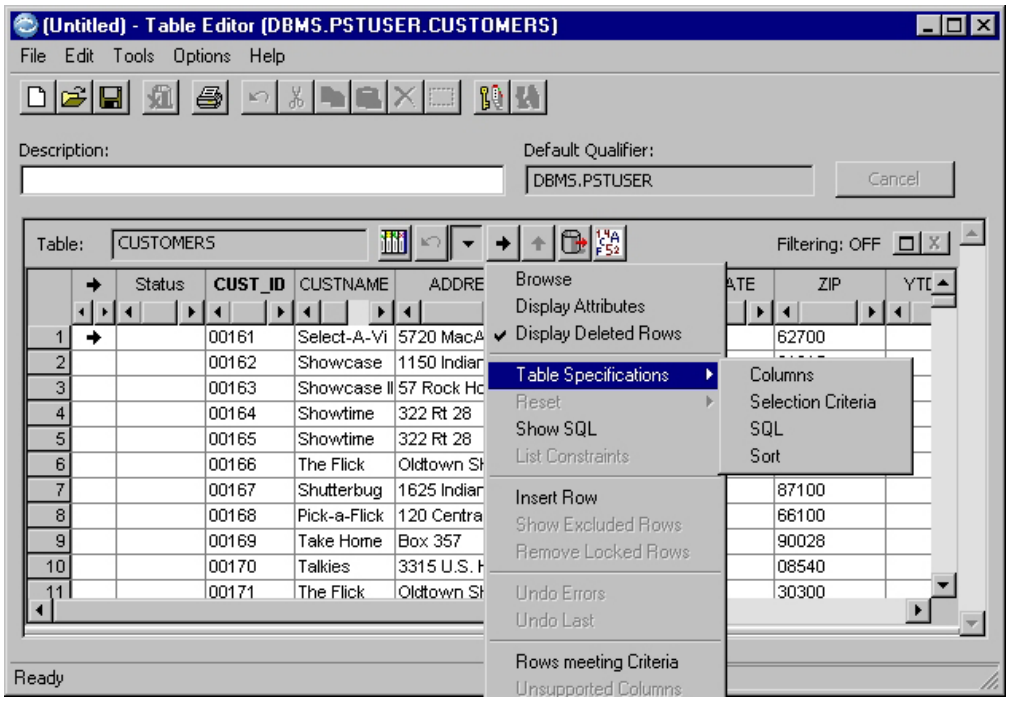
Column headings shown in bold type indicate primary key columns. In the example, CUST_ID is the primary key for the CUSTOMERS table. Use the scroll bars to display columns or rows that do not fit within the confines of the edit window. Click the scroll bar to display the number of columns or rows. A plus (+) sign after the number of rows indicates that the number of available rows exceeds the fetch limit.

Displaying a Specific Subset of Data

You can set selection criteria to limit the data in the Table Editor. Click the Options button



on the edit window toolbar to display the edit window Options menu. Click **Table Specifications** to display the submenu.

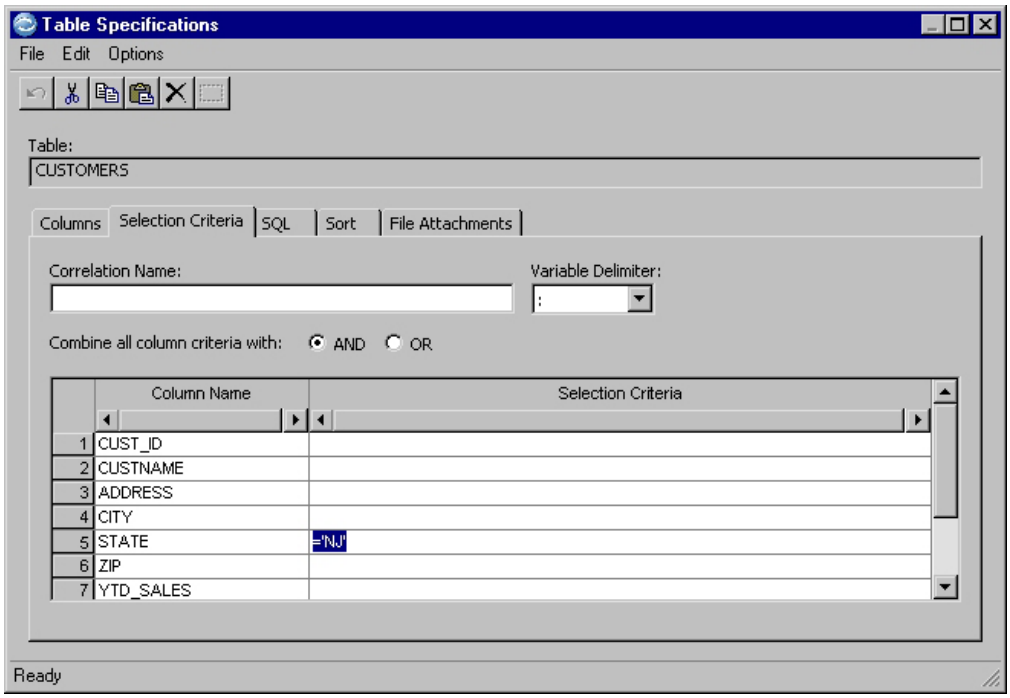


There are several ways to display a subset of the data from a table in the Table Editor. You can:

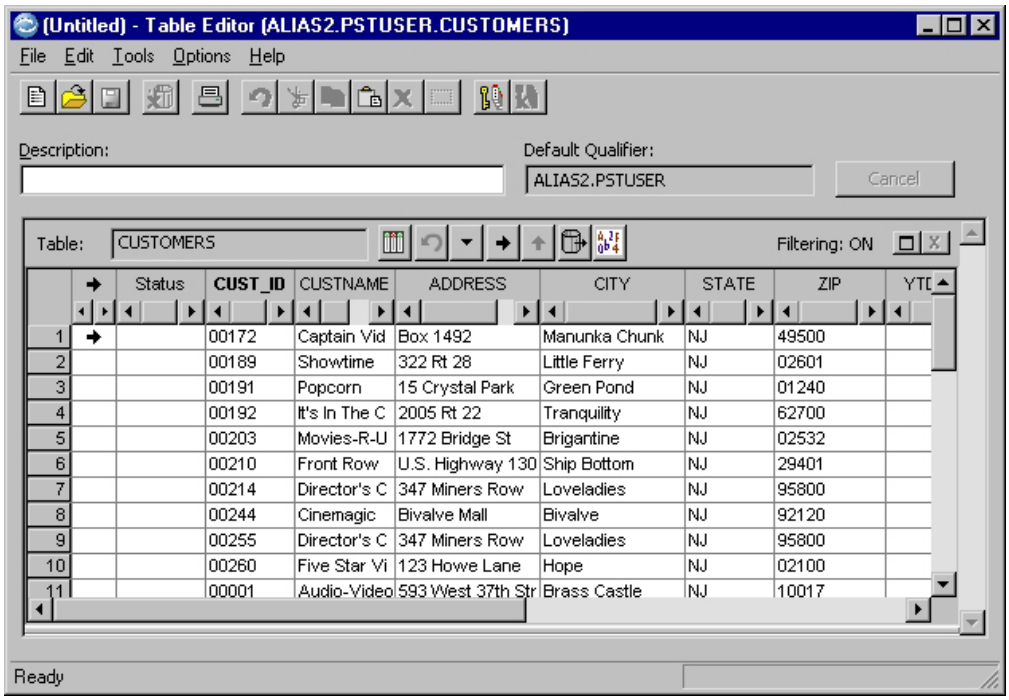
- Specify the columns to display and the order in which they are displayed.
- Define simple selection criteria or complex SQL Where clauses to limit the rows that are fetched.
- Define sort criteria.

For this scenario, define a subset of data to limit the data to customers from the state of New Jersey only. Click **Selection Criteria** to display the Table Specifications dialog. The columns of the CUSTOMERS table display on the **Selection Criteria** tab of the Table Specifications dialog.

Click the grid row for the STATE column and type the statement = *'NJ'* as shown.



Select **Close** from the **File** menu to fetch new data from the CUSTOMERS table.



The Table Editor displays the subset of rows from the CUSTOMERS table that contain NJ in the STATE column.

Table Specifications can be reset by clicking the Options button on the edit window toolbar, selecting **Reset,** and then clicking the submenu command for the criteria to be reset.

Editing Data

There are four levels of control for editing data in Edit. Each level of control provides specific ways to display, modify, insert, delete, and copy data.

Menu Bar

Select commands from the menu bar in the Table Editor to control all tables displayed in the Table Editor.

Edit Window Toolbar

Select commands from the toolbar in an edit window to control the specific table displayed in the edit window.

Grid Heading Shortcut Menu

Right-click a grid heading of a column in the edit window grid to display the grid heading shortcut menu. Select commands from a grid heading shortcut menu to control the specific column in a table. The grid heading shortcut menu contains commands that allow you to find, replace, exclude, include, sort, and hide rows based on the data contained in the column in which you right-clicked.

Grid Column Shortcut Menu

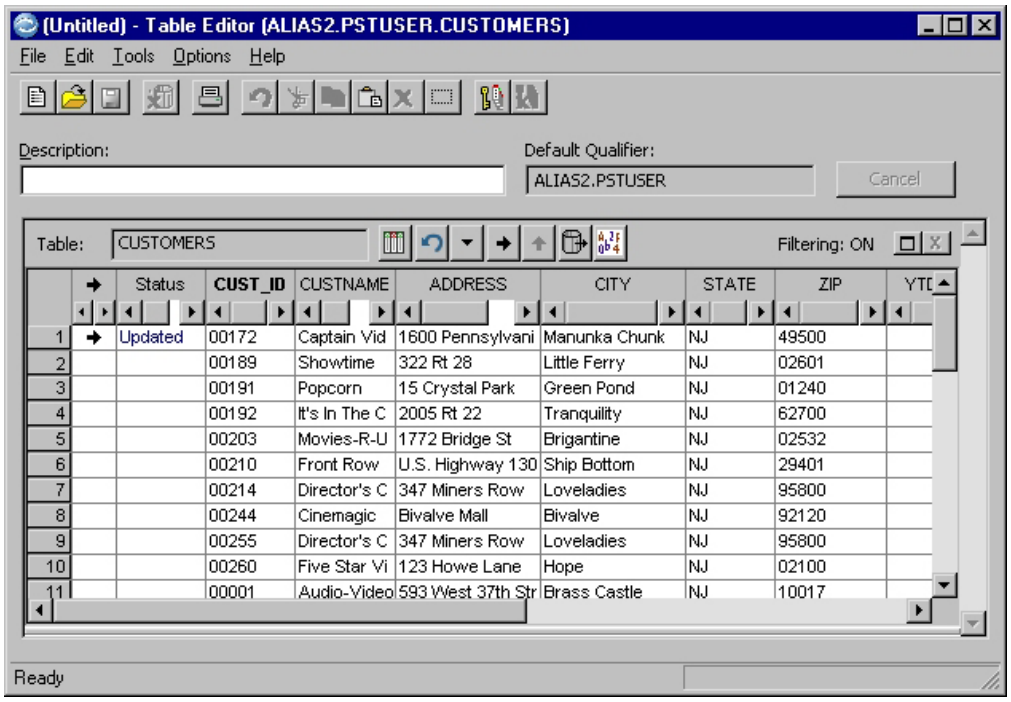
Right-click a row in the edit window grid to display the grid column shortcut menu. Select commands from the grid column shortcut menu to control the specific row you right-clicked. Along with the normal cut, copy, and paste options, the grid column shortcut menu contains commands that allow you to clear, insert, repeat, and delete a row.

In this scenario, you edit data in several ways using commands from each of the four levels. By doing so, you sample some of the tools and functions available in Edit. You also prepare to understand the functions available to undo editing changes, discussed in the next section.

Refer to “Table Editor Components” on page 32 for information about the Table Editor menu bar, the edit window toolbar, and the shortcut menus.

Overtype

You can modify data by clicking a grid row and overtyping the data. Click the ADDRESS column in the first grid row of the edit window containing the CUSTOMERS table. Change the address to “1600 Pennsylvania Ave.” and then click outside the row to commit the change to the database.

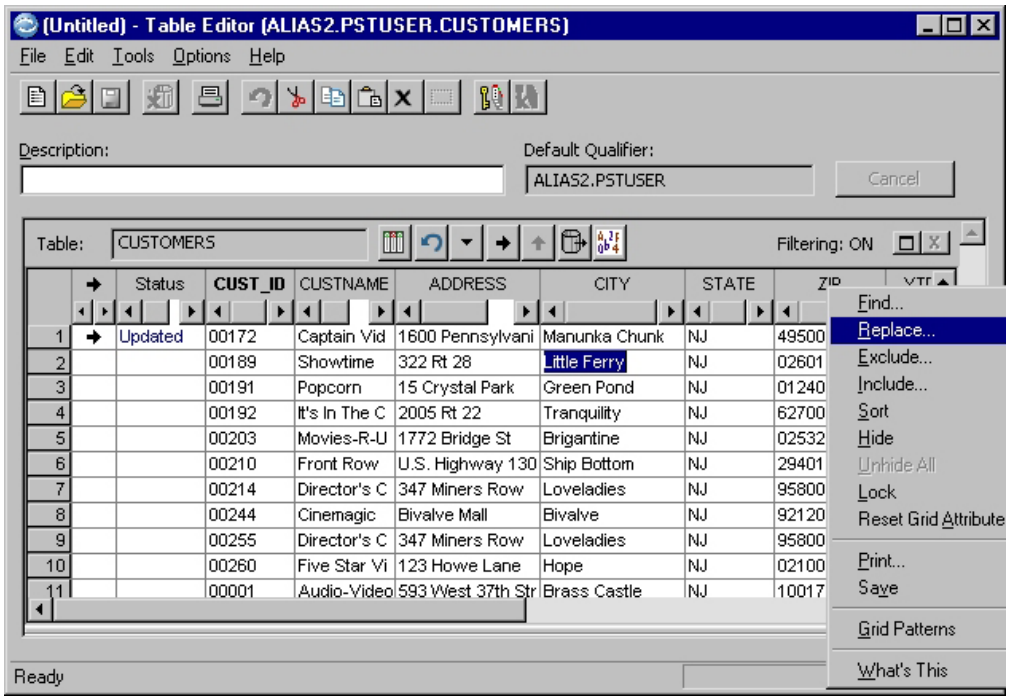


You can overtype data in any column. If you change data in a primary key column that results in a violation of referential integrity rules, a warning message displays.

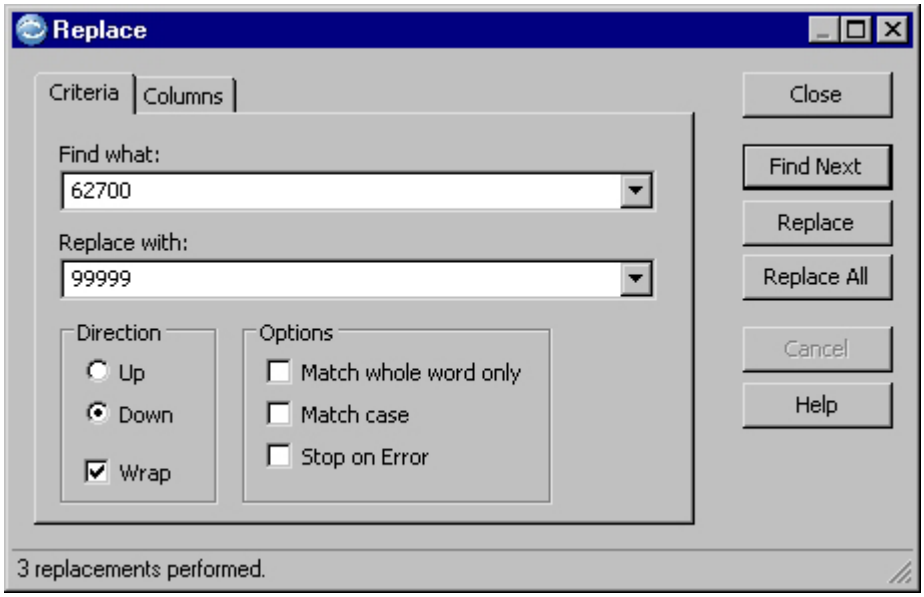
Replace

You can selectively replace data in a grid column. For this scenario, use **Replace** to replace all occurrences of the ‘62700' zip code with ‘99999'.

Right-click in the heading of the ZIP column of the CUSTOMERS table. Click **Replace** on the grid heading shortcut menu to display the Replace dialog.



Type *62700* in the **Find what** box and type *99999* in the **Replace with** box. Select the **Wrap** check box in the **Direction** group box. You can find each occurrence of the zip code and selectively replace it by clicking **Find Next**, then **Replace**. Click **Replace All** to replace all occurrences.

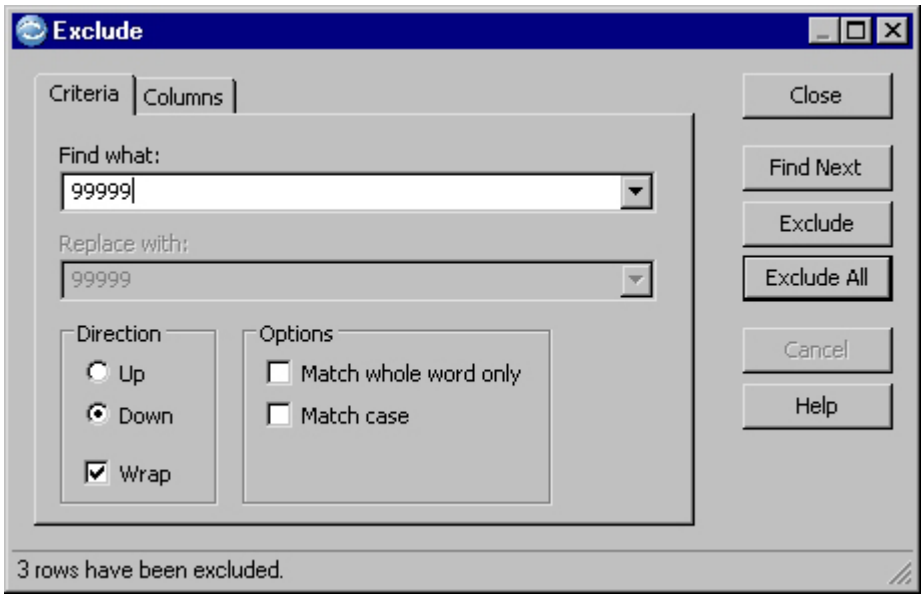


The Status bar at the bottom of the Replace dialog indicates the number of replacements performed. Click **Close** to return to the Table Editor.

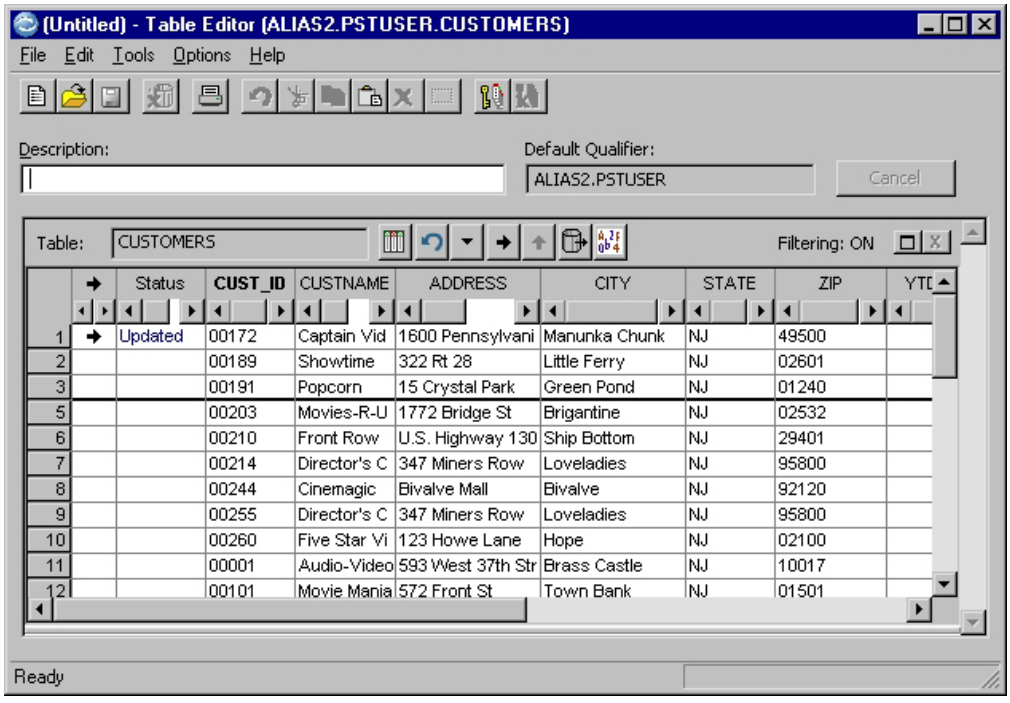
Exclude

You can selectively exclude data in an edit window. For this scenario, use **Exclude** to hide the rows with the 99999 zip code.

Right-click in the heading of the ZIP column and select **Exclude** from the grid heading shortcut menu. Type *99999* in the **Find what** box. Select the **Wrap** check box in the **Direction** group box.



Click **Exclude All** to hide all rows with the zip code 99999 from view. The Status bar shows the number of rows excluded. Click **Close** to return to the Table Editor.



