



WebTAS Training v3.3.2

Student Guide

17 February 2009



Revision History

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17 February 2009	Added Charts

Email comments about this document may be sent to webtas@issinc.com.

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1 WebTAS Overview

Module Time: 1 Hour

Overview

The Web-based Temporal Analysis System (WebTAS) is a flexible, extensible, problem solving, and systems integration platform. WebTAS can help an organization manage, harmonize and exploit all of the disparate systems in their enterprise

Module Objectives

After completing this module, participants will be able to:

- Explain what WebTAS does
- Explain when/why WebTAS is used
- Explain the relationship between WebTAS and its business layers
- Define basic WebTAS terminology
- Explain how WebTAS works with data
 - o Explain what the WebTAS native database is and how it interacts with external sources
 - o List several types of external WebTAS data sources
 - o Explain how WebTAS consolidates real-time data from numerous sources
- Find help and the user guide
- Describe and use the three display modes

1.1 What is WebTAS?

WebTAS is a government-off-the-shelf (GOTS) product with a lineage traceable back to 1988. Owned by the Air Force Research Laboratory (AFRL) Information Directorate (IF), WebTAS is a program of programs funded by various government customers and managed by ISS

The WebTAS product is provided to government customers without explicit licensing or support fees (it's "free").

WebTAS is a dynamic suite of software tools that provide access, visualization, trend analysis, and event prediction capability.

1.1.1 Why use WebTAS?

WebTAS can represent an enterprise's disparate ("stovepipe") systems, databases and interfaces using a simple set of abstractions. WebTAS can integrate an enterprise's systems, can visualize and interact with an enterprise's information in a variety of ways.

WebTAS lets you work with data from many different sources as if you are looking at one database.

In practical terms, this means that WebTAS can compare and contrast a very wide variety of information—and WebTAS displays that information in a virtually unlimited number of custom geographic and temporal combinations, each defined by you. These flexible displays give you scenario playback, historical analysis, pattern discovery, collaboration, and project management capabilities.

WebTAS supplements its powerful data polling, consolidation, and visualizing functions with modeling and temporal analysis features that match data to patterns. Successful matches result in historical and near real-time situation assessments, predictions, and alerts.

1.1.2 Where is WebTAS Used?

WebTAS has been successfully used in a variety of application areas, or domains.

Some of the areas that WebTAS has been used in include:

- Strategic C2
- Counter-narcotics
- Counter-terrorism
- Deception and Denial
- Exercise Scenario Generation
- Combat Operations
- Criminal Investigation
- Fraud Analysis

1.2 WebTAS Business Layer

You may be using WebTAS by itself or as the driver beneath another application. Such applications are often called "business layers" that sit on top of WebTAS. Business layers provide preloaded queries, views, temporal models, wizards, and so on—making them a shortcut to ramping up and using WebTAS in a custom environment.

Examples of business layers being developed for WebTAS include the following:

- Master Air Attack Plan Toolkit (MAAP Toolkit)
- Air Refueling Toolkit (ARTK)
- Air Force Installation CommandSystem (AFICS)
- Enhanced SIGINT Tactical Assessment Environment (ESTATE)

1.3 Basic Terminology

We will discuss the following commonly used WebTAS terms:

- Domains
- Object Classes, Attributes, and Instances
- Semi-Natural Language (SNL)
- Projects

1.3.1 Domains

A domain defines the logical data objects manipulated by the WebTAS tools.

Sample domains could include:

- Counter-drug Domain—with objects of interest like:
 - o Air and Maritime Tracks
 - o Seizure Events
 - o Clandestine Airfields
 - o Suspect Businesses
 - o Drug Organizations

A WebTAS domain consists of the following information:

- Mappings to JDBC databases and data sources
- WebTAS native database structures
- Object accessible via data source plug-ins
- Behaviors for Business Logic Layer

The WebTAS domain can be modified without code changes via the Domain Editor. WebTAS domains are stored in a Data Dictionary, an XML file commonly referred to interchangeably as the domain. The Data Dictionary is saved with the extension *.wtdd.

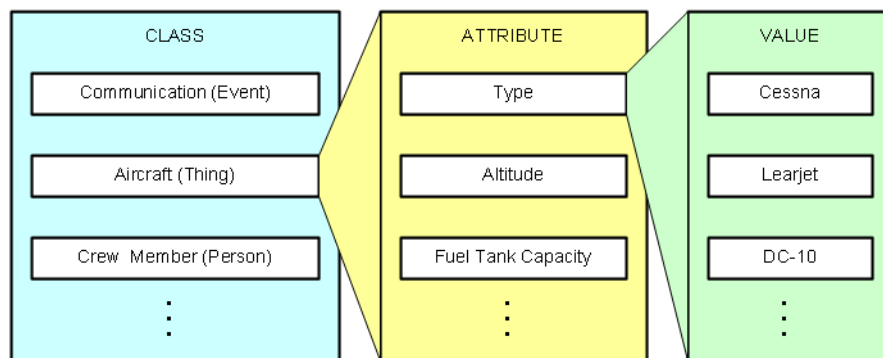
1.3.2 Classes, Attributes and Values

Class—A queryable, manipulable entity in a WebTAS domain.

Attribute—A single characteristic of a Class, e.g., a “Person” class may have attributes “Name”, “Age”, and “Gender.”

Value—An instance of an attribute e.g. “Gender” has a value of Male.”

Figure 1-1 Class, Attribute, and Value



1.3.3 Semi-Natural Language (SNL)

SNL is WebTAS’ query language. SNL provides an abstraction layer between the user and the data source. All queries developed by the user use SNL regardless of the actual data source. Users only have to learn the SNL syntax and that is mostly clickable entries.

Users create queries by specifying a set of objects and constraining the attribute values.

```
SHOW Communication WHERE Source = 'Joe' AND Destination = 'Jeff'
```

The preceding query uses the object Communication and constrains the attribute Source with the value Joe and the attribute Destination with the value Jeff.

WebTAS has numerous constraint operators including:

- Equality operators (Equal/Not Equal, In/Not In)

- Spatial operators (Inside/Outside/Intersects AOIs, Distance)
- Temporal operators (Before, After, Since, Day of the Week, Time)

1.3.4 Projects

Projects define an individual workspace typically related to an analysis task. Projects define views into the data and how the data is displayed. Projects support multiple data views. When a project is opened the queries that created the views are run causing the project to be updated with the latest information.

A project is always associated with a particular domain. Projects are saved as XML files so an analyst can have multiple projects and share them with other analysts.

1.4 WebTAS and Data

WebTAS provides a framework for consolidating and accessing all relevant information from a single application suite.

Types of data sources include:

- Persistent data sets—including relational databases, Excel spreadsheets, XML data, and many others.
- Streaming data feed—real-time or near real-time data sources.
- WebTAS database—provides a centralized repository for archiving information.
- Proprietary data sets—accessed via a plug-in.

Every installation of WebTAS must have a WebTAS Default Database.

1.5 Getting Help

Help is available in two ways for WebTAS, via the Project Tool Help menu and by navigating to the docs directory in the WebTAS install directory structure. The following documents are available in HTML format or PDF format:

- WebTAS User Guide
- WebTAS Installation and System Administration Manual (ISAM)
- Security Manager Guide
- Domain Editor Guide
- WebAPP Guide

1.6 Display Modes

When you create multiple views, getting them arranged on screen so that you can see what you want can be a challenge. Furthermore, if you open multiple Project Tools, and each contains multiple views, the number of view windows for you to manage can quickly accumulate.

To help address these challenges, WebTAS provides the display options described in the following sections. To find an option that works well in your environment, the best approach is to enable each option in turn, and then manipulate (drag, minimize, maximize, resize, scroll, and so on) windows to see how they behave. WebTAS supports three display modes, Windows, Docking, and Desktop.

The default display mode is the Docking mode which can be changed in the `webtas.client.properties.3.X.0.0` file.

Change Display Mode value in the line `displayMode=Docking` to Windows or Desktop to change the default value of the startup display.

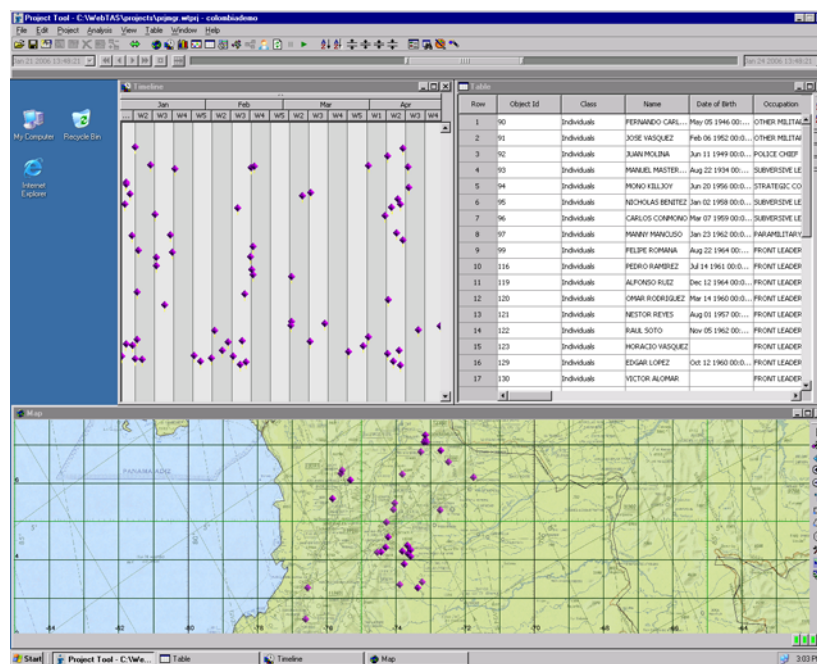
1.6.1 Windows

To set the Project Tool to windows mode, choose Window > Window Mode > Windows from the pull-down menus.

Windows mode is similar to desktop mode except the Project Tool is auto-maximized so that it frames your entire workspace. You can even see "through" the Project Tool to your desktop background.

As in desktop mode, if you minimize the Project Tool, it takes all your views with it. Non-WebTAS windows, and certain tools such as the Query Panel or Project Manager, remain unaffected. However, in windows mode everything (Project Tool, views, non-WebTAS applications) gets individually attached to the Windows Start bar.

Figure 1–2 Windows Mode



Windows mode usually gives you more view display space than desktop mode, although the line between your WebTAS and non-WebTAS programs becomes less obvious. (If you are running more than one Project Tool, things get really confusing.) Windows mode is also much more effective than desktop mode when your workspace is distributed across multiple monitors.

1.6.2 Docking

To set the Project Tool to docking mode (the default), choose **Window > Window Mode > Docking** from the pull-down menus.

Docking mode is the only mode where you can drag, or float, a view outside the boundary of its Project Tool. The docking feature also lets you "snap" a view window into the surrounding Project Tool frame. You can even dock multiple views into the frame to create a tabbed workbook-like display as shown below

Figure 1-3 Docking Mode

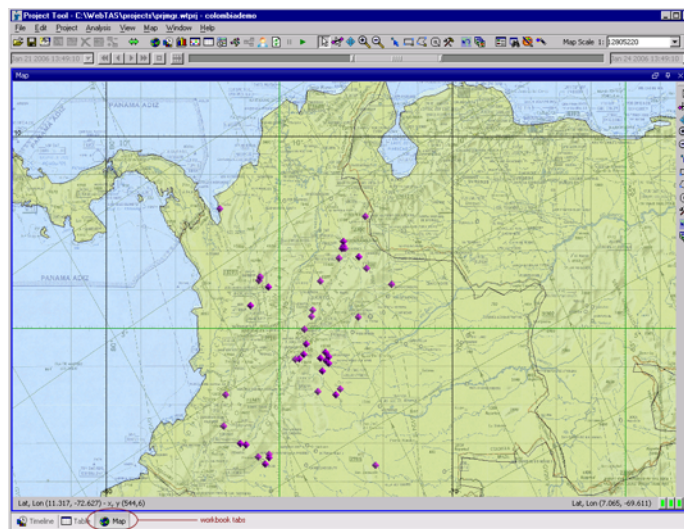
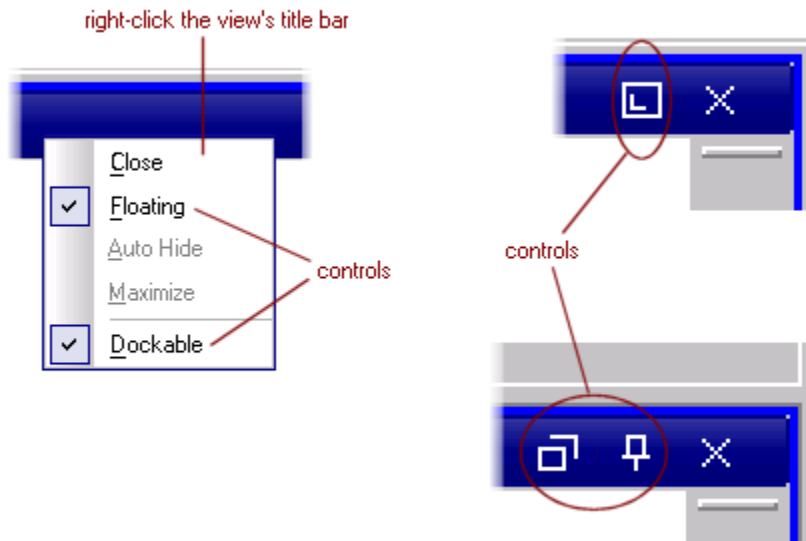


Figure 1–4 Workbook Window and Controls

The right-click menu and window controls let you configure for tabbed workbooks, floating view windows, floating tabbed workbooks, and combination effects. Experiment with the controls to create the layout that works best for your situation.

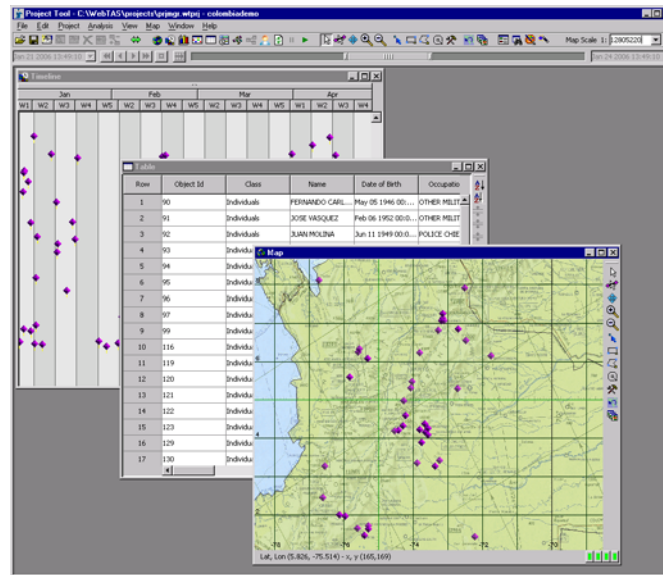
Docking mode keeps multiple views neatly arranged and reduces clutter. It also is the most flexible display mode for managing a very large number of views.

1.6.3 Desktop

To set the Project Tool to desktop mode, choose **Window > Window Mode > Desktop** from the pull-down menus.

In desktop mode, all views are bound by the surrounding Project Tool window and cannot be dragged outside of it.

Figure 1–5 Desktop Mode



If you maximize, minimize, or otherwise affect the Project Tool window, it takes all your views with it. If you only minimize views, they are minimized within the Project Tool window.

Most users of desktop mode size the Project Tool window large enough to rearrange or work with views inside its boundaries. This is usually a fairly easy and intuitive process provided that the number of views is small. If not, the Project Tool window is scrollable, so you still have the option to arrange views in a stack, where you scroll up or down to get to the desired view.

One advantage of desktop mode is that it does a relatively good job of isolating your WebTAS work from any non-WebTAS applications you may be running. If you are running more than one Project Tool, they also are reasonably well isolated from one another.

INSTALLATION EXERCISE

In this exercise you will install the WebTAS Client:

To install the WebTAS client software, follow these steps:

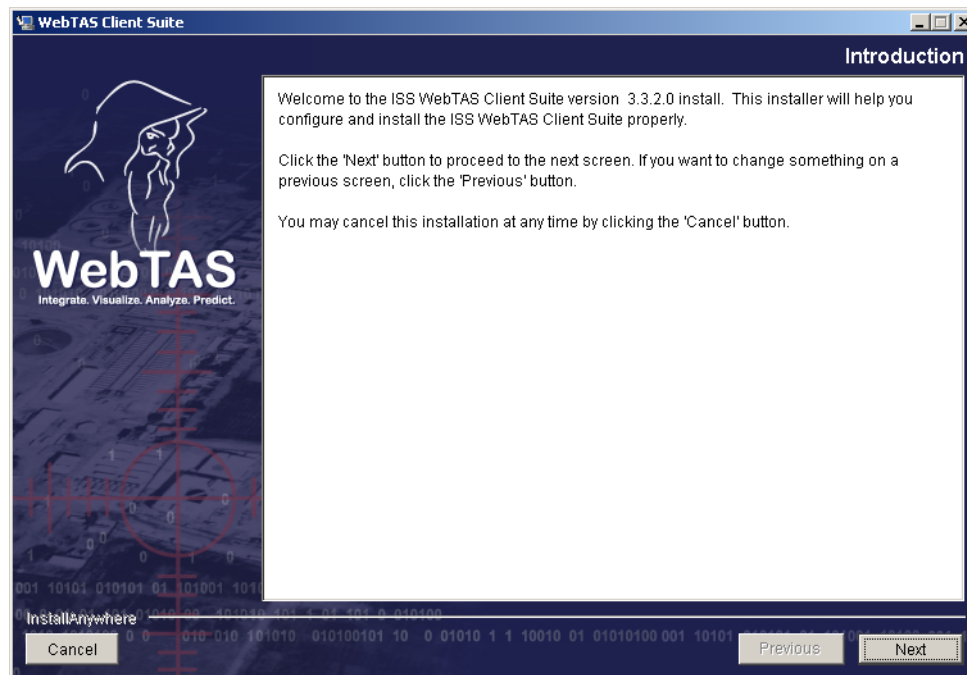
1. Shut down any other programs that are running.
2. Insert the WebTAS DVD.

Your system may be configured to automatically run the disc when you insert it. If it does not, manually run the following setup executable:

{dvd-drive}:\setup.exe

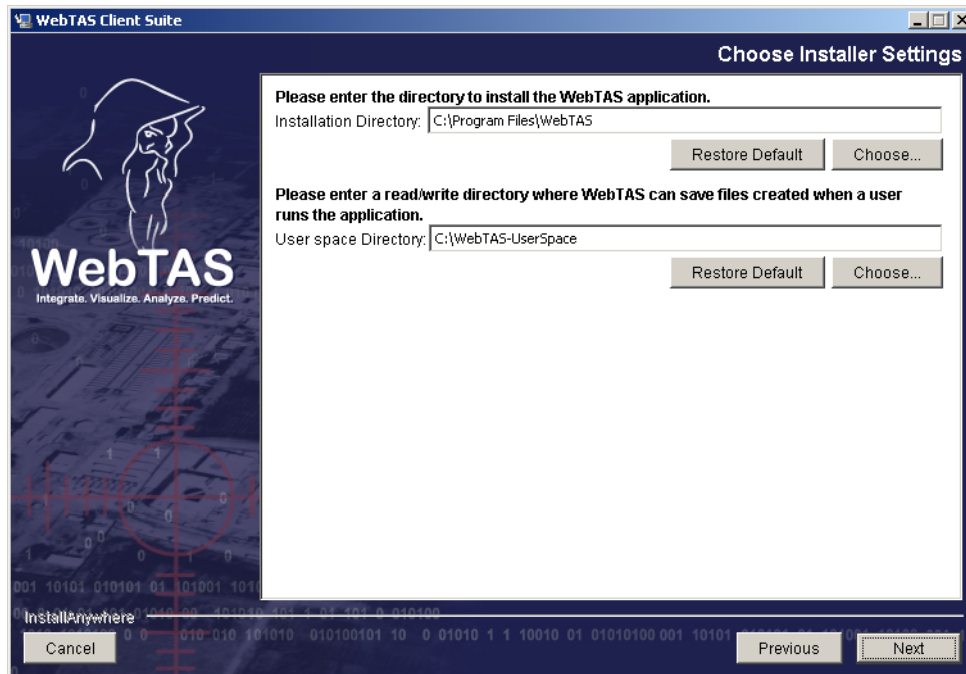
The initial installer dialog appears.

Figure 1–6 Initial Installer Dialog



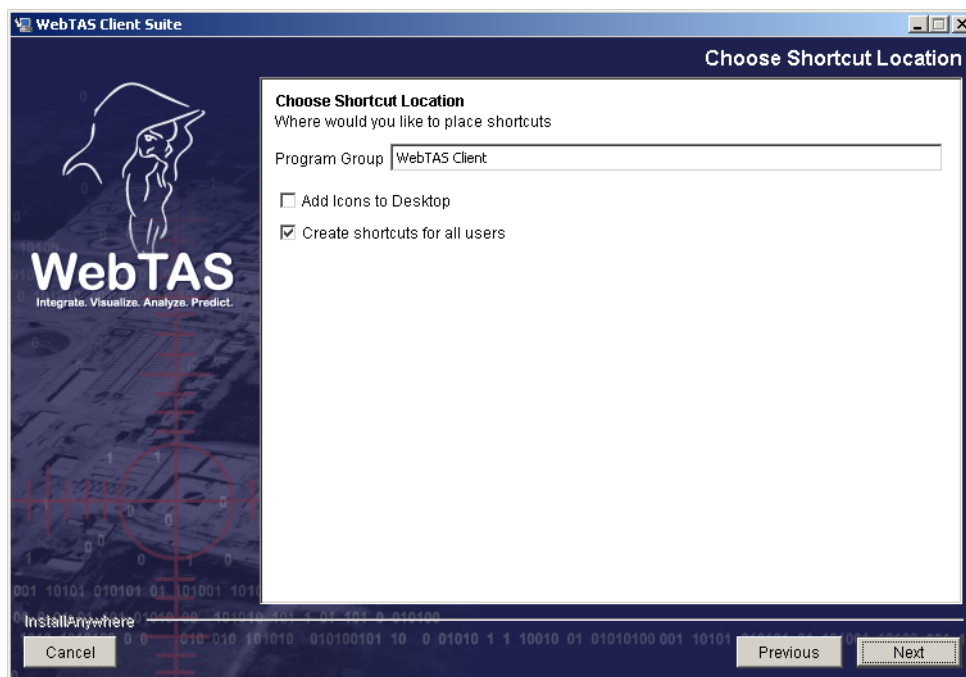
3. Click Next.
The Choose Installer Settings dialog appears.

Figure 1–7 Choose Installer Settings Dialog



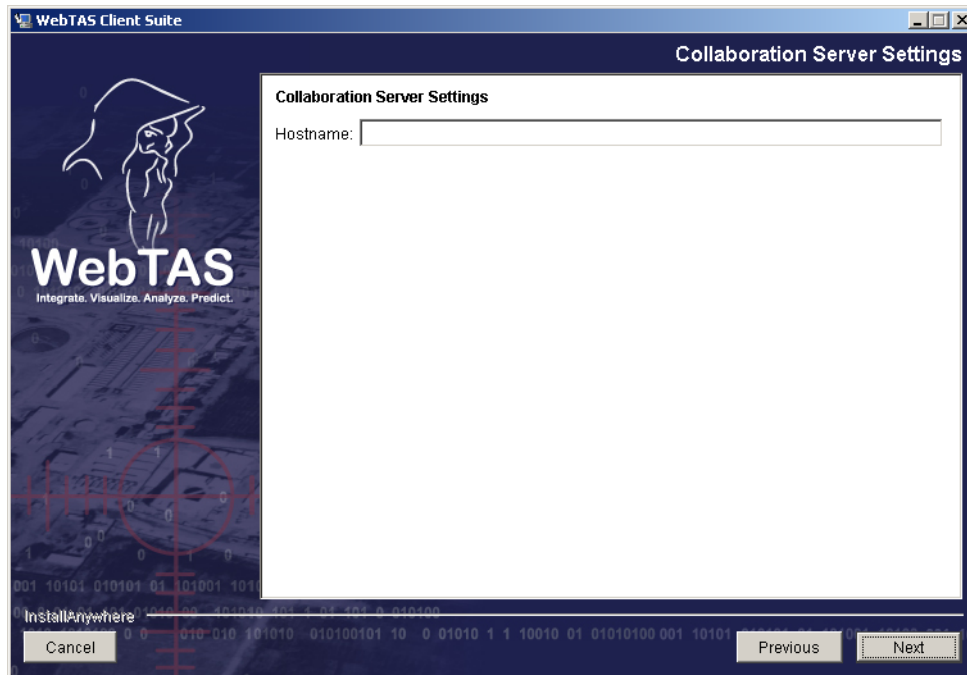
4. Accept the defaults or specify new directories. Click Next. The Choose Shortcut location dialog appears.

