

Matisse[®] Editor User Guide for MS Windows

Seventh Edition

January 2003

Matisse Editor User Guide for MS Windows

Document number: DE/97/03/0006R6

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Printed in USA.

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PDF generated 16 January 2003

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Introduction

The Matisse Editor is an application development tool that can be used by developers and database administrators to view, create, modify, or delete database objects.

Conventions

This document uses the following conventions:

Text

The running text is written in 9-point Times.

Code

All computer variables, code, commands and interactions are shown in 9-point Courier.

Code and commands that the user must enter are shown in this font on a gray background.

variable

In a program example, or in an interaction, a variable, which means anything that is dependent on the user environment, is written in 9-point Courier italics.

References

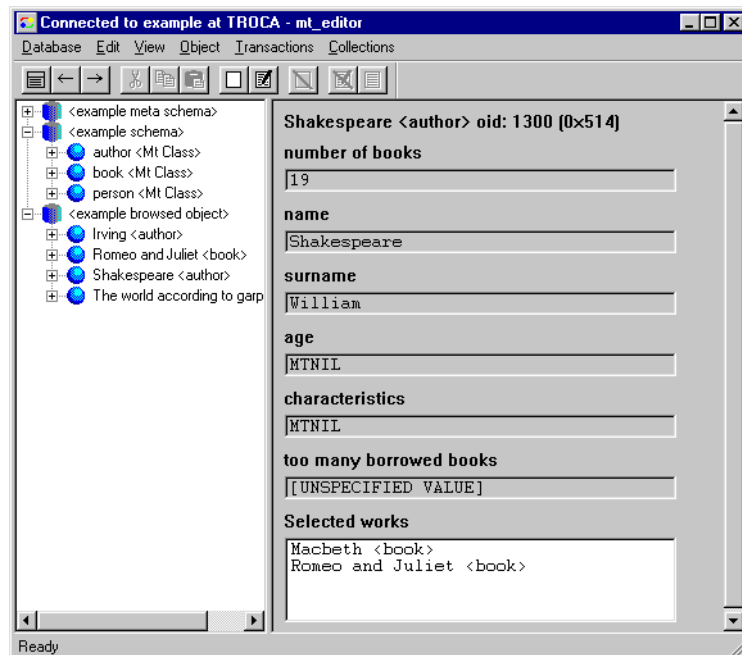
References to another part of the Matisse documentation are made in 9-point Arial.

1 Getting Started

1.1 Starting the Matisse Editor

1. Select `mt_editor` from the Matisse folder of the Start menu, or enter `mt_editor` at a command prompt.
2. In the Client connection dialog, enter the name of the database you wish to edit. If the database is not local, enter the host, username, and password as necessary. If you wish to select a particular version for editing, check Choose Version (see [section 2.1, Selecting a Different Version \(Logical Time\)](#)).
3. Click OK.

The Matisse Editor will establish a connection with the specified database on the specified host. After a successful connection, the message “Connected to `database_name` at `host_name`” appears in the title of the window. If connection is unsuccessful, “No database selected” or an error message appears instead. After you connect to a database, the Matisse Editor appears:



The left frame displays all the objects in the database as a browsable tree. (If you do not see two frames, drag the separator bar to the middle of the window.) The right frame displays information on the currently selected object. (To select an object in the tree, double-click.) The status bar at the bottom of the window displays the connection status.

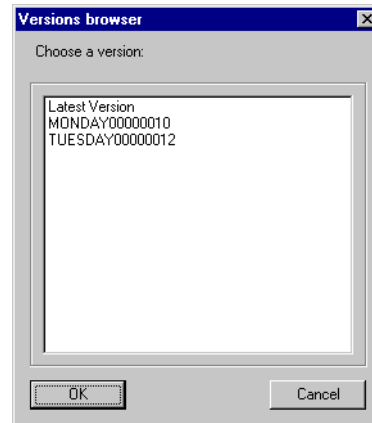
2 Working with Databases

2.1 Selecting a Different Version (Logical Time)

If multiple versions of the database have been created by declaring savetimes, you may select a saved version to edit instead.

1. Select Database -> Set Time.
2. Select the savetime you wish to edit and click OK.

NOTE: How the Matisse Editor handles new savetimes declared while it is running is determined by the setting chosen on the Versions tab of User Preferences.