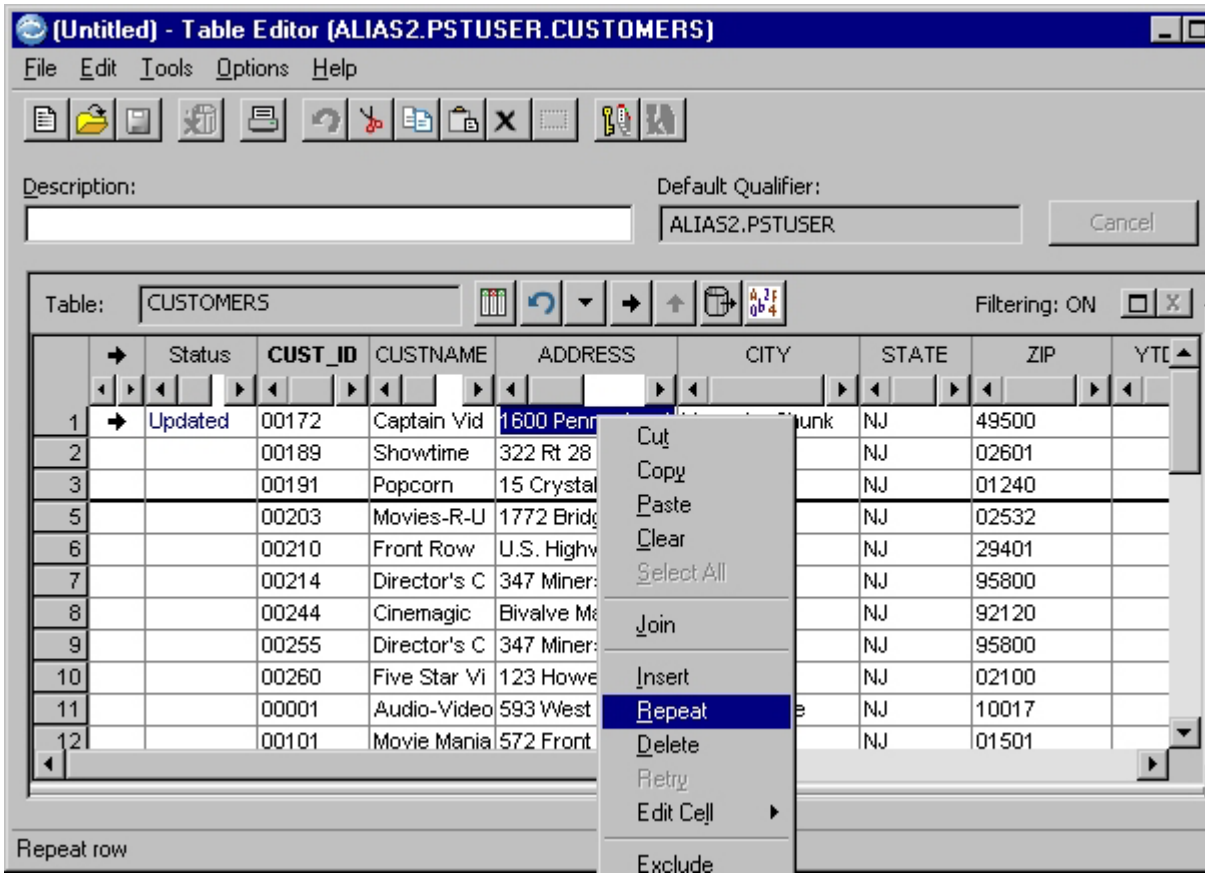
A bold line separates rows before and after excluded rows. Position the pointer on the bold line to display the number of excluded rows represented by the line.

To show excluded rows, right click in the row before the bold line and select **Show Next** or **Show All** from the grid column shortcut menu.

Repeat

You can copy and repeat a row in the edit window using the grid column shortcut menu.

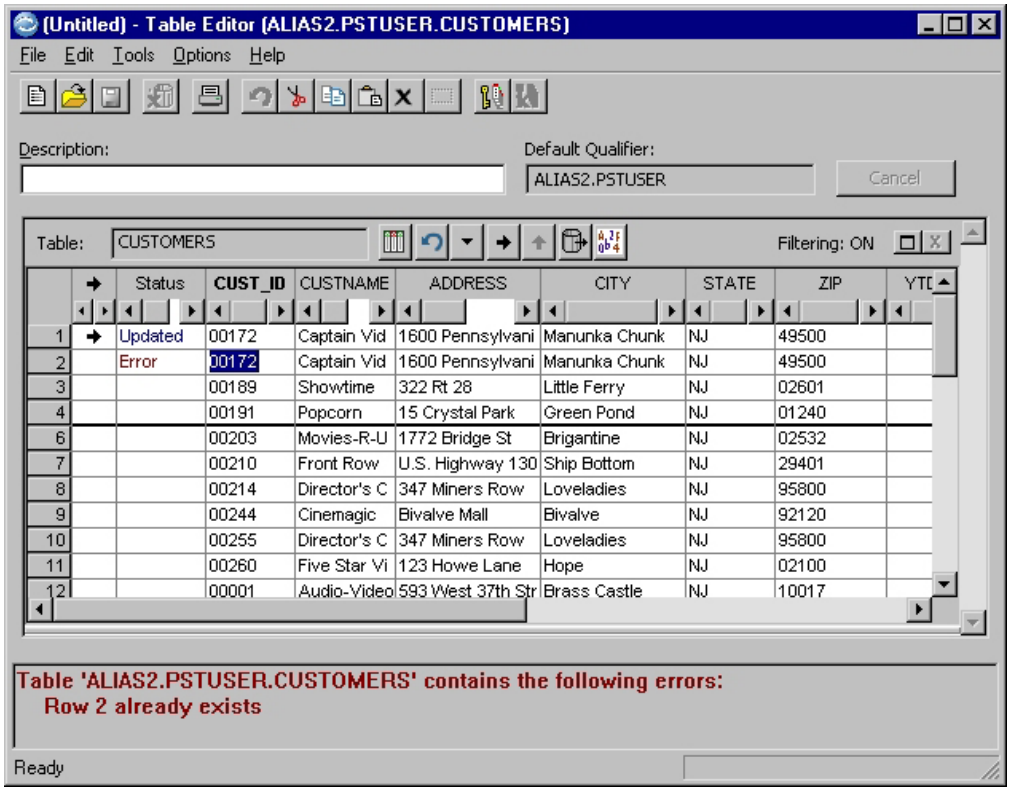
For this scenario, click the grid row of the CUSTOMERS table containing the address "1600 Pennsylvania Ave." Right-click and select **Repeat** from the grid column shortcut menu.



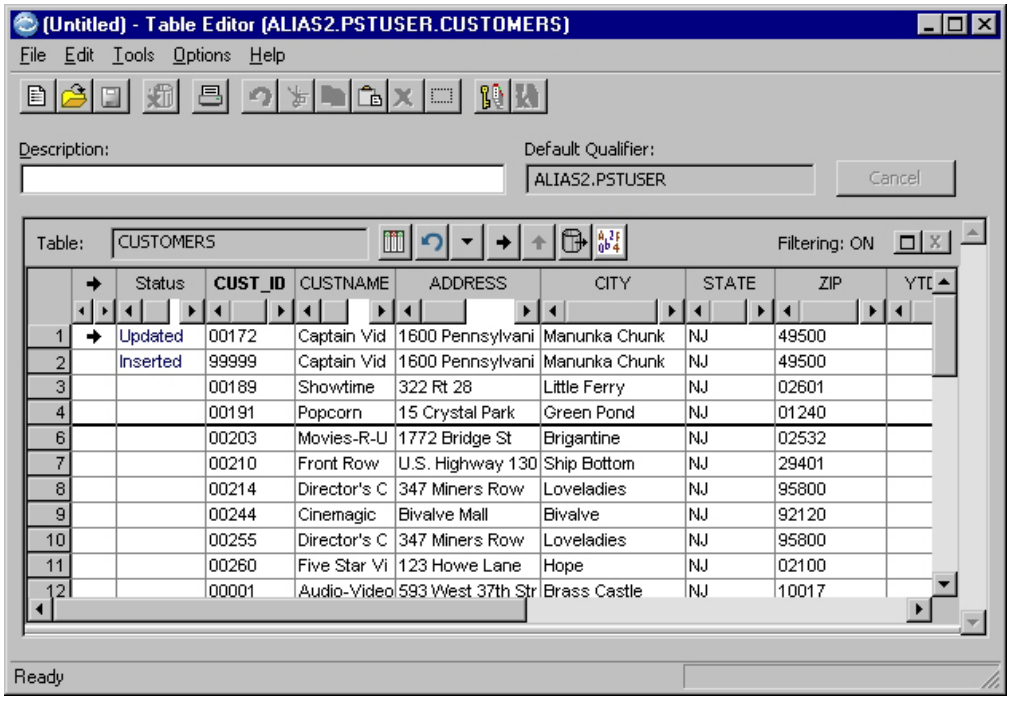
The row containing the "1600 Pennsylvania Ave." address is repeated.

Since the repeated row does not have a unique primary key, the status column of the row indicates that the row has an error. Additionally, an error message displays in the message bar.

To resolve the error, type a unique value in the primary key column.



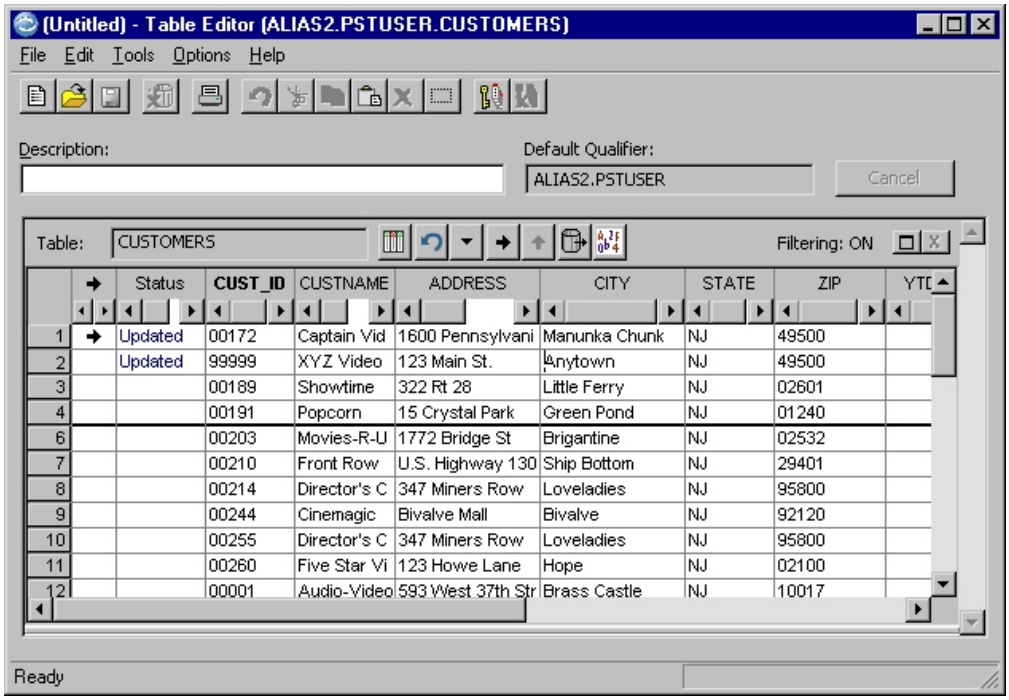
Type “99999” in the CUST_ID column. Click outside the row to commit the change.



Modify the other columns of the inserted row by overtyping the data in the row, as follows:

- Overtype the name of the customer in the CUSTNAME column of the inserted row with the name “XYZ Video.” Press the **Tab** key to move the pointer to the ADDRESS column. The status of the row changes to **Pending (Upd)**.
- Overtype the address with a new address, “123 Main St.” then press **Tab** M to move the pointer to the CITY column.
- Overtype the name of the city with a new name, such as “Anytown.” Click outside the row to commit the changes to the database.

The status of the row changes from Pending (Upd) to Updated.



Insert

You can insert a new row from the grid column shortcut menu.

For this scenario, click the grid row of the CUSTOMERS table containing the value “00210” in the CUST_ID column. Right-click and select **Insert** from the grid column shortcut menu.

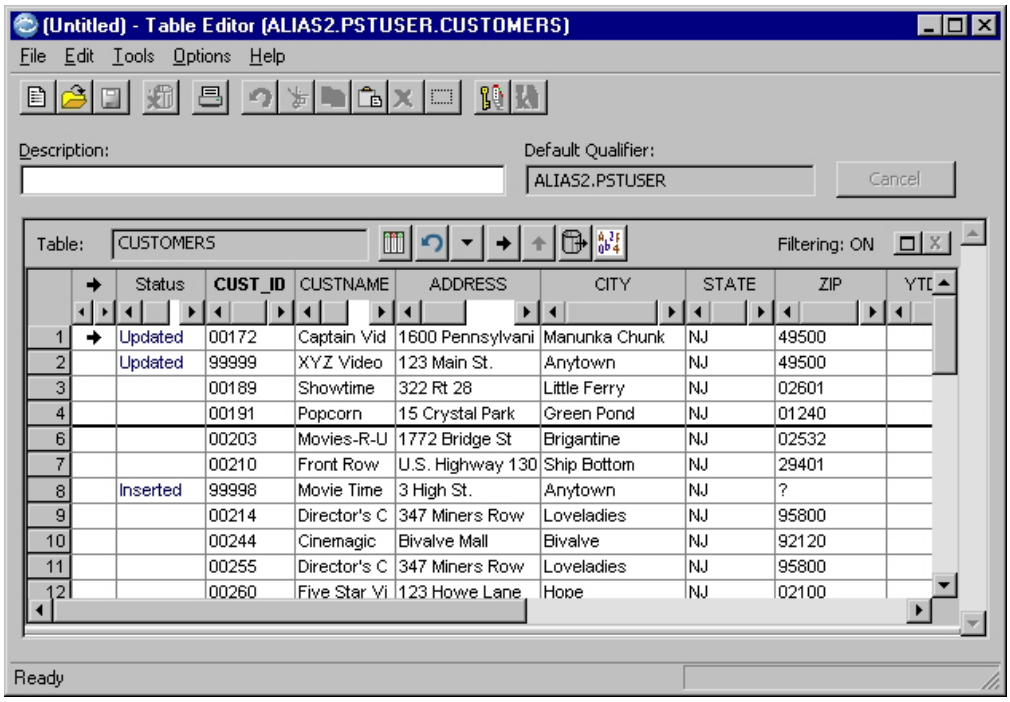
Type the unique primary key value “99998” in the CUST_ID column of the newly inserted row.

Each time you edit a row and commit the change to the database, Edit tracks and records the change as an Undo Level. To set up the demonstration of the undo capability of Edit in the next section, enter data in the new row one column at a time. Commit the change to each column by clicking outside the row after each change.

Edit the following columns.

- Type “Movie Time” in the CUSTNAME column.
- Type “3 High St.” in the ADDRESS column.
- Type “Anytown” in the CITY column.
- Type “NJ” in the STATE column.

Note: For this scenario, it is not necessary to enter data in the other columns in the new row, some of which have data entered by default. For example, a question mark character is entered by default in columns that can be NULL. For more information about defaults, see "Edit Preferences" on page 41.



Each time you click outside the row, the change to the row is committed to the database and the status of the row is **Inserted**.

Undo Editing

Edit allows you to selectively restore data to a prior commit point using various Undo commands. You can undo changes to the current fetch set in each table in the Table Editor. Depending on the specific undo command you use, you can undo changes to a row, to a table, or to all of the tables.

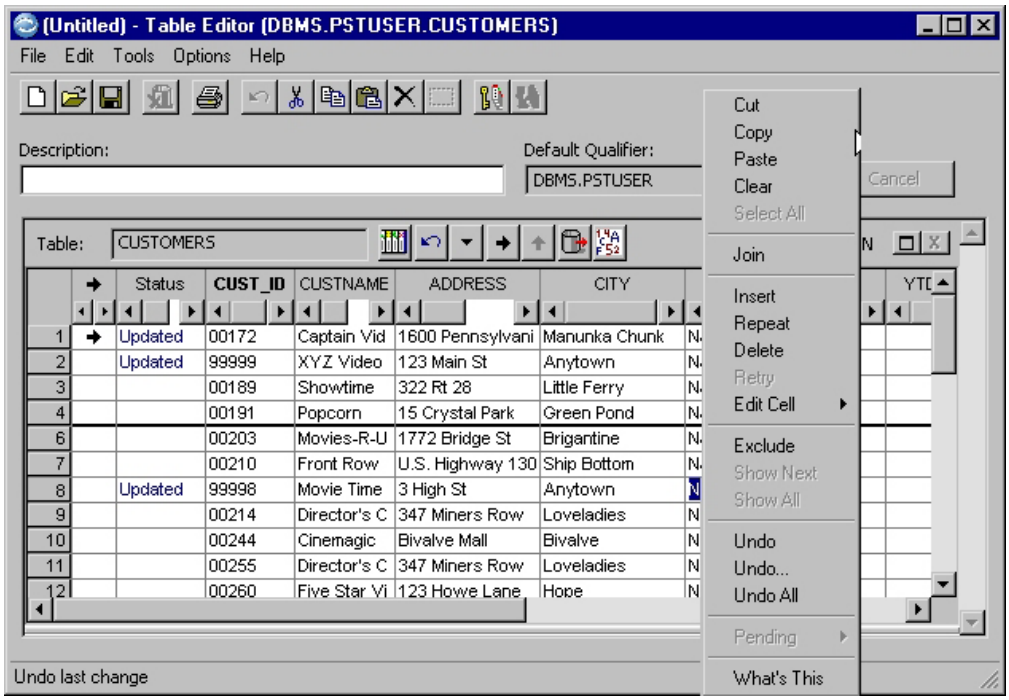
Each time you commit a change to a row, Edit records an Undo Level. You can back out changes you make to a row up to the number of Undo Levels. The default number of Undo Levels is 5 per row, and the maximum number per row is 20.

You set the number of Undo Levels in Edit Preferences. Refer to "Manipulating the Display" on page 25.

Undo

The Undo command on the row shortcut menu backs out changes to a row, one change at a time.

Click the grid row of the CUSTOMERS table containing the value "99998" in the CUST_ID column. Right-click to display the row shortcut menu.



In this example, data was entered column by column and committed to the database after each entry. Select **Undo** to undo the last entry made, which was the entry of NJ in the STATE column. The city, address, customer name, and customer ID number you entered can also be undone, in the reverse order of entry, by selecting **Undo** repeatedly.

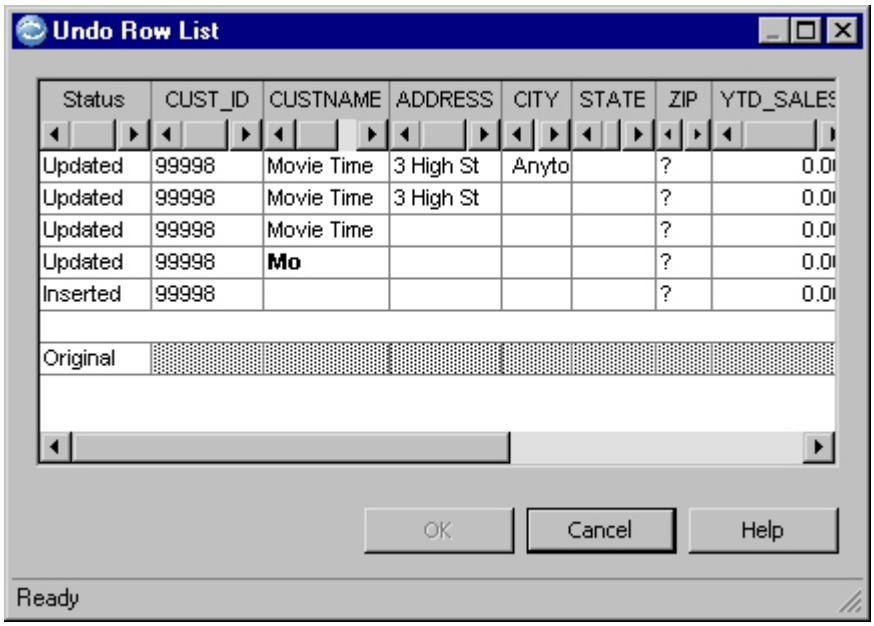
Undo...

You can also select the version of a row within the fetch set to restore, up to the number of Undo Levels specified.

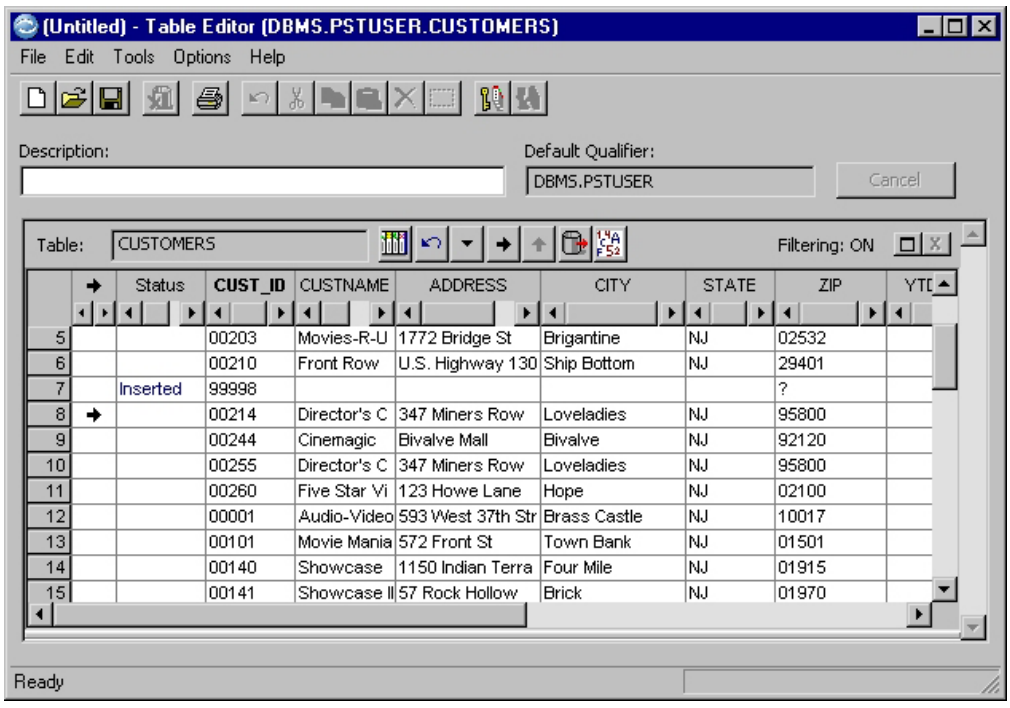
Click the grid row of the CUSTOMERS table containing the value “99998” in the CUST_ID column. Right-click to display the row shortcut menu.

Select **Undo...** from the row shortcut menu.

The Undo Row List dialog displays each committed version of the row, up to the number of Undo Levels.



Select the version of the row that contains the CUST_ID value only. Click **OK** to restore that version of the row in the Table Editor.



Undo All

You can select **Undo All** from the row shortcut menu to back out all changes to a row, up to the number of Undo Levels.

Click the grid row of the CUSTOMERS table containing the value “99998” in the CUST_ID column. Right-click to display the row shortcut menu.

Select **Undo All** from the row shortcut menu. All of the changes to that row, including the insertion of the row, are undone.

Edit Window Toolbar Undo Button

You can use the Undo button  on the edit window toolbar to undo changes to all rows in the table in the edit window.

Note: Edit backs out all changes to rows in the current fetch set, up to the number of Undo Levels per row.

Edit Window Options Menu Undo Commands

Click the Options button  on the edit window toolbar to display the edit window Options menu.

You can use the following Undo commands on the edit window Options menu.

Undo Last
Select **Undo Last** to undo the last change to a row in the current fetch set for the table.

Undo Errors
Select **Undo Errors** to undo changes that result in error conditions to any rows in the current fetch set for the table.

Table Editor Tools Menu Undo Commands

Click the **Tools** menu in the Table Editor to select from the following Undo commands.

Undo All
Select **Undo All** to undo changes to all rows in all tables in the Table Editor. Edit backs out changes to rows in the current fetch set for each table, up to the number of Undo Levels per row.

