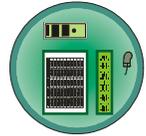


The CEDRA Corporation's COMMAND OF THE MONTH

A monthly information bulletin

November 2011

FEATURED COMMAND
Editing Associated
Table Attributes



Application Description

Recently we were asked if it was possible to edit attributes in a table which was associated with a layer. That is to say, we select a feature in a layer which has data stored in one or more tables separate from the layer. A typical database design used by many.

Now the CEDRA-DataEditor software does allow the user to edit attributes in an associated table. The caveat in this particular application, however, was that a feature could have more than 1 record in the associated table, which the software previously could not handle.

The CEDRA Solution

To address the application described above, the [Edit Feature Tables] tool was created. This tool is the right-most tool within the {CEDRA-DataEditor-Tools} toolbar, shown in Figure 1.

Edit Feature Tables Overview

The  *Edit Feature Tables* tool enables the user to edit user-specified attributes which are stored in tables that are associated with a layer. Using the *Theme Attribute Data File* the user is able to specify the names of the tables that are associated with a specific layer. There is no limit to the number of tables that can be associated with a layer.

A unique identifier is then used to associate records in a table with a specific feature. There is no limit to the number of records that can be associated with a

feature and a feature can have associated records in multiple tables.

Edit Feature Tables Operation

To use this tool, the user should:

- **1** Click at the  *Edit Feature Tables* tool to activate it.
- **2** Click in the *ArcMap* map area on top of the feature to be processed.
- **3** Confirm, or not the selection using the conventional feature confirmation process.

Command Of The Month bulletin

This month's issue addresses how attributes in a table, which is associated with a layer, can be edited using a spreadsheet like dialog box.

- If only one table is associated with a layer, proceed to Step 5.
- **4** Once the feature has been confirmed and if more than 1 table is associated with a layer. A choice list dialog box similar to that shown in Figure 2 will be displayed. Scroll down in the drop-down list to the right of the Item List: label and select the table that is to be edited followed by click-



Figure 1
CEDRA-DataEditor-Tools Toolbar

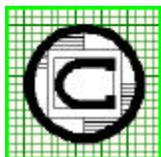
ing the **OK** button to confirm the selection.

- **5** Once the feature has been confirmed and the table to be edited identified, a horizontal dialog box similar to that shown in Figure 3 will be displayed.
- **6** Review the values displayed in the data fields of the dialog box, and make any modifications, if any.
- **7** Click at the:
 - **OK** button to confirm the entries that appear in the dialog box and write the data to disk.
 - **Cancel** button to terminate the command, signaling that no edits are to be saved to disk.



Figure 2
Table Selection Choice List

- **Add** button to add a record to the dialog box, as well as the table being edited.



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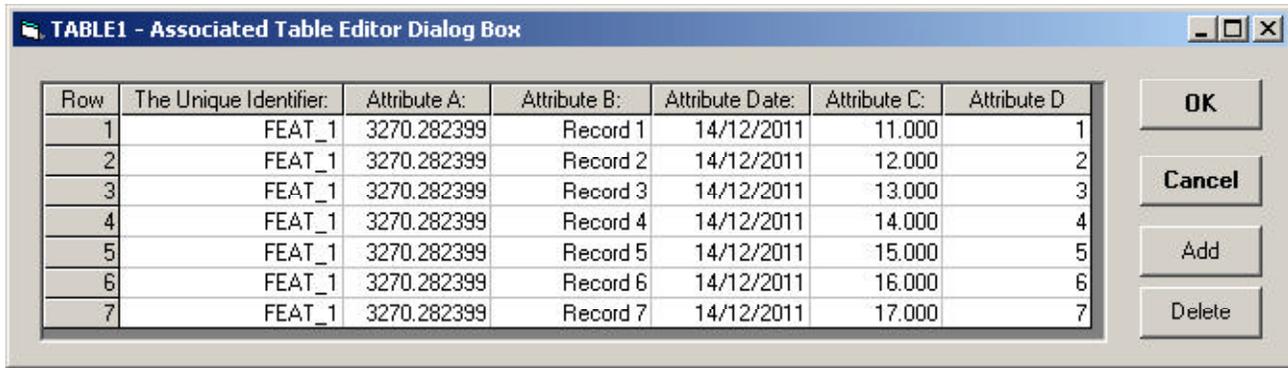


Figure 3 - Associated Table Editor Dialog Box

- **Delete button** to delete the selected record(s) from the dialog box, as well as the table being edited.

Upon completion of its processing the command remains active so that another feature can be selected for editing.