Figure 1–8 Choose Shortcut Location



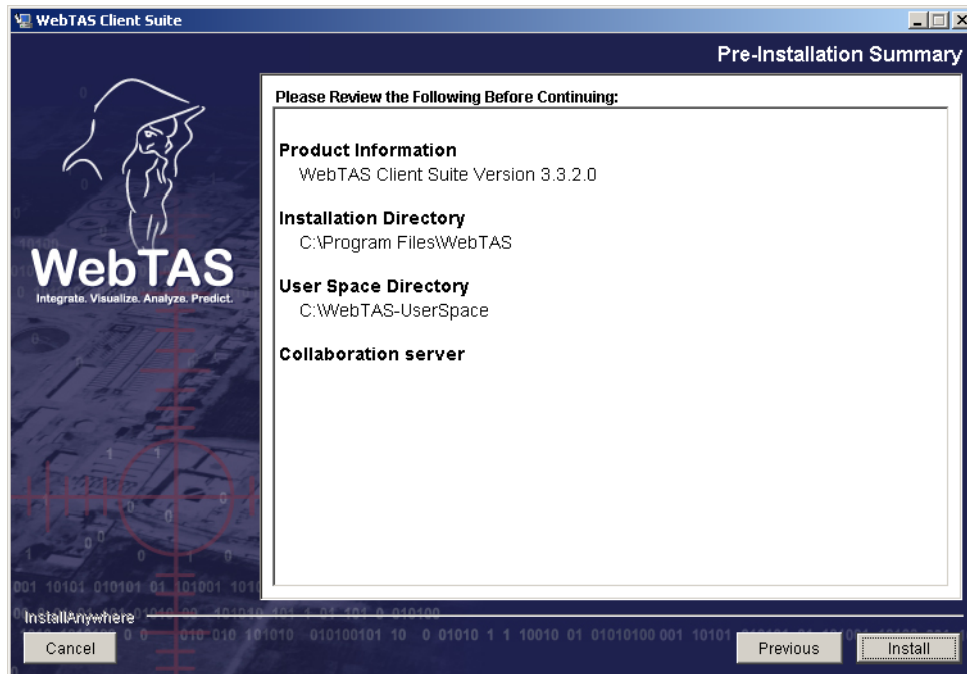
5. Accept the default settings.
The Collaboration Setting Dialog appears.

Figure 1–9 Collaboration Setting



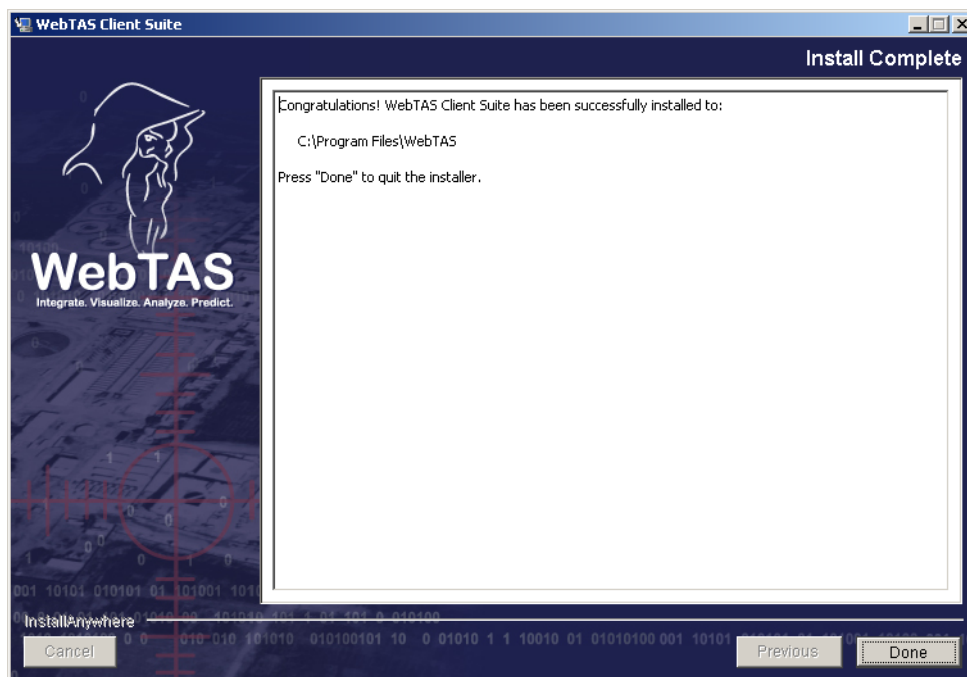
6. If a collaboration server exists, populate the fields, otherwise click Next.
The Pre-installation Summary appears.

Figure 1–10 Pre-Installation Summary



7. Click Install after reviewing the settings.
The Install Complete dialog appears.

Figure 1–11 Install Complete



8. Click Done.

For more detailed installation instructions see the WebTAS ISAM.

To install the WebTAS documents, copy the docs directory from the DVD to the WebTAS\docs directory.

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2 Working with Queries

Module Time: 30 minutes

Overview

WebTAS provides users with the ability to query the data sources attached to the domain. The results of these queries can then be displayed in different types of displays or views. This module will focus on creating and maintaining the queries, the customizing of the views will be covered in another module.

Module Objectives

After completing this module, you will be able to:

- Explain query syntax
- Define query terminology (e.g., object classes, attributes, values)
- Explain different types of query formats
- Use the Query Panel
- Open an existing query
- Build a new query
- Manage queries
- Modify a query
- Save a query
- Refresh a query
- Edit a Query

2.1 What is a Query?

The process of retrieving and displaying data. WebTAS queries provide the ability to exploit the data and answer analytical questions quickly and effectively. WebTAS' query language is called Semi-Natural Language (SNL).

Query results can be sent to the various WebTAS data visualization displays to:

- Support Situation Awareness
- Identify trends in target's behavior
- Identify obscure relationships among individuals, organizations, and events

2.1.1 Structure of a Query

WebTAS data objects come in the form of classes, attributes, and actual values. When WebTAS displays objects (for example, in query results), each object is a member of a class—and its class determines the attributes and values you get to examine. For example, a person object may have a "hair" attribute and "blond" value, but an airbase object will not have a hair attribute at all.

To create a query, you have to identify the object class, attribute, and value of the data you are looking for:

SHOW {Object} Where {Attribute} {=} {Value}

The items in braces are things you select with the mouse and are sometimes referred to as tokens. WebTAS automatically inserts the words “SHOW” and “Where” in and queries.

The *object* is a user-defined type; the *attribute* is a characteristic of that object, and the *value* is the specific kind of attribute. For example, assume that you want to create a query using the following information:

- Object = cars
- Attribute = color
- Value = white

The query statement would be:

```
SHOW cars Where color = 'white'
```

The query would return all white cars in the database.

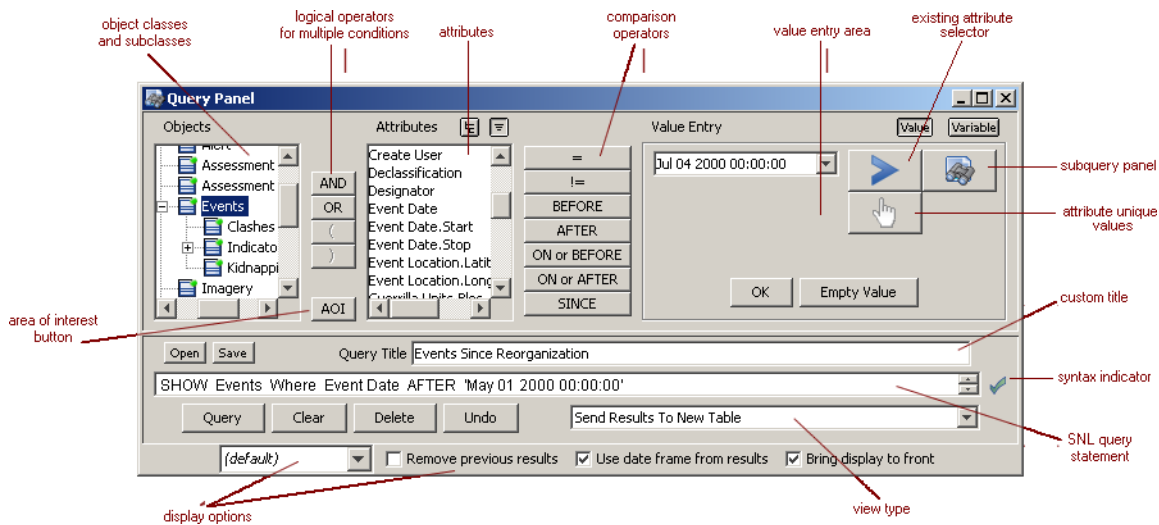
The query panel displays a green checkmark to the right of the query statement field when the query is syntactically correct.

Note

A syntactically correct query will not necessarily return any results.

2.2 Query Panel Tour

The Query Panel lets you retrieve only the data that you want to see and direct it to various displays such as maps, timelines, tables, graphs, and grids. You create queries with logical objects that abstract the physical layout of the underlying database and the complex relationships among the tables. Queries can also include sophisticated filters such as area of interest (AOI), distance calculations, and temporal comparisons.

Figure 2–1 Query Panel

The Query Panel lets you construct custom queries against available databases using Semi-Natural Language (SNL) statements. You assemble statements in point-and-click fashion so that typing SNL syntax is not necessary.

You may need to enter certain values using the keyboard, but other free-form typing is not supported—the Query Panel forms statements strictly via token completion.

2.3 Semi-Natural Language

As you build a query with the mouse, the Query Panel displays an evolving SNL statement in a field in the lower portion of the dialog. For example, appropriate keywords such as **SHOW** and **Where** are automatically added to the statement.

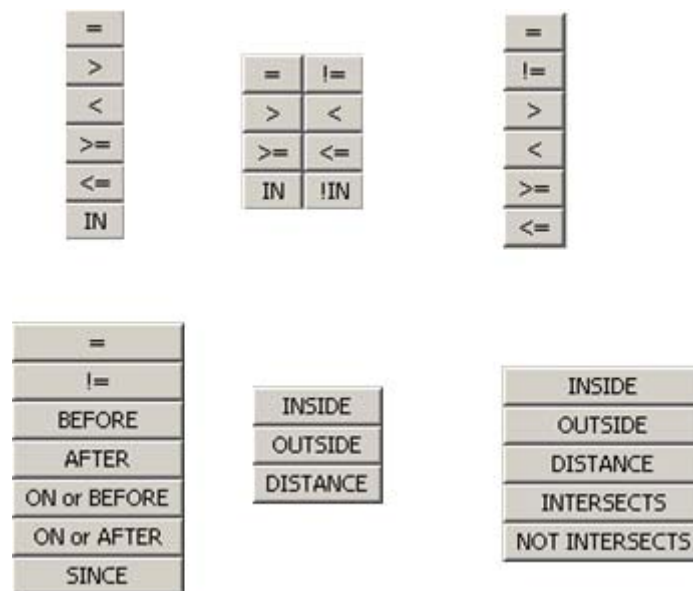
SNL is based on standard SQL syntax, but it keeps you from having to know SQL and is more readable. When you send a query by clicking the **Query** button, WebTAS transparently converts the SNL into SQL and submits it to the database for processing.

WebTAS also uses SNL to define views into the data from the WebAPP and to describe objects in a Model Developer pattern

2.4 Comparison Operators

The comparison operator buttons change based on the selected attribute data type.

Figure 2–2 Comparison Operators

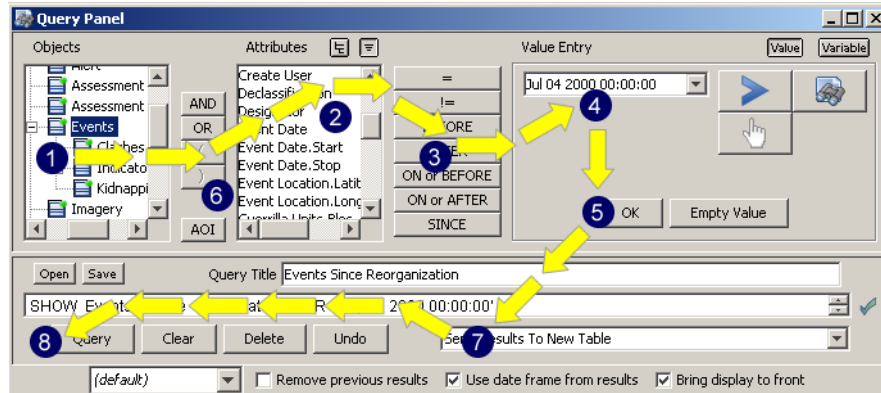


Creating a Query

1. Select an object class. Note that you can run the query even if you stop here; the results simply reflect all such objects in the database.
2. Select an attribute. The list of attributes is automatically customized based on the object
3. Click a comparison operator button
4. Enter a value for your selected attribute. The Value Entry frame is automatically customized based on the attribute. For example, if you selected a date attribute, a value field for inputting the date, time, month, and year appears.
5. Click the OK button to add the attribute value to the query.

6. (Optional) Add more conditions to the query by using the logical operator buttons and repeating the attribute, operator, and value process.
7. Use the drop-down menu to point the results to one of the available views.
8. Set display options, and click the Query button.

Figure 2–3 Query Panel Walk Through



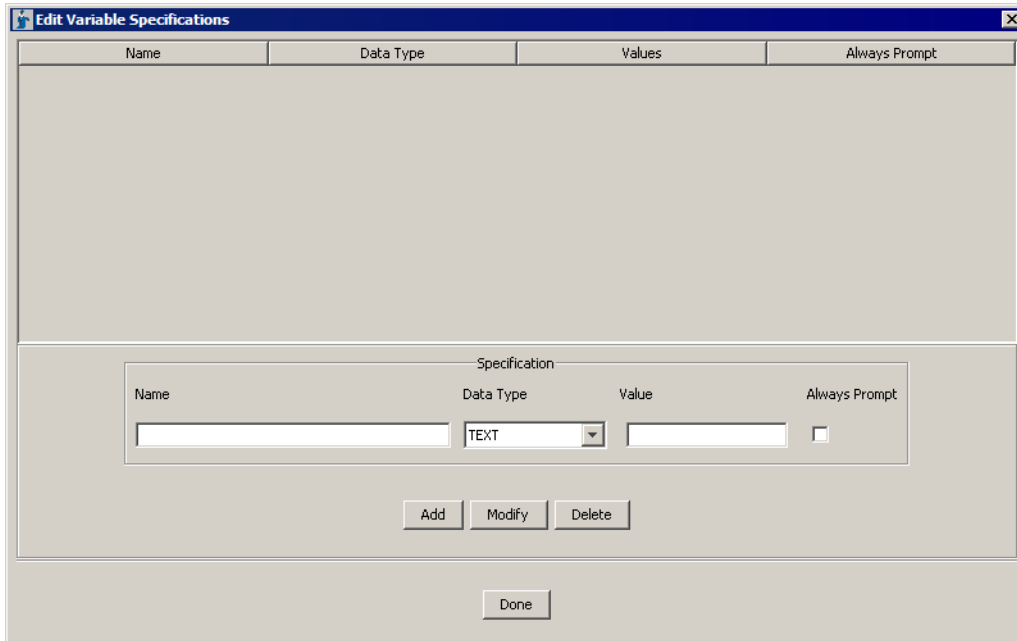
2.5 Using Variables In Queries

Variables may be established in a project created by a user. They may be used to name value entries or to generate dynamically changing values. A user created variable will be available in that project only, and is not saved to the domain.

Create a Variable

1. Select **Project > Set Project Parameters**
The Edit Variable Specifications window opens.

Figure 2–4 Edit Variable Specifications



Name	Data Type	Values	Always Prompt
------	-----------	--------	---------------

Specification

Name	Data Type	Value	Always Prompt
	TEXT		☐

AddModifyDelete

Done

2. Specify a **Name**
3. Specify a **Data Type**
4. Specify a **Value**
5. (Optional) Select **Always Prompt**
If selected the Edit Variable Specification window will always open upon starting your project, to allow you to modify the variable value.
6. Click **Add**

To use a variable in a query, build a WebTAS query in the Query Panel to the point of value entry. Click the Variable button at the upper right corner of the value entry area and select the variable from the drop down list. WebTAS variables are identified by the “\$” that precedes the name.

2.6 The Attribute Selector

The Attribute Selector is a tool that may be used to build more precise queries. To do this, specific attribute values are selected from the range represented in the database to use in the query. A separate query panel window is opened when using the Attribute Selector. WebTAS will not check to see that attributes are of the same type, so it is possible to build queries that cannot have any returned records.

Click the Picker button (see figure 2–5) to open the Attribute Selector.

Figure 2–5 Picker



This will open a supplemental query panel window that will be used to build a sub query. When a valid query has been built using the standard WebTAS SNL query building procedures, select the **Get Objects** button at the bottom right of the window.

This will populate the objects field with a record identifier for each data record that matched the sub query constraints.

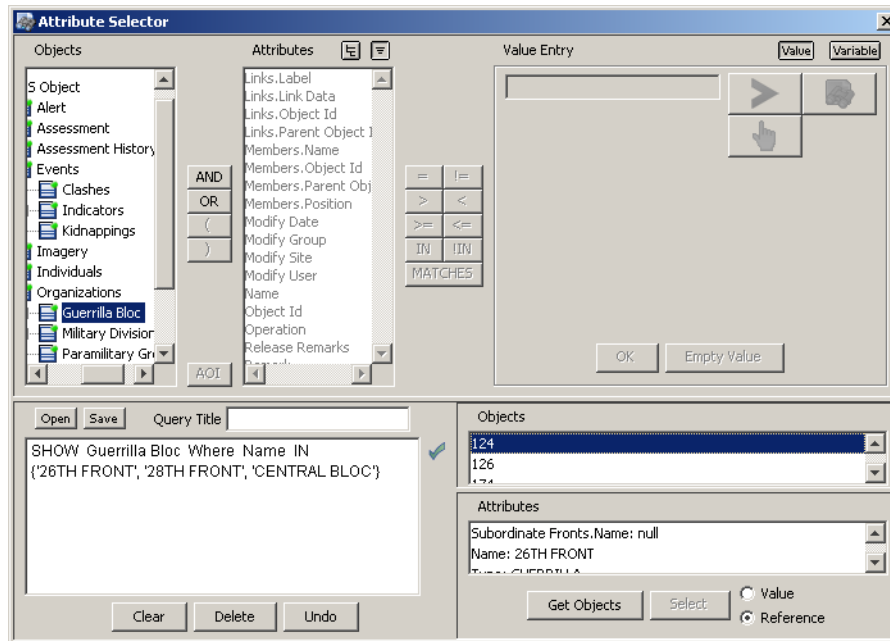
Clicking on a record identifier will populate the attributes window with the data from that record. An attribute from this list may be selected to be used in the original query. There are two options when using the attribute:

Value—inserts present value of the selected attribute into the query.

Reference—acts as a pointer to the data in that attribute; if that data later changes, the results of the query will change when run to reflect the changes in the base data.

Pressing the **Select** button will add the results of the Attribute Selector query to the value entry box in the main query. That value may then be added to the query in the same manner as typical values.

Figure 2–6 Attribute Selector



2.7 Complex Queries

Logical operators AND, OR, and parentheses allow you to combine multiple constraints in a single query.

For example, you could query for Aircraft events as follows:

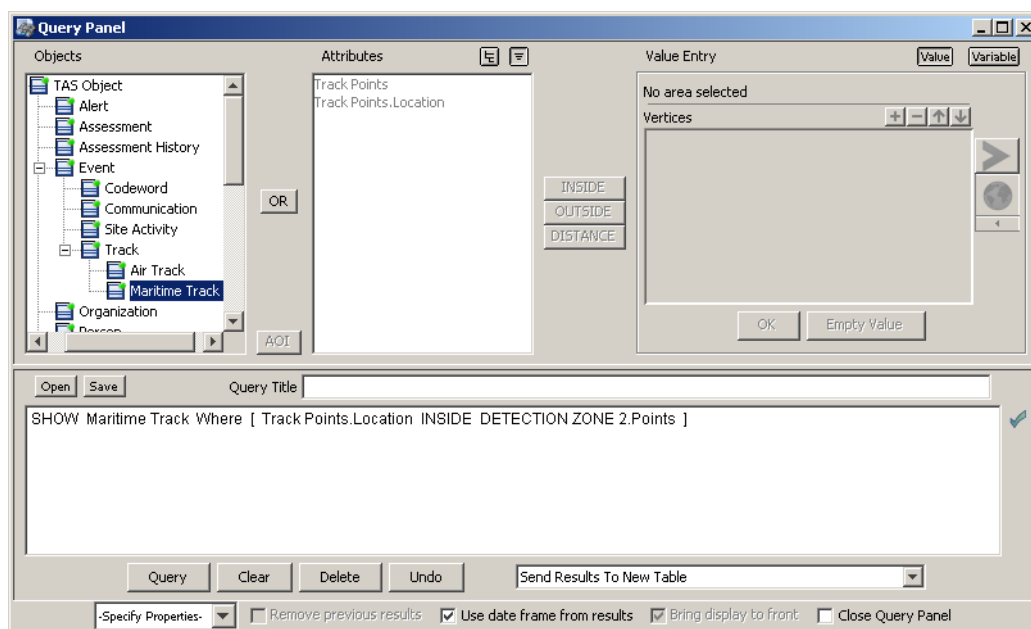
```
Altitude > '15,000 feet' AND Aircraft Type = 'B-52'  
Altitude > '15,000' feet AND (Aircraft Type = 'B-5'2 OR  
Aircraft Type = 'B-1B')
```

Be aware of precedence in operators. Most queries are not overly complicated, and precedence is not an issue; however, it may be important to track the nesting of parentheses for complex queries. The rule of thumb is similar to mathematics—work parentheses from the inside out. Within the same nesting level, perform AND operations first, then OR. You can position the cursor (press the forward and back arrow keys) in the SNL query statement line to add and remove parentheses for proper nesting.

2.8 AOI Button

If you click the “Area of Interest” (AOI) button while building a query the attribute list only displays those attributes that have location data. If you want to combine an AOI query with other attributes in a complex query, select the AOI button as the last part of your complex query.

Figure 2–7 AOI Button Results



2.9 Visualization

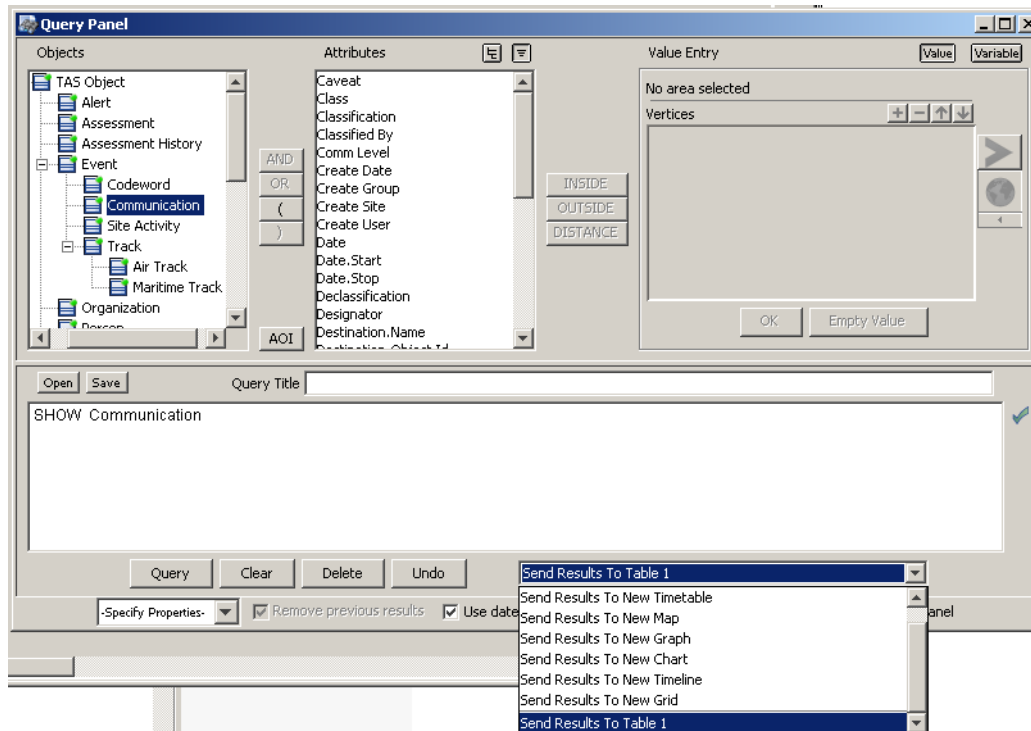
Query results may be visualized and manipulated via:

- Maps
- Timetables
- Timelines
- Graphs
- Charts
- Grids
- Link Charts
- Tables

After you create the query, select where to send the results of the query.

The drop down menu in the lower right of the Query Panel lets you direct output to the desired view type. Typically, you can send results to a view that is already open or to a new view. Using an already open view can prove useful if you need to see new objects in relation to old ones, in the same context. The object type in your query can limit the available views. For example, if an object class does not contain a location attribute, you cannot send the results to a map. Likewise, an object without a Date or Daterange attribute cannot go to a timeline.

If there are any active views they will be listed below the default values and separated by a line.

Figure 2–8 View Output Drop-List**Note**

Only Maps and Timelines can be the target of multiple queries

2.9.1 Specify Display Properties

After you have created your query and selected what type of view is to be used to display your query, you must specify what display properties WebTAS should use to display queries of the selected class in the selected view.