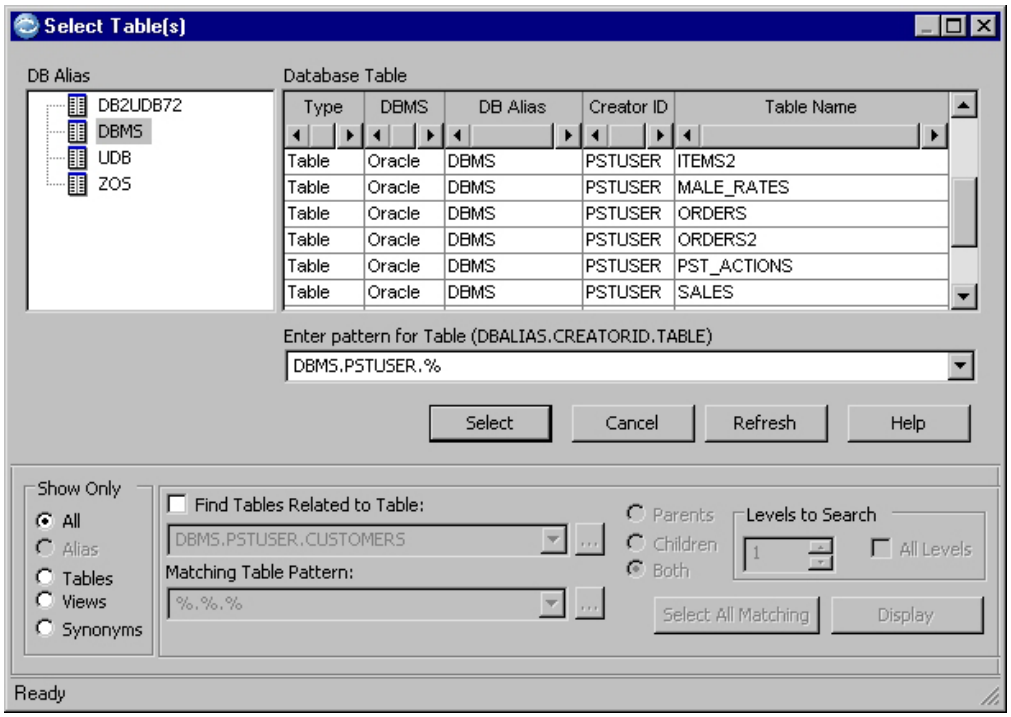
Undo Errors
Select **Undo Errors** to undo changes that result in error conditions to any rows in the current fetch set for the table in the current fetch set for each table.

Displaying and Editing Related Data

You can browse and edit data in related tables with the Table Editor. The Join command allows you to select a table or several tables.

A relationship must exist between the table in the Table Editor and the table you select to join. If the tables are not related, you are prompted to create a relationship. If more than one relationship exists between the tables, a dialog displays to allow you to specify the relationship to use. Related data from the joined table displays in a new edit window.

Click the Join button  in the edit window toolbar, or right-click in a row and select **Join** from the row shortcut menu to display the Select Table(s) dialog.

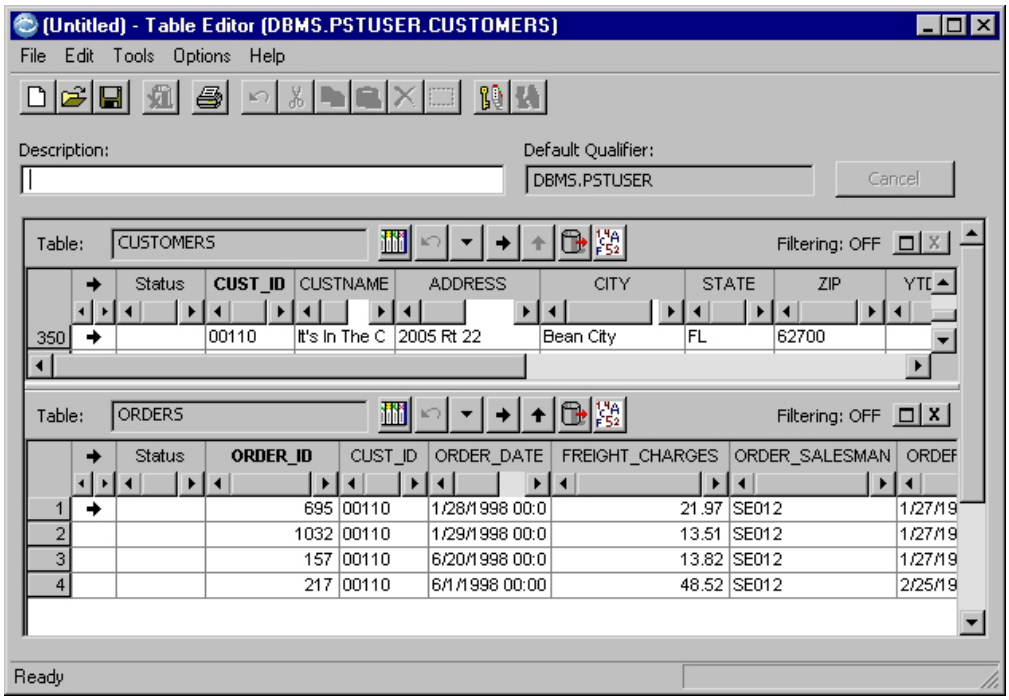


Initially, the list is populated with names of tables with the same DB Alias and Creator ID as the table you are joining to in the Table Editor. You can change the pattern to display tables from any database to which you have access. You can also select options to list only related tables. Refer to “Select Table(s) Dialog” on page 46 for more information about using the Select Table(s) dialog.

Join ORDERS Table

In the sample database, the ORDERS table is related to the CUSTOMERS table. For this scenario, double-click the ORDERS table in the Select Table(s) dialog. If a relationship does not exist between the table you select and the table in the Table Editor, you are prompted to create a relationship.

The related rows from the ORDERS table display in a separate edit window in the Table Editor.



Join Arrow

The first grid column in any edit window contains the Join arrow. The Join arrow indicates the row for which related data is displayed in joined tables. You can move the Join arrow by clicking another row in the Join arrow column or by using the arrow keys on the keyboard.

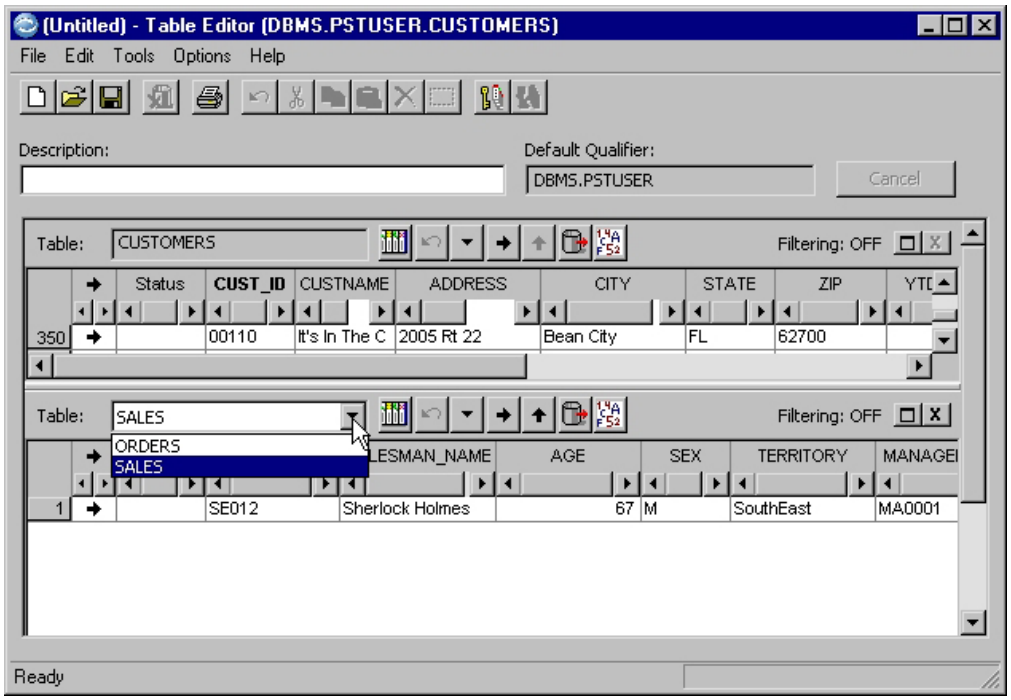
For this scenario, the Join arrow in the CUSTOMERS table indicates the row containing the value “00110” in the CUST_ID column. The ORDERS table displays the rows related to that CUSTOMERS row. When you move the Join arrow to a different row in the CUSTOMERS table, the corresponding related rows are fetched and displayed in the ORDERS table.

Multi-way Joining

From any table in the Table Editor, you can join to more than one table. When you join more than one table to a single table, the joined tables share the same edit window, though only one table is shown at a time.

For this scenario, join another related table to the CUSTOMERS table. In the sample database, the SALES table is related to the CUSTOMERS table. Click the Join button in the toolbar in the CUSTOMERS table edit window. Double-click the name of the SALES table in the Select Table(s) dialog.

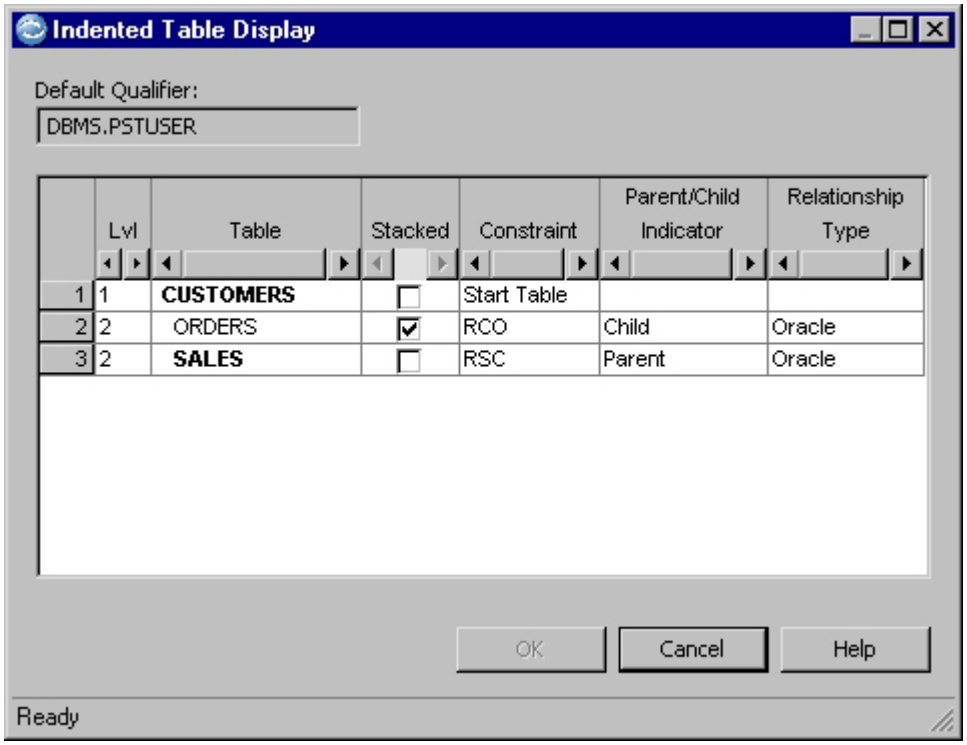
The SALES table displays and shares the edit window with the ORDERS table. Click the down arrow in the drop down box that contains the name of the SALES table. The ORDERS table is listed in the box with the SALES table. You can select the table to display in the edit window by clicking on the table name.



You can configure Edit to automatically display the table that has at least one related row when you move the Join arrow. This "Auto Switch" option is useful when there are only related rows in one subordinate table for each parent row. For additional information, see "Stack Tables" on page 50 or see the *Common Elements Manual* .

Indent

You can use the Indent function to view the list of tables in the Table Editor. Select **Indent** from the **Tools** menu.



The Indented Table Display dialog displays the list of tables in the Table Editor. The list is indented to indicate the relationships between the tables in the Table Editor. Bold type indicates tables that are currently displayed in each edit window. You can double-click a table name to switch the table in an edit window.

Unjoin

To unjoin a table in an edit window, click the Unjoin button  in the edit window toolbar. When you unjoin a table in an edit window, all tables joined to that table are also unjoined.

To unjoin all subordinate tables and close an edit window, click the Unjoin All  button.

Setting Preferences

You can specify the way data displays in the Table Editor using several options in Edit. Default settings for the Table Editor are specified in Personal Options. You can temporarily override the settings in Personal Options from the Table Editor using the Specify Edit Preferences dialog.

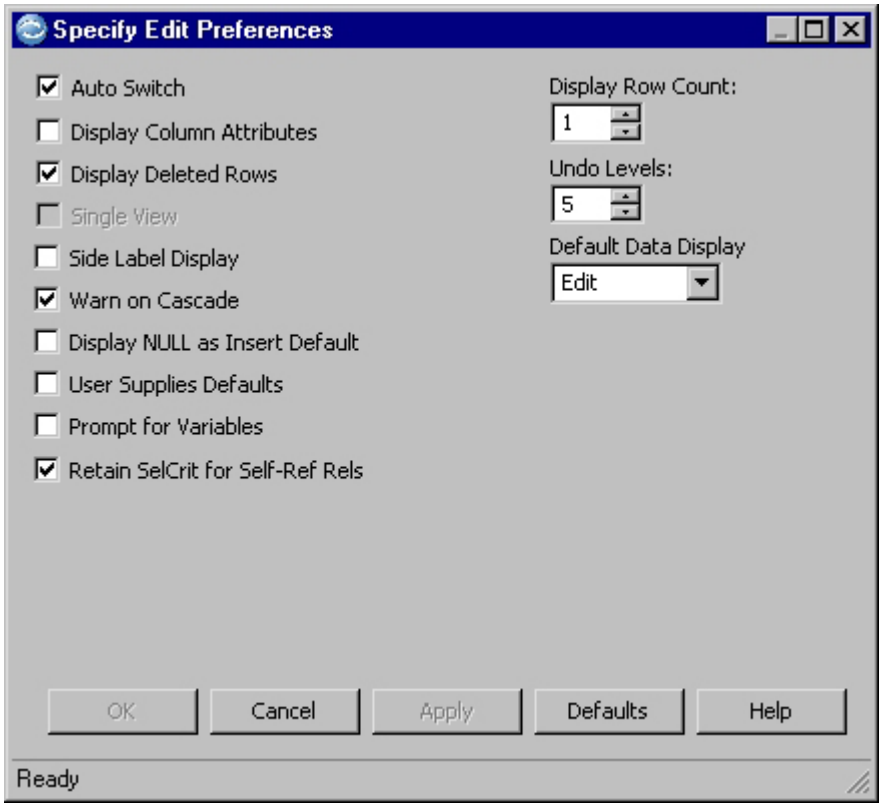
For information on Table Editor default settings, refer to the *Common Elements Manual* .

Specify Edit Preferences Dialog

The Specify Edit Preferences dialog contains check boxes and spin boxes that change the way data displays according to your specifications.

Select **Preferences** from the Tools menu to display the Specify Edit Preferences dialog.

For more information, refer to “Edit Preferences” on page 41.



Manipulating the Display

In addition to setting preferences for the Table Editor, you can manipulate the way columns and rows display in an edit window using toolbar buttons and shortcut menu commands.

Lock Columns

You can lock the position of a column to continue to display the column as you scroll data in the edit window horizontally.

Right-click in the heading of the CUSTNAME column in the CUSTOMERS table and select **Lock** from the shortcut menu. The CUSTNAME column repositions to the left of the display and locks in place as you scroll horizontally.

To unlock the column, right-click in the heading of the CUSTNAME column and select **Unlock** from the shortcut menu. The column unlocks, but remains in position to the left of the display. To reposition the columns to the original order, right-click and select **Reset Grid Attributes** from the shortcut menu.

Hide Columns

You can exclude columns from the display in the edit window to view fewer columns.

Right-click in the heading of the YTD_SALES column in the CUSTOMERS table and select **Hide** from the shortcut menu. The YTD_SALES column is hidden from view. You can also hide a column by dragging the right boundary of the column in the heading to the left boundary of the column.

To view hidden columns, right-click and select **Unhide All** from the grid heading shortcut menu.

Sort

You can sort the rows of data in a table before you edit.

Right-click in the heading of the CUST_ID column in the CUSTOMERS table and select **Sort** from the shortcut menu. Select **Ascending** or **Descending** to sort the rows numerically.

Printing Reports

From the Table Editor, you can print the following reports:

Edit Definition Report
Summarizes all the qualifiers, table names, and corresponding specifications that comprise the Edit Definition.

In the Table Editor, select **Print** from the File menu and select **Definition** from the submenu.

Data from All Tables
Includes all rows from all tables joined and displayed in the Table Editor.

In the Table Editor, select **Print** from the **File** menu and select **Data** and **All** from the submenus.

Data from Selected Rows
Includes all rows you selected from all tables joined in the Table Editor.

In the Table Editor, drag the pointer to select contiguous rows you want to print in each table. Select **Print** from the **File** menu and select **Data** and **Selected** from the submenus.

Data from a Selected Table
Includes all rows from a selected table in the Table Editor. Right-click in the grid heading in a selected table. Select **Print** from the shortcut menu.

Saving an Edit Definition

When you close the Table Editor, you are prompted to save an Edit Definition. The Edit Definition contains an Access Definition and all of the parameters specified while using the Table Editor such as joined tables and editing and browsing specifications.

An Edit Definition allows you to open the Table Editor without having to respecify tables, preferences, display options, and joined tables. You can also share the Edit Definition with other users

Since an Edit Definition contains an Access Definition, you are also prompted to name and save the Access Definition. If you chose not to save the Access Definition, an embedded copy remains as part of the Edit Definition.

An Access Definition defines the set of tables and selection criteria that you specified in the Table Editor. You can reuse the Access Definition to specify the same set of data at a later time, use the Access Definition with another Optim component and share the Access Definition with other users.

Refer to the *Common Elements Manual* for detailed information about saving definitions.

Chapter 3. Edit

Edit provides a full-function Table Editor that you can use to browse and edit relational sets of data from several databases online. Using Edit, you can access data simultaneously from a variety of DBMSs including DB2® CS, DB2 MVS, DB2 UDB, Oracle, Sybase ASE, SQL Server, and Informix®.

In the Table Editor, tools are available to help you:

- Manage the data display.
- Display related data from multiple tables.
- Specify criteria for each table.
- Commit changes and remove or "Undo" changes.

Edit tracks your activities in the Table Editor and stores this information in an Edit Definition. The Edit Definition contains the parameters you specified to display data and information about the set of tables in the Table Editor.

After you name and save an Edit Definition, it is stored in the Optim Directory and can be reused and made available to other users. An Edit Definition provides a quick and consistent method to access a set of data.

The fully qualified name of an Edit Definition consists of: *identifier.name*.

identifier
: Identifier that serves as the prefix for the Edit Definition name (1 to 8 characters).

name
: Name assigned to the Edit Definition (1 to 12 characters).

When you name an Edit Definition, it is helpful to use a logical set of naming conventions to organize definitions for easy identification.

The information about the set of data is stored in an Access Definition. Edit automatically creates and modifies the Access Definition as you browse and edit data. The Access Definition contains the name of the table you start with and the names of all subsequently joined tables. It also includes the selection criteria for each table and the relationship used for joining. An Access Definition can be saved in the Optim Directory for reuse and to make it available to other users, or stored in the Edit Definition.

When you open the Table Editor with a new Edit Definition, you can name a database table or a stored Access Definition to start the data display.

- If you begin with a database table, you create a "local" Access Definition. The Access Definition is stored as part of the Edit Definition and is only available to that definition.
- If you begin with an Access Definition, you specify a "named" Access Definition. The Access Definition is stored in the Optim Directory and is available to other Actions and other users.

While using the Table Editor, you can change an Access Definition from local to named or named to local. When you finish browsing and editing, Edit prompts you to save or discard changes to the Access Definition. At this time you can save

a local Access Definition as a named Access Definition. If you discard the changes to a named Access Definition, they are not available when you use the Edit Definition again. However, changes to a local Access Definition are automatically saved when you save the Edit Definition.

This section explains how to browse and edit data, including how to create and retrieve an Edit Definition, manipulate the display, and perform the following tasks:

- Create a new Edit Definition beginning with a single table or an Access Definition.
- Open an existing Edit Definition.
- Use the components of the Table Editor.
- Browse data, including changing the display using grid facilities and other Table Editor tools, such as joining tables.
- Edit data, including committing and restoring changes.
- Save an Edit Definition.

Open the Table Editor

Use the Table Editor to browse or edit data. There are different ways to open the Table Editor depending on whether you want to create a new Edit Definition or use an existing Edit Definition.

Create a New Edit Definition

To create a new Edit Definition:

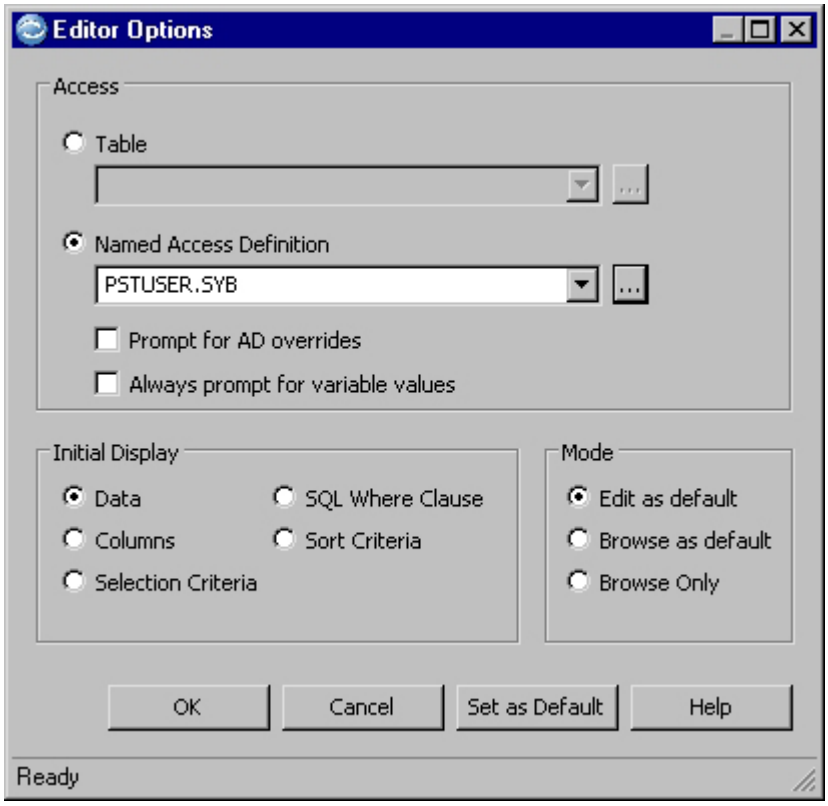
About this task

Procedure

1. Select **New** from the **File** menu in the main window.
2. Select **Edit** from the Actions submenu to open the Table Editor and the Editor Options dialog.
3. Specify a table name or a named Access Definition on the Editor Options dialog.
4. Designate the initial display.
5. Specify the mode for the initial display: Edit as default, Browse as default or Browse Only.
6. Click **OK**.

