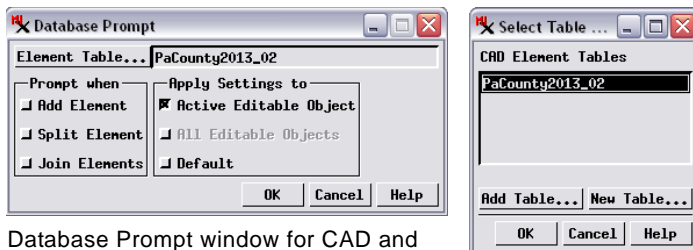


Database Prompt and Default Record

As you add or change geometric object elements in the Editor, you can easily provide attribute information for these elements. Several automated procedures are provided in the Editor to help you with these tasks. You can set up a *database prompt* to automatically prompt you to create and attach a new record in a specified table for each new element. You can also designate an existing record in a table as the *default record* to be attached when new elements are added. You can use database prompts and default record settings at the same time (with different tables) when you are editing geometric data with many attributes of different types distributed among a number of tables.

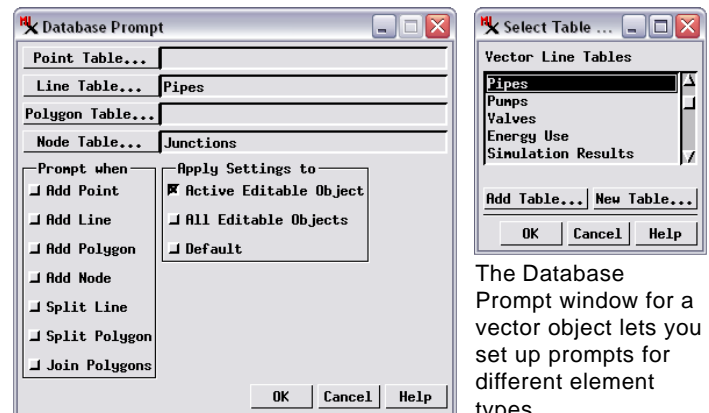
Database Prompt

Using a database prompt is appropriate when some or all of the new elements you are adding to the geometric object require unique attribute values. You would then need to create and fill in a new database record for each new element. For example, in a vector object representing a water pipe network each line element representing a pipe requires a unique set of attributes such as length, diameter, roughness coefficient, and so on, as well as unique identifiers for the pipe and its start and end nodes (for hydraulic modeling purposes). When you add a new element (or make another specified change), a database prompt automatically opens a dialog showing a tentative new record, letting you choose whether to create the new record in the designated table and if so to fill in field values. You can use database prompts when editing vector, CAD, and shape objects.



Database Prompt window for CAD and shape objects.

To set up prompts, choose Setup / Database Prompt from the Editor Layer Manager, which opens the Database Prompt window. If you are editing a CAD or shape object, this window has a single Element Table button. (CAD objects do not have different element types, and a shape object cannot have more than one element type.) The Select Table window opened by the Element Table button (see illustration above) lists the database tables associated with the object; you can select an existing table from the list, add (copy) a table from another source, or create a new table. The toggles in the *Prompt when* section of the Database Prompt window let you choose to be prompted when elements are added, split, or joined.



The Database Prompt window for a vector object lets you set up prompts for different element types.

When you are editing a vector object, the Database Prompt window (illustrated above) has buttons allowing you to select a table and set up prompts for any or all of the element types: points, lines, polygons, and nodes. Toggles in the *Prompt when* pane let you trigger the prompt when new elements of any of these types are added, as well as when lines or polygons are split and when polygons are joined. You can change table assignments and prompt actions at any time during an editing session.

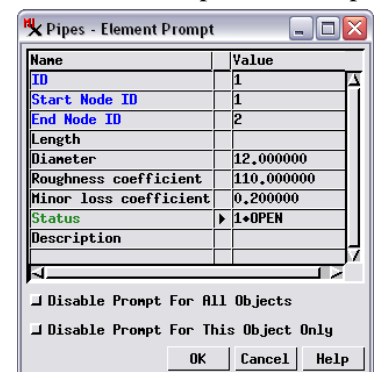
The *Apply Settings to* toggle buttons determine how the prompt settings are applied when you are editing more than one geometric object in the current editing session. Turning on the Active Editable Object toggle limits the current prompt settings to the editable object that is active when you set up the prompts, while All Editable Objects option enables prompting for all editable objects.

Turning on the Default checkbox in the *Apply Settings to* pane saves the current prompt settings for future Editor sessions. In subsequent Editor sessions the Select Table window automatically opens after the first specified edit so you can choose the attribute table in which to create new records.