The first time that you create a query for a class and specify the view for that query WebTAS does not know how you want the query displayed and you must use the wizard to create display properties. If you save your choices, the subsequent time that you query a class and specify the same view type your saved display properties will be the default properties and you do not have to use the wizards unless you want to change how your query is displayed.

2.10 Open and Save Queries

You can save a query that you have created by Clicking the Save button. A Windows Save Dialog opens allowing you to name and save your query. To Open an existing query, click the Open button and select the query to open.

2.11 Editing Queries

You can edit an open query with the buttons to the right of the Query button:

- **Clear**—Empties the Query Panel of all selections so that you can start over.
- **Delete**—Erases the query statement, one step at a time, in reverse order.
- **Undo**—Backs out of your specific steps when using the Query Panel, whatever those steps may have been.

You can edit the SNL query statement directly in any of the following ways:

- **Replace**—To replace a token, double-click it in the SNL statement (which turns it red). The focus of the Query Panel goes to the place where you originally selected the token. Select a new one to substitute it for the one that you double-clicked.
If you replace the original object, WebTAS clears the remainder of the query (the constraints clause).

- **Add**—To add a condition, click or use the arrow keys to navigate to the desired place in the SNL statement. If a syntactically legal addition can be made at that point, a blinking cursor appears. WebTAS then enables allowable selections in the attribute or operator lists. You can add to the statement in the same way that you created it—by putting new tokens in place. Just as with the original statement, the green check appears when the added tokens create a syntactically valid query.
- **Remove**—To remove a token, double-click it in the SNL statement (which turns it red), and click the Delete button. WebTAS removes the selected token and a blinking cursor appears to allow you to insert a new condition.

If no new condition is needed, edit the remainder of the statement so that it becomes valid. For example, if an OR was after the removed condition, you must also delete the OR.

2.11.1 Wildcard

You can specify text attribute values by entering the string into the specification area. Be aware that some databases are case sensitive. Wildcards (*) are allowed.

For example:

```
Show FACILITIES where FACILITY_TYPE = 'D*'
```

results in all facilities that start with "D."

Note

If you specify only a portion of the full value, you must use wildcards in the string to ensure results. Without wildcards, WebTAS assumes that the specified text is the entire value expected and may not return any results.

EXERCISE: CREATE A QUERY

1. Open Project Tool using accesscolombiademo.wtdd
2. Create a query to show kidnappings
3. Save your query

4. Edit the query to constrain the query to kidnappings which occurred on or after Feb. 01 2002 00:00
5. Save your query.
6. Edit the query to constrain the query to kidnappings which occurred before Feb. 01 2002 00:00
7. Save your query.
8. You will use these queries in the next module.

3 Using Tables

Module Time: 1 hour

Overview

Tables are displayed as a collection of rows and columns and are similar to the traditional spreadsheet view. A table is useful for quick evaluations. If the results look valuable, you can post the same query to a more complex and appropriate view. Tables are also a good way to become familiar with the available data. For example, you might want to query for individuals and view them on a map, but you first need to know if any individuals are in the database.

Module Objectives

After completing this module, you will be able to:

- Use the Table Properties window to:
 - Select column headings
 - Set cell coloring
 - Set row coloring
 - Select the Time Scroll attribute
 - Specify Quick Filter elements
- Resize columns and rows
- Rearrange column order
- Sort columns in ascending or descending order
- Use the right-click menu to configure column visibility
- Use the right-click menu to view subtables
- Explain functions available via the right-click menus

- Open a database record

3.1 Table Configuration

When a query is sent to a table view for the first time, the Table Properties window is opened. This window contains five tabs used to configure the table view. The following sections cover the use of the five tabs.

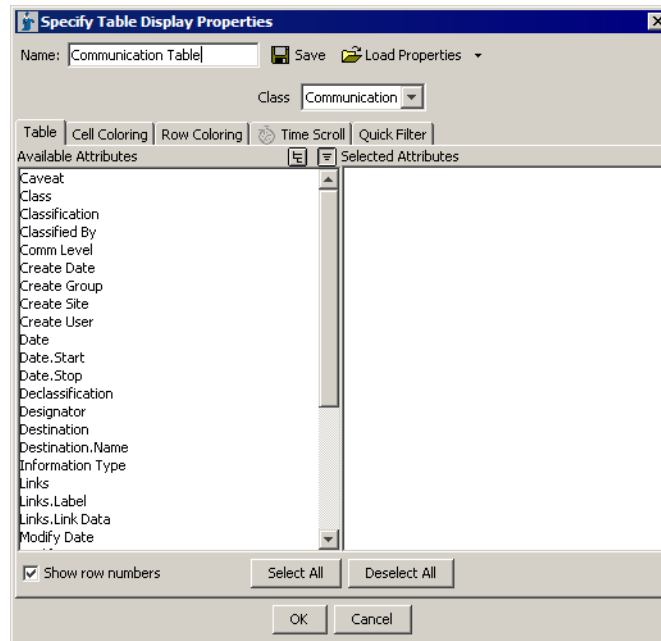
3.1.1 Table Tab

The Table tab is where you select which attributes appear as column headings in your table view. The available attributes are listed in the left panel and the attributes that will appear as column headings are listed in the right panel.

Available attributes can be added to the Selected Attributes list by clicking the attribute in the Available Attributes list. Attributes can be removed from the Selected Attributes list by clicking the attribute in the Selected Attribute list.

When you have customized the Selected Attribute list to your needs, you can save the settings by clicking the Save button at the top of the wizard.

Figure 3–1 Table Tab

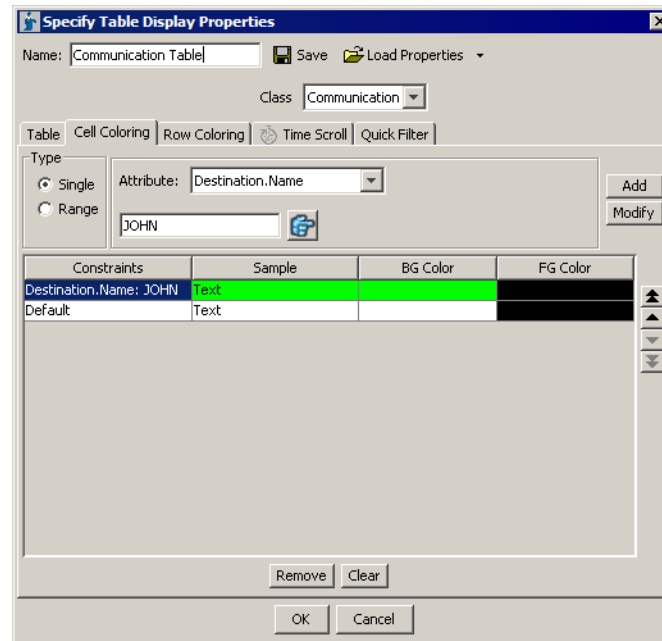


3.1.2 Cell Coloring Tab

The Cell Coloring tab lets you select an attribute to color-code a cell.

To color-code a cell by attribute:

1. From the Attribute drop-down menu, select the attribute to color-code.
A value field appears.
2. From the Select a Value list (blue finger icon), select a value.
3. Click the Add button to add the attribute/value pair to the list of constraints.
4. Click in the BG Color field, and select a color to modify the cell background color.
5. If desired, click in the FG Color field, and select a color to modify the text color.
6. If desired, click the Save button to save your changes as the new default configuration.
7. Click **OK** to create/refresh the table view.

Figure 3–2 Cell Coloring Tab

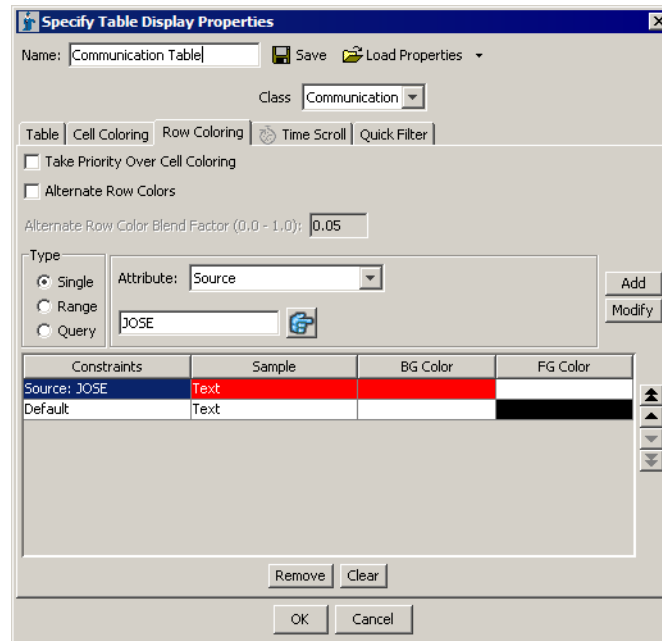
3.1.3 Row Coloring Tab

The Row Coloring tab lets you select an attribute to color-code a row. The process for coloring a row is the same as for coloring a cell.

Additional options available under the Row Coloring tab include:

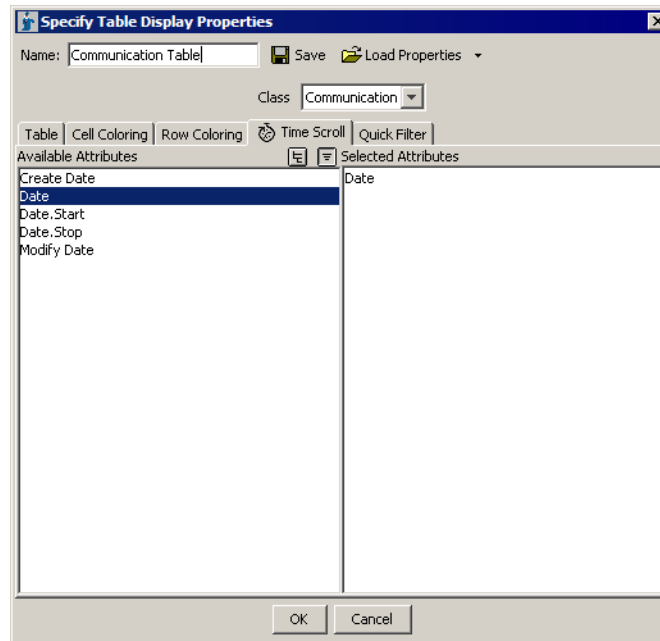
- **Take Priority over Cell Coloring**—by default, cell coloring takes priority over row coloring; this checkbox enables you to change that configuration.
- **Alternate Row Colors**—checking this option will shade alternate rows to let large tables be read more easily.
- **Constraint ordering buttons**—you can reorder the row coloring if there is an overlap of colors; this option lets you configure the view to your liking.

Figure 3–3 Row Coloring Tab



3.1.4 Time Scroll Tab

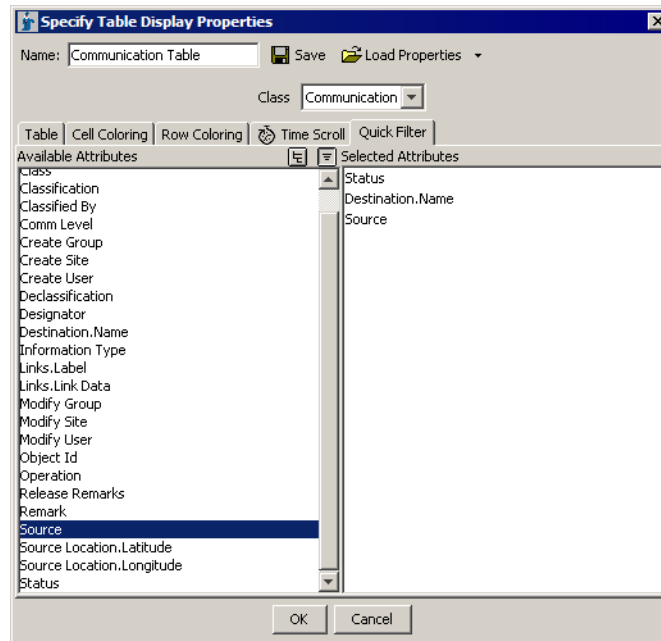
The Time Scroll tab also displays the Available Attribute and Selected Attribute panels. Selecting an attribute is optional. The selected attribute is used to synchronize the table view with other views that have a similar Time Scroll attribute set. The synchronization process is performed in the Project Manager window, but only views that have similar Time Scroll attributes selected can be synchronized.

Figure 3–4 Time Scroll Tab

3.1.5 Quick Filters Tab

WebTAS uses the Query Panel to filter all of the data available (see Figure 3–5) to create a view of only the information that is meaningful for your task. However, after a view is created, you can further filter the subset of data by using quick filtering. The attributes added in this view will be available when you choose to display Quick filters.

Figure 3–5 Quick Filters Tab



EXERCISE: SHOW KIDNAPPINGS ON A TABLE

1. Show Kidnappings on a New Table
2. Display the following columns:
 - Event Date
 - Number Kidnapped
 - Ransom Demanded
 - Responsible Group
 - Victim Type
 - Guerilla Units
 - Status
3. Turn on alternate row coloring
4. Set Status and Responsible Group as Quick Filters

5. Save your display settings as Kidnapping Table

3.2 Reorganizing a Table

Although the Table Properties window is used to select which attributes are displayed in the table and any cell or row coloring applied, there are additional features that you may customize from within the table itself.

You can make the following adjustments to a table:

Resize columns

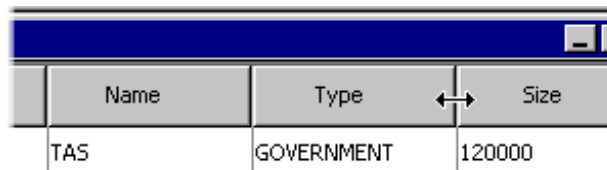
Resize rows

Reorder columns

Sort rows

To resize columns:

- Click and drag at the right-hand boundary between column headers.



	Name	Type	Size
	TAS	GOVERNMENT	120000

To resize rows:

- Click the desired row resizing button.

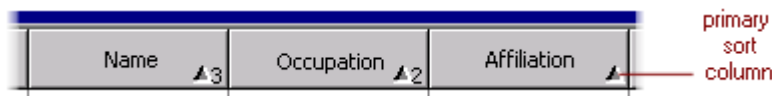


To reorder columns:

- Click and hold the mouse cursor on the column header, and drag the column left or right.

To sort rows:

- To sort table rows based on the alphanumeric or temporal order in a column, ctrl + click the header of a column. An up arrow appears next to the header title, and the rows get sorted top to bottom based on the values in that column. Click the same header again to show a down arrow and sort the rows in reverse order. A third click will return the column to the original order.
- Nested row sorting is possible by first clicking one column, then the next, and so on. The last column clicked becomes the primary sort attribute, followed by the next to last, and on backward as indicated by numbers.



3.3 Right-Click Menus

If you right-click in a table, a right-click context menu appears. The menu displays options specific to the area clicked.

The three areas that open a context sensitive right-click menu are:

Column heading

Row

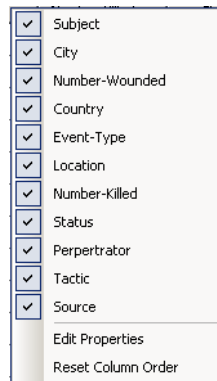
Cell

Column Heading Right-Click Menu

Right-clicking a column heading opens a menu containing two or three parts:

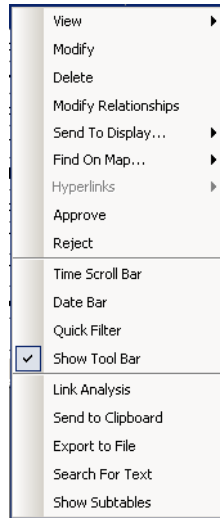
List of all attributes available as column headings—the attributes with a checkmark are the current column headings displayed. Unchecking a heading hides the column from view but does not remove the column from the query results

- **Edit Properties Option**—opens the Table Properties wizard, and allows all of the options listed in the Table Configuration section
- **Reset Column Order**—available only if any columns have been reordered.



Row Right-Click Menu

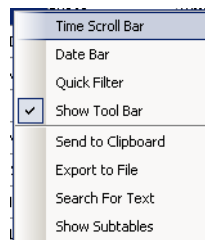
Right-clicking a selected row opens a menu containing many options. To select a row, click in the row number column.



For a complete explanation of the options see the WebTAS User Guide.

Cell Right-Click Menu

The cell right-click menu is a subset of the row right-click menu.



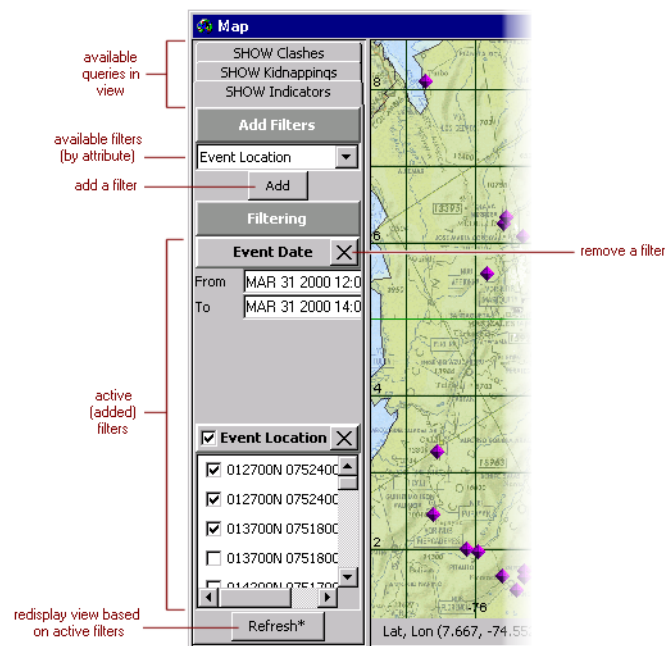
3.3.1 Using Quick Filters

To use Quick Filters:

1. Create a view.
2. Open the quick filter pane (right-click > Quick Filter).
3. Under the Add Filters section, select a filter attribute from the drop-down menu.

4. Click the Add button.
5. Under the Filtering section, enter or identify the specific values that you want to allow through the filter.
6. Click the Refresh button to redisplay the view with only the desired results.
7. Note that the Refresh button includes an asterisk (*) whenever the view display has not been refreshed to match the current quick filter settings.
8. You can add more than one filter; however, WebTAS limits the total number of filters to five.
9. Closing the Quick Filter—To close the quick filter, right-click in the view, and reselect the Quick Filter option.

Figure 3–6 Quick Filters



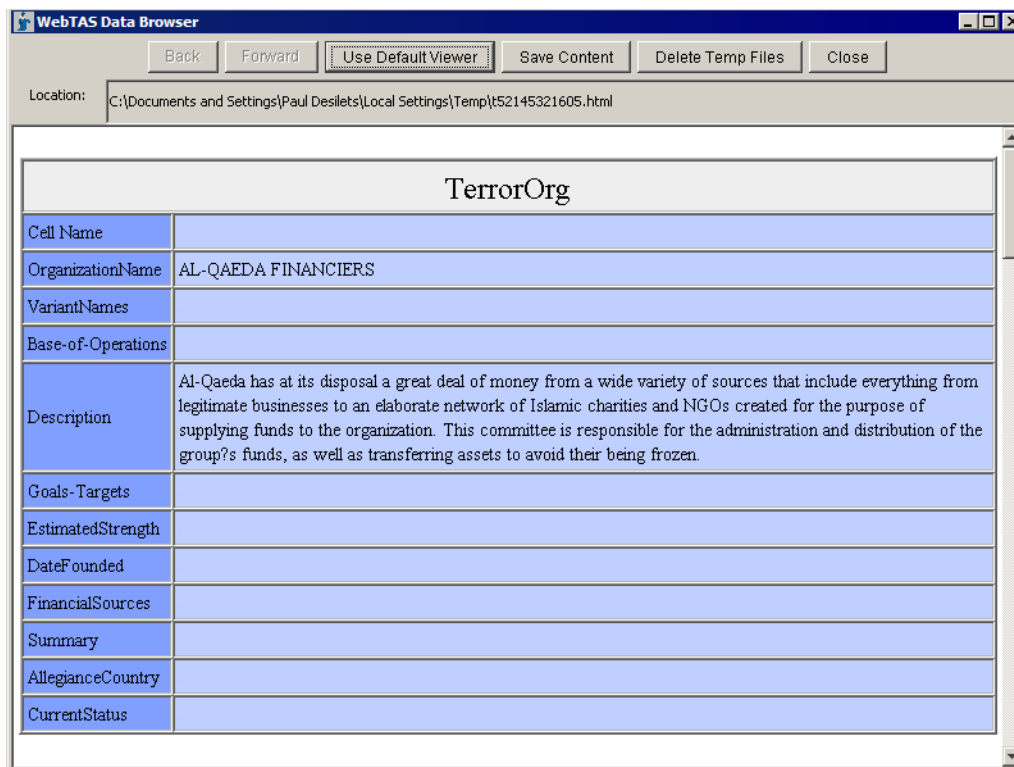
The process for using Quick Filters is the same for any view. Figure 3–6 shows Quick Filters on a Map.

3.4 Working with Records

Viewing a Record

1. Double clicking a row in a table opens the database record associated with that row. The record opens in a WebTAS data browser window.

Figure 3–7 WebTAS Data Browser



The screenshot shows a web browser window titled "WebTAS Data Browser". The address bar displays the location: C:\Documents and Settings\Paul Desilets\Local Settings\Temp\t52145321605.html. The main content area displays a record for "TerrorOrg". The record is presented as a table with the following fields and values:

TerrorOrg	
Cell Name	
OrganizationName	AL-QAEDA FINANCIERS
VariantNames	
Base-of-Operations	
Description	Al-Qaeda has at its disposal a great deal of money from a wide variety of sources that include everything from legitimate businesses to an elaborate network of Islamic charities and NGOs created for the purpose of supplying funds to the organization. This committee is responsible for the administration and distribution of the group's funds, as well as transferring assets to avoid their being frozen.
Goals-Targets	
EstimatedStrength	
DateFounded	
FinancialSources	
Summary	
AllegianceCountry	
CurrentStatus	

Deleting a Record

When you want to delete a record in the WebTAS Default Database:

1. Send the records to a table.
2. Select the record or records (**CTRL**+ click to select multiple).

3. Right-click the record and select **Delete**.
You will be prompted to ensure that you really want to delete the record.

Modifying a Record

When you want to modify a record in the WebTAS Default Database:

1. Send the records to a table.
2. Select the record to modify.
3. Right-click the record and select **Modify**.
The Modify Record window opens.

Figure 3–8 Modify Record

WebTAS - Modify Kidnappings: Object Id: 193

Source | Remarks | Hyperlinks | Events | **Kidnappings** | Relationship

Responsible Group: RUNIT

Number Kidnapped: 11

Victim Type: POLITICAL/OTHER

Roadblock: TRUE

Ransom Demanded: UNKNOWN

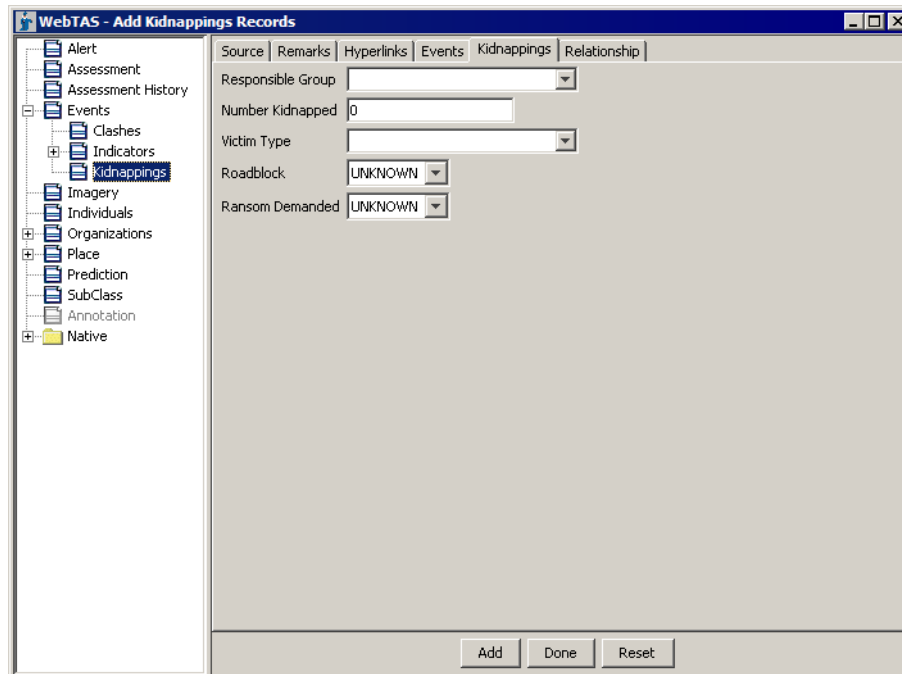
Modify Cancel Reset

4. Make your changes and Click the **Modify** button.

Add a Record

1. **Edit > Add New Record**
The Add Records window opens.