Editor Options Dialog

When you create a new Edit Definition, the Editor Options dialog is displayed.



.

Access

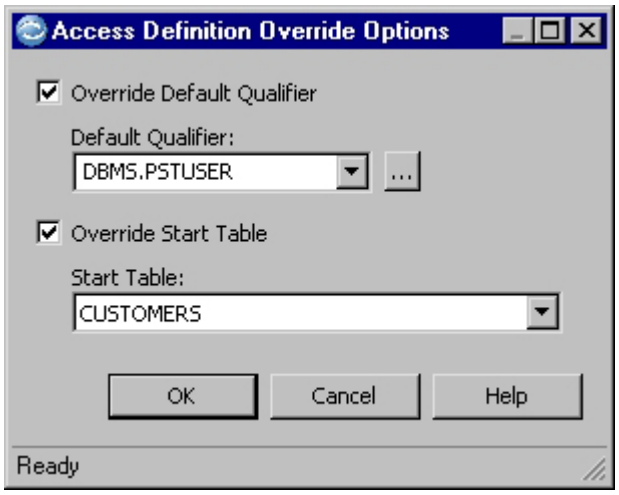
Specify these initial Access parameters for the Table Editor.

Table Specify the fully qualified name of the table to display in the Table Editor. Click the down arrow to select from a list of previously used table names or click the browse button to display a complete list of available tables and views.

When you open the Table Editor with a table and subsequently save the Edit Definition, you have the option of saving the list of tables and related specifications in a named Access Definition or as part of the Edit Definition.

Named Access Definition
Specify the name of an existing Access Definition. Click the down arrow to select from a list of previously used Access Definitions, or click the browse button to display a list of available Access Definitions.

Prompt for AD overrides
If you specify a named Access Definition, select this check box to display the Access Definition Override Options dialog. This dialog allows you to override the Default Qualifier or Start Table.



Override Default Qualifier
Overrides the Default Qualifier. Click the down arrow to select from a list of previously used qualifiers or click the browse button to open the Select a Default Qualifier dialog.

Override Start Table
Overrides the Start Table. Click the down arrow to select a table from the Access Definition.

Always prompt for variable values
Displays the prompt string for variables in the Access Definition, regardless of whether or not a value has been assigned. Clear the check box to display the prompt string only when a value for a variable is not assigned.

Initial Display

Choose from the following to select the initial display in the Table Editor.

Data Displays data from the specified table or the Start Table from the specified Access Definition (any selection criteria in the Access Definition specified for Start Table is applied). The number of retrieved rows depends on the Fetch Limit specified in Personal Options and Product Options.

Columns
Displays the **Columns** tab of the Table Specifications dialog. Set the display mode and create column associations for Large Object (LOB) columns. Associations correlate the type of object with the appropriate application to use for editing.

Selection Criteria
Displays the **Selection Criteria** tab of the Table Specifications dialog. Specify selection criteria to limit the data initially displayed in the Table Editor.

SQL Where Clause
Displays the **SQL** tab of the Table Specifications dialog. Specify SQL Where Clause to limit the data displayed in the Table Editor.

Sort Criteria
Displays the **Sort** tab of the Table Specifications dialog. Specify sort criteria to sort the data initially displayed in the Table Editor.

Note: To select a different Start Table or change other parameters, select **Respecify Editor Options** from the **Tools** menu in the Table Specifications dialog. Refer to the *Common Elements Manual* for detailed information about using the dialog.

Mode

Choose the initial mode for the Table Editor.

Edit as Default
Sets the Table Editor to default to Edit mode, enabling you to edit the displayed data. (You can switch to Browse mode for individual tables in the Table Editor using the edit window **Options** menu.)

Browse as Default
Sets the Table Editor to default to the Browse mode. (You can switch to Edit mode for individual tables in the Table Editor using the edit window **Options** menu.)

Browse Only
Sets the Table Editor to the Browse mode only. You cannot switch the mode for any table when you select this option.

Alternate Path

An alternate method for opening the Table Editor is to select **Edit** from the **Actions** menu in the main window. By default, the last Edit Definition you used is displayed.

Your next step depends on your purpose:

- To create a new Edit Definition, select **New** from the **File** menu in the Table Editor.
- To create a new Edit Definition modeled on an existing one, open the desired Edit Definition and select **Save As** from the **File** menu in the Table Editor.
- To create and store a copy of the current Edit Definition and continue editing it, select **Save Copy As** from the **File** menu in the Table Editor.

Select an Existing Edit Definition

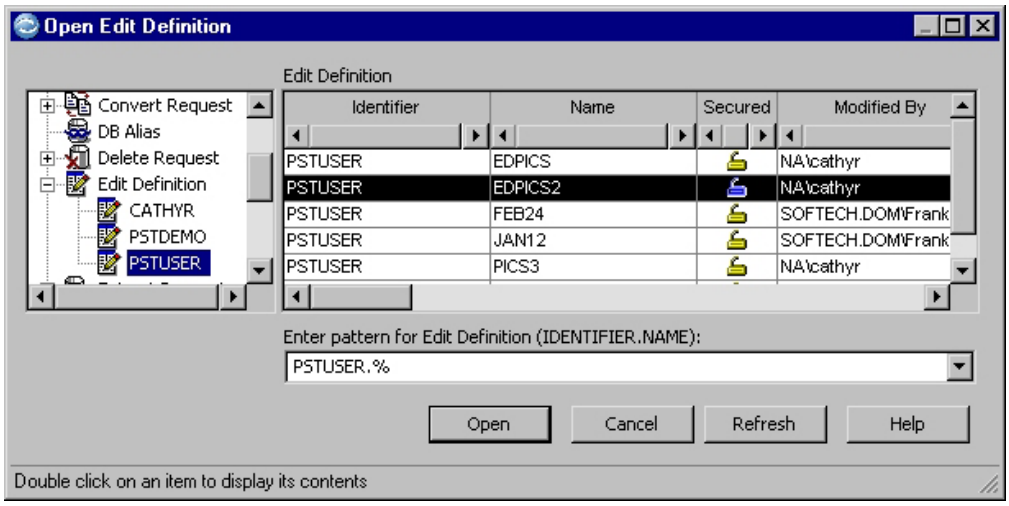
Use these steps to select an existing Edit Definition:

Procedure

1. Select **Open** from the **File** menu in the main window to open the object selection dialog.
2. Double-click **Edit** in the Identifier list to expand the Edit Definition object list.
3. Double-click the **Edit Definition** Identifier to display the corresponding list of Edit Definitions.
4. Double-click the desired Edit Definition to open the Table Editor.

Open Edit Definition Dialog

The Open Edit Definition dialog is divided into two areas. The object identifiers are on the left and associated objects appear on the right. The list of objects varies depending on the identifier you select.



Pattern

You can specify a Pattern to limit the list of requests in the Open dialog. An Edit Definition name consists of two parts: *identifier.name*. The Pattern must also have two parts. You can use the % (percent) wild card to represent one or more characters or use the _ (underscore) wild card to represent a single character in an object definition name. (The underscore must be selected as the SQL LIKE character on the **General** tab of Personal Options.)

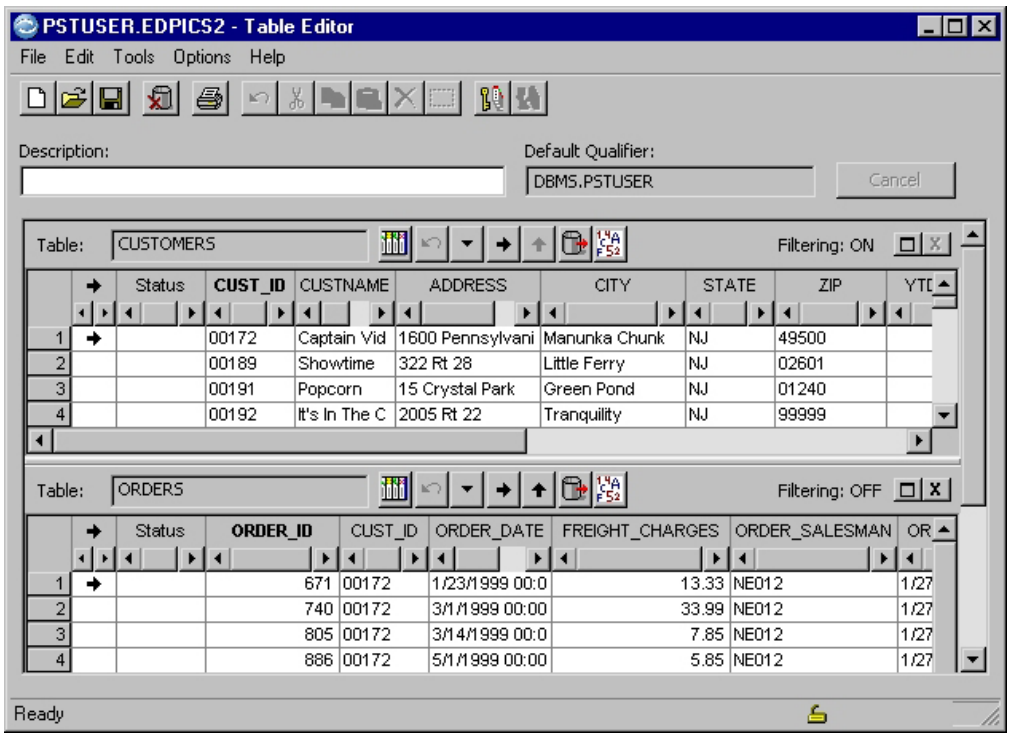
Note: After you specify a Pattern, click **Refresh** to redisplay the list based on your criteria.

Using the Table Editor

Use the Table Editor to browse or edit relational data from a variety of databases simultaneously. The tools available in the Table Editor allow you to manage the display and edit the data. This section describes the components of the Table Editor and the display options available.

Table Editor Components

The Table Editor displays one or more related tables, each in an edit window. Each table relates to the table displayed in the edit window above it.



The components of the Table Editor allow you to describe the Edit Definition, add tables to the display, manipulate and choose preferences for the display of each table, and perform functions on tables individually or collectively.

The Table Editor can have several edit windows open, depending on how many tables are joined.

The Table Editor includes the following details:

Description

Enter text to describe the set of tables edited or browsed (up to 40 characters).

Default Qualifier

The default qualifier is the two-part prefix used to qualify any unqualified table names in the Table Editor.

Cancel Button

The cancel button is enabled when data is being fetched from the database. Click **Cancel** to halt the fetch operation. If you cancel the fetch operation, an incomplete fetch set is obtained for the table in progress. Empty fetch sets result for tables subordinate to the table with the incomplete fetch set. A message appears in the status bar for each table involved in the cancel operation.

Edit Window

The Table Editor displays each table in an edit window. Refer to “Edit Window” on page 34 for details.

Tools Menu

In addition to the standard **File**, **Edit**, and **Tools** menu commands, you can select the following commands from the **Tools** menu.

Preferences
Displays the Specify Edit Preferences dialog. Refer to "Edit Preferences" on page 41 for additional information.

Convert AD to Local
Converts a named Access Definition to a local Access Definition.

Note: A local Access Definition is stored with the Edit Definition and is available only to that Edit Definition.

Respecify Variable Values
Modifies the default values assigned to substitution variables in an Access Definition. This menu command is available only if there are substitution variables specified in the Access Definition. Select this command to open the Variable Values dialog, modify the variable values, and automatically obtain a new fetch set. For complete information, refer to the *Common Elements Manual* .

Indent
Lists the names of multiple joined tables in the Table Editor in an indented format. Refer to "Display Multiple Tables" on page 45.

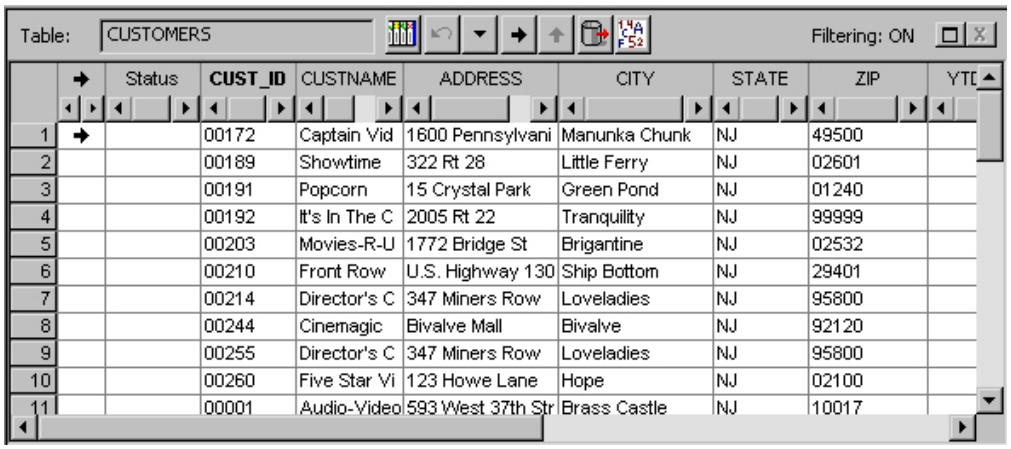
Undo All
Removes changes to all rows in the current fetch set for all displayed tables. Refer to "Display Multiple Tables" on page 45 for details.

Undo Errors
Restores rows in error to the last valid state, for all displayed tables. Refer to "Commit and Restore Data" on page 64for details.

Show Excluded Rows
Displays all rows previously excluded from all tables using the shortcut menu Exclude or Include options. Refer to "Locate Specific Data" on page 51 for information about display options.

Edit Window

Each table selected for display in the Table Editor is displayed in an edit window. Each edit window contains display options and menu choices that pertain to the corresponding table.



Note: Binary data is not displayed. Cells containing binary data are shaded. To view binary data, use the hexadecimal display. For more information about viewing and editing binary data, see "Edit Data" on page 56. Also, numeric SQL variant data is displayed as binary.

An edit window contains the following components:

Table Displays the name of the table shown in the edit window. If the table name is not fully qualified, the default qualifier is assumed.

Toolbar

Select actions or options from the edit window toolbar for the table in the edit window, as follows:

Format

or 

Switch between columnar and side label format. Refer to "Display Options" on page 39.

Undo

Undo changes to all rows in the current fetch set for the table. Refer to "Commit and Restore Data" on page 64 for details.

Options

Display the edit window **Options** menu. Refer to "Edit Window" for additional information.

Join

Join an additional table in the Table Editor. The additional table must relate to the table in the Table Editor. If a relationship does

not exist, Edit prompts for the information to create a relationship. If more than one relationship exists, you select from a dialog that contains a list of the relationships. Refer to “Display Multiple Tables” on page 45 for additional information.

Unjoin

Remove the table and all subordinate joined tables from the Table Editor. See “Display Multiple Tables” on page 45 for additional information.

Refetch Rows

Retrieve a new fetch set of rows for the table. If other users are simultaneously accessing this data, refetch rows periodically to ensure you have current data.

Note: You can undo changes to the current fetch set only. If you refetch rows, you cannot undo changes to the previous fetch set. See “Commit and Restore Data” on page 64 for additional information.

Mode

or 

Switch between Data mode and Expression mode.

For Data mode, all editing is committed as entered. For Expression mode, all editing is evaluated before it is committed. Click **Evaluate Expression** on the shortcut menu to evaluate expressions before committing to the database.

Navigation

Scroll side label display to the first row, previous row, next row, or last row, respectively.

Filtering

Indicates whether Table Specifications, such as Selection Criteria, are defined for the table. Filtering OFF indicates no criteria are defined.

Join Arrow

Position the Join Arrow to display related rows in joined table(s). See “Display Multiple Tables” on page 45 for additional information.

To move the arrow to a different row, click the Join Arrow grid column in the desired row or use the up/down arrows on your keyboard.

Note: The Join Arrow grid column and the Status grid column are shown when a table is displayed in columnar format only. See "Display Options" on page 39 for additional information.

Status Indicates the status of each row, as follows:

blank The row in the current fetch set has not changed.

Untouched
The row in the current fetch set has not changed (Side label display only).

Updated
The row has changed and is committed to the database.

Updated(*)
Changes to the row have been undone, except for LOB data changes, which cannot be undone.

Pending (Upd)
The row has been updated or changed, but the change is not committed to the database.

Pending (Ins)
The row has been inserted, but has not been committed to the database.

Inserted
The row is new and has been committed to the database.

Deleted
The row has been deleted.

Evaluated
Expressions in the row have been evaluated and are acceptable.

Error The row contains at least one error. Refer to the message bar at the bottom of the dialog for more information.

Locked
If Edit cannot display the new version of an updated or inserted row, the row is placed in Locked status. This situation can occur when a database trigger modifies the row before it is inserted into the database. Position the pointer on the status grid cell of a locked row to display the reason the row is locked.

Click the **Refetch Rows** button on the edit window toolbar to acquire a new fetch set to display the committed versions of the updated or inserted rows. If the Audit Tables option is active, the row is not committed.

Edit Window Options Menu

Use the edit window **Options** menu to select edit and display options for the table in the corresponding edit window. You can switch between Edit and Browse modes, choose various display options, and select other table specifications, as described in the following paragraphs.

Preferences you select on the **Options** menu apply to the corresponding edit window only.

Note: If the **Force Browse Only** check box on the **Edit** tab in Product Options is selected, the controls pertaining to editing data are disabled. (Refer to the *Installation and Configuration Guide* .)

Click the **Options** button  in the edit window toolbar to display the edit window **Options** menu.

Browse
Switches between Browse mode and Edit mode for the corresponding table. This selection is unavailable if **Browse Only** is selected for the default data display.

Display Attributes
Switches between including or excluding column attribute information in the column headings.

Display Deleted Rows
Switches between displaying or hiding rows that you delete from this table. Deleted rows appear dimmed when displayed.

Table Specifications
Opens the submenu to allow you to set table specifications. Table specifications are part of the Access Definition. Table specifications allow you to limit the amount of data obtained from the database in a fetch set. The available table specification options are as follows:

Columns
Set the display mode and create column associations for Large Object (LOB) columns. Associations correlate the type of object with the appropriate application to use for editing.

Selection Criteria
Specify selection criteria for one or more columns to limit the data to fetch from any table.

SQL Create an SQL WHERE clause to define complex selection criteria for one or more columns in any table to limit the data to fetch.

Sort Select sort criteria to arrange rows in ascending or descending order for one or more columns, in order of priority.

Note: Refer to the *Common Elements Manual* for complete information and details about table specifications.

Reset Opens the submenu to allow you to reset the table specifications to the original settings.

Show SQL
Displays a dialog containing the SQL used to obtain the fetch set. You can use the SQL dialog to review, print, and save SQL used to retrieve the current fetch set for the table in the active Edit Definition. To save or print SQL, select the appropriate command from the File menu on the SQL dialog.

Insert Row
Creates a blank grid row for data entry to add a new row to the table in the database. The blank grid row is inserted after the last displayed row in the edit window.

Show Excluded Rows
Displays all rows previously excluded from the table (rows are excluded using the shortcut menu **Exclude** command). To display excluded rows individually, right click a row and select **Show Next** from the shortcut menu.

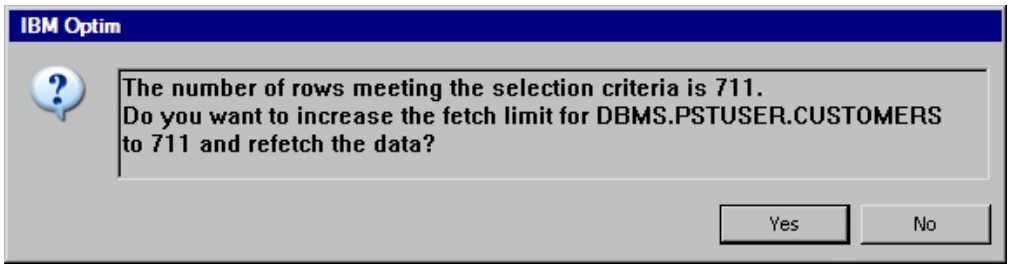
Remove Locked Rows
Removes rows in Locked status from the display and allows you to continue to edit the current fetch set.

Undo Errors
Removes changes to rows in the table that result in an error condition. See "Commit and Restore Data" on page 64.

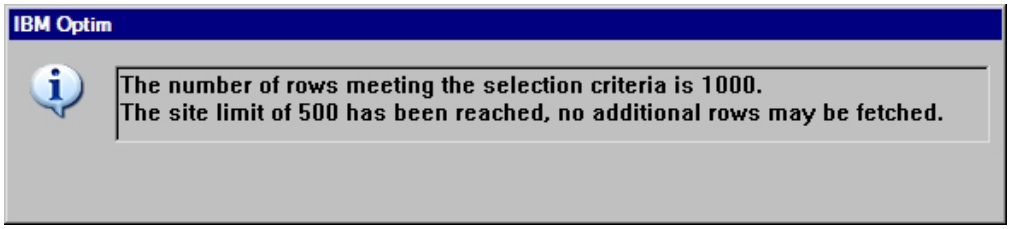
Undo Last
Removes the last change to the table. See "Commit and Restore Data" on page 64.

Rows meeting Criteria
Displays a message to indicate the number of rows that meet the selection criteria. You can choose to increase the fetch limit for the table up to the maximum established in Product Options.

For example, when the number of rows that satisfy the criteria is 711, but the fetch limit is 500 and can be increased, the following is displayed:



However, if the fetch limit is at maximum, the following is displayed:



Unsupported Columns
Indicates there is at least one unsupported data type in the table. Select Unsupported Columns to display a dialog that contains a list of the unsupported columns and the corresponding data type for each.

Display Options

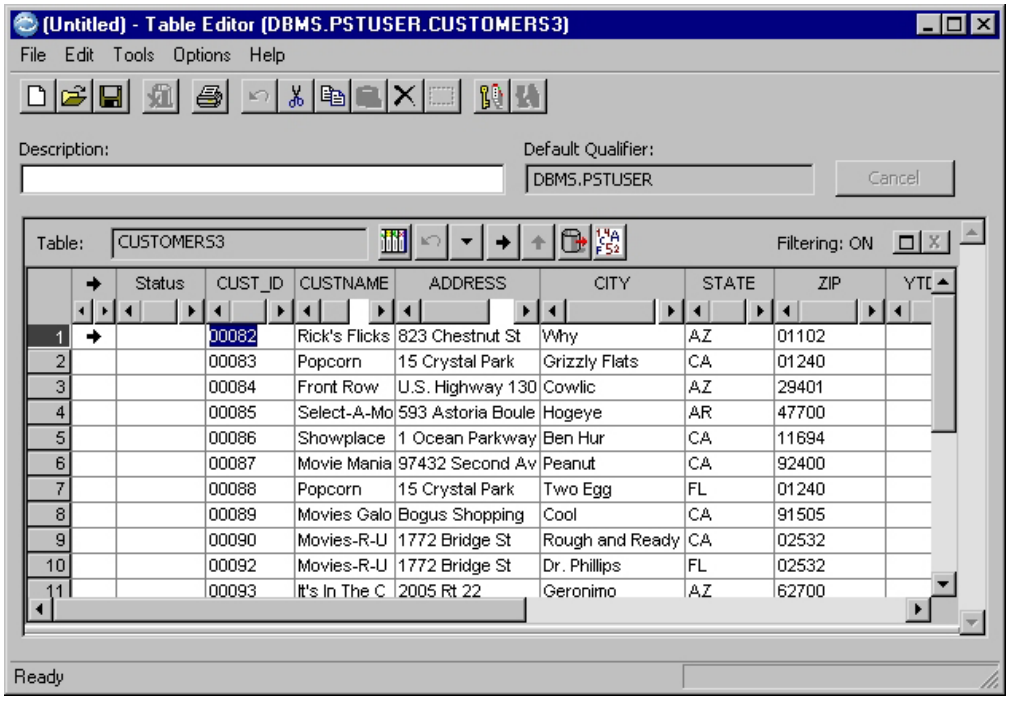
The Table Editor provides several ways to manipulate the display. You can perform functions on all tables, individual tables, or specific rows.