If the user wishes to undo the edits, which were applied to the table being edited, the {Edit} [Undo Edit Attributes] command can be selected.

```

THEME
L_0ln
/*
LINK_ID
The Unique Identifier:
/*
SX
SX:
/*
SY
SY:
/*
INSTL_DATE
Install Date: _____

/*
Township
Township:
RANGE 11 14
/*
Range
Range:
RANGE 1 3
/*
Section
Section:
/*
MAP
Map Number:

```

Figure 4 - Layer Definition Portion

Associating Tables with a Layer

To associate a table with a specific layer there are two issues that need to be addressed. The **first** is linking a table with a layer and the **second** is linking a record or group of records in the table with a feature in the layer.

Both of these issues are addressed by editing the *Theme Attribute Data File* in a particular fashion. In the example shown in Figures 4 and 5 the layer **L_0ln** is associated with two tables called **TABLE1** and **TABLE2**. Note that the contents of Figures 4 and 5 are concatenated to form a single layer definition. That is to say, for space purposes only, two columns of text are shown rather than just one.

Shown in Table 1 is the structure that should be followed for associating tables with a layer. Note that the text which appears in bold print represent commands or keywords used by the software. Shown in Table 2 are a list of the available keywords.

```

/*
/* Associated Table 1
/*
TABLE TABLE1
TABLE1
/*
LINK_ID
The Unique Identifier:
/*
A
Attribute A:
DEFAULT RETURN_XS
/*
B
Attribute B:
DEFAULT TestString
/*
A_DATE
Attribute Date:
DEFAULT CURRENT_DATE_d/m/yyyy
/*
C
Attribute C:
ATTRIBUTE EQUATION
Township + Range
/*
D
Attribute D
DEFAULT ADDONE
_____

/*
/* Associated Table 2
/*
TABLE TABLE2
TABLE2
/*
LINK_ID
The Unique Identifier:
/*
C
Attribute C:
/*
D
Attribute D:
/*
E
Attribute E:
/*
/* End of Definition
/* for Layer L_0ln
/*
END

```

Figure 5 - Associated Table Definitions Portion

Table 1 Associated Table Definition Structure	
THEME	
layer_name	
attribute_1 optional_units_setting	
attribute_1_label	
.	
.	
attribute_n optional_units_setting	
attribute_n_label	
TABLE table_1_name	
table_1_name	
attribute_1 optional_units_setting	
attribute_1_label	
.	
.	
attribute_n optional_units_setting	
attribute_n_label	
TABLE table_2_name	
table_2_name	
attribute_1 optional_units_setting	
attribute_1_label	
.	
.	
attribute_n optional_units_setting	
attribute_n_label	
.	
.	
TABLE table_n_name	
table_n_name	
attribute_1 optional_units_setting	
attribute_1_label	
.	
.	
attribute_n optional_units_setting	
attribute_n_label	
END	

A layer definition is begun using the **THEME** command. Below this command is the name of the layer to be defined. Below the name of the layer, the user specifies the layer attributes that are available for editing. There is no

Table 2 List of Available Keywords	
NLINES	
SECONDS	
NCOLUMNS	
COLUMNWIDTH	
COLUMNITEMS	
COLUMNHEADING	
SUBCOLUMNS	
SUBCOLUMNSTART	
SUBCOLUMNHEADING	
DISPLAYWITHCOLUMNS	
THEME	
TABLE	
RANGE	
CHOICES	
DEFAULT	
REMEMBER_LAST	
ATTRIBUTE_EQUATION	
TRANSFER	
END	

limit to the number of attributes that the user can include for a layer. The /* characters in columns 1 and 2 of a data line denote a comment line and are ignored by the software. Comment lines are used to improve the readability of the file.

In associating a table with a layer, the table definitions should appear immediately below the last layer attribute definition and before the **END** command, which terminates the layer definition. In the example shown in Figure 4 the last layer attribute definition is called **MAP**

The command **TABLE** is used to begin a table definition. A new table definition is started by the use of another **TABLE** command, no **END** command is required to terminate a table definition.

Shown in Table 1 is the syntax of the **TABLE** command. As can be seen, there are two lines of data. The first data line contains the **TABLE** keyword followed by at least one blank character and then the name of the table to be associated with the layer. Below this data line is the name of the table again. The name of the table should be as what appears in the ArcMap Table of Contents.

The first column shown in Figure 5 defines the attributes for **TABLE1** that can be edited. Figure 3 depicts how these attributes would appear in the Associated Table Editor Dialog Box. The second column shown in Figure 5 defines the attributes for **TABLE2** that can be edited. Figure 6 depicts how these attributes would appear in the Associated Table Editor Dialog Box.

Below the second data line of the **TABLE** command are the attributes in the associated table that are to appear in the Associated Table Editor Dialog Box. The syntax used for specifying these attributes is the same as that used for specifying layer attributes.