Figure 3–9 Add Records



The image shows a screenshot of the 'WebTAS - Add Kidnappings Records' window. The window has a title bar with the text 'WebTAS - Add Kidnappings Records'. On the left side, there is a tree view showing a hierarchy of categories: Alert, Assessment, Assessment History, Events, Clashes, Indicators, Kidnappings (which is selected and highlighted), Imagery, Individuals, Organizations, Place, Prediction, SubClass, Annotation, and Native. The main area of the window is divided into two tabs: 'Source' and 'Remarks'. The 'Source' tab is active, showing a form with the following fields: 'Responsible Group' (a dropdown menu), 'Number Kidnapped' (a text input field containing '0'), 'Victim Type' (a dropdown menu), 'Roadblock' (a dropdown menu with 'UNKNOWN' selected), and 'Ransom Demanded' (a dropdown menu with 'UNKNOWN' selected). At the bottom of the window, there are three buttons: 'Add', 'Done', and 'Reset'.

2. Navigate to the type of record you want to add.
3. Complete the desired fields.
4. Click the Add button.

4 Using Maps

Module Time: 2 Hours

Overview

A map displays objects in geographical context with other objects. A map includes information such as land and water masses, political borders, and latitude (lat.) and longitude (lon) scale. The map view is one of the most commonly used views and one of the two views-timeline being the other-that can contain the results from multiple queries.

Module Objectives

After completing this module, you will be able to:

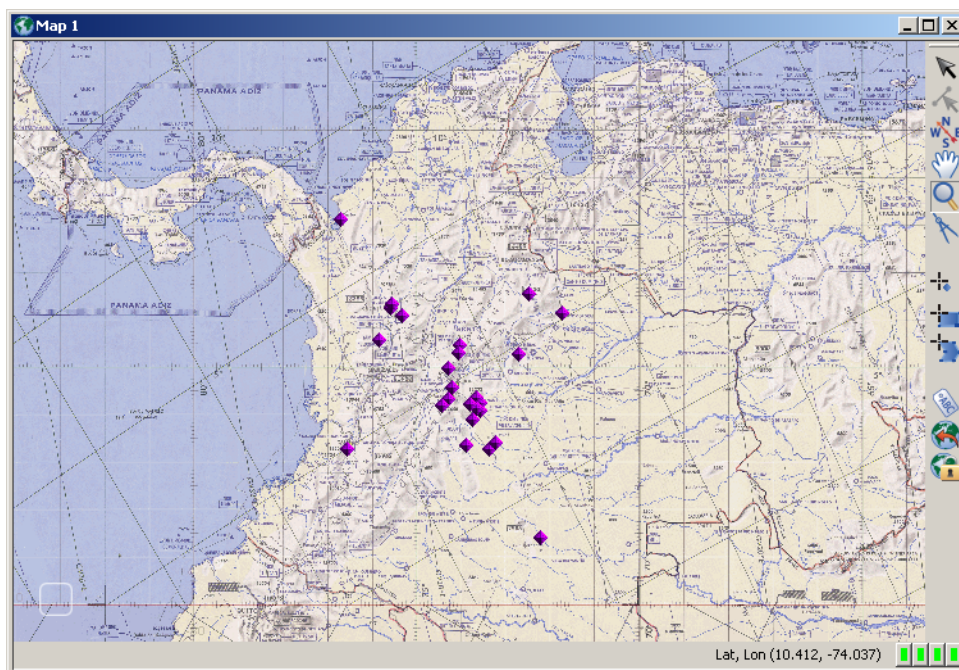
- Explain that maps display data in a geographical context
- Set map label properties
- Edit properties
- Change scale
- Change properties
- Show objects
- Hide objects
- Copy location to clipboard
- Add a map layers
- Manage layers
- Create or overwrite an Openmap properties file
- Draw on a map
- Highlight location points
- Run travel calculations

■ View AOI Boundaries

4.1 Creating a Map

A map displays objects in geographical context with other objects as seen in Figure 4-1. A map includes information such as land and water masses, political borders, and latitude (lat.) and longitude (lon) scale.

Figure 4-1 Map View



Objects must have a location-based attribute such as "event location" in order to appear on a map.

To create a new map view:

1. Build a valid query using the Query Panel.
2. Choose the Send Results to New Map option.

3. Choose named display properties from the drop-down menu in the lower left corner of the Query Panel. Alternately, choose the Specify Properties option to configure new or first-time display properties.
4. Click the **Query** button.

For named display properties, the new map automatically appears.

Otherwise, WebTAS opens the Map in the Edit Mode.

You also have the option to create a blank map with the toolbar button or by choosing **File > New > Map** from the pull-down menus. You can add content to the blank map using the Project Manager.

4.2 Edit Mode

When you send a query of a class to a Map and select Specify Properties, the Map view opens in the Edit Mode.

Use the Edit Mode mode to define the following properties:

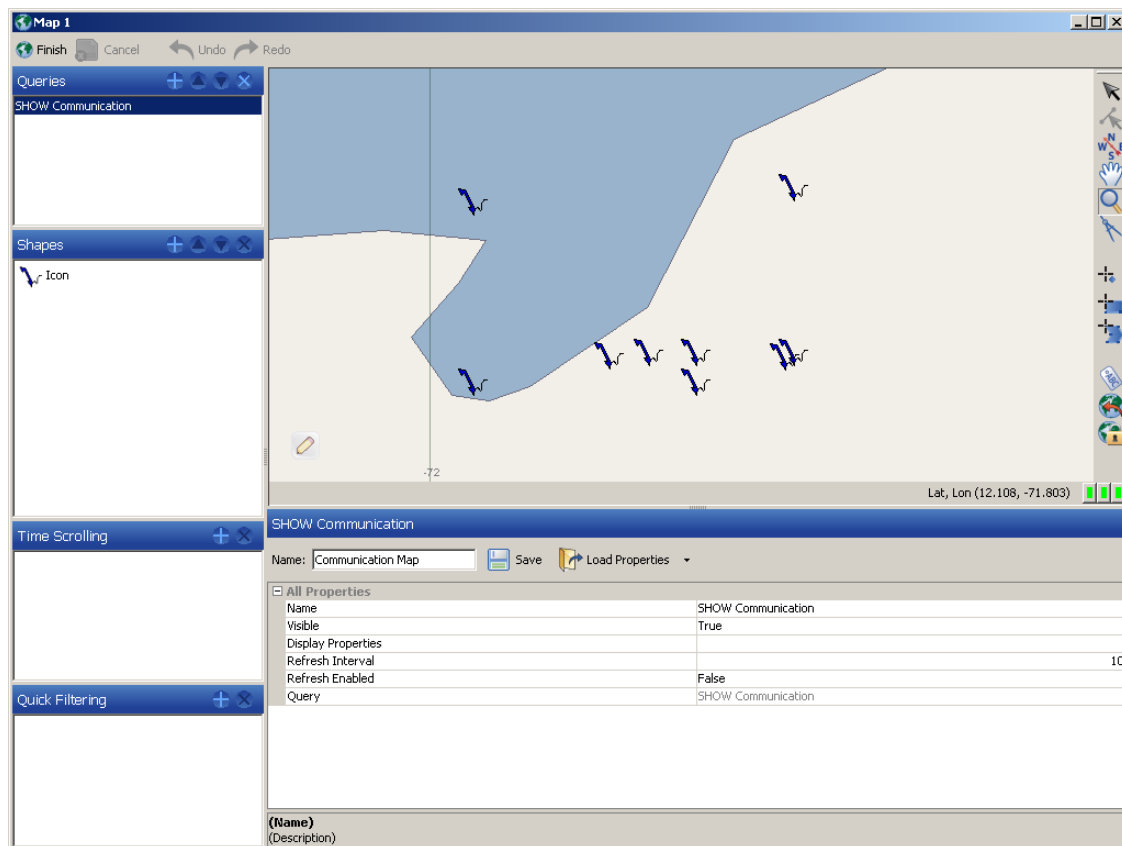
- Queries
- Shapes
- Time Scrolling
- Quick Filtering

We will discuss defining Shapes in this course, for complete information on defining Map properties refer to the WebTAs Project Tool Guide.

Using the webtasdemo-access.wtdd file we will send a query to a Map View and configure how we want to see the query displayed.

Show **COMMUNICATIONS** on a MAP

1. Create the query and click the Query button.
The Map opens in the Edit Mode.

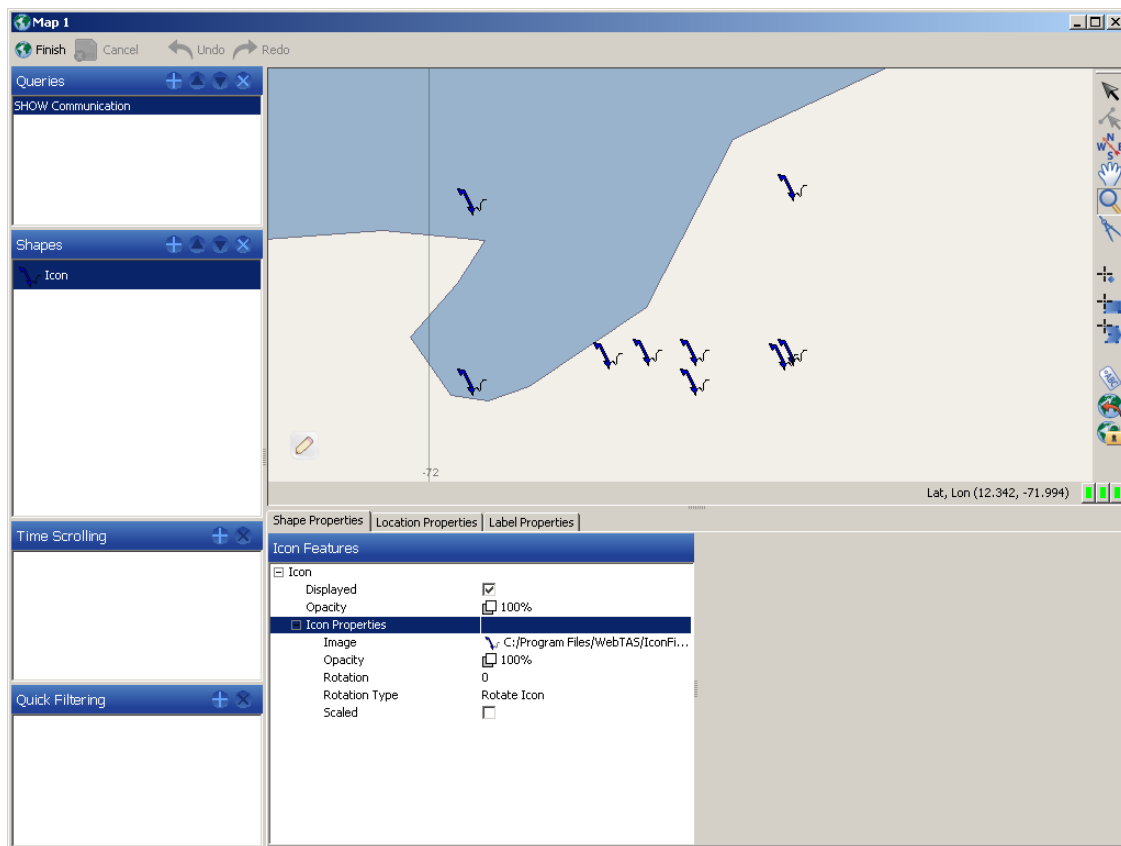
Figure 4–2 Map in Edit Mode

Note

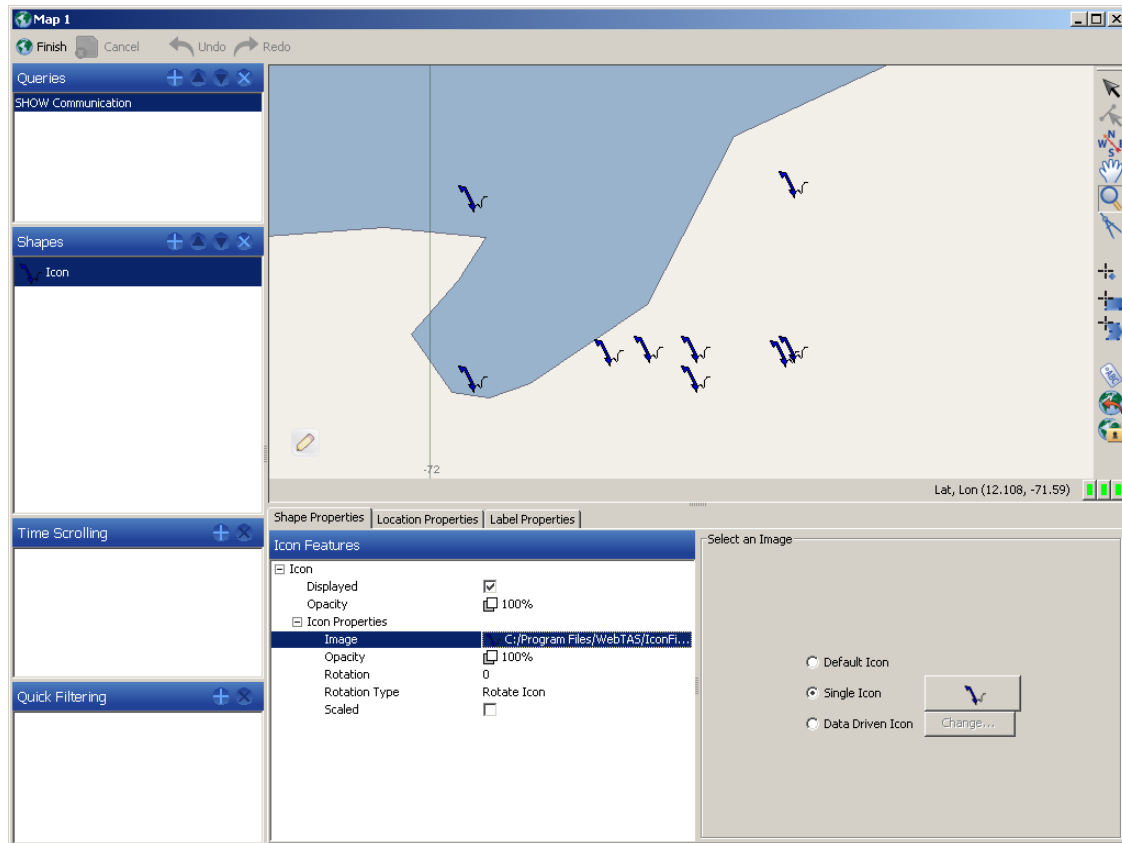
All of the icons are the same based on the display properties in the Data Dictionary. We will edit these properties and save them in the Display Properties directory under C:\Documents and Settings\local user\WebTAS\DisplayProperties

2. Select the icon in the Shapes panel on the left side,
The lower right hand panel becomes the Icon Features configuration panel.

Figure 4–3 Icon Features

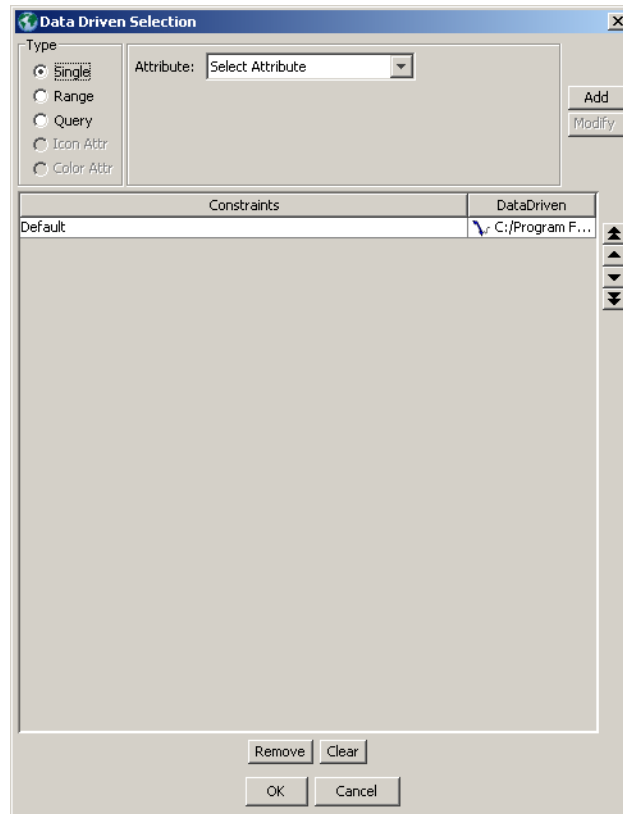


3. Select the Image row under Icon Properties.
The Select an Image panel appears.

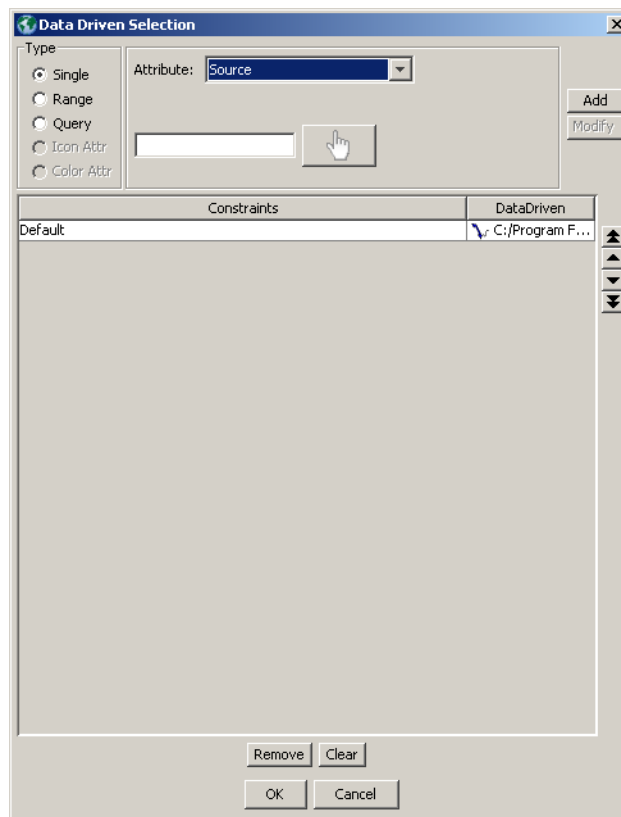
Figure 4-4 Select an Image

4. Select the Data Driven Option.
The Data Driven Selection window opens.

Figure 4–5 Data Driven Selection

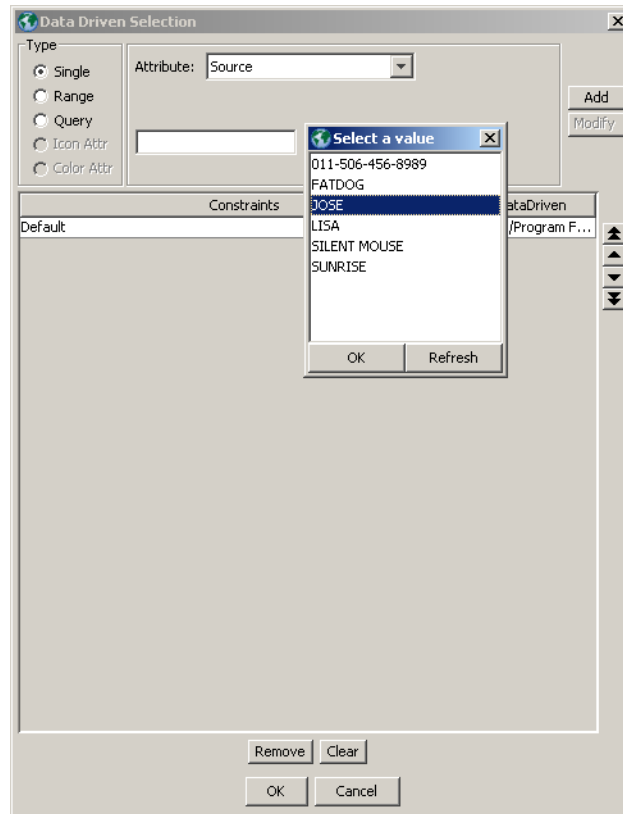


5. Select **Source** from the Attribute drop list.
The Value Picker appears.

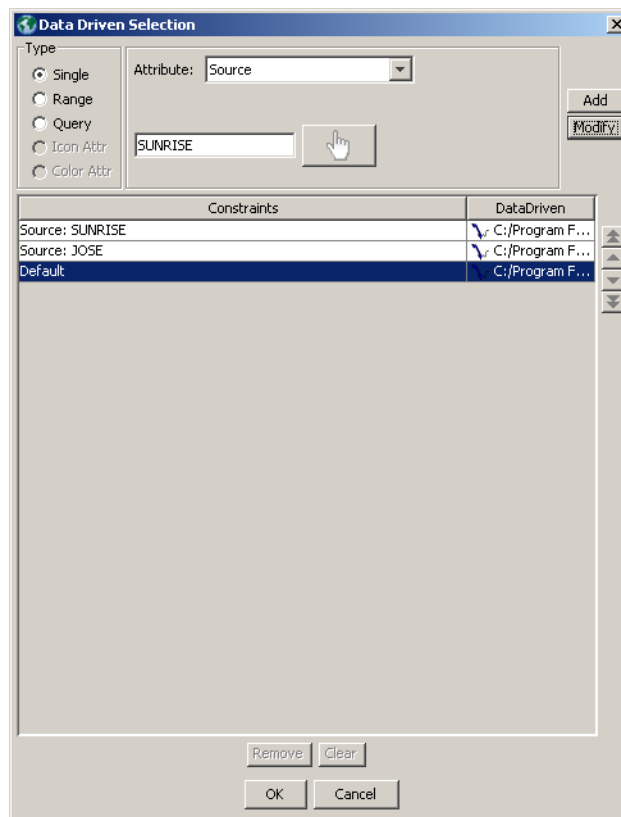
Figure 4–6 Value Picker

6. Click the Value Picker Icon.
The Select a Value panel opens.

Figure 4–7 Select a Value



7. Select Jose, click OK and then click the Add button.
Jose will be added to the list of constraints.

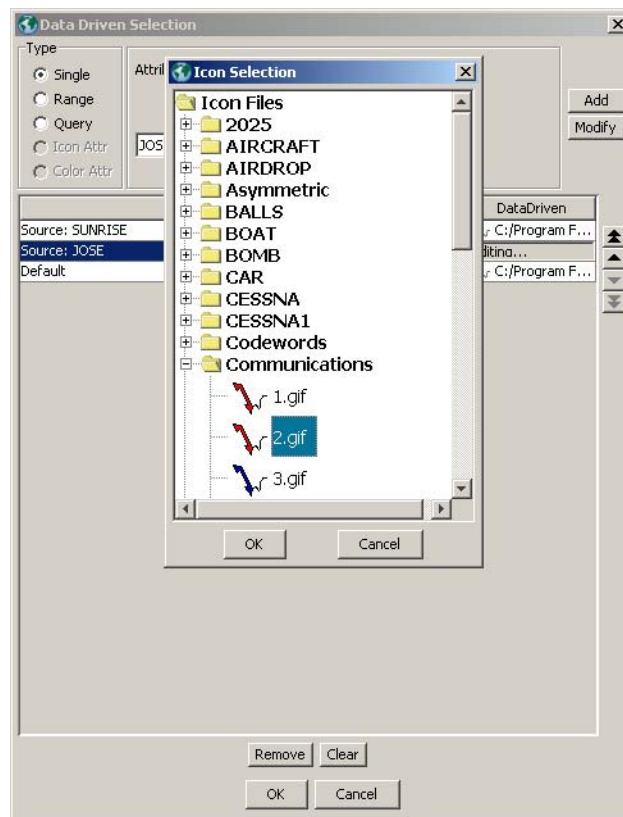
Figure 4-8 List of Constraints

Note

Jose and Sunrise have been added to the previous image and all three items are using a single icon to represent the Communication.

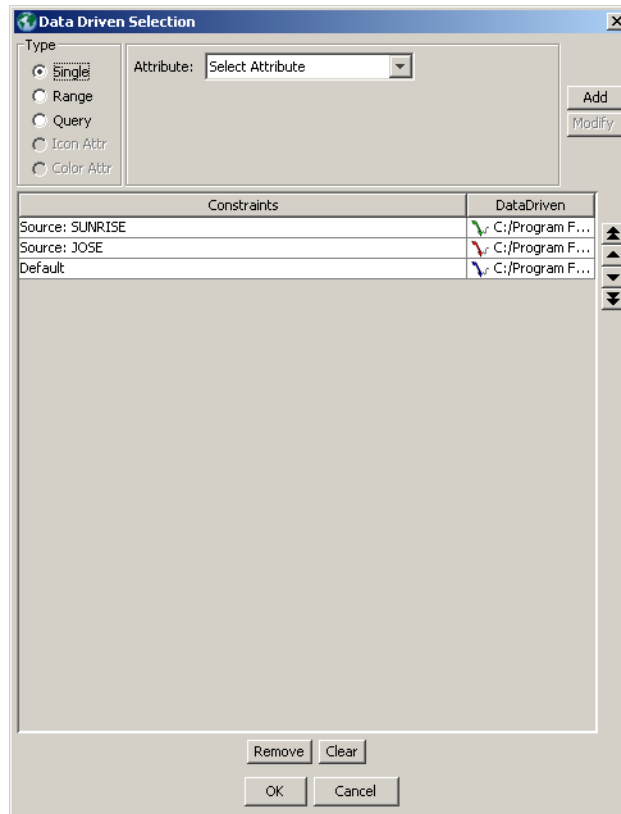
8. Click in the Data Driven cell in the row containing Jose, The Icon Selection window opens.