An edit window has two format options, columnar and side label. You can switch between the two formats by clicking the  or  button on the edit window toolbar. The default format is columnar. Most of the examples throughout this sectionl are shown in columnar format.

Columns

When a table is displayed in columnar format, the Join Arrow grid column and the Status grid column are to the left of the table columns.

In the following example, the edit window shows several rows of data in columnar format.



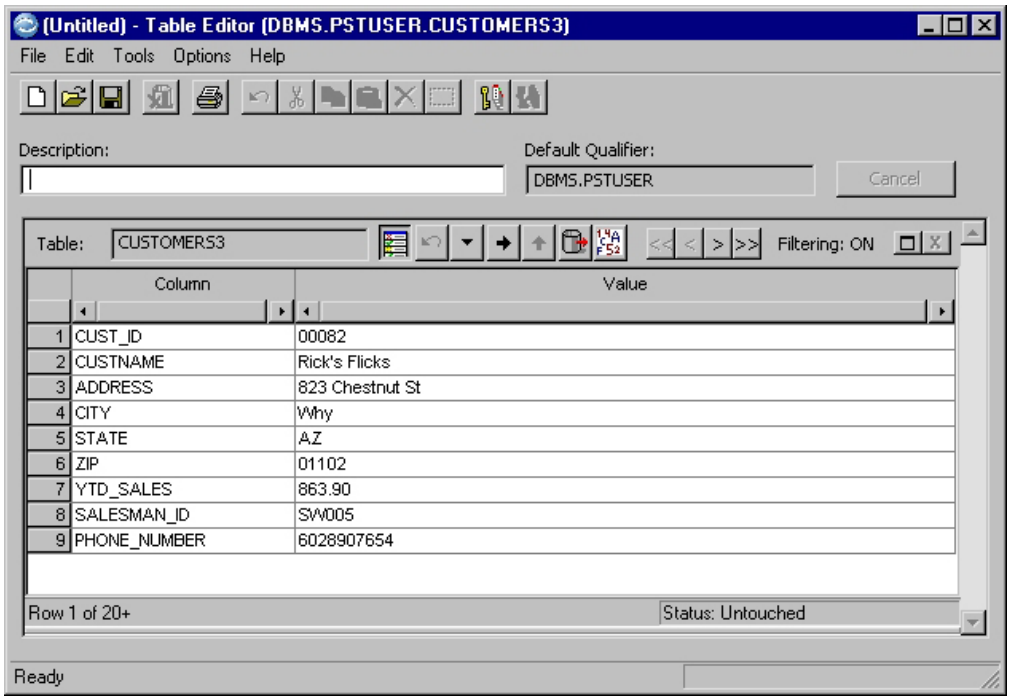
In columnar format, the column headings display across the top of the edit window and the data displays in columns beneath the headings. Note that the headings for primary key column(s) display in bold type.

Side Label

In side label format, the column headings are displayed down the left side of the edit window and the data is displayed to the right of the headings.

Use the navigation buttons on the edit window toolbar to scroll the display. This format focuses on a single row and can display more columns for the row than the columnar format. Side label format is useful to edit data in very wide columns.

In the following example, the edit window shows data in side label format.



When a table is displayed in side label format, the relative position of a row in the fetch set and the status of the row is noted in the status bar at the bottom of the edit window.

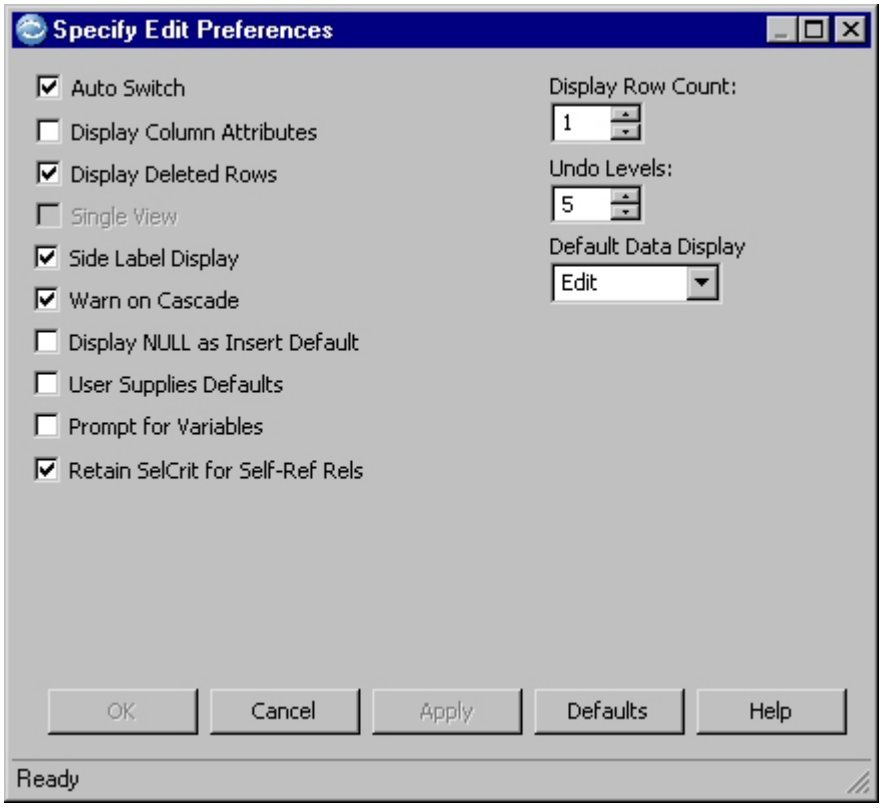
Edit Preferences

You specify preferences in Personal Options to apply each time you open the Table Editor. You can change the edit preferences for a specific instance of the Table Editor or for an individual table in an edit window. Select **Preferences** from the **Tools** menu of the Table Editor to display the Specify Edit Preferences dialog.

(For full details on edit preferences in Personal Options, refer to the *Common Elements Manual* .)

Use this dialog to specify preferences that override edit preferences selected in Personal Options. Preferences you select on the Specify Edit Preferences dialog apply to all tables in the currently opened Table Editor only.

Note: If the **Force Browse Only** check box on the **Edit** tab in Product Options is selected, the controls pertaining to editing data are disabled. (Refer to the *Installation and Configuration Guide* .)



Auto Switch

Select this check box to automatically switch subordinate tables in a "stack" of two or more joined tables. When you scroll and no related rows exist in the displayed subordinate table, Edit automatically switches to display the next table in the stack that has at least one related row.

Display Column Attributes

Select this check box to include column attributes with the column heading. This information is useful when inserting a row or determining column dimensions.

Display Deleted Rows

Select this check box to display rows you delete (deleted rows appear dimmed). Clear this check box to remove deleted rows from the display.

Single View

Select this check box to disable the Join capability when the first item in the Table Editor is a view. Browsing and editing is more efficient using Single View mode because relationship information is bypassed. However, to browse or edit related data, you must clear the check box.

Side Label Display

Select this check box to display all tables in the side label format. You can toggle between side label format and columnar format for individual tables using the edit window toolbar. See "Display Options" on page 39.

Warn on Cascade

Select this check box to display a warning when you delete rows in the active table. Rows in other tables may be deleted or column values set to NULL (if the relationship between the tables uses the "SET NULL" delete

rule) when you delete rows in the active table. The Delete Confirmation dialog displays the names of affected tables including tables that are in the Table Editor.

Note: Consider the potential consequences before you disable this warning. A Delete action can affect rows that are not displayed or currently active in the Table Editor. Data deleted from tables that are not active in the Table Editor cannot be restored.

Use NULL as Insert Default
Select this check box to specify NULL as the default value for null eligible columns when you insert a row. Clear the check box to direct Edit to insert a default value other than NULL. The inserted value depends on column data type and includes blank, zero, current date, current time and current timestamp.

Note: Site management may set Product Options to restrict the use of this function.

User Supplies Defaults
Select this check box to require user⌂supplied values for every column that cannot accept a default value. Clear the check box to specify that Edit inserts a default value. The inserted value depends on column data type and includes blank, zero, current date, current time and current timestamp.

Note: Site management may set Product Options to restrict the use of this function.

Prompt for Variables
Select this check box to display the prompt string for a value for each variable before the fetch set is obtained, regardless of whether or not a value has been assigned. Clear the check box to display the prompt string only when a value for a variable has not been assigned. (This menu command is applicable when there are substitution variables specified in the Access Definition.) Refer to the *Common Elements Manual* .

Retain SelCrit for Self-Ref Rels
Select this check box to apply selection criteria each time a table is self-referenced in the Table Editor. Clear the check box to ignore selection criteria when a table is self-referenced. The default setting for this option is specified in the **Edit** tab of the Personal Options dialog. Refer to the *Common Elements Manual* for more information.

Note: A table can be self-referenced only when the Table Editor is in Browse mode.

Display Row Count
Specify the maximum number of rows to display from the fetch set for each table that has tables joined to it. Click **Defaults** to use the Display Row Count value specified on the **Edit** tab of the Personal Options dialog.

Undo Levels
Specify the number of times (1 to 20) you can undo a commit to any row in an active Edit Definition. The number of undo levels may affect the performance and speed of Edit.

An undo level is defined as a change to a row that is committed to the database. However, if a change to a row results in an error condition, the change is not committed to the database, but still counts as one undo level.

Click **Defaults** to use the value specified on the **Edit** tab of the Personal Options dialog.

Default Data Display

Browse
Select this check box to choose the Browse mode by default for each new table joined to the Table Editor. You can switch to Edit mode using the edit window **Options** menu for individual tables, as required.

Browse Only
Select this check box to choose the Browse Only mode by default for each table added to the Table Editor. You cannot switch to Edit mode using the edit window **Options** menu.

Edit Select this check box to choose the Edit mode by default for each table added to the Table Editor. You can switch to Browse mode using the edit window **Options** menu for individual tables, as required.

Command Buttons

OK Click **OK** to save and apply the selected preferences to any new tables you join, but not to the tables currently in the Table Editor.

Cancel
Click **Cancel** to close the dialog without applying or saving changes to the Edit Preferences.

Apply Click **Apply** to apply and save the selected preferences to tables in the Table Editor and any new table you join.

Defaults
Click **Defaults** to return Edit Preferences to the default settings (specified in Personal Options).

Browse Data

You can browse or edit data according to your purpose. You can select Edit as default, Browse as default, or Browse Only when you begin a new Edit Definition.

- If you select **Edit** as default or **Browse** as default, you can switch between the edit and browse modes using the edit window **Options** menu.
- If you select **Browse Only**, you cannot switch to edit mode. In the Browse Only mode, you can open more than one instance of the same table.

Edit provides several ways to organize and manipulate data in the Table Editor to allow you to browse data efficiently. For example, you can specify selection criteria to limit the size of the fetch set and display a more manageable set of data. When a table contains a large number of rows, it can be very useful to selectively exclude rows from the display.

This section describes how to use the following tools:

Join tables
Join tables in the Table Editor to display related data from one or more additional tables.

Indent
Display the names of all tables joined in the Table Editor in an indented format to clarify relationships between tables.

Unjoin tables
Remove tables from the Table Editor.

Find Search for specific data in a table.

Exclude
Remove rows from the display.

Include
Display only rows that satisfy a specified criteria.

Show next
Display the first excluded row between the row you selected and the next displayed row.

Show all
Display all excluded rows between the row you selected and the next displayed row.

Sort Rearrange rows displayed in the Table Editor in ascending or descending order based on a specific column.

Rearrange column order
Position the columns to display the desired data more efficiently.

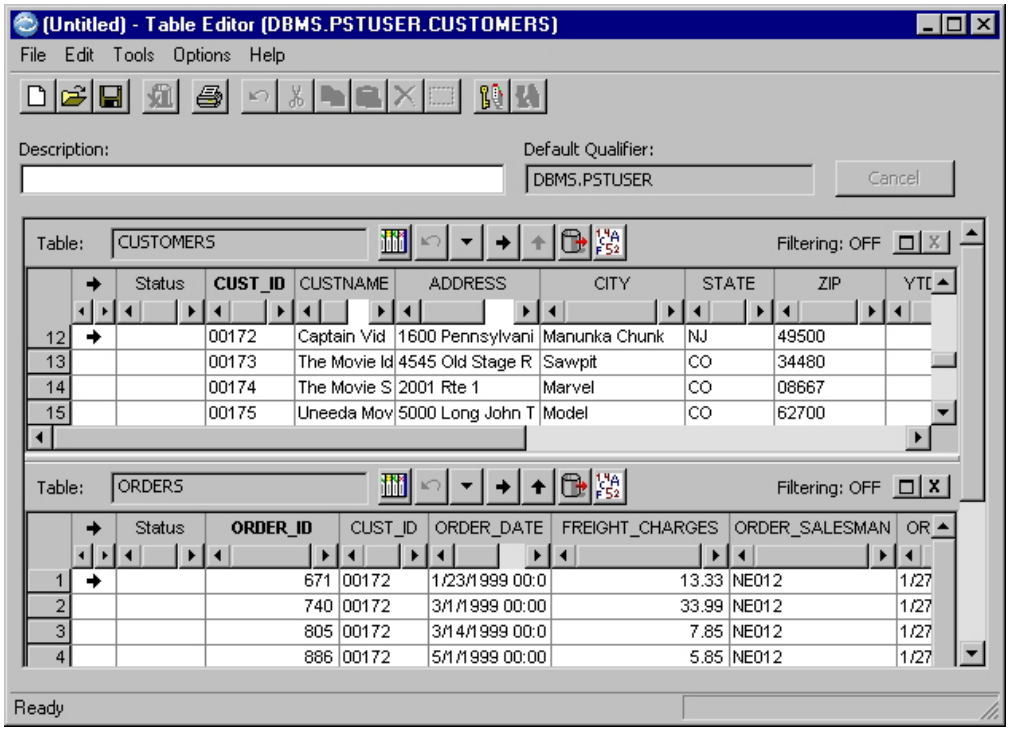
Hide Remove a column from the display.

Lock Reposition a column to the left (columnar display) or to the top (side label display) of the other columns. The column stays in that position when you scroll the data.

Display Multiple Tables

You can join multiple tables to any table in the Table Editor. When you open a new Edit Definition in the Table Editor, a single table displays initially, regardless of whether you specify a table name or an Access Definition. However, because an Access Definition can include several tables, if you specify an Access Definition, the Start Table displays in the Table Editor.

Use **Join** to display related data from other tables. When you join tables, the related data in the joined table displays in a new edit window in the Table Editor. A relationship must exist between the tables to join them. You can join several tables to a single table, or join additional tables to each joined table. Each joined table displays in a new edit window.



Note: A table can be joined more than once. In Browse mode, a table may be joined in the same viewable area of the Table Editor (e.g., A to B to A). Additionally a table may be self-referenced (e.g., A to A).

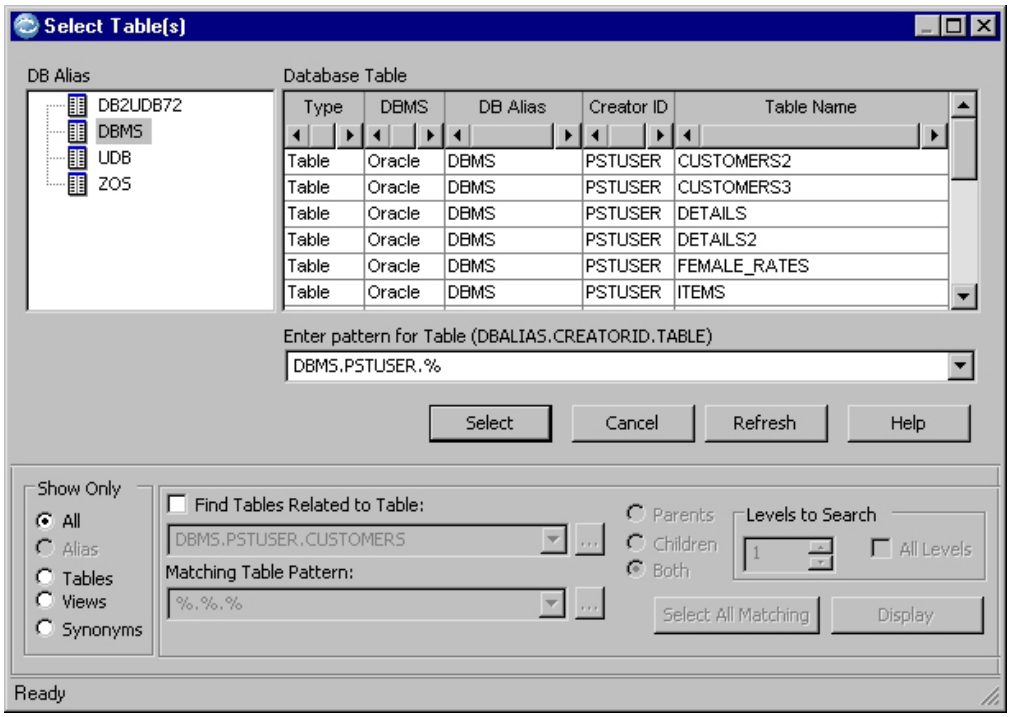
In Edit mode a table may be joined more than once, but only in a different branch of stacked tables (e.g., A to B to C, and A to D to C).

Join Button

Click the **Join** button in the edit window toolbar to join another table. Depending on how you open the Table Editor, the Select Table(s) dialog or the Select Access Definition Table dialog displays when you click **Join**.

Select Table(s) Dialog

If you open the Table Editor with a table name and you click **Join,** the Select Table(s) dialog displays.

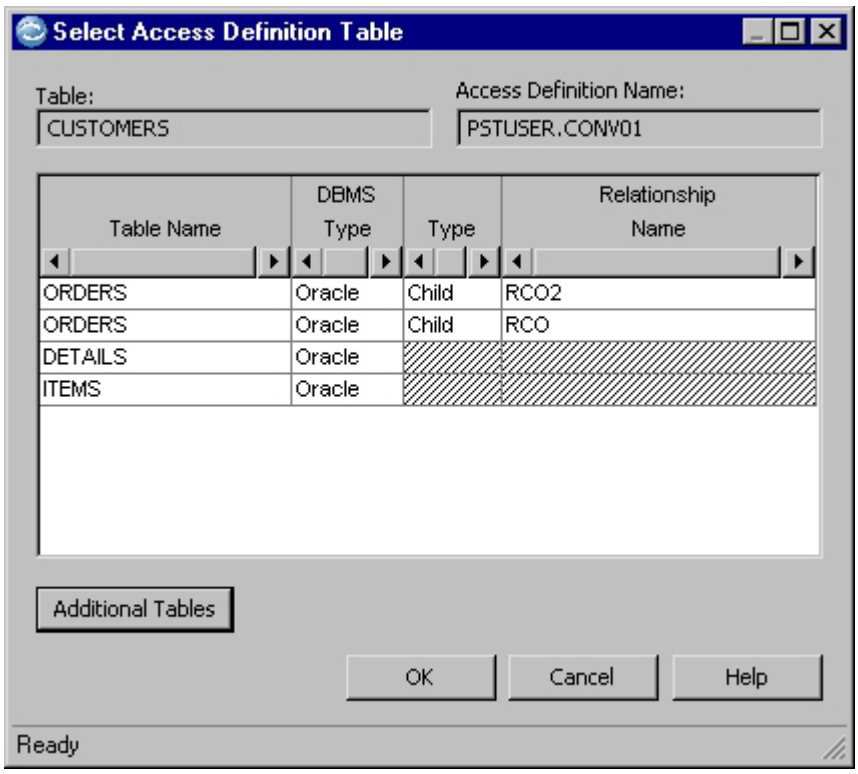


Initially, the list is populated with names of tables that have the same DB Alias and Creator ID as the displayed table. You can change the qualifier to display tables from any database to which you have access. Select a table from the list of table names. A relationship between the tables is required.

(Refer to the *Common Elements Manual* for detailed information about this dialog.)

Select Access Definition Table Dialog

If you open the Table Editor with an Access Definition and click **Join,** the Select Access Definition Table dialog displays.



This dialog lists the tables in the Access Definition that are not currently joined. You can select from this list, or select a table not included in the Access Definition by clicking the **Additional Tables** button to display the Select Table(s) dialog. A relationship between the tables is required.

Specify a Relationship for Joining

When you join tables, a relationship between the tables is required. Only one relationship can be used.

- If a relationship exists between the tables, the table joins automatically and related rows display in a new edit window.
- If a relationship does not exist, the Create a New Relationship dialog opens.
- If more than one relationship exists, the Select a Relationship dialog opens. You can select the relationship to use from a list.

Create a New Relationship

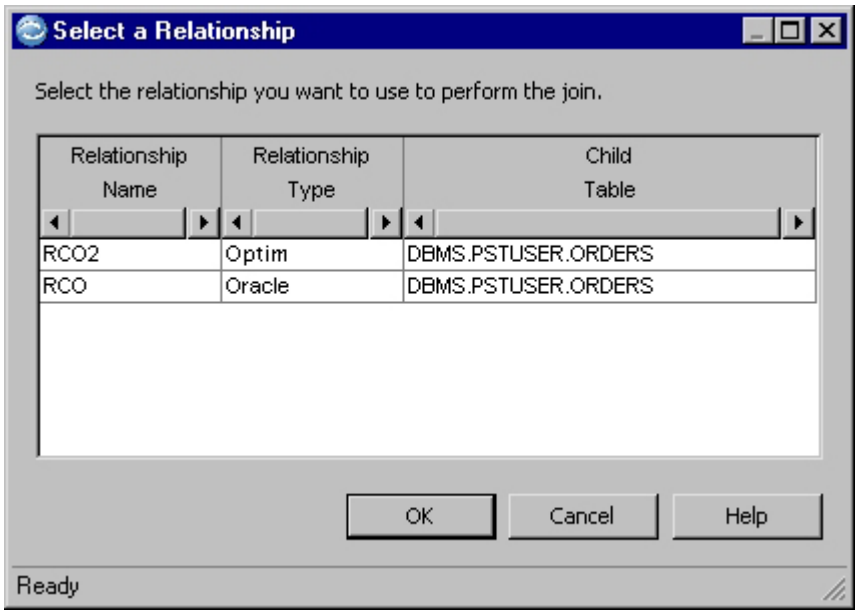
When you join an unrelated table, the Create a New Relationship dialog opens. The name of the table already in the Table Editor is shown in the Parent Table box in the Create a New Relationship dialog, by default.