2.2 Connecting to a Different Database

Before you can connect to a different database you must disconnect the one you are currently editing.

1. Select Database -> Disconnect and click OK to confirm. (If this command is greyed out, abort or commit the current transaction.)
2. Select Database -> Connect.

Proceed as described in [section 1.1, Starting the Matisse Editor](#).

2.3 Importing and Exporting Database Schema

The menu choices under Database -> Schema allow you to generate a Matisse ODL file from the currently selected database's schema, or update the database's schema from an ODL file. See *Getting Started with Matisse* for more information on these options.

3 Editing Objects

3.1 Selecting an Object for Editing

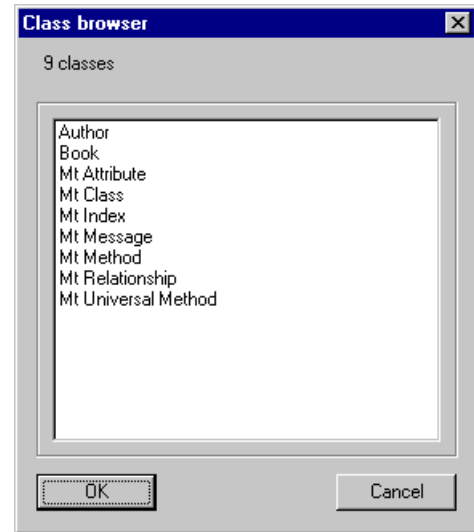
You may select an object to view or edit its properties by double-clicking it in the tree. Alternatively, you may select an object with one of the following methods.

Browsing Instances of an Existing Class

1. Select Object -> Class Instances to display the “Class browser” window:
2. Select the name of the class whose instances you want to browse, and click OK.

The “Instances browser” window will appear with a list of instances of the selected class. Select one and click OK to display its properties.

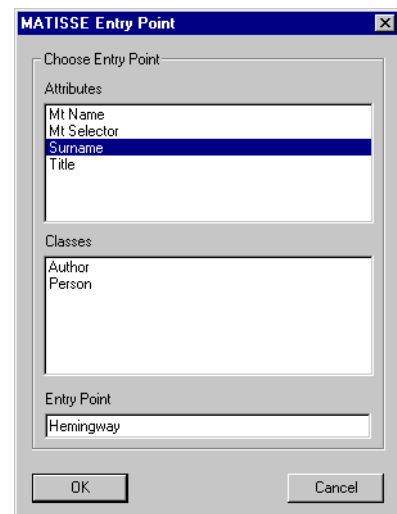
The most recently selected instances may be redisplayed by selecting Collections -> Last Class Instances.



Browsing Entry Points

When you create the schema for your application, you can specify a make entry function to be associated with some of the attributes. If so, the related objects can be found by specifying an entry point value.

1. Select Object -> Entry Point to display the Matisse Entry Point dialog.
2. Select an attribute for which an entry point has been defined in the schema.
3. If you wish to restrict the request to a particular class, select it.
4. Click OK.
5. If Matisse finds more than one matching object, it will display the “Entry Point instance browser” dialog. Select the instance you want and click OK.



The most recently selected entry points may be redisplayed by selecting Collections -> Last Entry Points.

Finding an Object with a SQL Query

1. Select Object -> SQL Query.
2. Enter a SQL statement using the syntax:

```
select ref (x) from class_name into x where attribute_name like value into sel
```

For example, if the application had a class Person with an attribute LastName, to find a person named Smith:

```
select ref (x) from Person into x where LastName like 'Smith' into sel
```

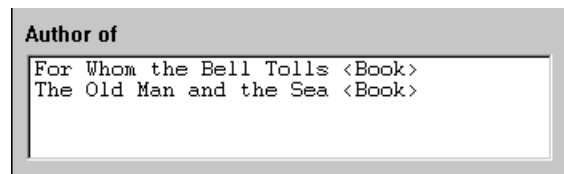
If useful, you may paste a SQL query copied from a text editor or other application. See the *Matisse SQL Programmer's Guide* for more information.
3. Click Execute.
4. If you want to edit an object among the results, click on the object reference that is listed as part of the result set. The object properties will appear in the main Object Editor window.