Figure 4–9 Icon Selection



9. Open the Communications folder, select 2.gif to represent Jose's communications and click OK.
The appropriate icon is displayed in the Data Driven cell.

Figure 4–10 Icons Selected

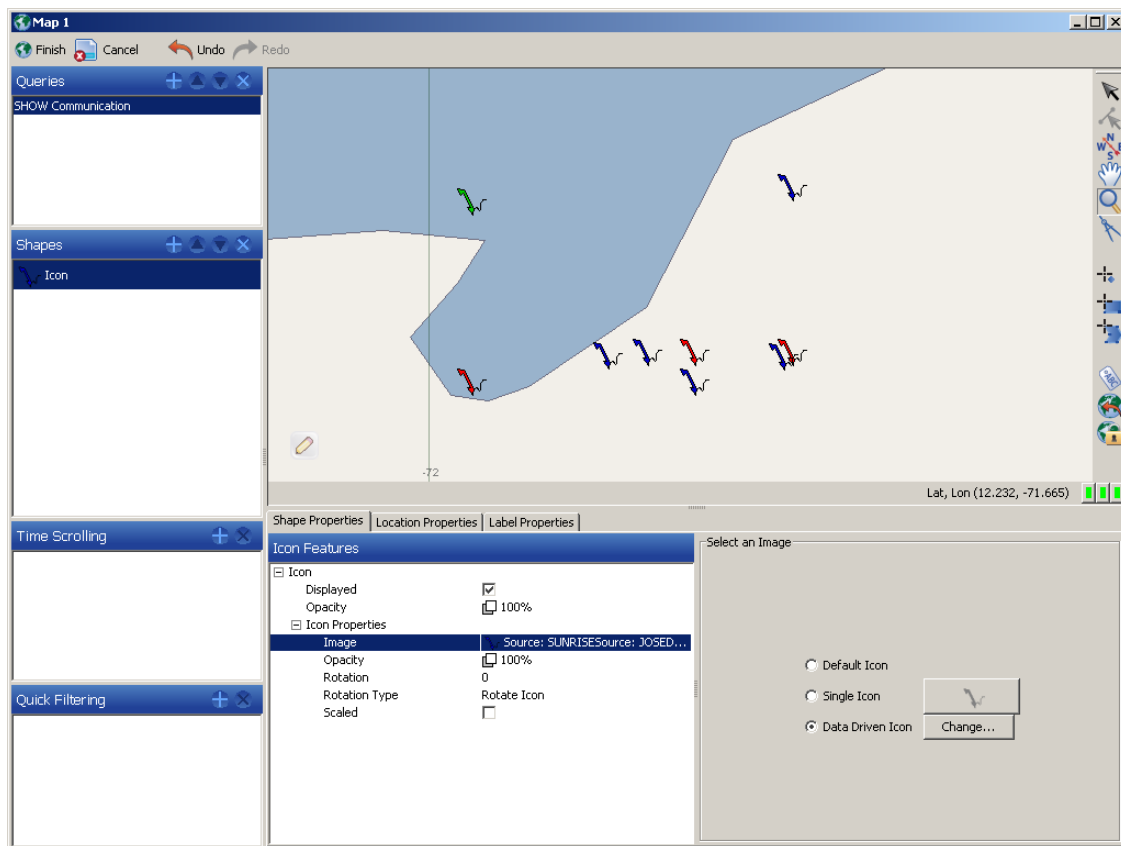


Note

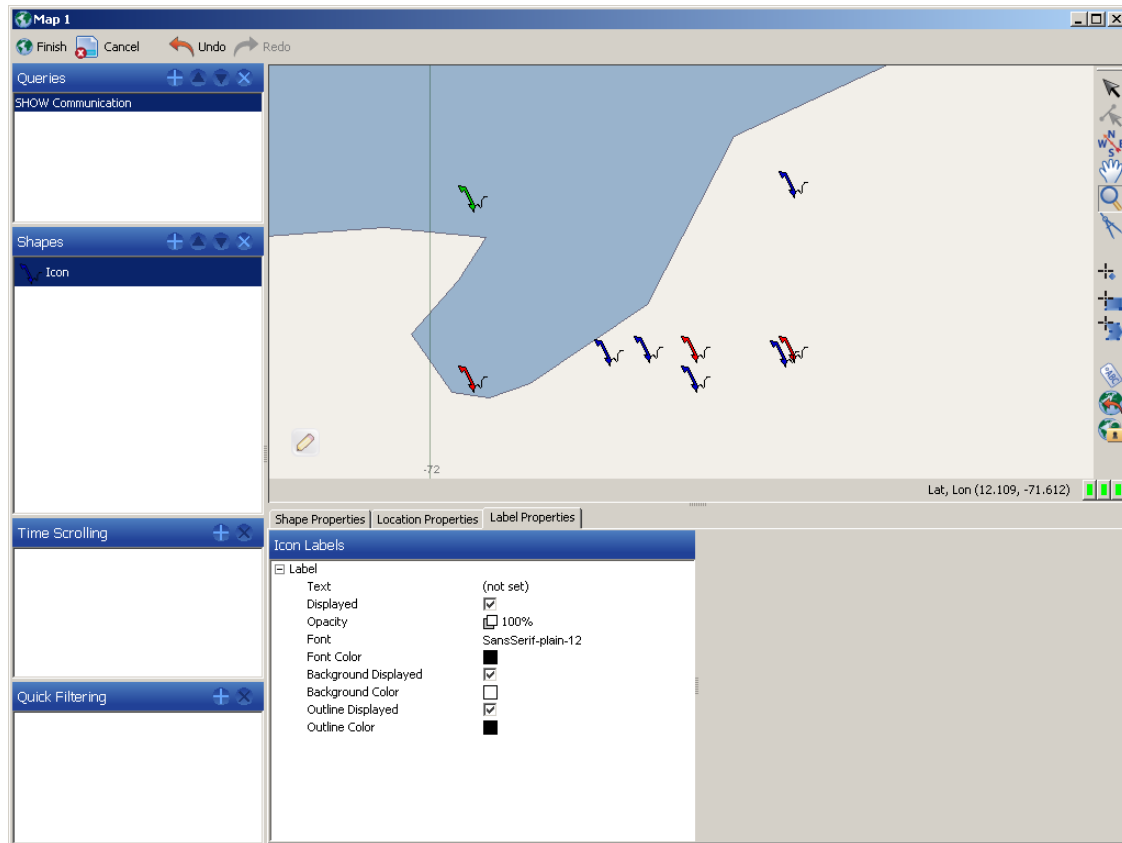
The Icons have been updated for Jose and Sunrise.

10. Click OK.
The Icons are updated on the Map Edit Mode

Figure 4-11 Updated Icons

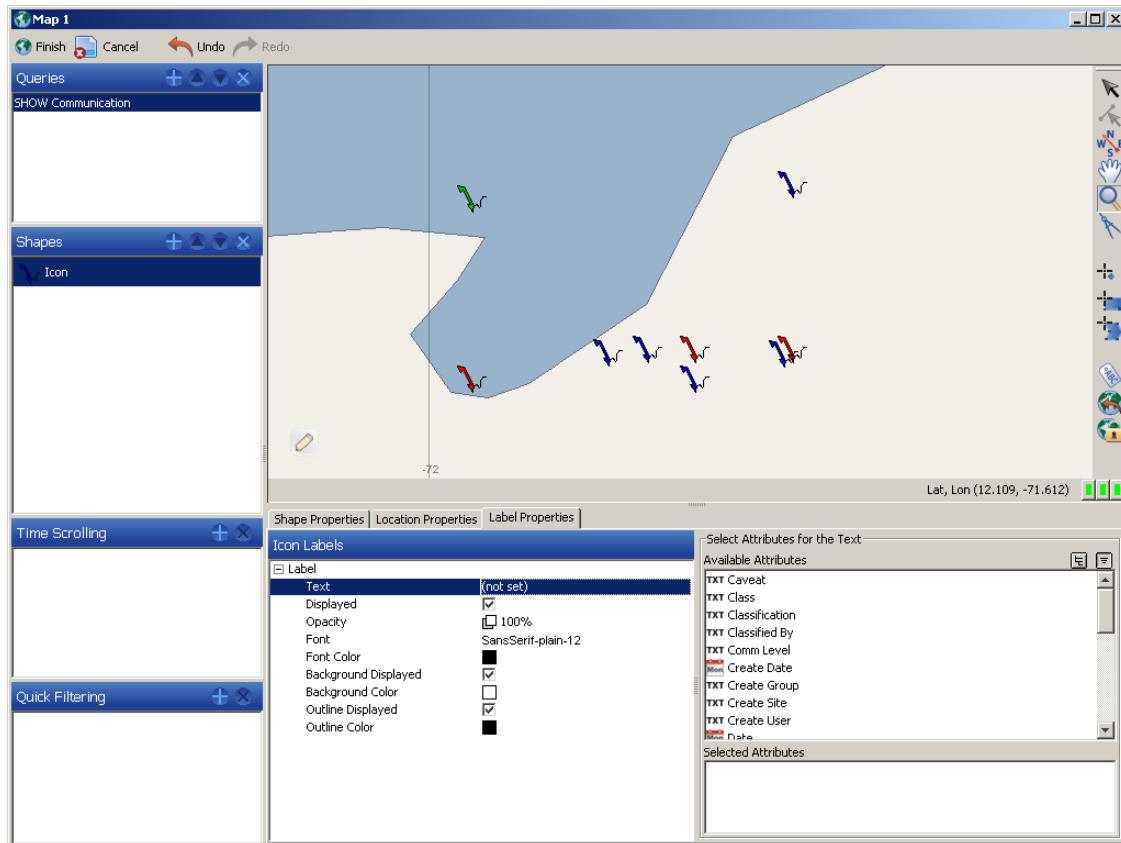


11. Click the Label Properties tab.
The Icon Labels panel appears.

Figure 4–12 Icon Labels

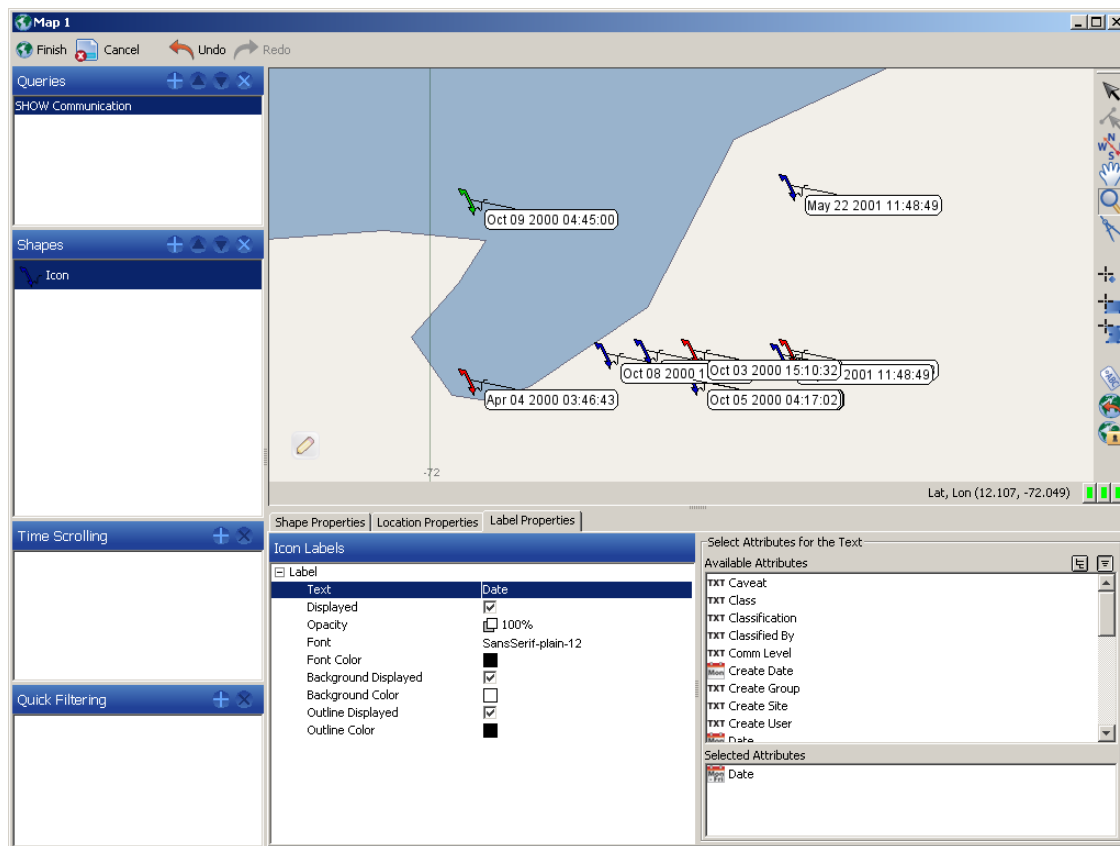
12. Select the (not set) property in the Text line.
The Select Attributes for the Text panel opens to the right.

Figure 4–13 Select Attribute for Label



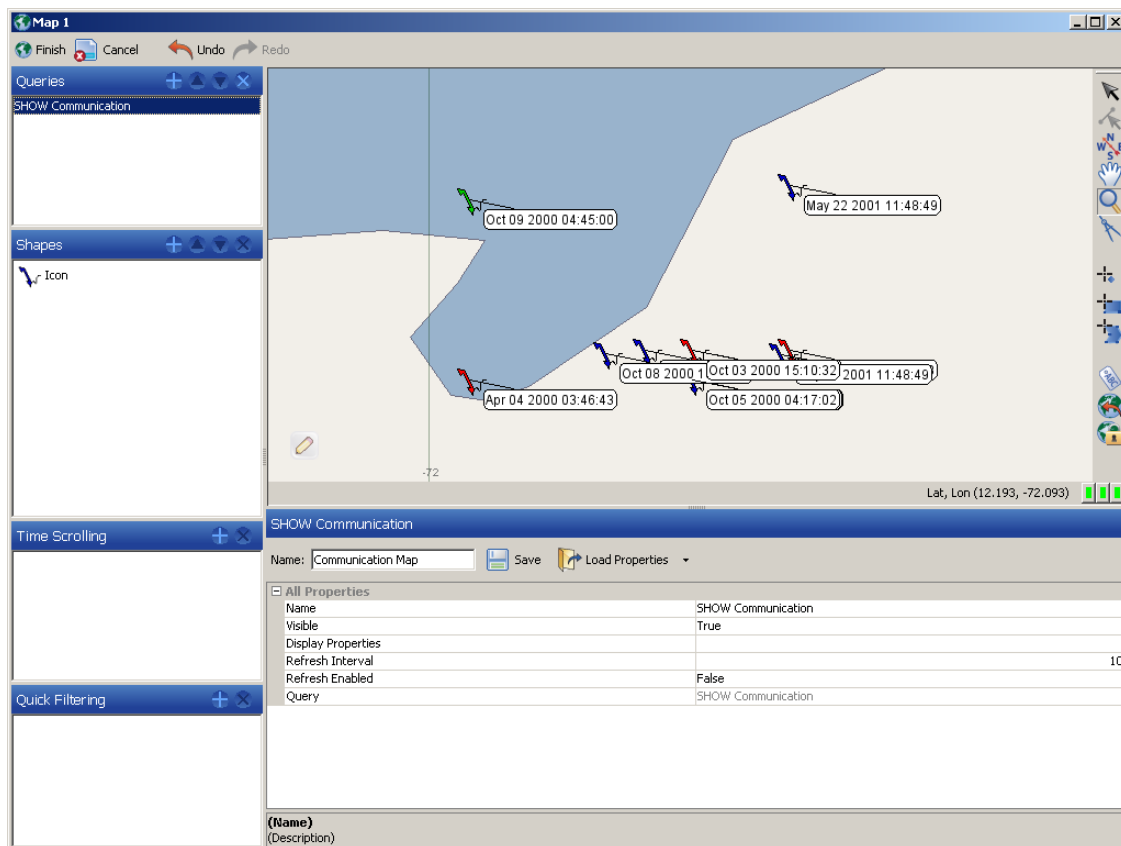
13. Select the Date attribute as the label.
The labels appear on the Map display.

Figure 4-14 Labels



14. Select the Show Communications query in the Queries panel.
The Lower right hand panel now displays the Show Communications Display Properties.

Figure 4–15 Save or Load Display Priorities



15. Click Save to save the Display Properties as Communications Map.
If you wish to use a different name, edit the Name field to a display name of your choosing.

EXERCISE: SHOW KIDNAPPINGS ON A MAP

1. Show Kidnappings on a Map
2. Use Number Kidnapped as the label
3. Use Data Driven icon
4. Set Political Hostage—Red hostage icon
5. Set Religious Hostage—Green hostage icon

6. Set Default Hostage—Blue hostage icon
7. Save your display settings as Kidnapping Map

4.3 Toolbar Buttons

Map navigation involves options that are distributed across a toolbar, a pull-down menu, and a right-click menu. Some options are available in multiple places.

Toolbar—WebTAS enables the buttons in Table on the toolbar whenever a map view is active. Note that there are copies of the toolbar buttons on the view window itself. You can detach those buttons or dock them on any side of the view by clicking and dragging.

Table 4–1 Toolbar

Button	Option	Description
	Enable Select Mode	Allows you to select objects on a map: Select a single object by clicking. Select multiple objects with Shift+click. Select a group of objects by holding down the mouse button and dragging a rectangle around them
	Enable Track Point Select Mode	Allows you to select individual track points (without selecting the entire track) by holding down the mouse button and dragging a rectangle around them
	Enable Navigation Mode	Allows you to set a new center position by clicking. You can also specify a zoom area by holding down the mouse button and dragging a rectangle.
	Enable Pan Navigation Mode	Set a new center position by clicking a map and holding down the mouse button while dragging to a new map location. You can also zoom in by clicking the left mouse button and zoom out by using the right mouse button.

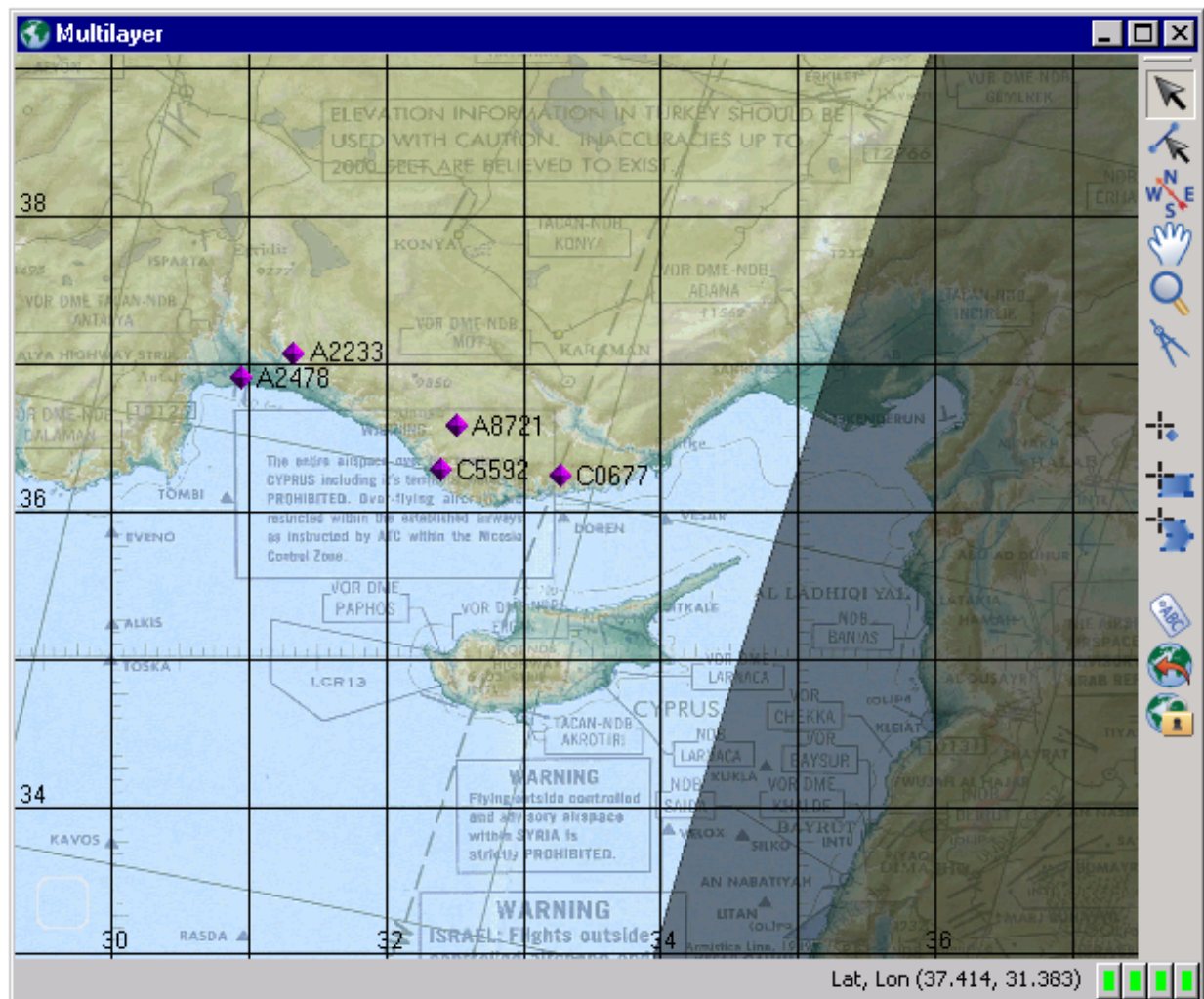
Table 4–1 Toolbar

Button	Option	Description
	Zoom	Left Click - Allows you to magnify your view (decrease the map scale). The click point becomes the new center. Right Click - Allows you to increase the map scale.
	Enable Map Feedback Tool Mode	Lets you click a point on the map to see the following: Location (for example, lat/lon) of the mouse cursor Distance from a clicked point to the mouse cursor Azimuth (heading) from a clicked point to the mouse cursor Subsequent clicks on the map adjust the center point, and the distance will be a cumulative total between all clicks and the current mouse position. Azimuth will always be relative to the last clicked point and the current mouse position. Double-clicking ends the feedback mode.
	Enable Single Point AOI Mode	Lets you specify a location point when making a map selection
	Enable Rectangle AOI Mode	Lets you specify a rectangular area when making a map selection
	Enable Polygon AOI Mode	Lets you specify an irregular area when making a map selection
	Toggle Label Visibility	Turns the labels on the map on or off.
	Undo Map Navigation	Backs out one step of map navigation actions you have made..
	Maintain Projection	Keeps the current zoom scale and center point when adding new queries or loading properties

4.4 Using Layers

WebTAS creates the look and feel of a map by layering different visual imagery into a composite that forms the final view. In turn, you have control over the number and kinds of layers that WebTAS assembles into a map view in order to make it suitable for your analysis needs (see Figure 4-16.)