Element Prompt Window

After you have set up database prompts, each time you make one of the specified edits an Element Prompt window appears. The Element Prompt window resembles

a single-record table view and includes the name of the table in the window title bar. The window lists the fields in the table and tentative field values; you can enter or edit values in any of the numeric or string fields; values for any computed or string expression



Element Prompt window (over)

fields cannot be modified. Pressing OK on the Element Prompt window creates the new record and attaches it to the current geometric element. Press the Cancel button if you don't want to create a new record for the element.

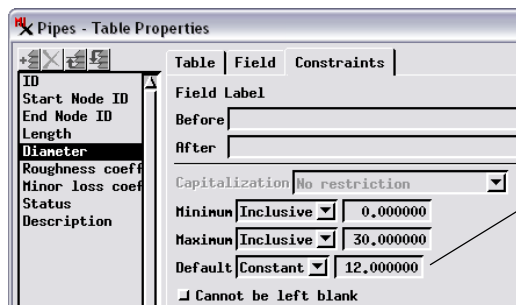
If you have set up prompts for more than one element type, a single editing action may trigger more than one Element Prompt window. For example, you can set up prompts for both lines and nodes to be triggered when lines or nodes are added. Adding a new line may also result in the addition of 2, 1, or no new nodes depending on whether or not the line connects to any existing nodes. With line and node prompts active, when you add a new line an Element Prompt window appears for each new node added (if any), followed by an Element Prompt window for the new line itself.

The Element Prompt window includes toggle buttons that you can turn on to disable prompting for that element type for either the active editable object or for all objects. Turning on one of these toggles has the same effect as reopening the Database Prompt window and turning off the appropriate toggles in the *Prompt when* pane. You can re-enable prompting for that element type by opening the Database Prompt window and turning on the desired toggles in the *Prompt when* pane.

Set Default Values for New Records using Field Constraints

When you are using a database prompt to create new records in a table (or creating new records manually), you can set default values for individual numeric fields in the new records. Using default field values can reduce the amount of manual editing you need to perform when the records are created.

Default field values are part of the constraints you can set up for numeric database fields in the Table Properties window (choose Table / Properties from a table view to open this window). Select a field in the list on the left side of the Table Properties window. On the Constraints tabbed panel, you can set minimum and maximum allowed values for numeric fields as well as a default value (see illustration below). The Default menu provides choices None, Zero, or Constant; choosing Constant activates the numeric field to the right of the menu so you can enter the default value. The Minimum and Maximum menus allow you to choose Inclusive or Exclusive (to define whether or not the entered value is included in the range) or None.



To set a non-zero default value for a numeric field, choose Constant from the Default menu on the Constraints panel, then enter the desired value in the field to the right.

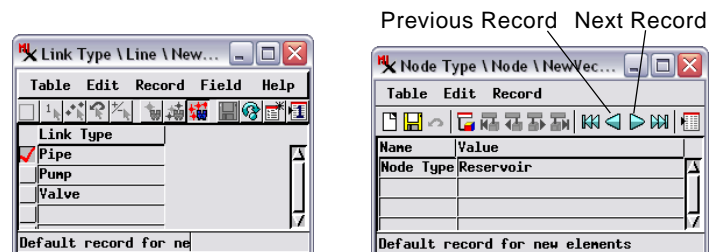
When the table that will contain the new records includes numeric or string fields that can only have a value from a predetermined set of values, you can set up a picklist for such fields so that the value can be chosen from a menu in the Element Prompt window (see the Technical Guides entitled *Database: Creating a Picklist from a Table or Text* and *Database: Choose Attributes Using a Picklist*).

Assign Default Record

Setting a default record to attach to new elements is appropriate when the table in question contains records with attributes identifying the type or category of the element. The table attachment type must also be set to allow a record to be attached to multiple elements. For example, in an EPANET pipe vector object, the Link Type table has three records with a field indicating whether a line element is a pipe, pump, or valve. In this example attaching the correct record to new line elements insures proper styling (automatic via CartoScript) for the line elements.

You can select a default record in a table to attach to new elements whenever one of the Add Element tools that can create the associated element is active. For example, you can designate a default record in a line table and a node table when adding lines or polygons. You must open the desired table to designate the default record; the status field of the table view shows the message "Default record for new elements".

In a tabular view of a table you can select a single default record by turning on the checkbox to the left of the record (see illustration below left). To change the default record, simply turn on the checkbox for the new default record. In a single record table view, use the Next Record and Previous record buttons (see illustration below right) to cycle through the records until the desired record is shown.



Tabular view of table in default record mode.

Single-record view of table in default record mode.

The selected default record is then automatically attached to each new associated element in the current editing session until:

- 1) you select a different record in the table,
- 2) you close the table, or
- 3) you switch to another edit operation or to an Add tool that does not create the associated element.

The latter two actions automatically clear the record selection in the table.