You can join from parent to child or child to parent. Click the down arrow in the **Parent Table** box to switch the relationship. Select the name of the table to participate in the relationship as the parent. The table name in the **Child Table** box updates automatically.

Click **OK** to open the Relationship Editor. Use the Relationship Editor to specify the columns that participate in the relationship and complete the creation of the new relationship. The new relationship is stored in the Optim Directory. Refer to the *Common Elements Manual* for detailed information on using the Relationship Editor.

Select from Multiple Relationships

When you join a table that is related by more than one relationship, the Select a Relationship dialog opens. The Select a Relationship dialog lists all the relationships between the tables and identifies the source of each relationship. The source can be from a specific DBMS or from the Optim Directory.



Select any one of the relationships listed to use to join the table, then click **OK**.

Stack Tables

You can join more than one table to any table. When several tables are joined to a single table, the joined tables are "stacked" in a single edit window, in the order in which they were joined. The most recently joined table is displayed by default, and the other tables in the stack are hidden.

The name of the displayed table appears in a drop-down box in the edit window. Click the arrow to display the list of tables stacked in the edit window. Click a table name in the list to display that table in the edit window.

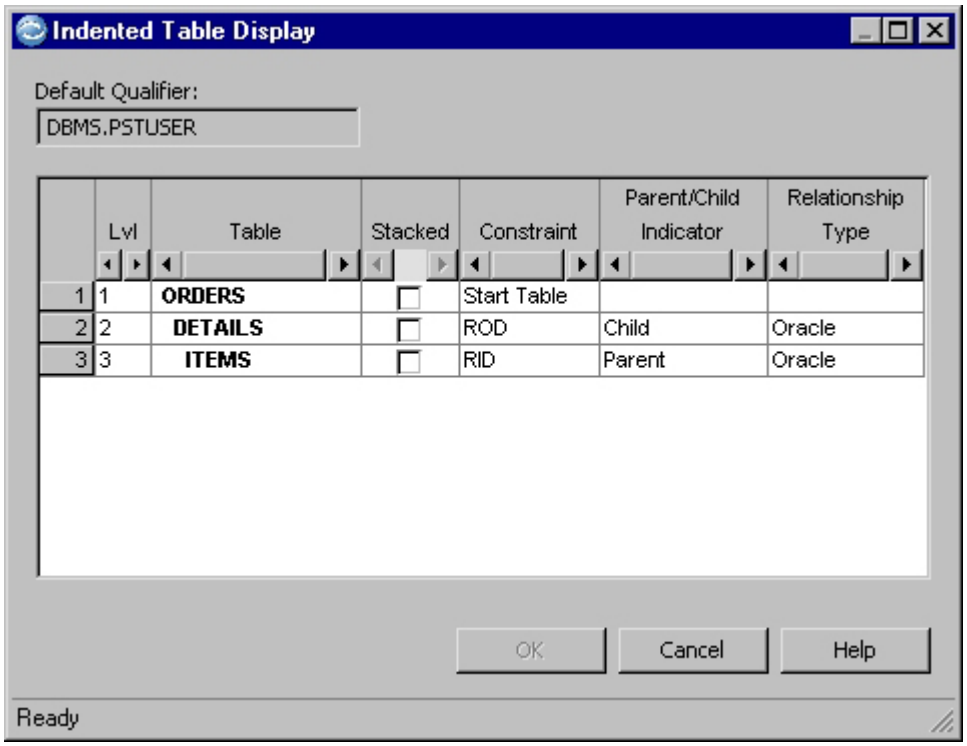
Note: You can use Auto Switch in the Specify Edit Preferences dialog to automatically switch to the next table in the stack when the selected table does not have at least one related row.

You can display any table in the stack and join other tables to any table in the stack. In many cases, a database table is related to two or more tables, creating different paths for joining and browsing the data.

When a stacked table is displayed, all subordinate joined tables are also displayed. When a stacked table is hidden, all subordinate joined tables are also hidden.

Indent

When several tables are joined in the Table Editor, you can use the **Indent** command to display the names of the joined tables in an indented format. The indented format shows the relationships between the joined tables. Select **Indent** from the **Tools** menu to open the Indented Table Display dialog.



Note: Table names that are not shown in bold type are stacked and not currently displayed in the Table Editor. To view a stacked table, select the table name and click OK.

Default Qualifier

The default qualifier is the two-part prefix for unqualified table names in the Table Editor.

Grid Details

Lvl Indicates the display level of each table, subordinate tables, and stacked tables in the Table Editor, where 1 represents the highest level or Start Table.

Table Names each table in the Table Editor. The first table in the list is the Start Table.

Stacked
Indicates that the joined table is stacked and hidden in the Table Editor.

Relationship Name
Names the relationship. The first table in the list is always the Start Table.

Note: The initials of the table names are used in parent/child order, preceded by an R, by default. For example, a relationship between CUSTOMERS and ORDERS is named RCO.

Parent/Child Indicator
Indicates whether the table is the parent or the child in the relationship.

Relationship Type
Indicates the type of relationship:

- Defined to a specific DBMS.
- Generic or specific Optim relationship

Unjoin Tables

Click the **Unjoin** button  in the edit window toolbar to unjoin the table in the edit window, and all subordinate joined tables. If the table is part of a stack when you click unjoin, the next table in the stack populates the edit window.

Unjoined tables may or may not be saved as part of the Edit Definition or the Access Definition, depending on how you opened the Table Editor and whether you choose to save the definitions when you exit.

- If you opened the Table Editor with an Access Definition, all new tables joined and unjoined are saved as part of the Access Definition when you exit the Table Editor, unless you choose not to save the Access Definition when prompted upon exit.
- If you opened the Table Editor with a table, only those tables that are still joined when you exit are saved. The tables are saved as part of the Edit Definition.

Whenever you make any change to tables in the Table Editor, you are prompted to save the Edit Definition and the Access Definition when you exit the Table Editor or open a different Edit Definition.

Locate Specific Data

Edit provides tools to locate specific data from the fetch set in the Table Editor.

Find Specific Data

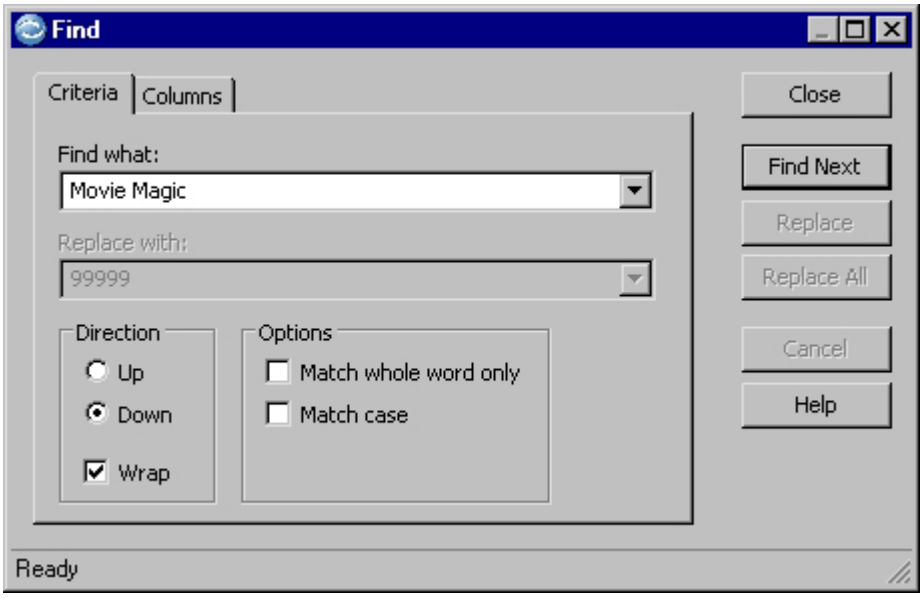
Use **Find** to search for specific data in the Table Editor. In the Find dialog, you specify a search string and direct **Find** to locate the string. You also specify whether the search should proceed forward or backward, wrap to search all of the available data, be case-sensitive, or locate complete words.

About this task

To use **Find**:

Procedure

1. Right-click in a grid column heading and select **Find** from the shortcut menu to open the Find dialog.



2. On the **Criteria** tab, specify the string or value you want to find.
3. Select a direction for the search.
4. Select matching options, as needed.
5. On the **Columns** tab, select the columns you want to search. The column in which you right-clicked is selected by default.
6. Click **Find Next** to begin the search and to locate and scroll to the next occurrence of the search value.

Results

For detailed information about the Find dialog, refer to the *Common Elements Manual* .

Exclude Rows

Use **Exclude** to remove one or more rows that satisfy the specified criteria from the display in the Table Editor.

About this task

In the Exclude dialog, you specify a search string. You also specify whether the search should proceed forward or backward, wrap to search all of the available

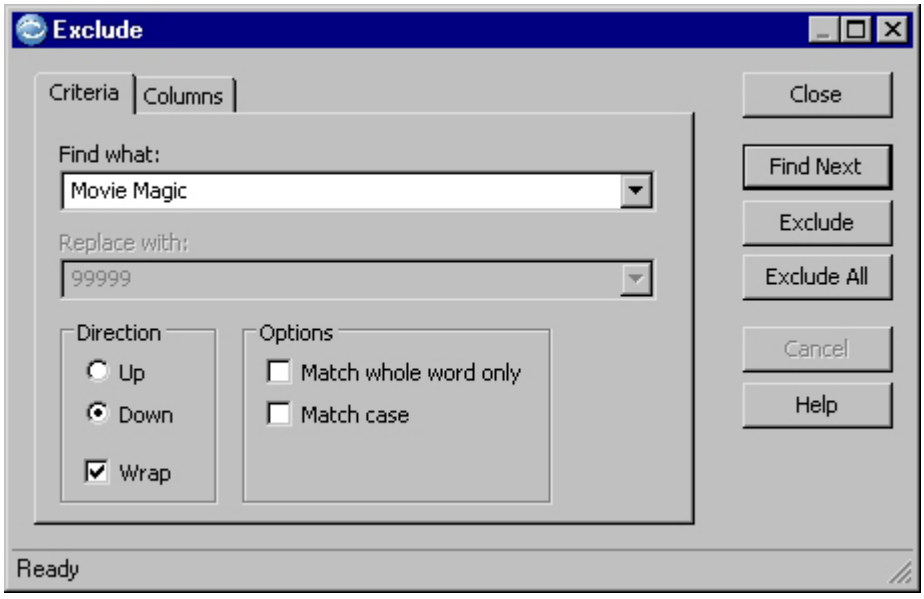
data, be case-sensitive, or locate complete words. Click **Find Next** to locate the first occurrence of the search string. Then, click **Exclude** to exclude the row containing the single instance of the search string or click **Exclude All** to exclude all rows that contain the search string.

Excluded rows are retained in the fetch set. A thick line between rows indicates the presence of hidden rows. Position the pointer on the thick line to display the number of hidden rows. You can right-click and select **Show Excluded Rows** on the shortcut menu to show all of the rows.

To use **Exclude**

Procedure

1. Right-click in a grid column heading and select **Exclude** from the shortcut menu to open the Exclude dialog.



2. On the **Criteria** tab, specify the string or value you want to exclude.
3. Select a direction for the search.
4. Select matching options, as needed.
5. On the **Columns** tab, select the columns you want to search. The column in which you right-clicked is selected by default.
6. Select **Find Next** to begin the search.
7. Select **Exclude** to hide rows one at a time, or select **Exclude All** to hide all rows that satisfy the specified criteria.

Include Rows

Use **Include** to display rows in the Table Editor that satisfy the specified criteria only, and exclude all other rows. In the Include dialog, you specify a search string. You also specify whether the search should proceed forward or backward, wrap to search all of the available data, be case-sensitive, or locate complete words. Click **Include** to display rows that contain the search string.

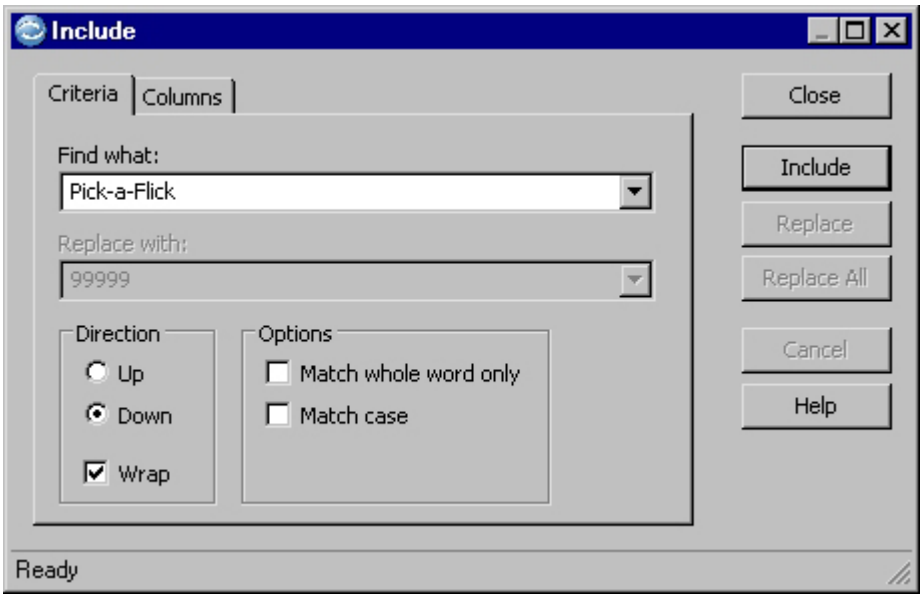
About this task

Rows that do not contain the search string are retained in the fetch set. A thick line between rows indicates the presence of hidden rows. Position the pointer on the thick line to display the number of hidden rows. You can right-click and select **Show Excluded Rows** on the shortcut menu to show all of the rows.

To use **Include**

Procedure

1. Right-click in a grid column heading and select **Include** from the shortcut menu to open the Include dialog.



2. On the **Criteria** tab, specify the string or value you want to include.
3. Select a direction for the search.
4. Select matching options, as needed.
5. On the **Columns** tab, select the columns you want to search. The column in which you right-clicked is selected by default.
6. Select **Include** to choose all rows that contain the search string in the selected columns.

Display Data - Show Hidden Rows

Edit provides tools to display specific data from the fetch set in the Table Editor.

display specific data
Show Next

Right-click in a grid column and select **Show Next** from the shortcut menu to display the first excluded row positioned between the row you right-clicked and the next displayed row.

Show All

Right-click in a grid column and select **Show All** from the shortcut menu to display all excluded rows positioned between the row you right-clicked and the next displayed row.

Sort:

There are several ways to sort data in the Table Editor:

- You can right-click in a column heading and select **Sort** from the shortcut menu. Select **Ascending** or **Descending** to rearrange the rows according to the data in the column in which you right-clicked.
- You can select sort criteria to arrange rows in ascending or descending order for each specified column, in order of priority, when data is initially displayed in the Table Editor. Refer to "Create a New Edit Definition" on page 28.
- You can select **Sort** from the **Table Specifications** submenu available from the edit window **Options** menu. Specify sort criteria for the table in the edit window to arrange rows in order for each specified column, in order of priority. Refer to the description of the "Edit Window Options Menu" on page 37.

Manipulate Grid Display

Edit provides tools to manipulate the grid columns displayed in the Table Editor.

Rearrange Grid Columns:

You can rearrange the order of the columns displayed in the edit window. Use the mouse to drag the column heading to the desired position.

Hide/Unhide:

Use **Hide** to exclude a column from the display. Right-click in a grid column heading and select **Hide** from the shortcut menu to exclude the column. Select **Unhide All** to show all columns.

Lock and Unlock:

This section describes the use of **Lock** and **Unlock** in columnar or sidelabel format.

Columnar

Use **Lock** to reposition a column to the left of the other columns in the edit window and retain the column in that position when you scroll the display to the left or right. Right-click in a grid column heading and select **Lock** from the shortcut menu to reposition and lock the column. You can lock more than one column.

To unlock a column, right-click in the grid column heading and select **Unlock** from the shortcut menu. The column is unlocked and repositioned immediately to the right of any other locked columns.

To reset columns to the original order, unlock all columns, then right click in the grid heading and select **Reset Grid Attributes**.

Side Label

Use **Lock** to reposition a column (represented as a grid row) to the top of the other columns in the edit window and retain the column in that position when you scroll the display to up or down. Right-click in a grid cell and select **Lock** from the shortcut menu to reposition and lock the column at the top. You can lock more than one column, as required.

To unlock the column, right-click in the column and select **Unlock** from the shortcut menu. The column is unlocked and repositioned immediately below any other locked columns.

To reset columns to the original order:

- Switch the display format to columnar,
- Unlock all columns,
- Right click in the grid heading and select **Reset Grid Attributes**.

Reset Grid Attributes

Right-click in a grid column heading and select **Reset Grid Attributes** from the shortcut menu to rearrange and resize the grid columns to the original order and width.

Use **Reset Grid Attributes** to unhide hidden columns and unlock locked columns as well.

Note: Attributes defined in the Access Definition are not reset with the **Reset Grid Attributes** command.

Edit Data

Edit provides several ways to edit data in the Table Editor. You can edit one or more tables at the same time. After you edit data in a row, move the pointer to a different row to commit the data.

Editing Tools

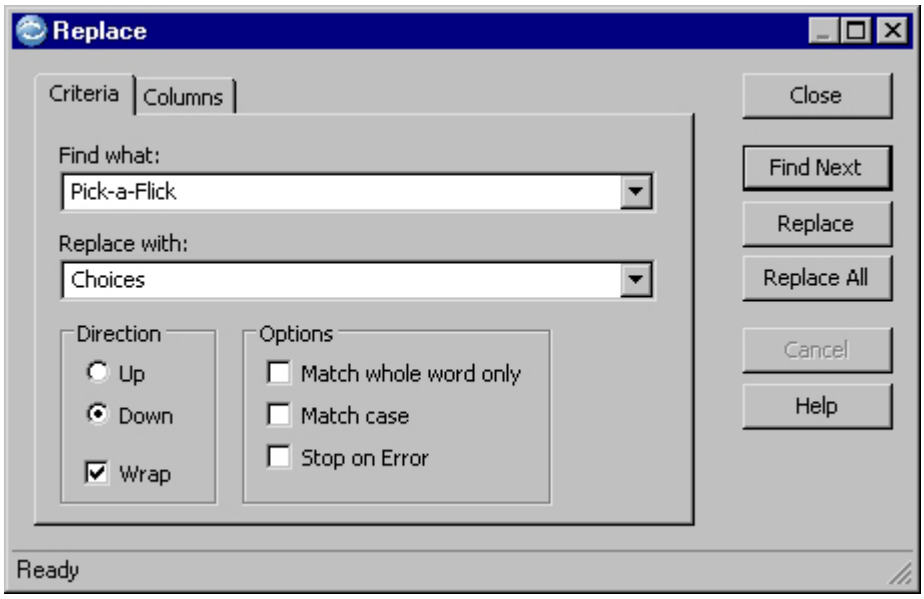
In addition to overtyping column data in a grid cell, you can use shortcut menu commands to perform the following editing functions.

Note: If a grid cell is shaded and you cannot overtype the data, the cell may contain one or more binary numbers 0X00, 0X09, 0X0A, or 0X0D. You can edit the data in hexadecimal format using the shortcut menu command **Edit Cell**, **Display**, **Hex**.

Replace

Use **Replace** to substitute one string or value for another.

1. Right-click in a grid column heading and select **Replace** from the shortcut menu to open the Replace dialog.
2. On the **Criteria** tab,
3. Specify the string or value you want to replace and the string or value to use as the replacement.
4. Select a direction for the search (up or down).
5. Select matching options, as needed (that is, whole word, case-sensitive).
6. On the **Columns** tab, select the grid columns you want to search. The column in which you right-clicked is selected by default.
7. Select **Find Next** to begin the search.
8. Select **Replace** to replace items one at a time or select **Replace All** to replace all occurrences of the specified value.



Insert

Right-click a row and select **Insert** from the shortcut menu to insert a blank row following the row you right-clicked. The related primary key value is inserted automatically in the foreign key column for a database relationship or in the appropriate columns for an Optim relationship.

Repeat

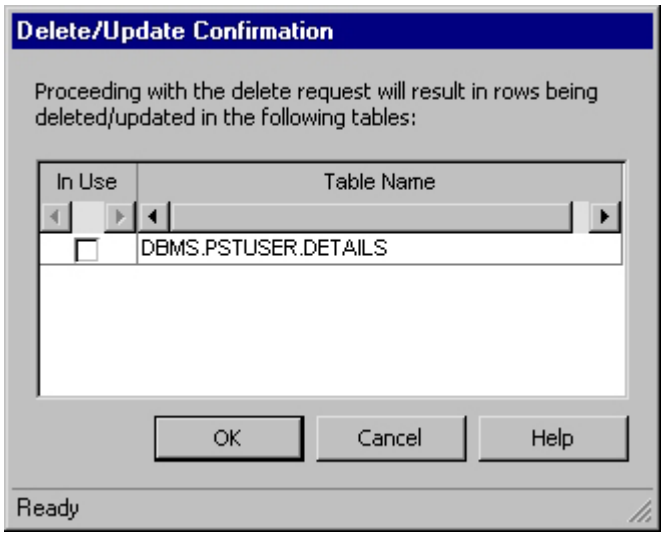
Right-click a row and select **Repeat** from the shortcut menu to insert an identical row immediately after the row you right-clicked. Modify the data in the unique index and primary key columns and, optionally other columns, to prepare the row for insertion into the database.

Note: Rows added using the **Repeat** and **Insert** commands are subject to unique index considerations. If any added row causes a unique index to have a duplicate value, the row is placed in Error status. You must edit the value to be unique before inserting the row into the database.

Delete

Right-click a row and select **Delete** from the shortcut menu to delete the row. When you delete a row, Edit checks to ensure that deleting the row does not violate referential integrity rules. If a cascading delete or NULL results and the **Warn on Cascade** check box is selected, the Delete Confirmation dialog displays the names of tables affected by your action, including tables that are not part of the Edit Definition.

Note: Use caution to avoid unintended results. Delete can affect rows that are not displayed or even currently active in the Table Editor. You should consider the potential consequences before deleting a row.



The Delete Confirmation dialog allows you to cancel the delete action to prevent unintended results. A check mark in the **In Use** column indicates the table is joined in the Table Editor.

Retry

After you correct an error condition, you can right-click a row in Error status and select **Retry** to try to commit the row again.

Change Case

Right-click a row and select **Edit Cell** then **Lowercase** or **Uppercase** from the shortcut menu to automatically change the case of text in a grid cell.

Lowercase
Converts the column data in the cell to all lower-case letters.

Uppercase
Converts the column data in the cell to all upper-case letters.