Figure 4-16 Multilayer Example

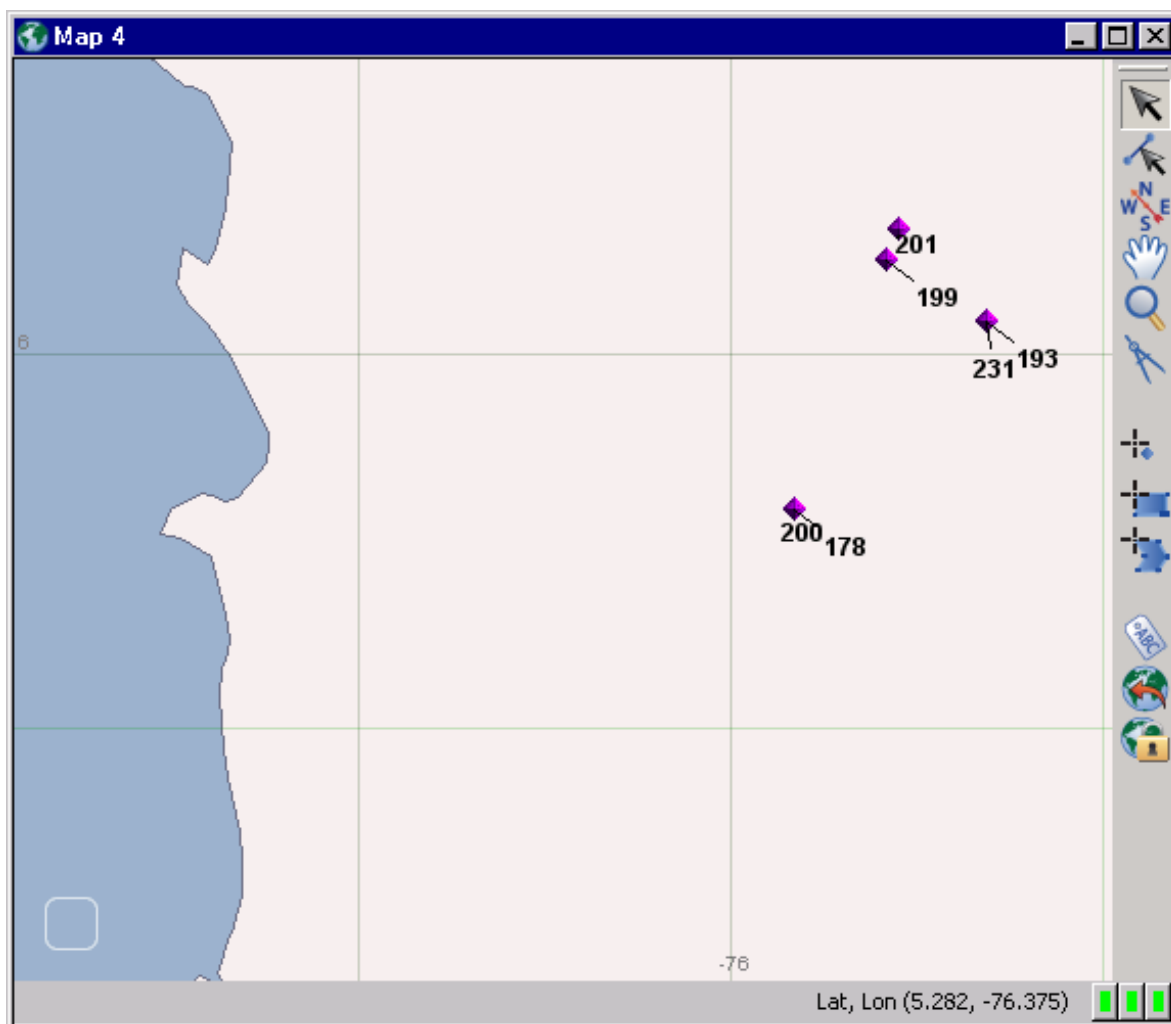


When you send query results to a new map, WebTAS adds three layers by default:

- **Query Results**—Object icons that represent the query results
- **Graticule**—Location lat/lon grid lines
- **Political Solids**—A shape file layer showing solid-color countries of the world

With only the default layers in place, the previous map would look similar to Figure 4-17.

Figure 4-17 Default View



Note

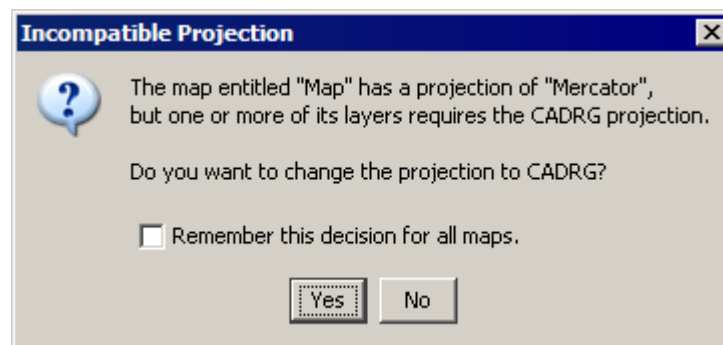
There are two ways to add layer information to your view, the Openmap method and the WebTAS Project Manager method. It is **strongly** recommended that you use the WebTAS Project Manager method.

WebTAS Project Manager allows you to add layers to a Map. You can add the following layers to a map:

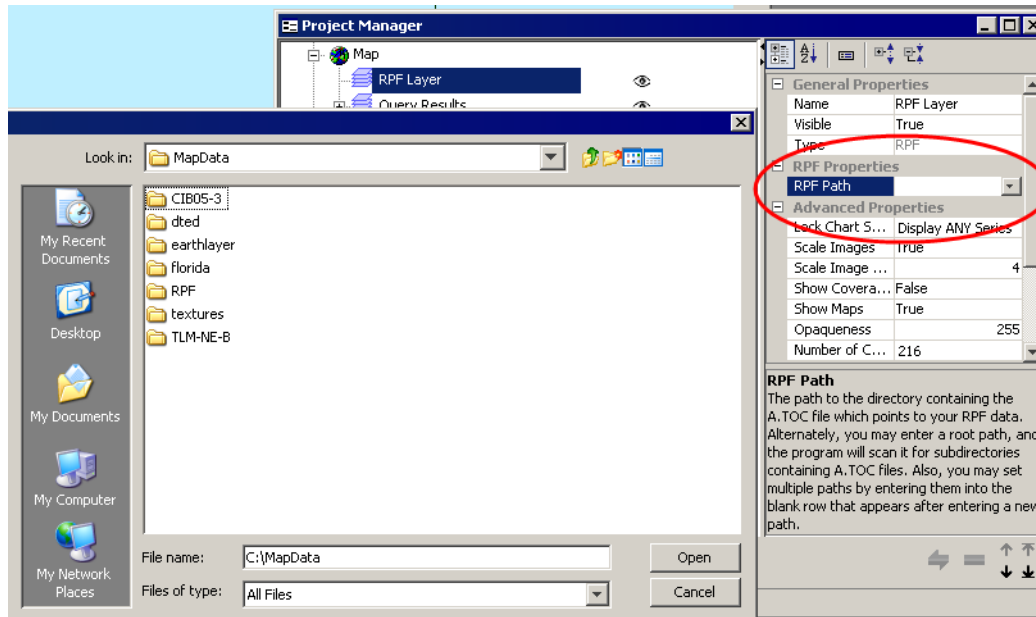
- Legend
- Day/Night Layer
- DTED Layer
- RPF Layer
- Graticule Layer
- Shape File Layer

EXERCISE: ADDING A LAYER

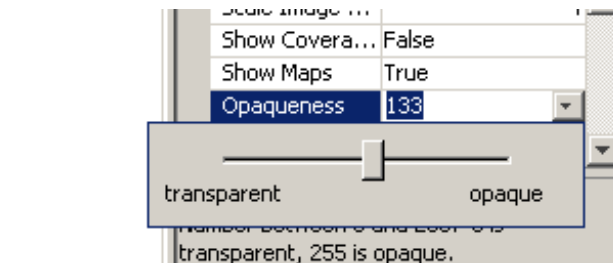
1. Open Project Manager and select the Detail tab.
2. Highlight the Map and right-click or select the Add Query droplist.
3. Select Add RPF Layer.
A warning dialog about Mercator Projection opens



4. Click Yes.
The Map is reconfigured and the RPF layer is highlighted in Project Manager.
5. Select the RPF Path and navigate to the directory containing your Map Data.



6. Select **Opacity** and adjust the opacity to your liking.



7. Reorder the RPF layer and close Project Manager.
Do not close your Map.

Updating the Openmap Properties File

1. With the Select Arrow active Right-click on the map and select Edit Properties.

Note

Ensure that no objects are selected on the map, otherwise you will not get the correct Right-click menu.

2. Click the **Save Openmap Properties to Disk** button.
3. Save a file named **openmap.classtest.properties**.
4. Test your new file by creating an new empty map.
5. Right-click on the new map and select **Edit Properties**.
6. Click the **Load Openmap Properties from Disk** button.
7. Load you **openmap.classtest.properties** file.
8. Click the **Apply** button.
9. Click **OK**.
10. Zoom in to test your new file.
11. Does it look like the other map?

Note

You could have overwritten any openmap.xxx.properties file instead of creation a new file. You could also have saved your new configuration as the default for all maps.

4.5 Drawing on a Map

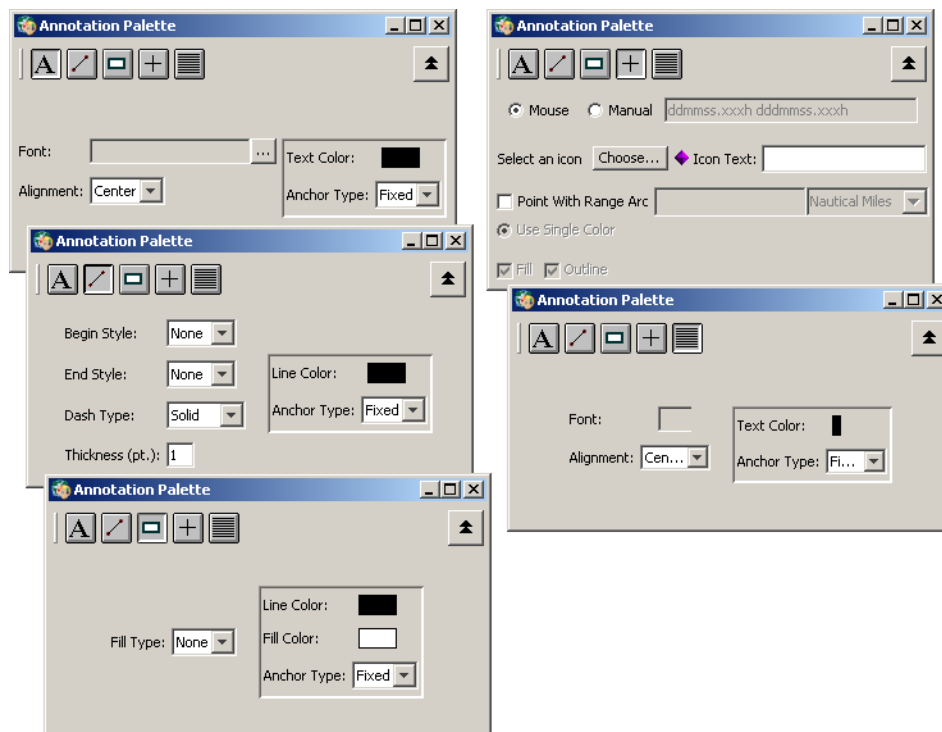
You can draw directly on a map with the Annotation Palette.

The Annotation Palette window lets you add text, lines, rectangles, and icons to a map. You can add them in any free-form location or position that is important to your analysis task. For example, you might add a rectangle and label to surround a particular subset of query result objects.

To add an annotation, click one of the five buttons at the top left part of the Annotation Palette. The button should look like it is pushed down. Then, take the cursor directly to a map view. (If you try to annotate a non-map view, you will have to start the process over.) The cursor should have a special "+" appearance that is different from the standard pointer.

The button in the top right corner of the dialog opens the tabs that let you tailor the appearance of your text, line, rectangle, or icon.

Figure 4–18 Annotation Palette



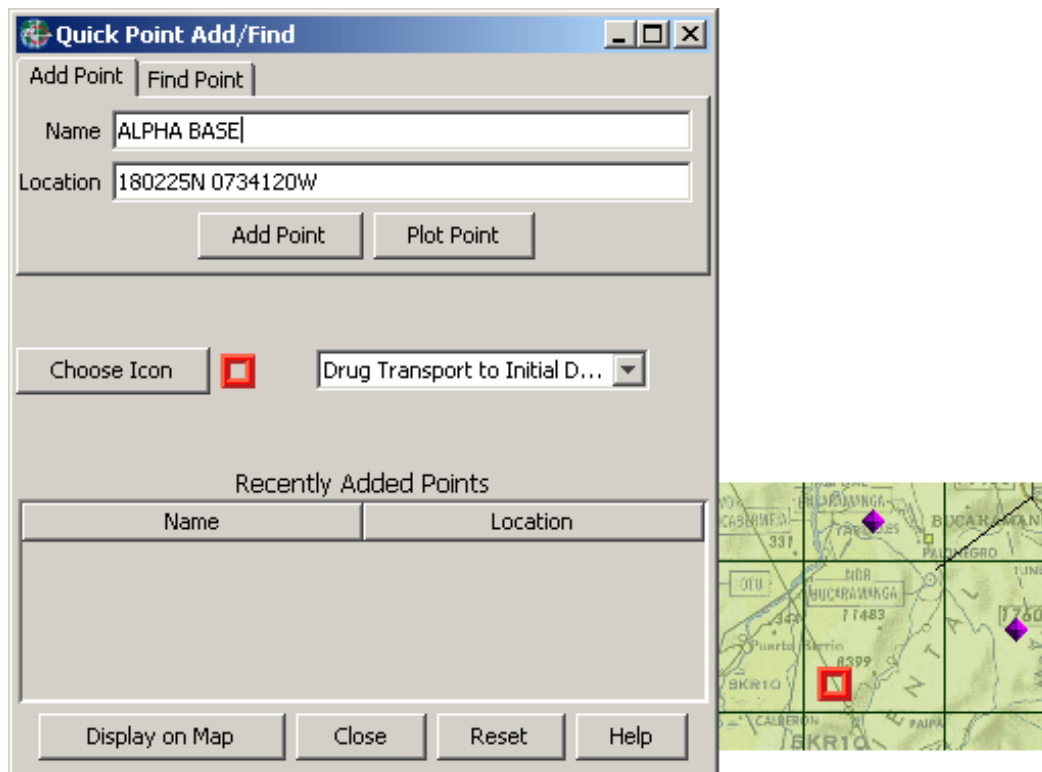
4.6 QuickPoint

You can use the QuickPoint dialog to highlight location (for example, lat/lon) points on a map. Click the toolbar button or choose **View > Show QuickPoint Form** from the pull-down menus.

The QuickPoint dialog is designed so that you add locations to a special table as shown in Figure. Enter a name and location at the top of the dialog, and click the Add button. For location, you can type coordinates directly or use the point AOI function directly on a map.

After adding points to the special table, you can highlight the desired rows and click the button at the bottom to find them on an existing or new map view.

Figure 4–19 QuickPoint Dialog



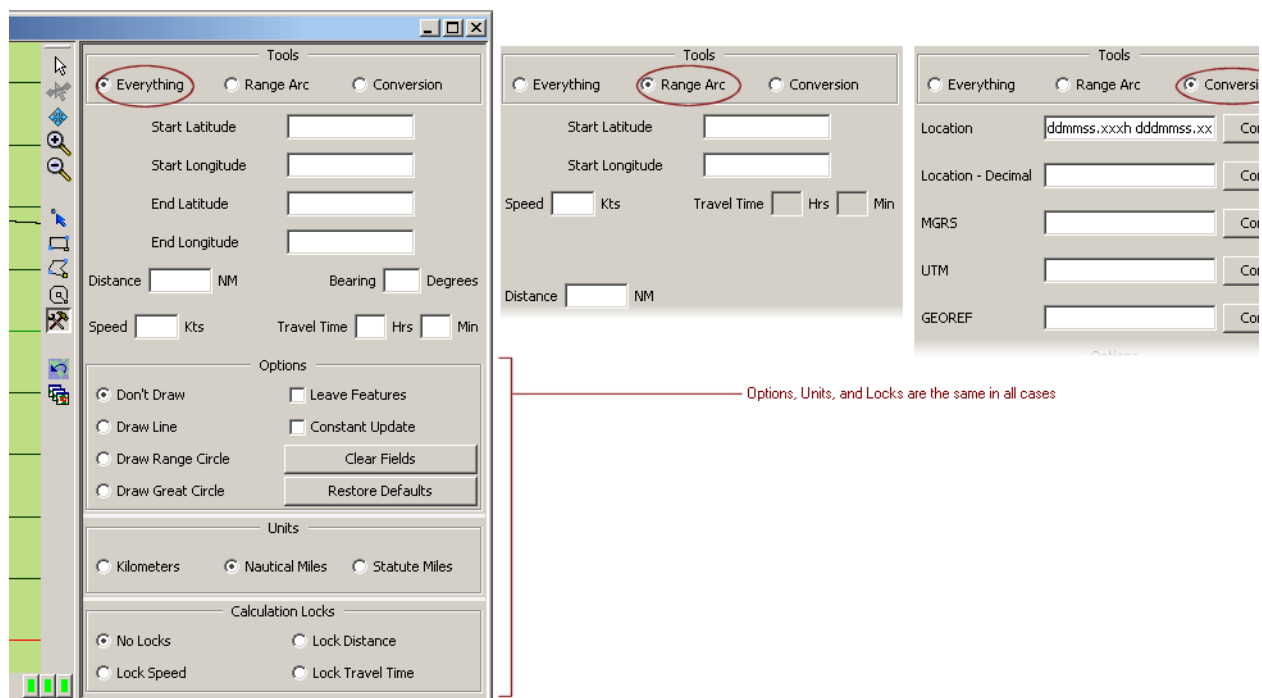
The dialog also lets you choose the icon for marking the found locations. Click the Map Icon button, and choose a shape from the available folders.

4.7 Running Travel Calculations

You can compute distance, speed, time, and direction on a map. The Map Tools dialog calculates values based on map location points that you specify. Calculations are "as the crow flies" and do not compensate for terrain.

Map Tools also let you draw three kinds of features on the map: straight lines, great circles, and range circles.

Figure 4–20 Map Tools Dialogs



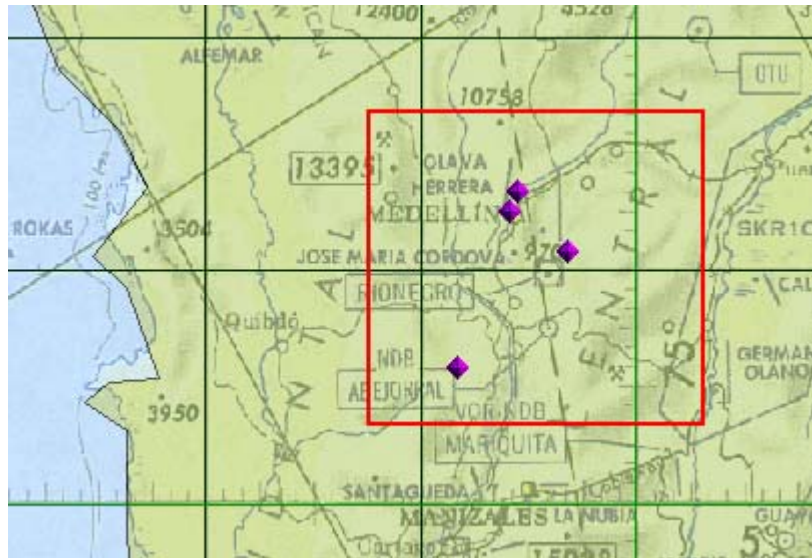
4.8 Viewing AOI Boundaries

When you construct a map location query based on an AOI, you often want to see the lines that defined the AOI along with the query results. The following sections describe the AOI options that make this possible.

Making an AOI Boundary Visible

1. From the menu bar, make sure that **View > Draw Polygons** on Maps is selected.
2. On the toolbar, click the rectangle or polygon AOI tool.
3. On a map view, click to form the AOI shape.
4. In the Query Panel, construct a location-based query that uses the AOI button.
5. WebTAS prepopulates the value area of the Query Panel with the AOI location point vertices from step 3.
6. Send the query to an existing or new map.
The lines that form the AOI appear on the view along with the query results (see Figure [4-21](#)).

Figure 4-21 AOI Rectangle



5 Using Project Manager

Module Time: 1 hour

Overview

List all components in the active project by opening Project Manager. Click the Project Manager button in the toolbar, or choose **View > Show Project Manager** from the pull-down menus. Project Manager opens in a separate window that includes information and controls.

Module Objectives

After completing this module, you will be able to:

- Use the Project Manager to modify queries
- Synchronize views
- Fine tune project formats
- Create shape files
- Import shape files

5.1 Tour

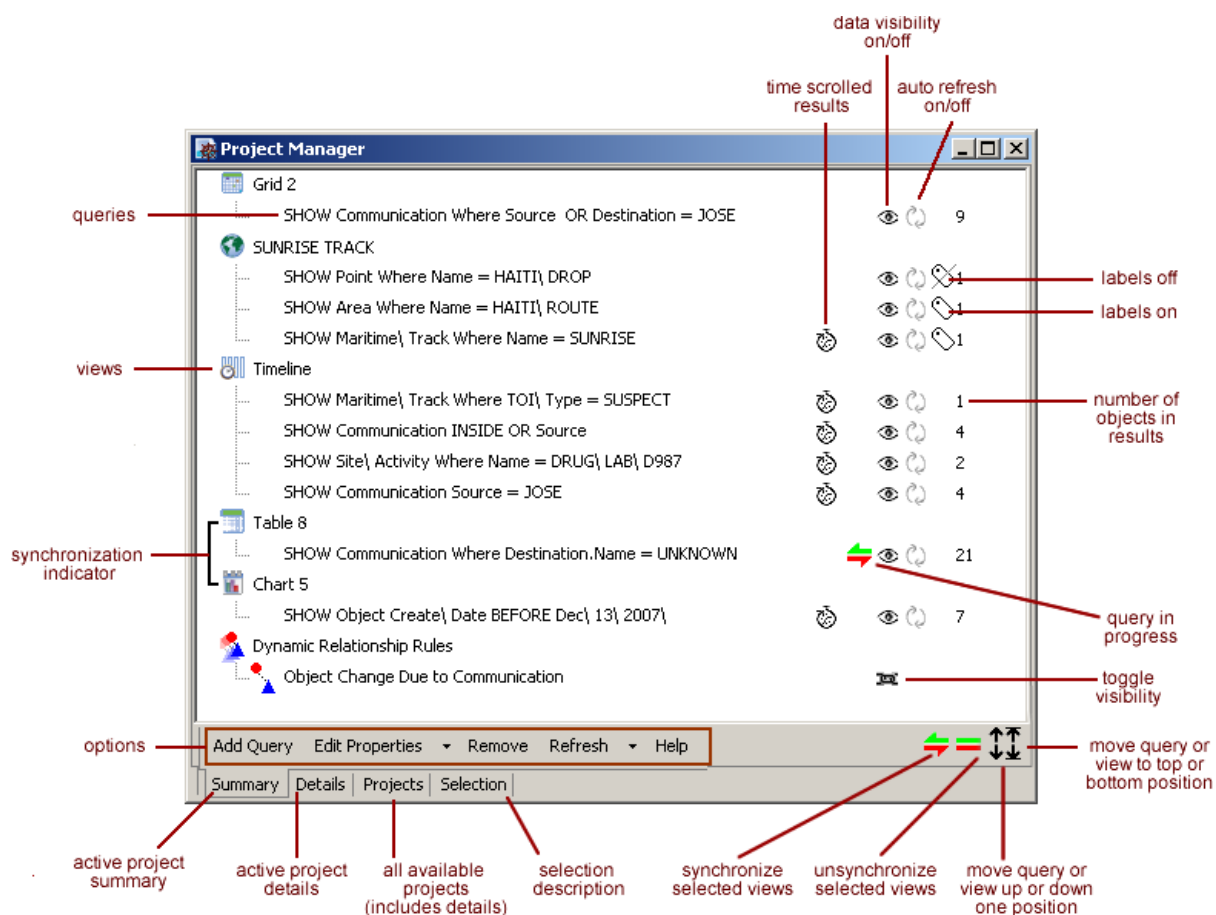
In addition to showing you what a project includes, the Project Manager is the central place to manage the data and format of all the WebTAS components that make up the project:

- Views
- Individual queries
- Link analysis
- Dynamic relationship rules
- Models
- Historical K-PASA analysis

In general, you can right-click a component listed in Project Manager to see what options are available. There is also a panel of options at the lower left. The options are dynamic and will change based on the kind of project component you select.

You can also double-click any view in Project Manager to bring the view to the front of the Project Tool workspace.

Figure 5-1 Project Manager



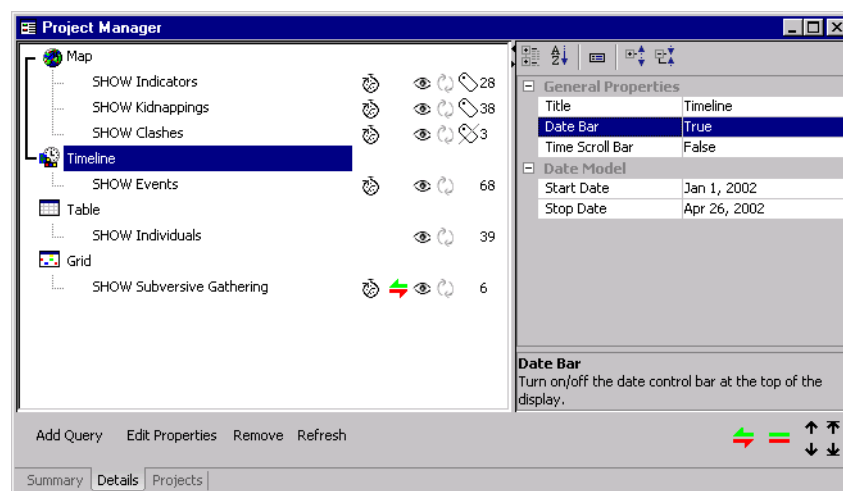
5.2 Summary Tab

The Summary tab provides the central control point for all open views. You can add or edit queries, edit view properties, and remove views or queries. You can also activate synchronization between views to enable playback of multiple views.