Associating Table Records with a Feature in a Layer

To associate table records with a feature in a layer there needs to be a unique identifier linking the two. The first attribute defined in a layer definition is used as the unique identifier. In the example shown in Figure 4, the attribute **LINK_ID** is the unique identifier since it is the first attribute that is defined for the layer **L_01n**. Note that this attribute, **LINK_ID**, is also the first attribute that is defined in a table definition. This is a rule that must be adhered to in order for the tool to properly function. The tool will use a feature's unique identifier value to find those records in a table matching that value.

From Figure 4 it can be seen that the label assigned to the **LINK_ID** attribute is **The Unique Identifier**, which also appears in Figures 3 and 6 as the second column heading. That is to say, the attribute label is used as the column heading in the Associated Table Editor Dialog Box.

If there are no records in a table sharing the unique identifier value, a blank Associated Table Editor Dialog Box will be displayed. The user can then use the **Add** button to add records to the table.

If there are records in a table that share the unique identifier value, all of those

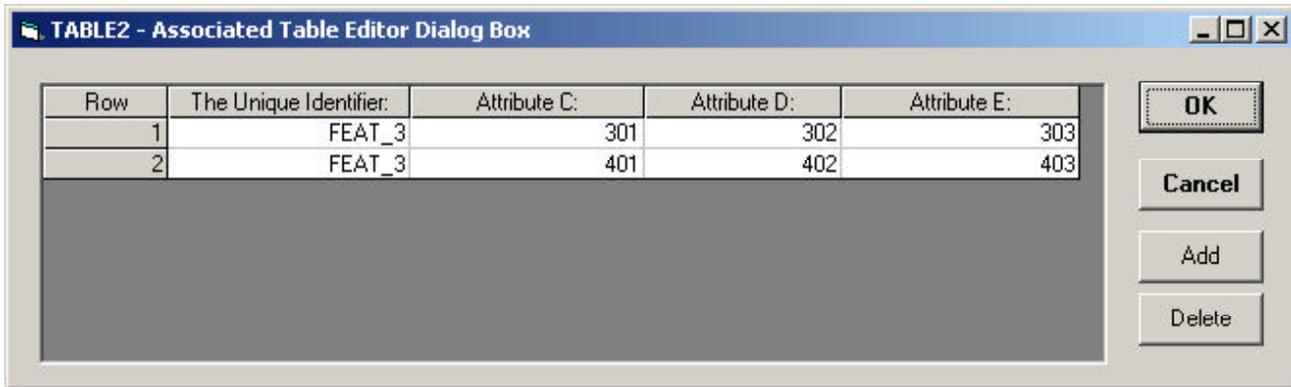


Figure 6 - Associated Table Editor Dialog Box

records will be displayed in the Associated Table Editor Dialog Box. If there are more records than what will fit in the dialog box, a vertical scroll bar will appear enabling the user to move up and down within the dialog box. Likewise, if there are more attributes or columns that will fit width-wise within the dialog box, a horizontal scroll bar will appear enabling the user to scroll left and right within the dialog box.

Resizing the Associated Table Editor Dialog Box

The user is able to resize the extents of the Associated Table Editor Dialog Box using conventional resizing methods (i.e. grabbing a corner or edge of the dialog box and moving the cursor). Additionally, the user is able to resize the columns of the dialog box by grabbing a column edge and moving the cursor left or right.

Note that the tool saves the position and size of the dialog box for every table that is processed by the tool. In so doing, when a table is processed again, the tool will display the dialog box as it was last seen by the user. The file **detables.txt** is used to store this information. This file is stored in the user's temporary folder as specified by the computer's TEMP or TMP environment variables.

Notes

1. To select a record for deletion the user should click the desired row number. Clicking in the row number column indicates that the record is to be highlighted or selected.
2. To select a block or group of records for deletion, click the lowest row number of the group followed by holding the **Ctrl** key and clicking the highest row number of the group. All rows inclusive will be selected. Holding the **Ctrl** key indicates that a group or multiple records are to be highlighted or selected.
3. If the user selects the Cancel button and if any edits had been made to the data displayed in the dialog box the query dialog box shown in Figure 7 will be displayed. Selecting the Yes button results in any edits that were made being lost or disregarded. Selecting the No button results in the user being returned to the Associated Table Editor Dialog Box for further processing.
4. The tables which are specified in the *Theme Attribute Data File* do not have to be linked or joined to the layer. That is to say, native ArcMap linking or joining does not need to be performed for the *Edit Feature Tables* tool to operate.

Figure 7
Abort Command Query

Summary

Using a spreadsheet approach for the editing provides the user a comfortable environment to view and/or make modifications to the data.

As always, users who have a need for functionality that is not presently available in CEDRA software should feel free to forward these requests to CEDRA, as well as, any other comments or suggestion you may have.

If you have a request for Command Of The Month, feel free to phone, fax or e-mail your request to The CEDRA Corporation.