Display Character

Right-click a cell and select **Edit Cell, Display, Character** from the shortcut menu to display the Column Data Display dialog. (For a CLOB, click the icon.) The Column Data Display dialog displays data offset information and the character representation of the data in the column. For more information, see Column Data Display, below.

Display Hexadecimal

Right-click a cell and select **Display, Hex** from the shortcut menu to display the character and hexadecimal representations of the column data. For a LOB, click the icon. For more information, see Column Data Display, below.

The digits that make up the hexadecimal representation of each character are displayed on the lines below that character. For binary columns, the hexadecimal representation is displayed on two lines (the character line contains no data and is shaded). For CLOB columns, the hexadecimal representation includes all bytes, including carriage returns, line feeds, and the byte order mark (BOM).

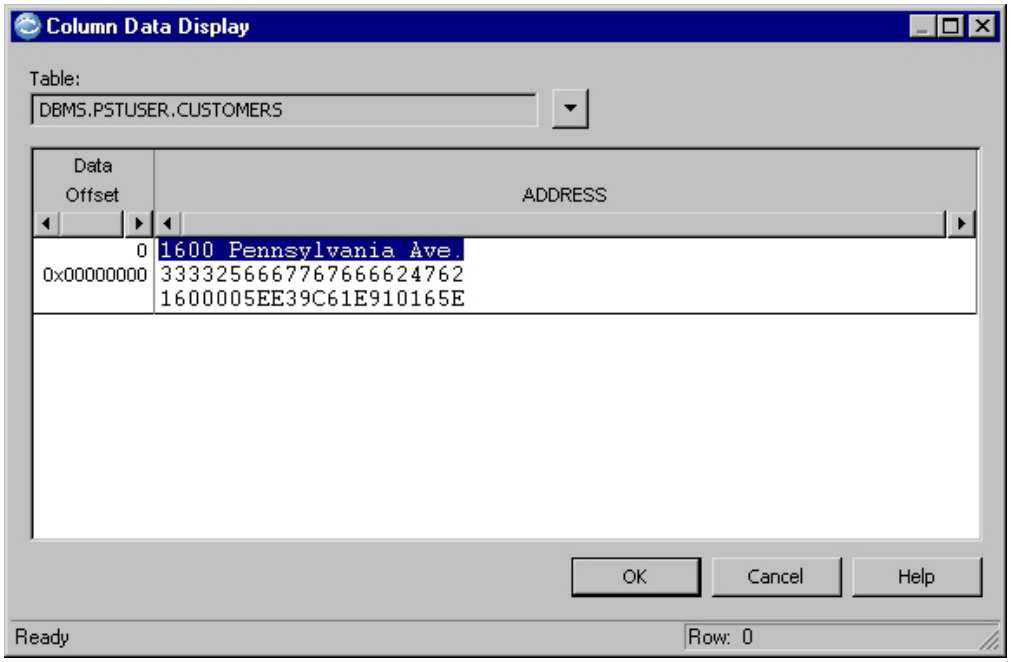
For the hexadecimal display of character columns, the following applies:

- UTF-16 and Extract File or Archive File data will display the hexadecimal representation on four lines.
- UTF-8 or multi-byte data will display the character over the first byte, and a period will be displayed over any additional bytes. For example, the UTF-8 French character À is displayed as two bytes:
  À.
  C8
  30

  Note:
  - For data in multi-byte format (for example, Oracle JA16SJIS), the character and hexadecimal representations are each displayed in different fonts and may not be aligned.
  - For release 5.3 or earlier Extract Files and Archive Files, the hexadecimal representation is displayed on two lines only.
  - You cannot edit data in UTF-8 or JA16SJIS format.

Column Data Display

Use the Column Data Display dialog to display a character or hexadecimal representation of data.



Data Offset

Data Offset displays the location of data, in bytes, from the beginning of the column or file. You can modify any of the data by overtyping it. Click **OK** to update the original data and put the row in Pending(Update) status. For a hexadecimal display of data in UTF-8 or multi-byte format, the number of bytes per line is displayed in parentheses, and if the number of characters displayed is greater or less than the number of characters displayed per row (as determined by the **Characters per Row** option), the offset and bytes per line are displayed in italic type.

Note: When you display the Column Data Display dialog by right⌂clicking a truncated LOB, or by clicking a Native LOB bitmap icon, you can browse the data only.

Options Button 

Click the options button to display the following:

Characters per Row

Select the number of characters to display per row: 64, 128, 256, or 512.

Clear Data

Remove data from the row. Available when text can be modified only.

File Type

For CLOB data only. If the correct encoding scheme for the CLOB file is not displayed, select the encoding scheme, UTF-8 or UTF-16. For UTF-8, the hexadecimal representation is displayed on two lines. For UTF-16, the hexadecimal representation is displayed on four lines.

If a file does not include a byte order mark, the default encoding scheme is based on the data type, CLOB (UTF-8) or NCLOB (UTF-16).

Export LOB

Right-click and select **Edit Cell, LOB Data, Export** to export LOB data to a file. Enter a name for the Export File. This option is valid for Native LOBS only (refer to "Large Object (LOB) Columns" on page 61).

Import LOB

Right-click and select **Edit Cell, LOB Data, Import** to import the contents of a LOB file. Enter a name for the file to import. This option is valid in Edit mode, for Native LOBS only (refer to "Large Object (LOB) Columns" on page 61).

Set Null

Right-click and select **Edit Cell, LOB Data, Set Null** to set the contents of a Native LOB or truncated Non-Native LOB to NULL.

Evaluating Expressions

You can process changes in either Data or Expression mode. In Data mode, all editing is committed as entered. In Expression mode, all editing is evaluated before it is committed.

Use the edit window toolbar buttons to switch modes.

- Data Mode interprets your edited values as data (default).
- Expression Mode interprets your edited values as expressions.

For example:

Mode	Specify	Column	Result
Data	4*5	CHAR(20)	4*5

Mode	Specify	Column	Result
	4*5	NUMBER(4,2)	Error
	SYSDATE	DATE	Error
Expression	4*5	CHAR(20)	20
	4*5	N(4,2)	20
	SYSDATE	DATE	Actual system date

Note: You cannot evaluate a column name used in an expression; however, all other expression syntax is supported.

You can evaluate expressions in a single cell or in an entire row and choose whether or not to commit the change. It is helpful to evaluate expressions and display possible results before committing the changes to the database. The Evaluate commands are available only for rows in Pending status.

- Right-click a row and select **Edit Cell, Evaluate** from the shortcut menu to calculate the value of the expression you specify and replace the original value with the calculated value.
- Right-click a row and select **Pending, Evaluate Expression** from the shortcut menu to evaluate any expressions you specify (or system generated values) in an entire row and display the results. The results do not replace the original values, unless you commit the row.

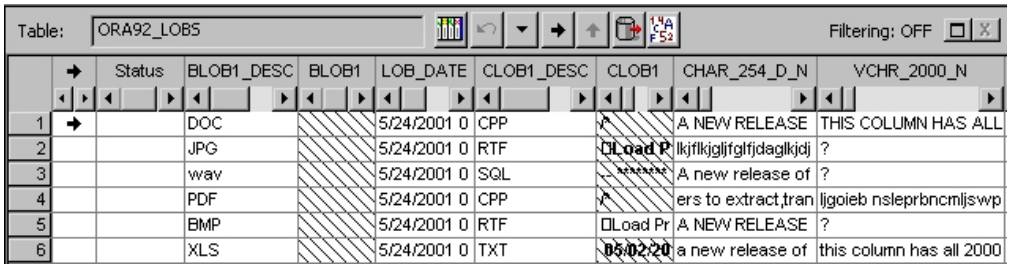
Large Object (LOB) Columns

LOB columns are columns that contain large amounts of data either in Binary Format (BLOBs) or Character Format (CLOBs). Tables with LOB data can be processed like other data types, and LOB data can be edited and browsed like other data.

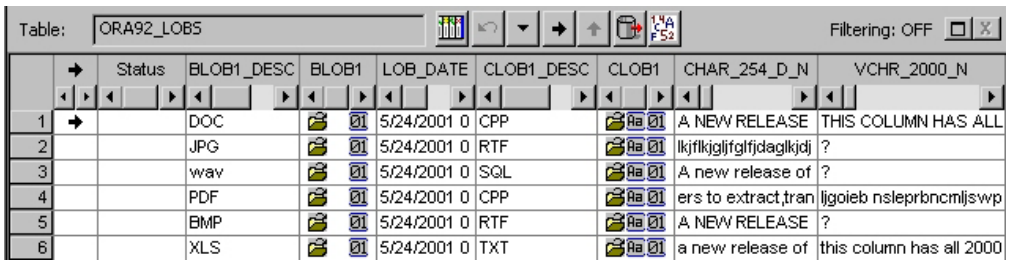
LOB columns are displayed in Native or Non-Native mode.

Note: Click the Options button  in the edit window toolbar and select **Table Specifications, Columns**, from the **Options** menu to switch between Native and Non-Native mode.

For columns processed in Non-Native mode, LOB data displays as normal table data, unless the size of the LOB exceeds the Maximum Non-Native LOB Length limitation, set in Personal Options. (Refer to the *Common Elements Manual* .) If the size exceeds the maximum, the LOB appears truncated, and the grid cell is protected and cross-hatched.



For columns processed in Native LOB mode, icons are displayed.



	Status	BLOB1_DESC	BLOB1	LOB_DATE	CLOB1_DESC	CLOB1	CHAR_254_D_N	VCHR_2000_N
1		DOC		5/24/2001 0	CPP		A NEW RELEASE	THIS COLUMN HAS ALL
2		JPG		5/24/2001 0	RTF		lkjflkjgljfglfjdaglkjdj	?
3		wav		5/24/2001 0	SQL		A new release of	?
4		PDF		5/24/2001 0	CPP		ers to extract,tran	ljgoieb nsleprbncmljswp
5		BMP		5/24/2001 0	RTF		A NEW RELEASE	?
6		XLS		5/24/2001 0	TXT		a new release of	this column has all 2000

The following options are available for LOB columns processed in Native LOB mode:

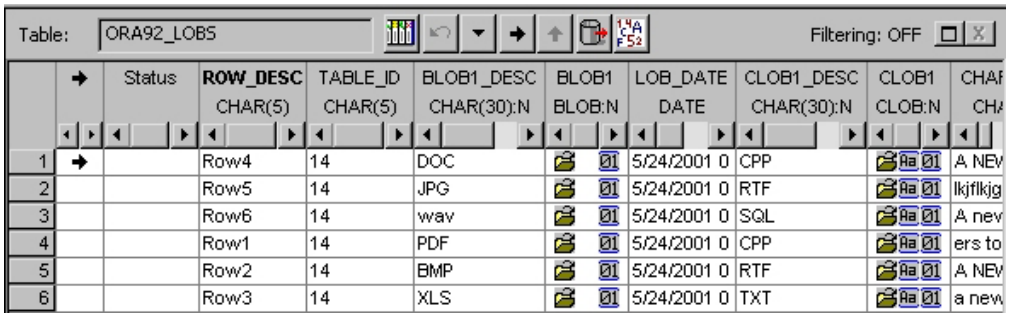
- Click the icon to edit the LOB data using the application associated with the LOB. When editing LOB data, you cannot edit other data in the Table Editor. If an application association has not been established for the LOB data, you are prompted to create one.

Note: You cannot undo changes to LOB data.

- Click the icon to browse a CLOB in character mode.
- Click the icon to browse the LOB in hex mode.

Display Attributes

You can get additional information about a LOB, by clicking the Options button and selecting **Display Attributes** from the menu.

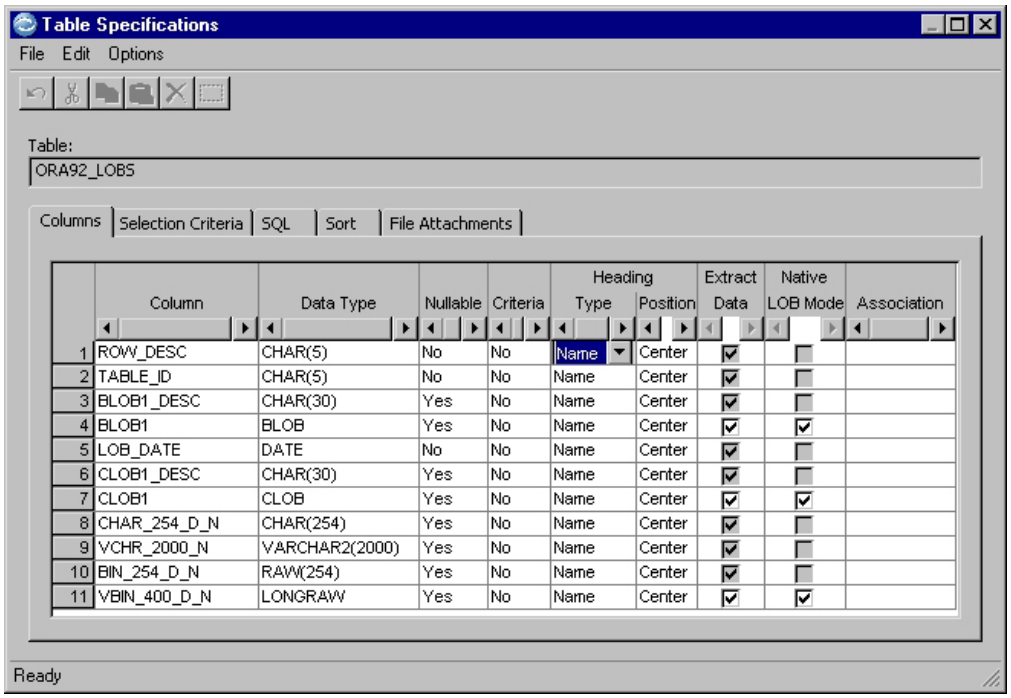


	Status	ROW_DESC CHAR(5)	TABLE_ID CHAR(5)	BLOB1_DESC CHAR(30):N	BLOB1 BLOB:N	LOB_DATE DATE	CLOB1_DESC CHAR(30):N	CLOB1 CLOB:N	CHAI CHA
1		Row4	14	DOC		5/24/2001 0	CPP		A NEV
2		Row5	14	JPG		5/24/2001 0	RTF		lkjflkjg
3		Row6	14	wav		5/24/2001 0	SQL		A nev
4		Row1	14	PDF		5/24/2001 0	CPP		ers to
5		Row2	14	BMP		5/24/2001 0	RTF		A NEV
6		Row3	14	XLS		5/24/2001 0	TXT		a new

The LOB data type (BLOB) or (CLOB) is displayed. Additionally, if the DBMS is UDB, the maximum data length is also displayed.

LOB Column Associations

To create LOB column associations, click the **Options** button in the edit window toolbar and select **Table Specifications, Columns** to display the **Columns** tab of the Table Specifications dialog.



Use the Association column of the **Columns** tab to associate a LOB-type column with the application required to view or edit the LOB data (MS Word, NotePad, Paint, etc.), in one of two ways:

- Enter a file name extension for the type of LOB (for example, type the extension *.doc* to associate a LOB Word document with Microsoft Word).

  OR

- Use the drop-down list to select a column name to reference. The first three characters of data in the corresponding row of the referenced column are used as the file name extension for the associated LOB column.

Note: When you attempt to edit LOB data for which an application association has not been established, you are prompted to create one.

When you attempt to edit LOB data associated with an application that is inaccessible from the workstation, Windows 2000 displays the Open with... dialog to allow you to select an accessible application. (Older versions of Windows may display an error message. You can manually assign an accessible application to use by selecting **Options, File Types** from the Windows **View** menu.)

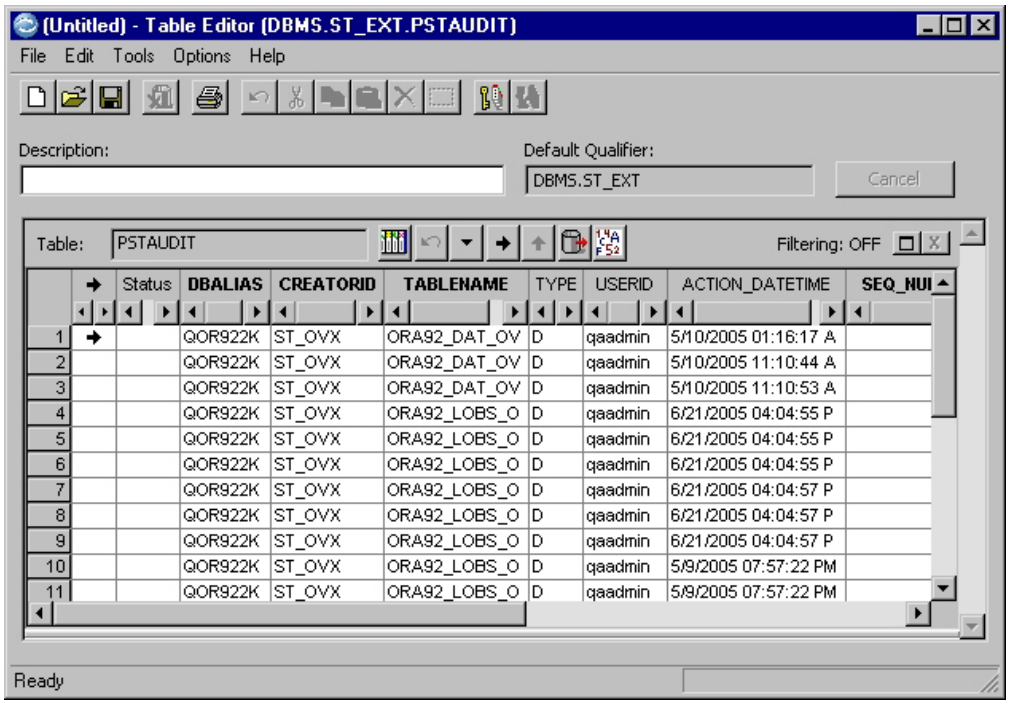
Auditing Changes

The Audit option directs Edit to track database changes. To activate the Audit option, select **Personal** from the **Options** menu in the main window. On the **Edit** tab, select the check box labeled **Auditing Active**.

Refer to the *Common Elements Manual* .

Note: Site management may set Product Options to restrict the use of this option.

The Audit table, called PSTAUDIT, is stored in the Optim Directory. You can review the Audit table in the same way you browse any other database table, as long as the table is not protected by database security.



Note: Users must have database Insert and Delete authority for the Audit table if the Auditing function is active. To restrict access to the PSTAUDIT table, Select authority should not be granted.

If the Audit option is active for the table being edited, and the database is unable to write to the Audit Table, Edit does not commit the changes to the row and the row is placed in Error status.

If the Audit option is active and Edit cannot display the new version of an updated or inserted row, Edit does not commit the changes to the row and the row is placed in Locked status. (For example, when a database trigger modifies the row before it is inserted into the database.)

Commit and Restore Data

Edit provides unique facilities for restoring data. The database commit point, the fetch set, and the number of Undo Levels you specify determine the extent to which data is restored.

Fetch Set

A fetch set is the set of rows Edit reads from a single table in the database. Each table has a unique fetch set. A new fetch set is retrieved when:

- A join is requested. The related rows in the joined table are fetched.
- The **Refetch Rows** button is selected to refresh the fetch set for the table.
- The Sort criteria are redefined for a table.
- The Selection criteria are redefined for a table.
- The SQL WHERE clause is redefined for a table.

- The position of the Join Arrow in an upper level table is changed, thereby changing the row in focus and fetching a new set of related rows for subordinate joined tables.

Pending Status

When you make changes to a row, the row is placed in Pending Status. Rows in Pending status can be reset, committed to the database, or evaluated.

Right-click in a grid row and select **Pending** from the shortcut menu. Then select one of the following options:

Reset Resets the pending status of the row and discards changes to the row that have not been committed to the database.

Commit
Commits changes to the row to the database. You can also commit changes by moving the pointer to a different row.

Commit Data

You can commit changes to the database by moving the pointer to a different row. You can also commit changes using the shortcut menu. Each instance of a commit counts as an undo level. An undo level is defined as a change to a row that is committed to the database.

If an error condition results when you attempt to commit data to the database, the data is not committed, but the attempt still counts as an undo level. Edit allows you to restore the data you modify to a specific commit point.

The number of commit instances you can undo is limited by the maximum number of undo levels per row specified on the Specify Edit Preferences dialog or the **Edit** tab in Personal Options. Refer to the *Common Elements Manual* .

You can specify 1 to 20 undo levels. Select a reasonable value to satisfy your needs. Since each undo level must be stored while editing, a large number can affect the performance and speed of Edit.

Restore Data

Edit allows you to selectively restore data to a prior commit point using Undo. You can undo changes to an individual row, to an individual table, or to the current fetch set for every table displayed in the Table Editor (except changes to LOB data, which cannot be undone).

Note: The data in the current fetch set for each table can be restored, up to the maximum number of undo levels specified per row, or to the version originally displayed. If the data is refetched, you cannot undo changes to the previous fetch set.

Choose from the following Undo options:

Shortcut Menu Undo Commands
Use menu selections to undo changes only to the row that you right-clicked.

Edit Window Toolbar Undo Command

Click  to undo changes to all rows in the current fetch set for the table in the corresponding edit window.

Tools Menu Undo Command

Select **Undo** from the **Tools** menu to undo changes to all rows in the current fetch set for all tables displayed in the Table Editor.

Shortcut Menu Undo Commands

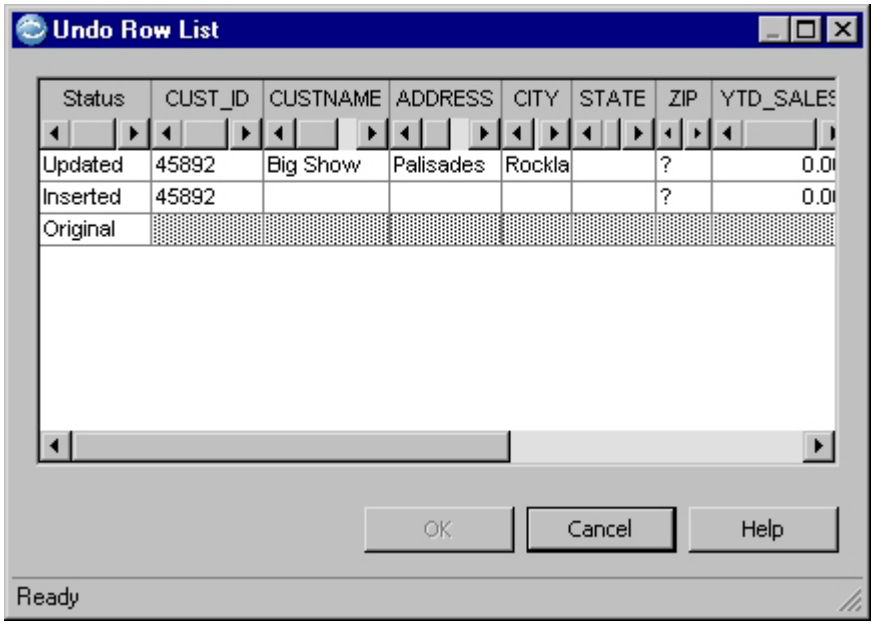
Right-click a specific row to display the shortcut menu Undo commands:

Undo Removes the last change you made to the row in the current fetch set.