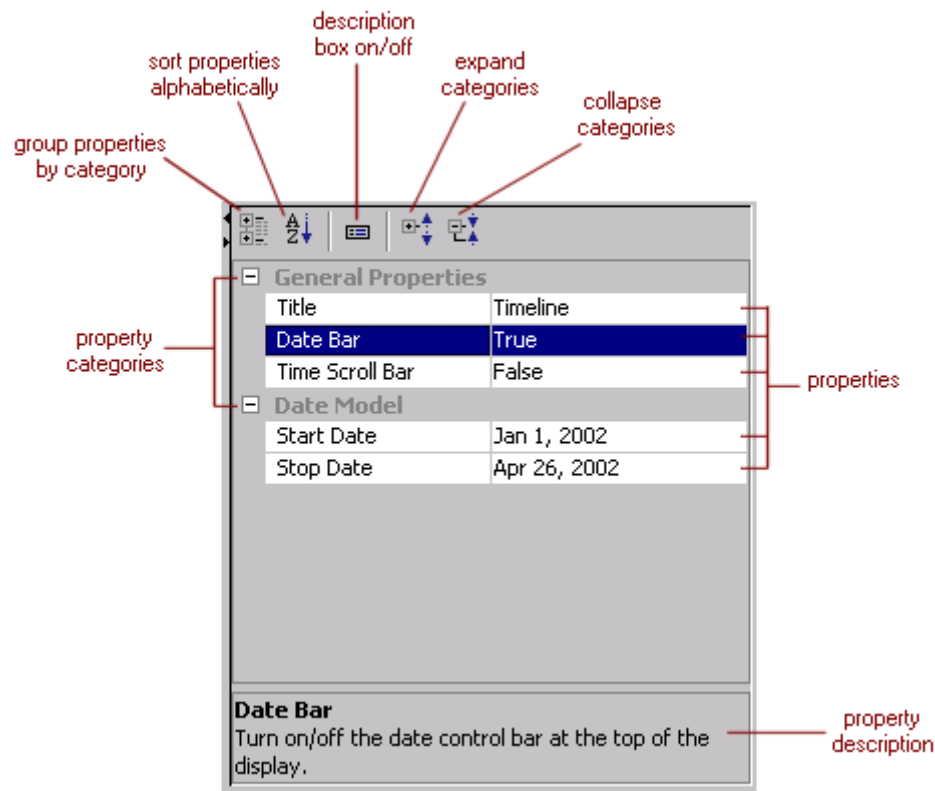
5.3 Details Tab

The Details tab provides a view into the values associated with the open views. You select the view or query that you want to modify and the values that you can modify appear in the right hand pane.

Figure 5–2 Details Tab



Click the value to be changed and use the drop list provided or enter your desired value.

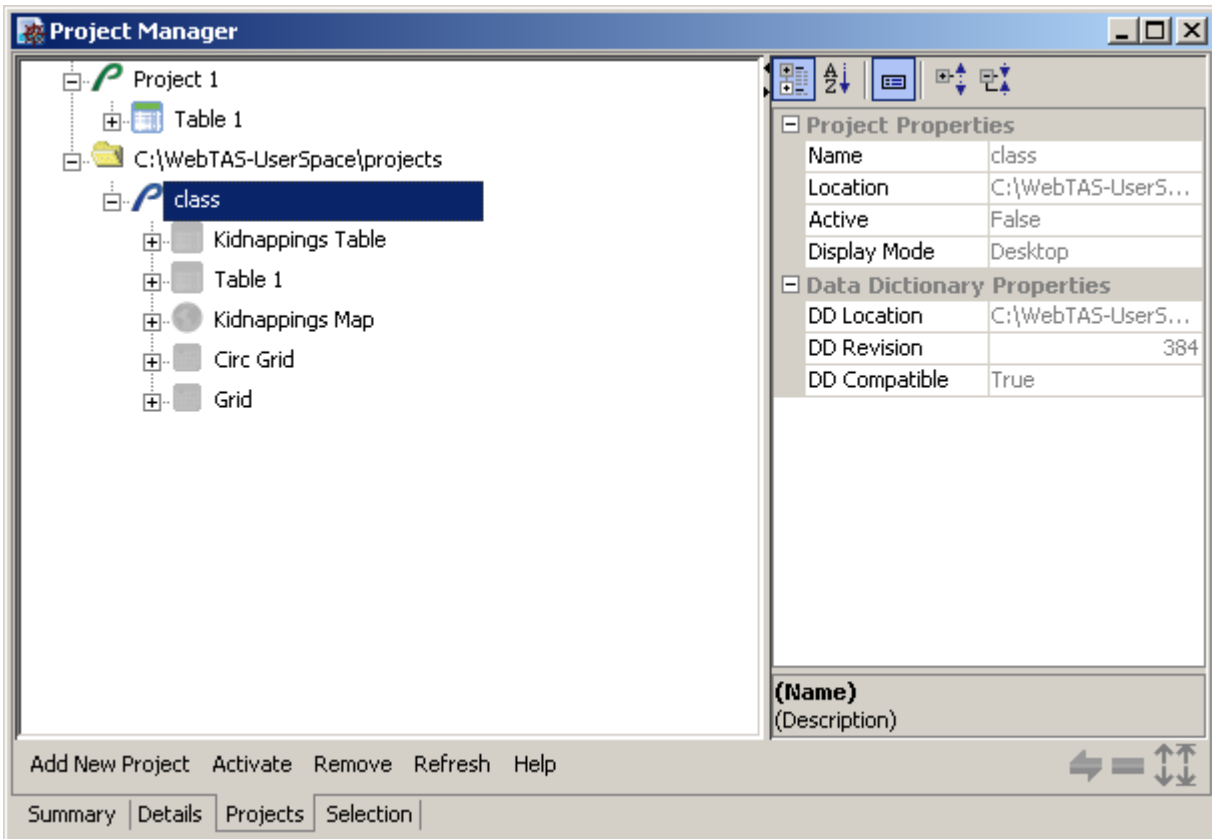
Figure 5–3 Details Tab Right-hand Pane

5.4 Projects Tab

The Projects tab allows you to:

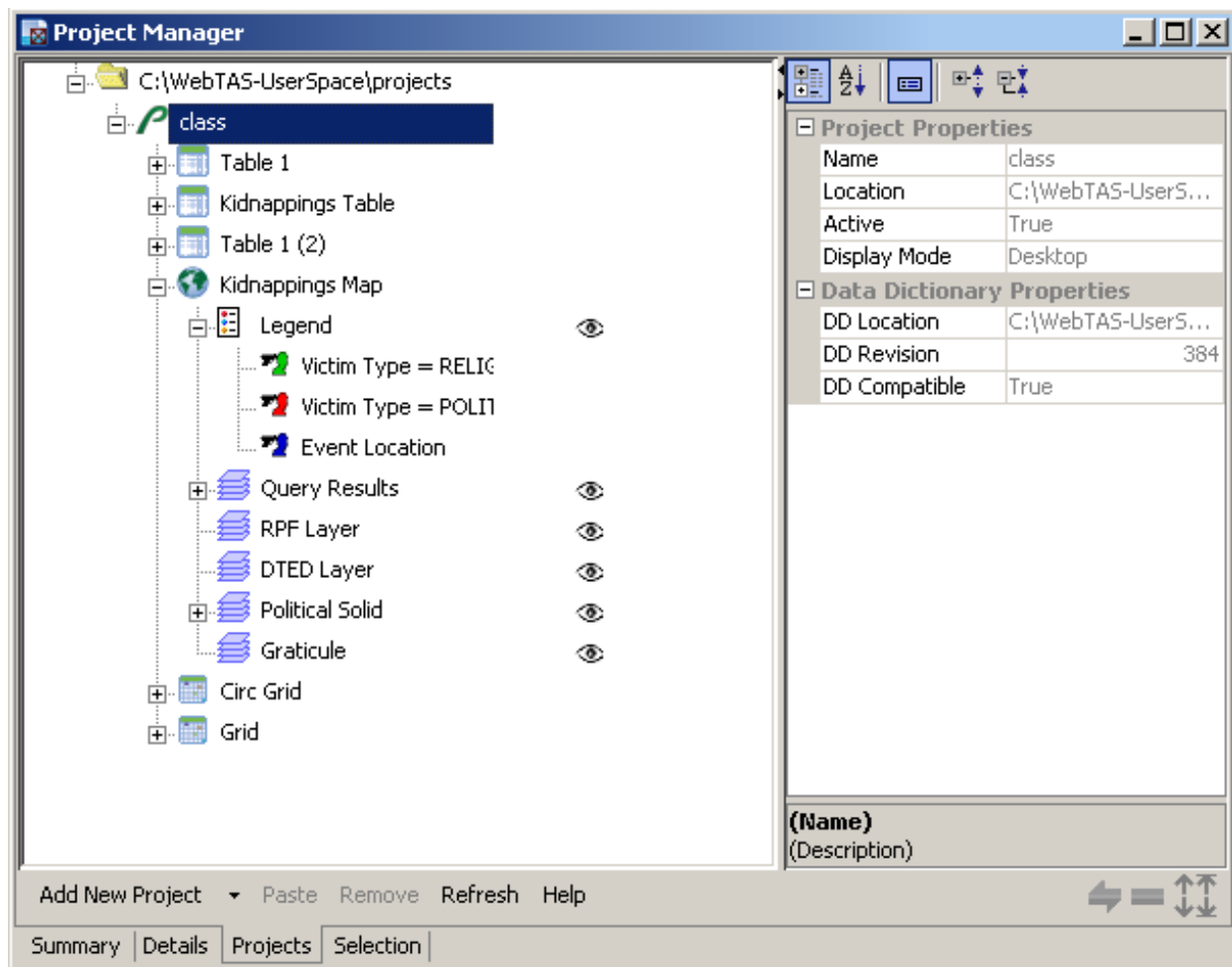
- Add new Projects
- Activate existing projects
- Manage projects
- Remove projects

Figure 5–4 Projects Tab



If you activate the project, you can see more details.

Figure 5–5 Activated Project

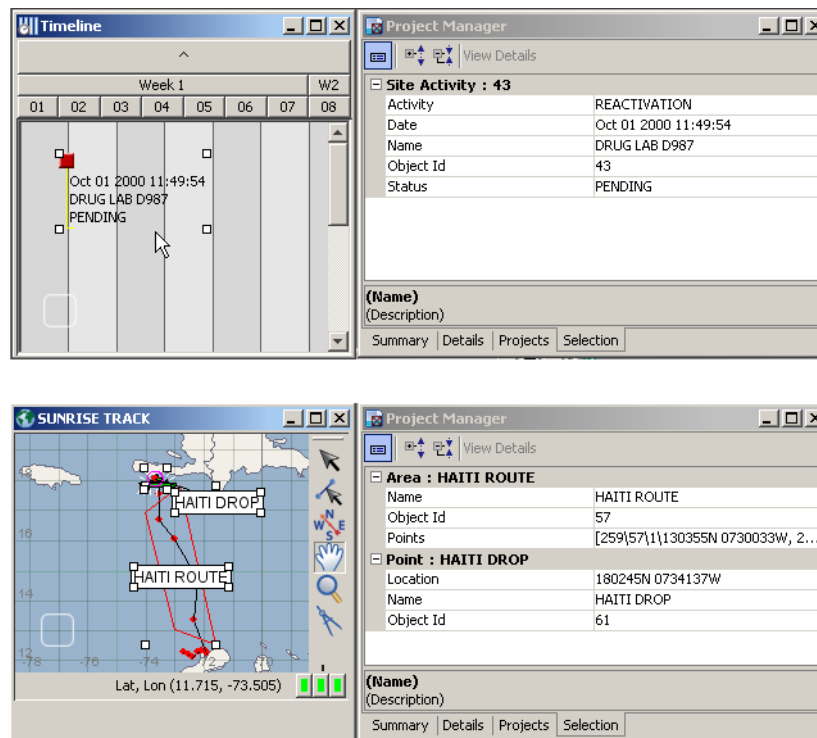


5.5 Selection Tab

The selection tab shows additional details about a highlighted item that is not only listed in the Project Manager, but from a queried result.

When you highlight a row in a table or click an object on a map, that results in the specific details of that row or object being displayed in the Selection tab. This is especially useful if you select a point on a map and see the specific details of the item.

Figure 5–6 Selection



5.6 Removing, Renaming, and Refreshing Views

You can remove an entire view by highlighting the corresponding entry in Project Manager and clicking the Remove option near the bottom of the window.

You can rename an entire view by right-clicking the corresponding entry in Project Manager and choosing the Rename option

You can repopulate an entire view with updated data by highlight the view, and clicking the Refresh option near the bottom of Project Manager.

5.7 Synchronizing Views

Synchronization coordinates multiple views so that scrolling or changing one changes the others by the same increments. For example, synchronizing a map and a timeline can simultaneously reveal where and when events in your analysis have occurred.

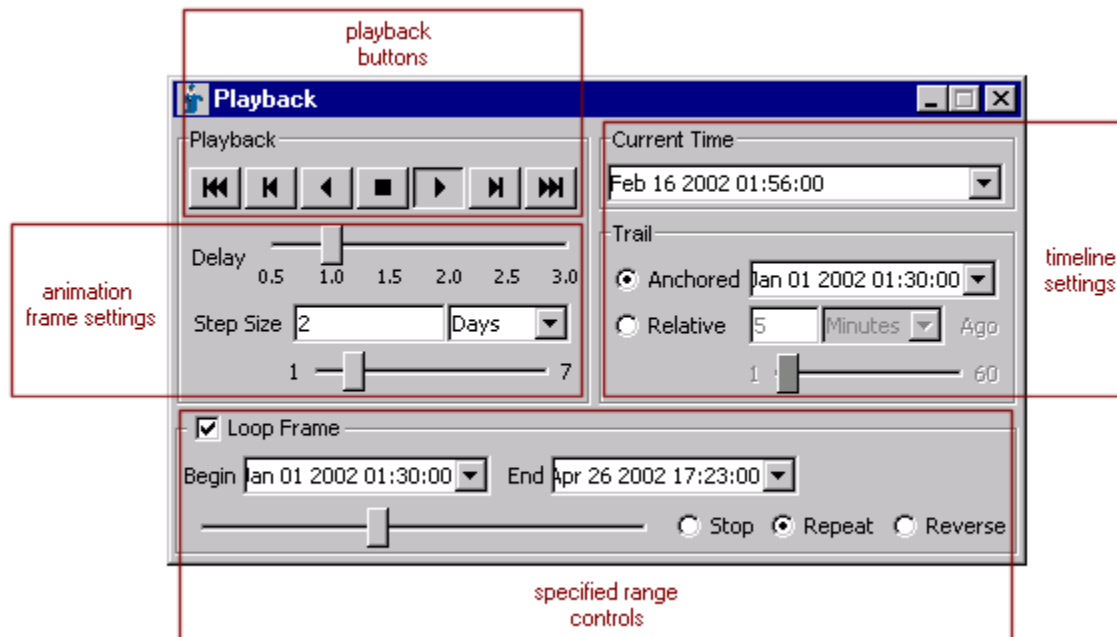
To synchronize views, Ctrl+click in Project Manager to highlight the views that you want to link. Then, click the synchronize symbol near the bottom right corner of the window. Synchronized views show a dark connecting line in Project Manager (see Figure 5-2).

To unsynchronize, Ctrl+click to highlight the desired views, and click the unsynchronize symbol near the bottom right corner of the window.

5.7.1 Playback Controller

The playback controller shown in Figure 5-7 changes the current time frame and lets you see the progression of date attribute objects, such as events, in any desired fashion. When used on a map, timeline, or graph, playback becomes a very powerful means of understanding temporal relationships among objects.

Figure 5–7 Playback Controller



EXERCISE: USE PROJECT MANAGER TO ADD A SHAPE FILE TO A MAP

1. Send Kidnapping query to a map.
2. Zoom in to spread out icons.

Open Project Manager to details tab.

3. Select Map view.
4. Add a shape file layer.
5. In ESRI shape properties pane, select the shape file droplist.
6. Navigate to Demos\BadGuyA02.shp and add the file.
7. Select Default Drawing Attributes.
8. Set line color to Red.

9. Set line width to 2.
10. Set fill color transparency to @ 25-30%.
11. How many events are in the area?
12. How many Kidnappings?

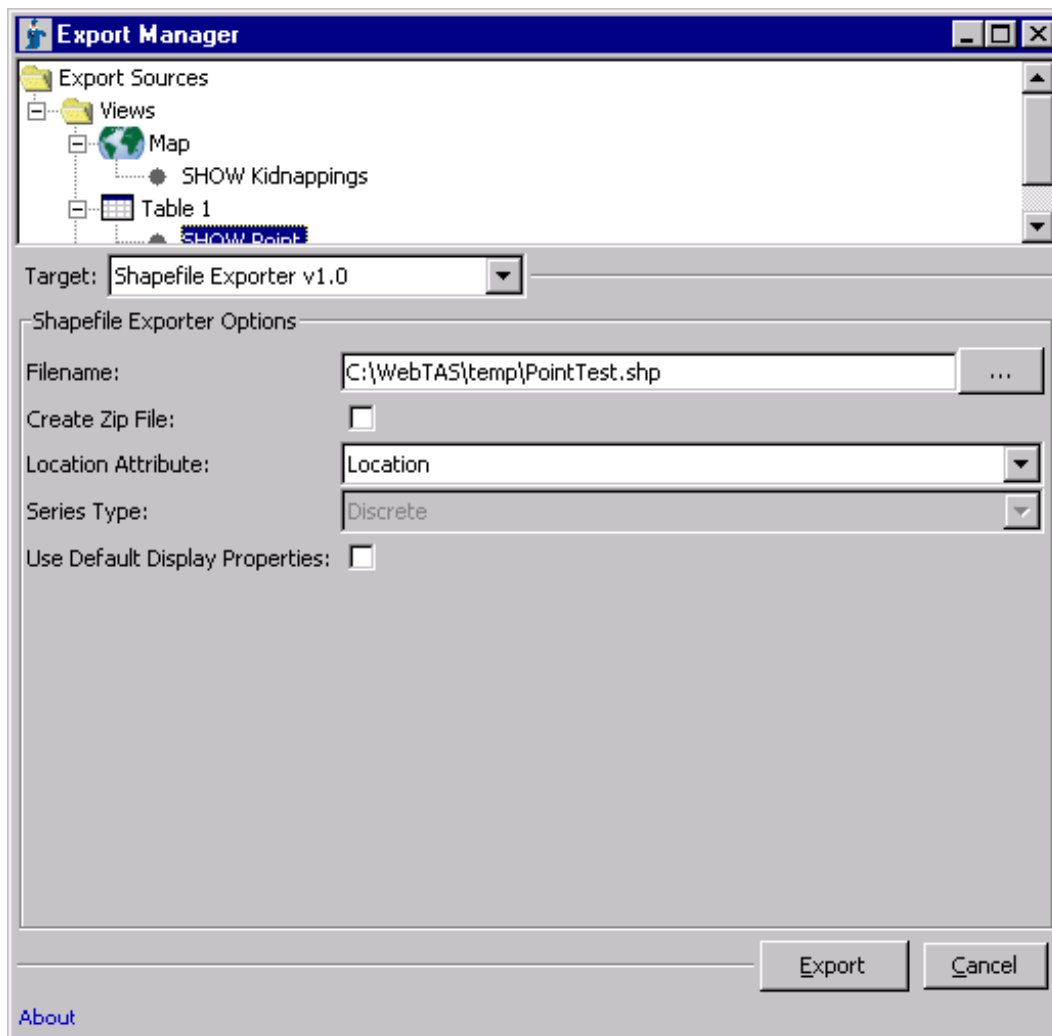
5.8 Creating and Exporting a Shape File

Project Tool allows you to both create new shapefiles from data in the database and add shapefiles to a map display. For example, you can create a shapefile containing all points in the database then have those points rendered on your map by adding a shapefile layer to a map.

To create a shapefile and display the created shapefile on a map, do the following:

1. Create a new query as described in Creating a New Query, and send it to a view.
2. From Project Manager, select the query.
3. Right-click, and select Export > Export to Shapefile.
The Export Manager opens.

Figure 5–8 Export Manager



In the tree at the top of the dialog box, the query you chose to export is highlighted. If you want to export a different query, you can select it from this tree. In the Target droplist, Shapefile Exporter is also selected because you chose to export a shapefile. You can also export additional queries after the first. The Export Manager remains open until you click the Cancel button.

4. Beside the Filename field, click the Ellipses (...) button. The Save dialog box opens.
5. Browse to the location where you want to save the file, and name the file (*.shp).
6. Click the Save button. The file name appears in the Filename field.

Note:

The Location Attribute field represents the location data to use for the export operation. If the selected attribute did not represent discrete points, you would have the option to export polygons or polylines.

7. (Optional) The Shapefile Exporter creates three files: the shapefile (.shp), a metadata file (.dbf), and a shapefile index (.shx). If you want these files contained in a single zip file, select the Create Zip File check box.
8. Click the Export button. A message opens confirming the export.
9. Click OK.
10. (Optional) Create additional shapefiles from the queries in the tree. If a query cannot be exported due to the underlying data lacking any location attributes, the Export button is disabled.
11. Click the Cancel button.

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6 More Views

Module Time: 2 hours

Overview

WebTAS has additional views that can be used to display the results of a query. They include timelines, timetables, link analysis, graphs and others.

Module Objectives

After completing this module, you will be able to:

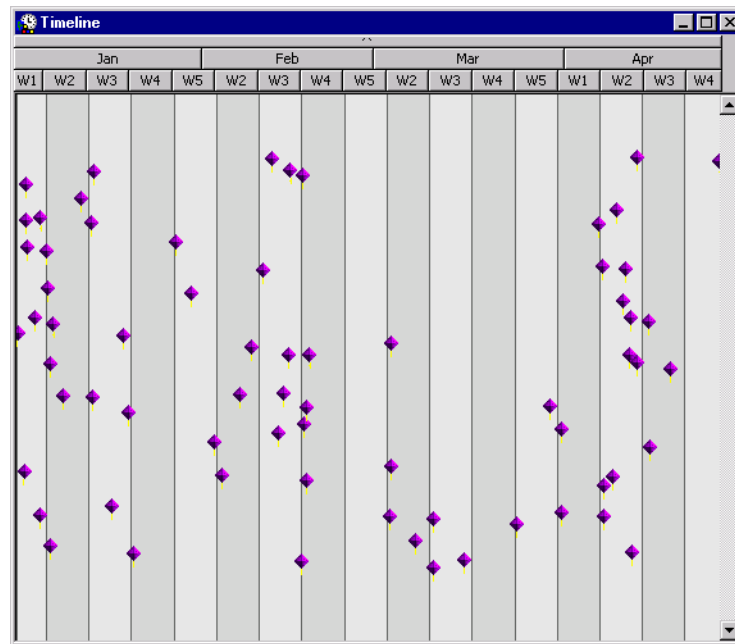
- Use Timelines
- Use Timetables
- Use Link Analysis
- Use Graphs
- Use Grids
- Use 3D Maps
- Use Google Earth

6.1 Timelines

A timeline displays objects in chronological context with other objects as shown in Figure 6–1. A timeline includes start and end points and a graduated scale.

By default, WebTAS frames the timeline view based on the earliest and latest dates in the query results. Consequently, the scale automatically displays date increments appropriate for including all of the objects. In other words, the scale displays whatever timeframe necessary to include the results, be it several months of data or only one day.

Figure 6–1 Timeline

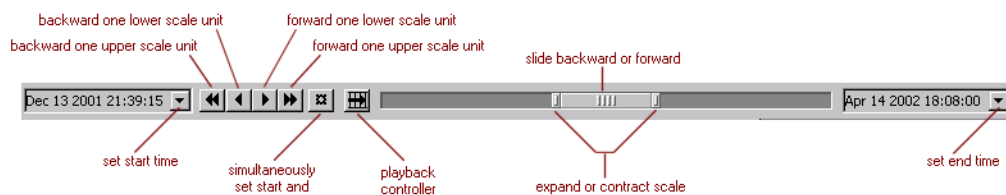


Objects must have a date-based attribute in order to appear on a timeline.

6.1.1 Navigating a Timeline

WebTAS automatically resubmits the query and refreshes the timeline whenever you navigate the view by scrolling or modifying other settings.

Figure 6–2 Timeline Controls



Timelines display a three-part scale at the top of the window:

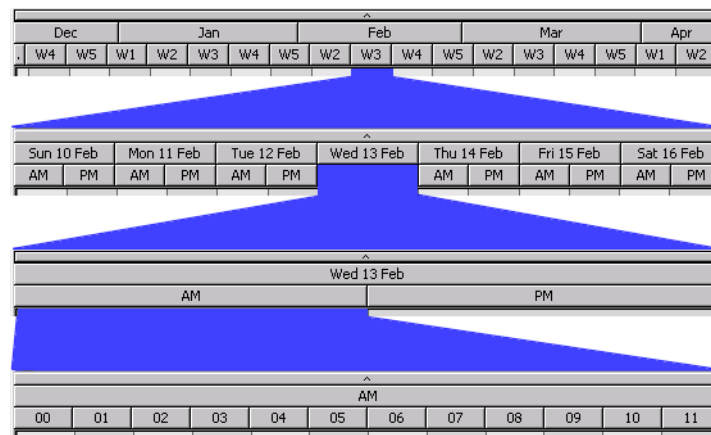
A bar showing the caret "^" character

An upper scale with larger units of time

A lower scale with smaller units of time

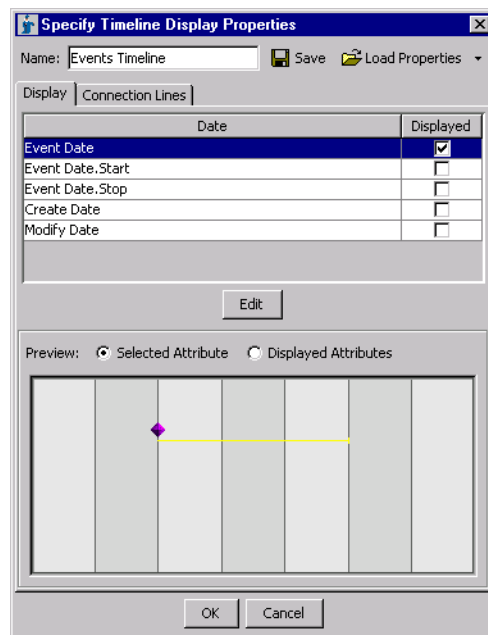
To zoom in, click one of the upper or lower scale segments. To zoom out, click the bar showing the caret "^" character or right-click in the upper or lower scale and click Back.