Finding an Object by its Identifier

Select Object -> Object Identifier, enter the identifier of the object you wish to select, and click OK.

Access an Object Through a Relationship

An object may have relationships with other objects. These relationships are represented as object names within a list:



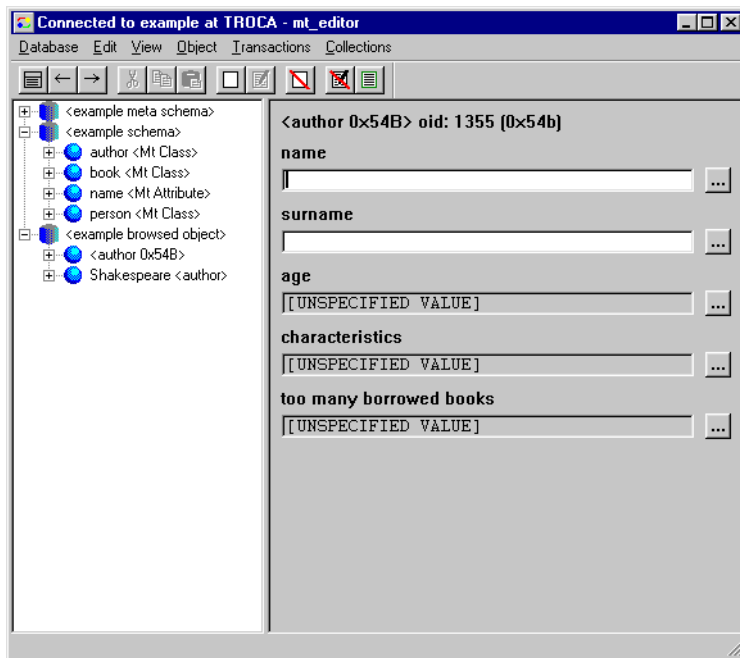
To access any object that is referenced by a relationship, just click the reference.

3.2 Starting and Ending an Edit Transaction

When you select Object -> Edit, or Object -> Create, the changes you make are not immediately applied to the database. Instead, the Matisse Editor accumulates your changes in an edit transaction. A single transaction may include changes to an unlimited number of objects.

Your changes are not applied to the database until you select Transaction -> Commit or Transaction -> Commit & Name as discussed below. Alternatively, you may abandon your changes at any time by selecting Transaction -> Abort.

1. If you are editing an instance (as opposed to a schema object) and need to select new or different successors for one or more of its relationships, browse the new successors. This will add them to the Edit Relationship dialog's "possible successors" list. (See [section 3.4, Editing Relationships](#), for more details.)
2. Select an object by double-clicking it in the tree or with one of the alternative methods described in the previous section. Select Object -> Edit. (If this command is greyed out, you do not have write access to the database.) Buttons appear next to the object's editable properties, as shown below.



NOTE: Selecting edit automatically selects the current version of the database.

3. Edit the object's attributes values as desired.
 - To set NULL or return the value to its default, click its "...". See [Setting NULL or Default Value](#) on page 12 for more information.
 - To change a relationship, click its "...". See [section 3.4, Editing Relationships](#) for more information.

When you click OK, the Matisse Editor checks the consistency of the changes against the schema constraints. Certain changes that would produce an inconsistency will produce an error message, and the Transaction -> Commit and Transaction -> Commit & Name buttons will be greyed out until the inconsistency is corrected.

4. If you wish, select and edit additional objects.
5. When you have finished making changes, select Transaction -> Commit to update the current version of the database, or Transaction -> Commit & Name to create a new version (declare a new savetime) containing your changes. If your changes would create an inconsistency, the attempted commit will fail with an error message.

3.3 Editing Attribute Values

The Restore and Delete Value Buttons

Two of the buttons in the Edit Attribute dialog are not self-explanatory:

- ◆ **Restore:** Click to undo changes to the attribute value.
- ◆ **Delete Value:** Click to return the attribute value to its default, as defined in the schema.

Setting NULL or Default Value

To set an attribute value to NULL or the default value, click the ... button and pick NULL or “default value” from the drop-down list. Do not select “default value” if no default value has been defined and the attribute is not nullable.