Undo...

Displays the Undo Row List dialog. The Undo Row List dialog displays each successive version of the row you commit in the current fetch set up to the maximum number of undo levels, and the original version of the row in the fetch set. The most recent change is listed first. If the number of versions exceeds the number of undo levels, a blank row is inserted before the original to represent the missing versions.

Click the version of the row to restore.



Undo All

Removes all changes to the corresponding row in the current fetch set.

Edit Window Toolbar Undo Button

Click the **Undo** button  in the edit window toolbar to undo changes to all rows in the corresponding table in the current fetch set.

Tools Menu Undo Command

Select **Undo** from the **Tools** menu to restore rows to the original versions obtained in the current fetch set for all tables in the Table Editor.

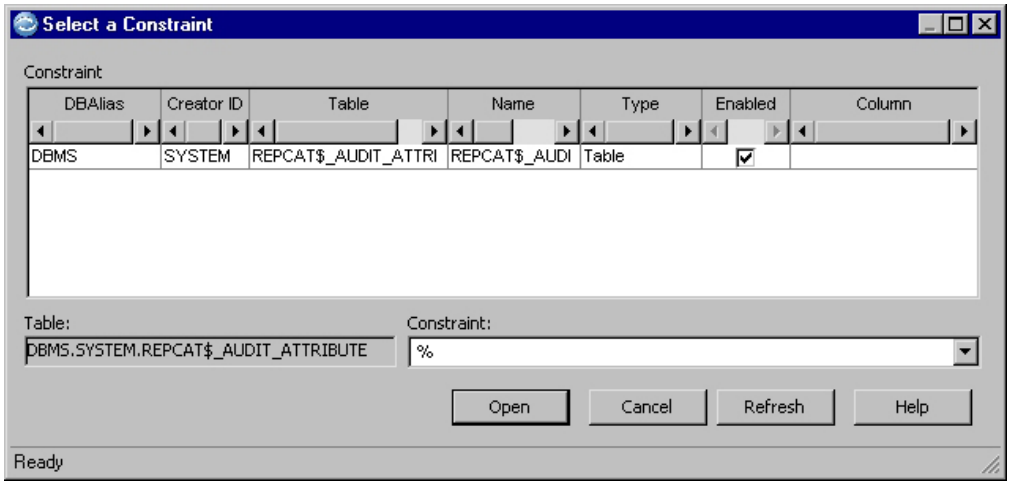
Handle Rows in Error

As you edit data or insert new rows of data into a database table, errors may result for reasons designed to protect your database. For example, an error can occur if you Repeat (or copy) or Insert new rows and you do not modify the unique or required columns appropriately.

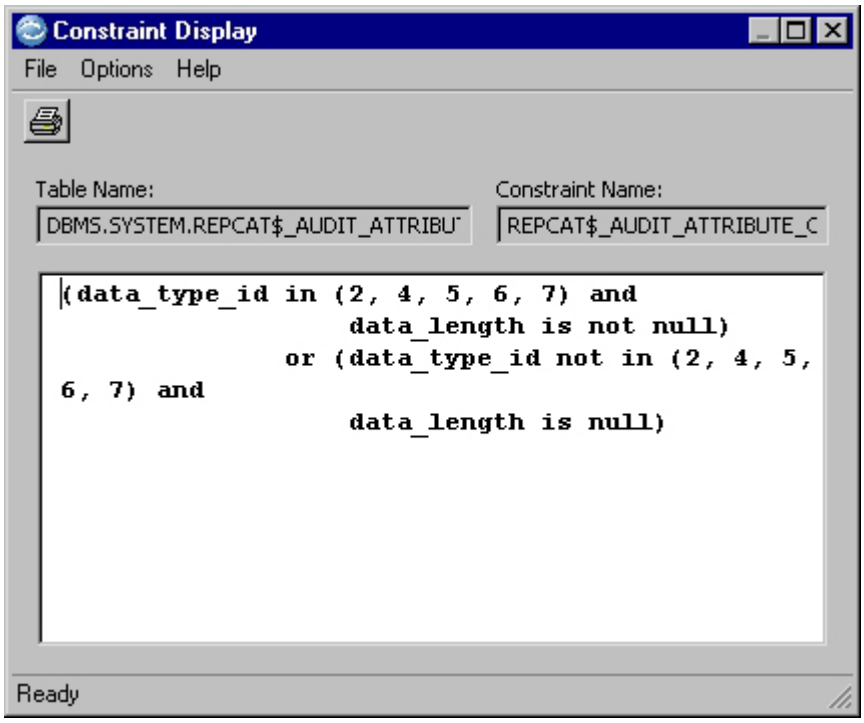
If a pending action results in an error, the row changes to Error status, Edit does not commit the change, and the problem is described in the message bar. You can undo the change or make a correction before attempting to commit the change again.

List Constraints

When an error occurs as the result of a table constraint, it may be useful to display a list of table constraints. Select **List Constraints** from the edit window **Options** menu to display the Select a Constraint dialog.



The Select a Constraint dialog provides information about each of the defined constraints for the specified table. Double-click a constraint name to view additional details in the Constraint Display dialog.



The Constraint Display dialog displays the table name, constraint name, and the constraint text.

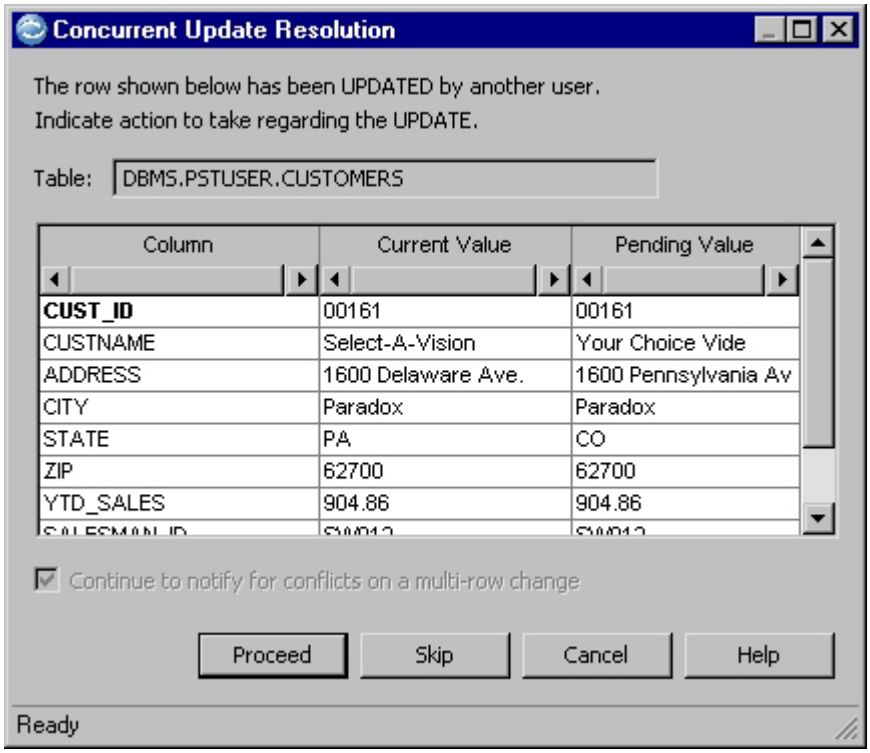
Resolve Concurrent Update Conflicts

A concurrent update conflict can occur in a multi-user environment when another user modifies a row in a particular table between the time you fetch the row from that table, and the time you modify and attempt to commit it.

This situation can occur because Edit does not apply locks to the rows until you actually modify and commit data. Fetching the data, regardless of whether you are browsing or editing, does not automatically apply locks. Typically, concurrent updates can occur when you:

- Update a modified row.
- Update a deleted row.
- Delete an updated row.
- Undo a change to an updated row.

When a concurrent update occurs, the Concurrent Update Resolution dialog displays the table name and the row in conflict. You can compare the current value of the row to the pending value you are committing. Select **Proceed** to apply your change to the row, or select **Skip** to ignore your change.



The **Continue to notify for conflicts on a multi-row change** check box is enabled when you perform a single operation that results in changes to many rows (for example, **Replace All**). To prevent displaying the Concurrent Update Resolution dialog as each row is updated, clear the check box. When the operation is complete, the check box resets to selected by default.

Although highly unlikely, it is possible that another user may modify a row while you are in the process of resolving a concurrent update for that row. If this happens, the row is placed in Error status in the Table Editor. You can revise your entries or undo the change that caused the error.

Optim Primary Keys

Unlike database primary keys, you can use Edit to define primary keys that are not unique. When you update or delete a row that has a non-unique primary key, Edit attempts to locate the row that matches the row in the current fetch set. If a matching row is found, the row can be updated or deleted. If a matching row is not found, the change is handled as a concurrent update.

Printing

From the Table Editor, you can print the following reports:

Edit Definition Report

Summarizes all the qualifiers, table names, and corresponding specifications that comprise the Edit Definition.

In the Table Editor, select **Print** from the **File** menu and select **Definition** from the submenu.

Data from All Tables

Includes all rows from all tables joined and displayed in the Table Editor. Stacked tables that are hidden from view are not printed.

In the Table Editor, select **Print** from the **File** menu and select **Data** and **All** from the submenus.

Data from Selected Rows

Includes all rows you selected from all tables joined in the Table Editor.

In the Table Editor, drag the pointer arrow to select contiguous rows you want to print in each table. Select **Print** from the **File** menu and select **Data** and **Selected** from the submenus.

Data from a Selected Table

Includes all rows from a selected table in the Table Editor.

Right-click in the grid heading in a selected table. Select **Print** from the shortcut menu.

Saving

You are prompted to save the Edit Definition and the Access Definition when closing the Table Editor. Refer to the *Common Elements Manual* for detailed information about saving definitions.

You can also save data to a file. Data is saved in a comma delimited text file (.txt). Any bit map grid cells are skipped and check box grid cells are represented as T (True) or F (False). This feature is useful when you want to import data into another application. You can save data in two ways:

All Data to a File

Right-click in the grid heading of a table in the Table Editor, and select **Save** and **All** from the submenu.

Selected Data to a File

Drag the pointer arrow in the Table Editor to select the rows to save. Right-click in a grid heading and select **Save** and **Selected** from the submenu.

Appendix. Command Line Interface

The command line interface allows you to create and maintain Edit Definitions, as well as browse and edit data, without opening the graphical user interface for Edit. The command line interface can be run from the command line, or automatically — in a batch file, or from another program.

Command Line Tasks

Use the command line interface to:

- Browse and edit database tables.
- Apply overrides to Edit Definitions and Access Definitions.

The following sections explain and describe how to perform each type of task.

Guidelines

The typical command begins with PR0CMND followed by command line keywords and associated arguments. The following guidelines apply:

- The first operation argument must be prefixed with a forward slash (/) or dash (⌂). To start the Table Editor, for example, use /E or -E.
- A command line keyword may be prefixed by a forward slash (/) or dash (⌂), but it is not required. Example: PST, /PST, and -PST are equal and valid keywords.
- Generally, command line keywords can be specified in any order, separated by one or more spaces without commas. When overrides are specified for a process defined in a parameter file, the OV keyword must follow other command line keywords and precede the override parameters. The first override keyword and associated argument must begin on the following line, and each additional override must be on a separate line. The END keyword must follow the last override, and must also be on a separate line.
- A command line keyword and associated argument are separated by an equals sign (=) or a colon (:), with no intervening spaces.
- An override keyword and associated argument are separated by a blank space.
- Keywords are recognized without regard to case. (Most keywords are shown in this chapter using bold and uppercase for emphasis.)
- An argument associated with a keyword that includes spaces must be enclosed in single or double quotes.
- Use double quotes to enclose a command line keyword argument that includes a macro.
- You can include all keywords and arguments in a parameter file and reference the parameter file on the command line.
- In a parameter file, command line keywords corresponding to an Edit Definition can be entered on one or multiple lines. You can include several Edit Definitions in the file; each must begin with the REQUEST parameter.
- Use override keywords and arguments to override specifications in an Edit Definition.
- A keyword that is inappropriate for the type of processing requested may cause a fatal conflicting-parameter error.

- The following relational operator symbols and mnemonics are acceptable for use in selection criteria overrides:
  =, <, >, <=, >=, !=, !<, !>, <>, ^=, ^<, ^>, EQ, NE, LT, GT, LE, GE, BETWEEN, LIKE, IN, IS, NOT, NULL.
- Comments in a parameter or override file must begin on a separate line and start with two forward slashes (//). Blank lines may also be included in the parameter stream.

Syntax Conventions

The syntax conventions used to describe these statements are:

KEYWORD
Keywords are shown in uppercase for emphasis, but can be specified in lower or mixed case.

text Variable text is shown in lowercase italics.

( ) Statement delimiter to group a series of qualifiers for a parameter.

[ ] Indicates an optional parameter.

{ } Indicates a choice of two or more settings from which one (and only one) must be selected.

| Separates options.

Run the Table Editor

The following sections describe the command line syntax, command line keywords, and override keywords you can use to run the Table Editor.

Syntax

Use the following command line syntax to run Edit processes.

```
PROCMND /E  [ PST=optimdirectory]
{ TABLE=dbalias.cid.tablename | AD=identifier.adname |
REQUEST=identifier.name | @path.filename.txt }
OUTPUT=filename[ + ] ]  [ FULL{ + | - } ] [SAVE{ + | - } ][ JOIN {+|-}][OV={overridefilename |*}]
```

Access Definition Overrides

```
     [ DEFQUAL dbalias[ .cid ] ]
     [ \SEL [ [ dbalias. ]cid. ]tablename1 columnname1 operator value
     [ SEL [ [ dbalias. ]cid. ]tablename1 columnnamen operator value ]
     [ SEL [ [ dbalias. ]cid. ]tablenamen columnname1 operator value ]
       ...]
     [ SQL [ [ dbalias. ]cid. ]tablename sqlwhereclause
     [ SQL [ [ dbalias. ]cid. ]tablenamen sqlwhereclause ]
       ...]
     [ STARTTAB [ [ dbalias. ]cid. ]tablename ]
     [ VAR variablename value ]
```

Edit Definition Overrides

```
     [ DISPLAY { DATA | SEL | SQL | SORT } ]
     [ MODE { EDIT | BROWSE | BROWSEONLY } ]
  [ END ]
```

Command Line Keywords

Use the following command line keywords to run Edit processes.

PR0CMND

Type **PR0CMND** to initiate command line processing. Note that the character following **PR** is the number 0 (zero).

Note: The default path to PR0CMND is c:\program files\IBM Optim\RT\bin.

/E Command to start the Table Editor (required). Specify **/E** or **–E**.

PST= The Optim Directory for processing. If processing uses the current (default) Optim Directory, this keyword is not needed.

optimdirectory

Optim Directory name.

TABLE=

The table to display in the Table Editor.

dbalias.cid. tablename

Three-part table name.

AD= The Access Definition used to select data.

identifier.adname

Two-part name of an existing Access Definition.

REQUEST=

The Edit Definition.

identifier.name

The qualifier and name of the Edit Definition.

@path.filename.txt

@ followed by the full path and name of a text file of parameters for the process(es) to run. Alternatively, you can provide parameters for the process on the command line.

OUTPUT=

File for process reports for all processes in a parameter file. If you use the OUTPUT keyword more than once, the last file specified is used for all processes.

If you do not use this keyword, the report is displayed after each process and you must close the report dialog to execute the next process. In a UNIX™ or Linux™ environment, the report is displayed to the console.

filename

The name of the file. If you do not provide the full path, the file is saved in the default Data Directory, identified in Personal Options.

+ Append reports to an existing file.

FULL Indicator for additional access to the user interface from within the Table Editor.

+ **New** and **Open** commands are available from the Table Editor **File** menu.

– The **New** and **Open** commands are not available from the **File** menu (default).

SAVE Indicator for additional access to the user interface from within the Table Editor.

+ **Save** commands are available from the Table Editor File menu (default).

– **Save** commands are not available from the **File** menu.

JOIN Indicator for additional access to the user interface from within the Table Editor.

+ The **Join** command is available in the Table Editor (default).

– The **Join** command is not available, however, if the Edit Definition is based on an Access Definition, you can join to tables referenced in the Access Definition.

OV= Source of process overrides. The **OV** keyword must follow all other command line keywords.

override filename.txt
The name of a text file containing process overrides only, with each override on a separate line.

* If you use a parameter file, the asterisk indicates that overrides follow on successive lines of the file. The first override (keyword and associated argument) must begin on the following line, and each additional override must be on a separate line.

Override Keywords

Overrides allow you to override certain parameters in Edit Definitions and objects when running the Table Editor from the command line.

Access Definition Override Keywords

DEFQUAL
Override for the Default Qualifier in the Access Definition used for processing.

dbalias[.cid]
One or two-part default qualifier for tables referenced in Access Definition.

SEL Override for, or addition to, selection criteria specification in Access Definition. Selection criteria must conform to SQL syntax with each override on a separate line.

[[dbalias.] cid.] tablename
One, two, or three-part table name. If *tablename* is not fully qualified, the default qualifier is used.

columnname
Name of column to which criteria applies.

operator
Logical operator appropriate for your DBMS.

value Value or list of values appropriate for the operator, expressed.as literals or substitution variables (:*variablename*)

SQL Override for SQL WHERE specification for a table referenced in the Access Definition. Each override must be on a separate line.

[[dbalias.]cid.] tablename
One, two, or three-part table name. If *tablename* is not fully qualified, the default qualifier is used.

sqlwhereclause
The SQL WHERE clause.

STARTTAB
Override for the Start Table in the Access Definition.

[[dbalias.] cid.] tablename
One, two, or three-part table name.

If the table name is not fully qualified, the default qualifier is used.

VAR Override for the value in substitution variable used in the process.

variablename
Name of the substitution variable.

value The corresponding value for the variable.

Edit Definition Override Keywords

DISPLAY
Override the display options for the initial fetch set.

DATA Display all rows (up to the Maximum Fetch Rows limit) in the initial fetch set for the table browsed or edited (default).

SEL Open the Table Specifications dialog, where you can enter selection criteria for the initial fetch set.

SQL Open the Table Specifications dialog, where you can specify an SQL WHERE Clause for the initial fetch set.

SORT Open the Table Specifications dialog, where you can select sort options for the initial fetch set.

MODE
Override the mode in the Edit Definition for newly joined tables.

EDIT Set edit as the default mode for newly joined tables.

BROWSE
Set browse as the default mode.

BROWSEONLY
Set browse only as the default mode.

END End of overrides in parameter file.

Command Line Examples

The following examples illustrate how to run the Table Editor directly from the command line, using a parameter file, and using overrides.

Run the Table Editor Directly from the Command Line

To run the Table Editor directly from the command line, specify the following:

```
PR0CMND /E  {TABLE=tablename | AD=accessdefinitionname | REQUEST=editdefinitionname}
```

PR0CMND
Type **PR0CMND** to begin the command line sequence. Note that the character following **PR** is the number **0** (zero).

Note: The default path to PR0CMND is c:\program files\IBM Optim\RT\bin.

/E Specify **/E** or **–E** to start the Table Editor.

TABLE=*tablename*
Enter the command line keyword **TYPE=** and follow with a fully qualified table name.

AD=*accessdefinitionname*
Enter the command line keyword **AD=** followed by the name of the Access Definition (*identifier.name*).

REQUEST=*editdefinitionname*
Enter the command line keyword **REQUEST=** followed by the name of the Edit Definition (*identifier.name*).

In the following examples, you specify parameters on the command line.

- To start the Table Editor to display a database table named ORACLE.SALES.ORDERS, specify:

  ```
  PR0CMND /E  TABLE=ORACLE.SALES.ORDERS
  ```

- To start the Table Editor to display tables in the Access Definition named SALES.QUOTES, specify:

  ```
  PR0CMND  /E  AD=SALES.QUOTES
  ```

- To start the Table Editor to display tables in the Edit Definition named SALES.NEW, specify:

  ```
  PR0CMND  /E  REQUEST=SALES.NEW
  ```

Run the Table Editor Using a Parameter File

To run the Table Editor from an ASCII text file, specify:

```
PR0CMND /E @filename
```

PR0CMND
Type **PR0CMND** to begin the command line sequence. Note that the character following **PR** is the number **0** (zero).

Note: The default path to PR0CMND is c:\program files\IBM Optim\RT\bin.

/E Specify **/E** or **–E** to run the Table Editor with the parameters contained in the specified parameter file.

@filename
Enter the @ sign followed by the name of the file that contains the parameters.

Note: If the parameter file is not in the default Data Directory, you must specify the full directory path.

File Format

Refer to "Run the Table Editor" on page 72 for command line syntax when formatting process parameters in a text file. To start the Table Editor using a parameter file named PARMS.TXT, specify:

```
PR0CMND  /E  @PARMS.TXT
```

Using Overrides

The following examples describe how to format a file that contains overrides for an Access Definition:

- Create a parameter file named NEWSTATS.TXT that contains the following comments and overrides:

  ```
  AD=SALES.CUST  FULL+  /OV=*

  DEFQUAL  ORACLE1.TELEMSTARTTAB  CUSTOMERSSEL  CUSTOMERS  STATE='NJ'SEL  CUSTOMERS  ZIP='08540'E
  ```

  To open the Table Editor from the command line, specify:

  ```
  PR0CMND  /E  @C:\NEWSTATS.TXT
  ```

- Create an override file named MARKET.TXT that contains the overrides including a variable named PROMO1 with a value of California and criteria that limits the data to all customer numbers greater than 5500.

  ```
  VAR  PROMO1  CASQL  CUSTOMERS  CUSTID=>'5500'
  ```

  To open the Table Editor from the command line, specify:

  ```
  PR0CMND  /E  AD=MARKET.DATA  /OV=C:\TEMP\MARKET.TXT
  ```

  The following examples describe how to format a file that contains overrides for an Edit Definition:

- Create a parameter file for the initial fetch set in a new Edit Definition. The file named NEWEDIT.TXT contains the following:

  ```
  TABLE=SYBASE.MARKET.ORDERS  FULL+ /OV=*

  DISPLAY  SELEND
  ```

  To open the Table Editor from the command line, specify:

  ```
  PR0CMND  /E  @NEWEDIT.TXT
  ```

- Create a parameter file for an existing Edit Definition. The file named EDITMODE.TXT contains the following:

  ```
  REQUEST=MARKET.DATA  JOIN⌂  /OV=*

  MODE  BROWSEONLYEND
  ```

  To open the Table Editor from the command line, specify:

  ```
  PR0CMND  /E  @C:\TEMP\EDITMODE.TXT
  ```

- Create an override file for the initial fetch set in a new Edit Definition. The file named ONEOVER.TXT contains the following:

  ```
  DISPLAY  SEL
  ```

  To open the Table Editor from the command line, specify:

  ```
  PR0CMND  /E  AD=SALES.NEW  /OV=C:\TEMP\ONEOVER.TXT
  ```

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