Unspecified Value vs. NULL

[UNSPECIFIED VALUE] means (1) the attribute is nullable, (2) no default value has been specified in the attribute descriptor, and (3) the attribute value is currently unset for the object being browsed or edited.

NULL means that the attribute value has been set to NULL for the type.

Editing String Values

Enter any characters. You may paste strings copied from other applications or other fields in the editor.

Editing Float and Double Values

You may use scientific notation for float and double values, as for example in 23.5e12.

Editing Numeric Values

Numeric values are values that are declared with a fixed precision and scale. For instance Numeric (10,2) has precision 10, which means it can hold ten digits maximum and scale 2, which means two digits on the right of the decimal point. For instance for a Numeric (10, 2), the following values are valid:

12

100000.99

-123.1

Editing Character Values

You may enter characters directly, or specify them using escape sequences composed of a backslash followed by the octal code for the character: for example, `\015` for CR.

Editing Date and Timestamp Values

Enter dates in the format `2001-10-30`. For a timestamp value, you may include a fractional value of up to six decimal places, for example, `2001-10-30 14:10:00.000001`.

Editing Time Interval Values

Specify time intervals in days with a + or -. For example:

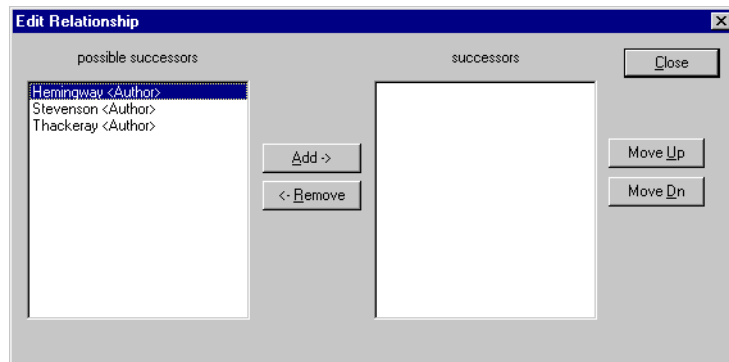
`+256 12:10:00.000000`

Editing Lists

Use standard C notation. For example, `{3, 4, 5}` for a list of Integer values, `{"abc","def"}` for a list of String values.

3.4 Editing Relationships

The Edit Relationship dialog allows you to add, remove, and reorder successors:



You may move items between the “possible successors” and “successors” list by double-clicking.

The “possible successors” list includes only objects that are authorized as a successors of the selected relationship.

When editing an instance (as opposed to a schema object), the “possible successors” list includes only those authorized successors that appear in the “Last browsed” lists accessible via the Collections menu. This limitation is necessary because with large or complex databases the list could easily include thousands of objects. Thus, as discussed [section 3.2, Starting and Ending an Edit Transaction](#), it is necessary to browse the new successors before attempting to edit the relationship.

Adding objects in the Possible Successors area is also possible by using the Class Instances or Entry Point options.

3.5 Creating a New Object

1. Select Object -> Create. (If this command is greyed out, you do not have write access to the database.)
2. Select the class for the new object and click OK.

Continue as when editing an existing object, as discussed in [section 3.2, Starting and Ending an Edit Transaction](#).

3.6 Deleting an Object

1. Select the object to be deleted using one of the methods discussed in [section 3.1, Selecting an Object for Editing](#).
2. Select Object -> Edit. (If this command is greyed out, you do not have write access to the database.)
3. Select Object -> Delete.
4. Select Transactions -> Commit or Transactions -> Commit & Name (see [section 3.2, Starting and Ending an Edit Transaction](#)).

4 Setting User Preferences

Select View -> User Preferences to set the following options.

Streams / Number of Objects

Sets the maximum number of objects that the Matisse Editor will display for a given stream, for example, the stream returned for Class Instances.

Streams / First Object Offset

Specifies the minimum number of instances required for the Matisse Editor to return the object. Set to 0 (the default) to return all objects.

Relationship Ordering

As stored in the database (that is, in the order defined by the schema) or alphabetically.

Versions

Controls what happens when a new savetime is declared.

- ◆ Warn you that there is a more recent version of the database and change the Status Area contents indicating the logical number of that version.
- ◆ Update automatically the objects that you are currently browsing, setting your version access in the new version.
- ◆ Do nothing, but change the Status Area contents indicating the logical number of the new version.