Figure 6–3 Zooming In and Out



6.1.2 Formatting a Timeline

The Timeline Display Properties dialog (see Figure 6–4) lets you choose attributes for the timeline and format their appearance. The wizard is similar to the Location Attributes Properties wizard but is tailored toward temporal display instead of location.

Figure 6–4 Timeline Properties

Timelines can display fixed icons, series icons (see Figure 6–5), and set bar colors for series (see Figure 6–6).

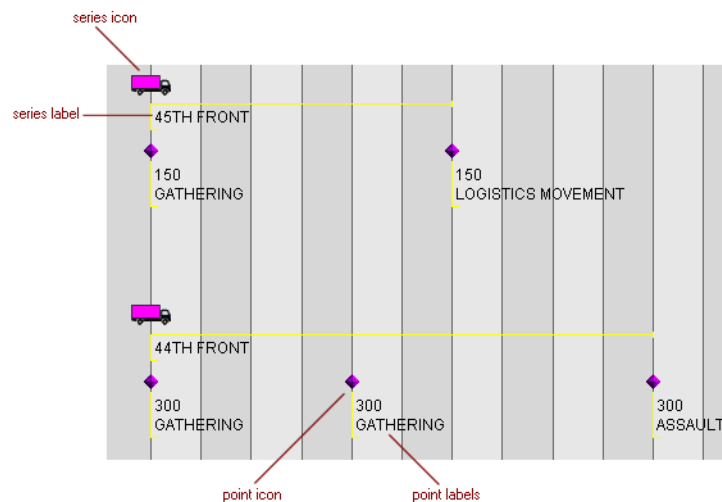
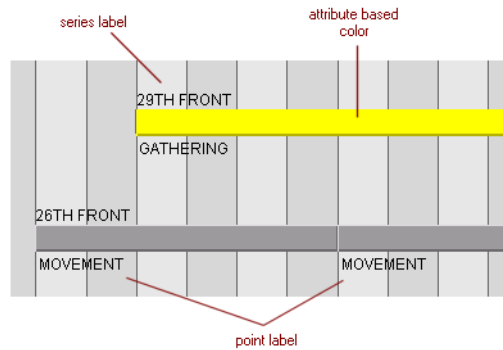
Figure 6–5 Series and Point Display

Figure 6–6 Series Bar Output



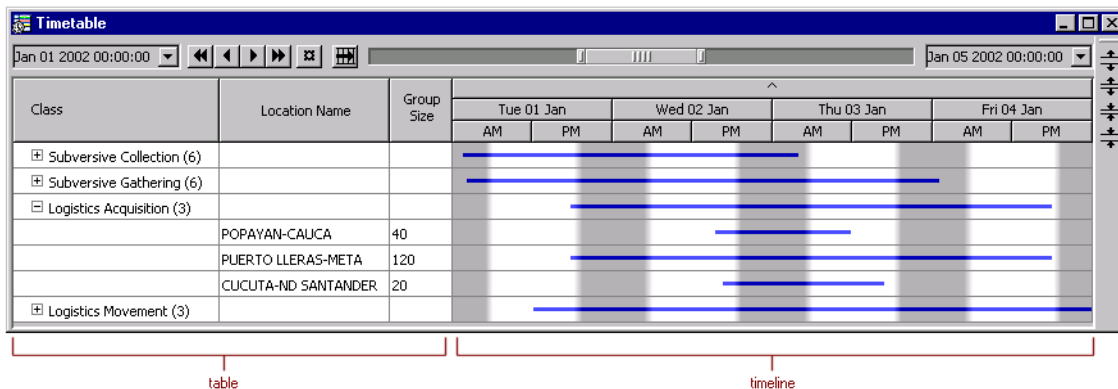
EXERCISE: SHOW KIDNAPPINGS ON A TIMELINE

1. Show Kidnappings on a New Timeline
2. Number kidnapped as the label
3. Data driven icon by victim type
 - Set Political Hostage–Red hostage icon
 - Set Religious Hostage–Green hostage icon
 - Set Default Hostage–Blue hostage icon
4. Random vertical position between 20 and 80 percent
5. Save your display properties as Kidnapping Timeline

6.2 Timetables

Timetables format query results into a combination of table and timeline as shown in Figure 6–7. A timetable links temporal context to its related data in the same row and lets you manage them together—something that is difficult with a separate table and timeline even when their windows are arranged side by side.

Figure 6–7 Timetable



Unlike normal tables, timetables do not support subtable displays.

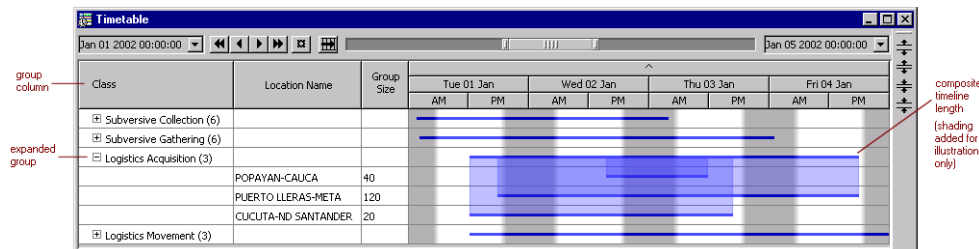
6.2.1 Formatting Timetables

In WebTAS business layers, timetables are usually preformatted to suit a known analysis or display problem. Such preformatted timetables may contain fairly complex formatting relative to the ones you format by hand.

6.2.1.1 Grouping Rows

The Timetable Display Properties dialog gives you the option to organize rows by grouping them. A leading column identifies a grouping attribute that allows you to expand or collapse rows that are organized under a master row as shown in Figure 6–8.

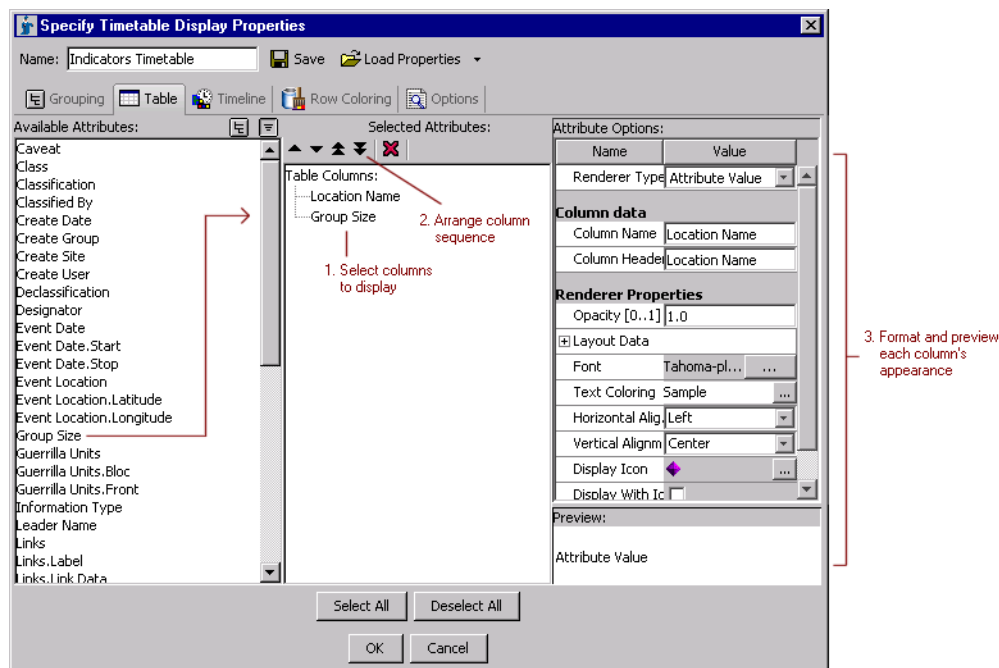
Figure 6–8 Timetable Group Column



6.2.1.2 Configuring the Table Side

By default, the Timetable Display Properties dialog opens on the Table tab as shown in Figure 6–9. The Table tab lets you select and format the columns needed for the table side of the view:

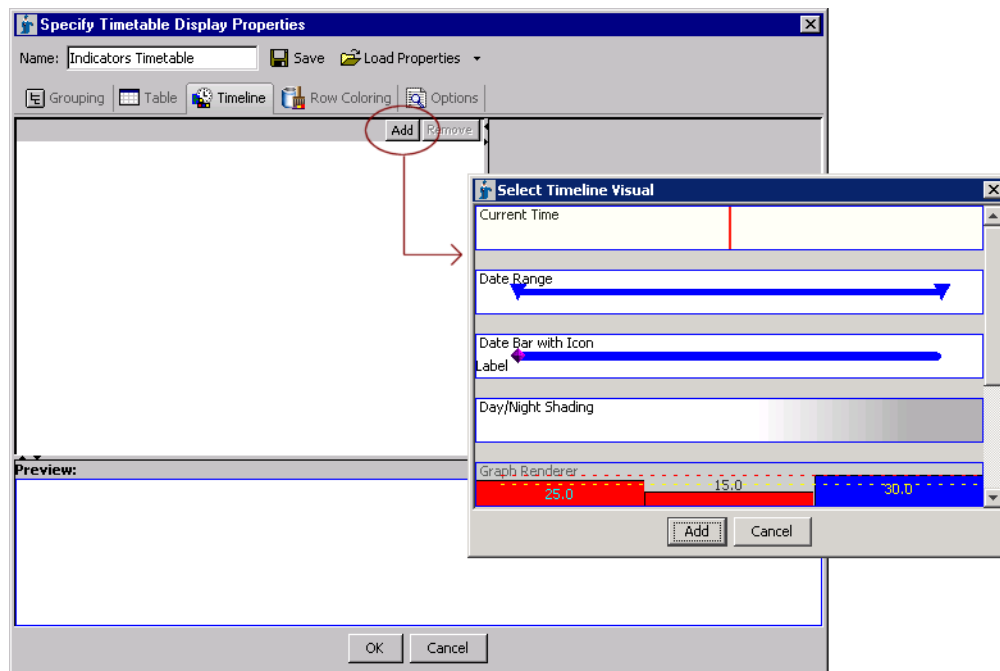
Figure 6–9 Tables Tab



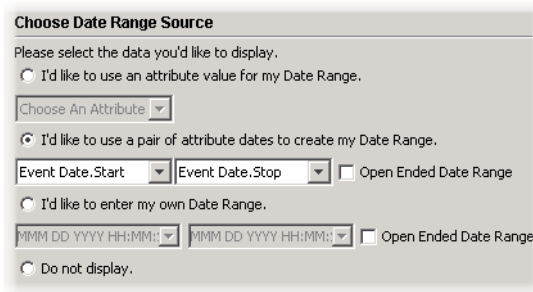
6.2.1.3 Configuring the Timeline Side

To configure the timeline side of the view, do the following:

1. In the Timetable Display Properties dialog, select the Timeline tab.
2. Click the Add button (see Figure 6–10).

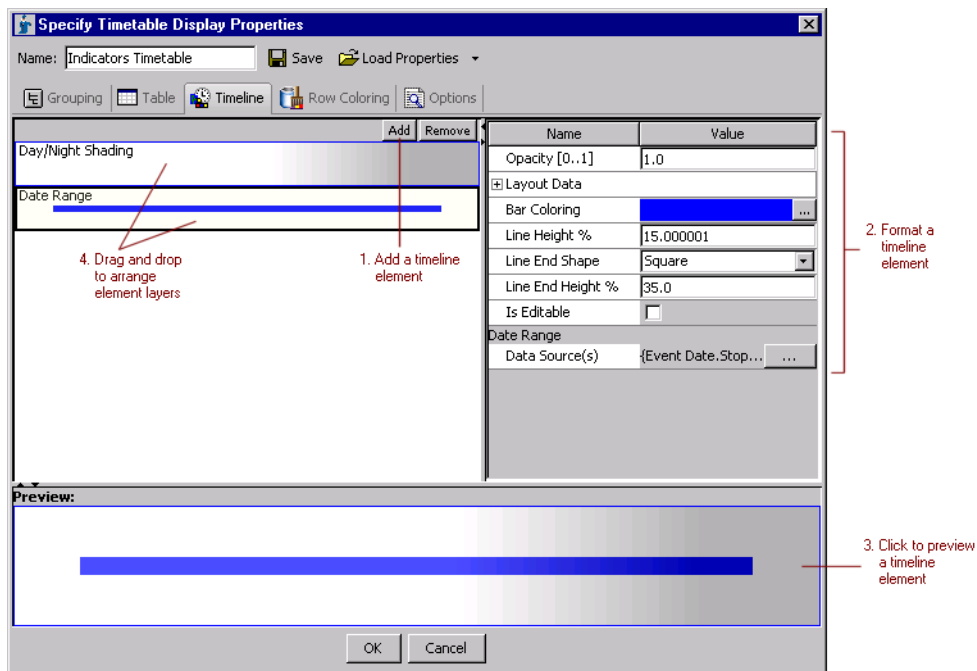
Figure 6–10 Adding a Timeline Visual Element

3. In the Select Timeline Visual dialog, highlight a visual element, and click the Add button.
Depending on the visual element, there may be one or more additional dialogs to fill in as prompted (see Figure 6–11). These will vary, however.

Figure 6–11 Additional Dialog

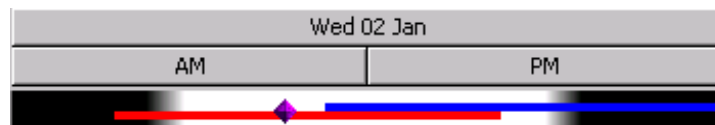
4. Back in the Timetable Display Properties dialog, use the options in the right portion of the dialog (and the preview pane at the bottom) to fine-tune the appearance of the visual element.
5. If desired, repeat starting from step 2 to add more visual elements. You can drag and drop visual elements to achieve the appropriate layering. See Figure 6–12.

Figure 6–12 Timetable Timeline Tab



You can also add more than one of the same kind of visual element. Figure 6–13 shows two date ranges, an icon, and day/night shading.

Figure 6–13 Multiple Visual Elements



EXERCISE: SHOW KIDNAPPINGS ON A TIMETABLE

1. Show Kidnappings on a New Timetable
2. Display the following columns:
 - Event Date
 - Event location

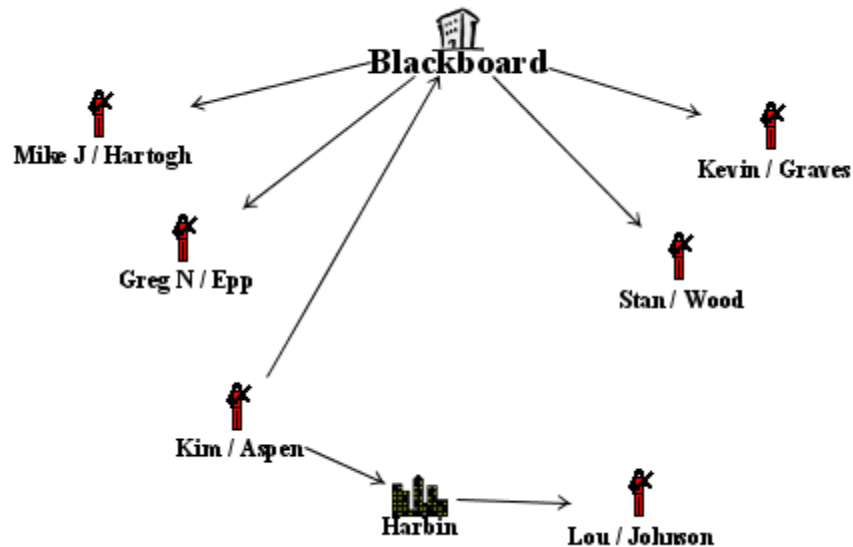
- Guerrilla units
 - Number kidnapped
 - Ransom
 - Responsible group
 - Roadblock
 - Victim type
3. Configure timeline with the following:
- Add Date Bar with Icon
 - No display range
 - Discrete Event date
 - No label
4. Add the following Quick Filters:
- Victim Type
 - Roadblock
 - Ransom
 - Responsible Group
5. Save your display properties as Kidnappings Timetable

6.3 Link Analysis

Link Analysis tells you more about your query results. Specifically, you can see the relationships that exist between objects—relationships that may not be readily visible in the traditional query result views.

Figure 6–14 reveals linkages between an employer (Blackboard) and residents of a town (Harbin). If you were trying to find a link between Lou Johnson and Kevin Graves, you could see that Kim Aspen works with Kevin Graves and lives near Lou Johnson. Kim Aspen may be a key person to contact.

Figure 6–14 Link Analysis



Object Nodes—The object nodes in a Link Analysis diagram include things like people, companies, organizations, locations, equipment, and so on. The types of object nodes are limited only by what is stored in the database you are looking at.

Relationship Links—The relationship links in a Link Analysis diagram appear as lines between the objects. Relationships include whatever has been defined in the database or can be derived from it, for example:

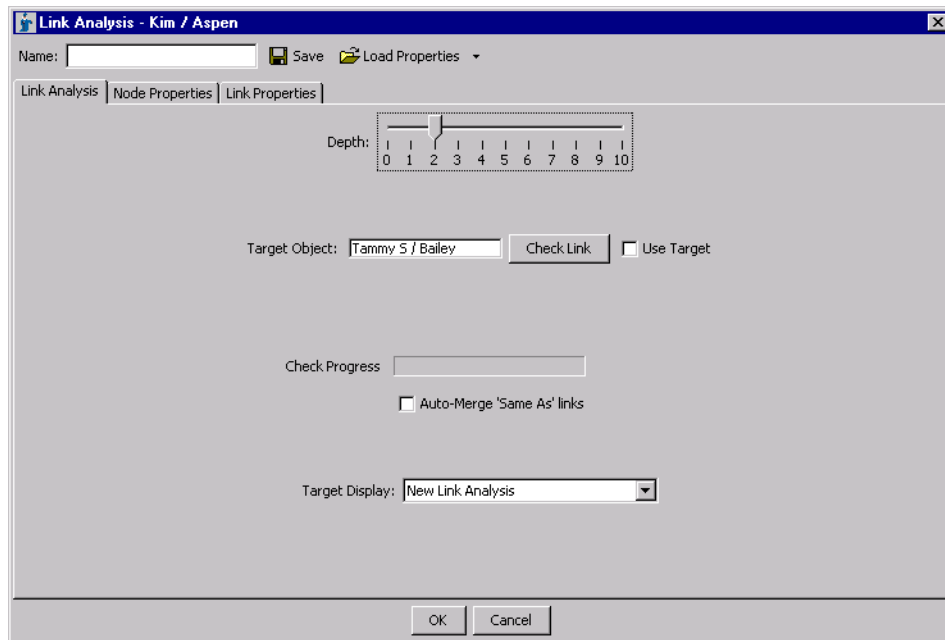
- Components of a system
- Organization memberships
- Cities or addresses
- Callers and receivers
- Airbase assignments
- Time and distance relationships

Like object nodes, relationships are limited only by what is stored in the database. A relationship can be expressly defined with the Modify Relationships option or derived from the data using Derived Relationships. WebTAS also uses existing relationship data from external sources that support it, such as CTAVRS or MIDB.

6.3.1 Running Link Analysis

To launch the Link Analysis tool, highlight an object in a view, right-click, and choose Link Analysis. You can also click the toolbar button or choose Edit > Link Analysis from the pull-down menus.

Figure 6–15 Target and Layout Properties

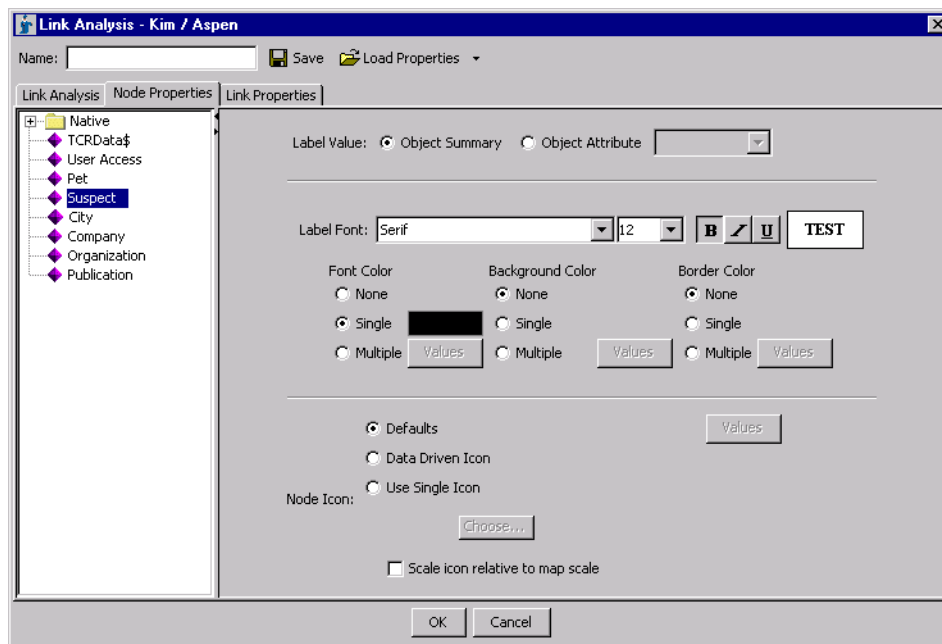


Link Analysis—Use the Link Analysis tab (see Figure 6–15) to name the display and set the number of layers to display "out" from the source object.

Node Properties—Use the Node Properties tab (see Figure 6–16) to assign icons and format labels for the objects listed in the tree on the left.

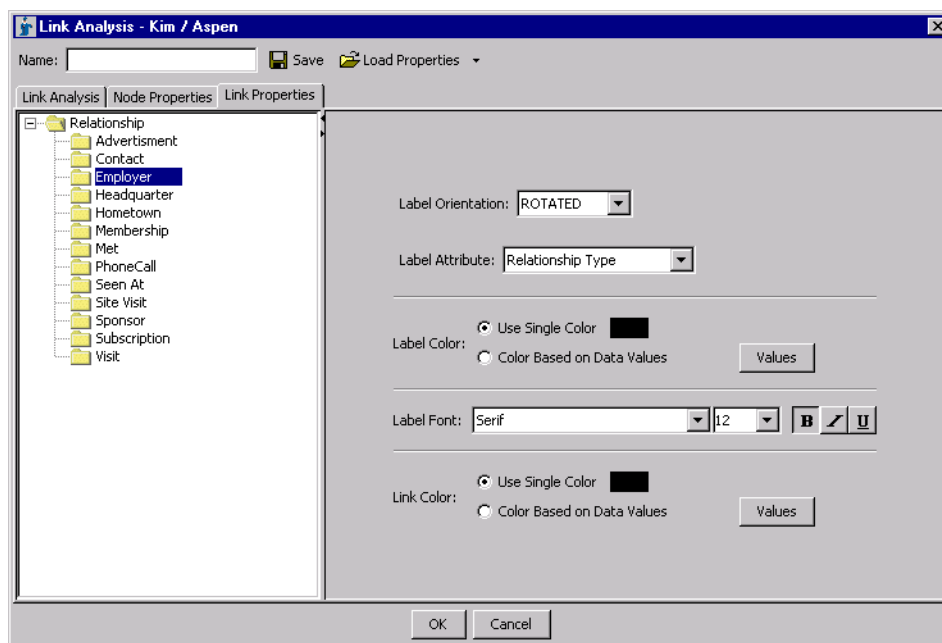
Icons can be fixed or data driven. When you send the results to a map, you can have the icon change size as you zoom in and out. Letting WebTAS icons resize themselves helps prevent icon crowding as you zoom out.

Figure 6–16 Node Properties



Link Properties—Use the Link Properties tab (see Figure 6–17) to format the relationship lines (grouped in the tree on the left) between objects. The lines and label text can be fixed or data driven.

Figure 6–17 Link Properties



6.3.2 Changing the Default Layout

Use the Link Analysis pull-down menu (see Figures 6–18 and 6–19) to change the overall layout. The Radial Tree Layout option is the default.

Figure 6–18 Link analysis Pull Down

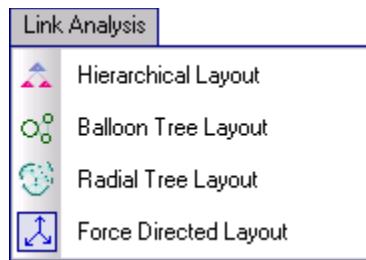
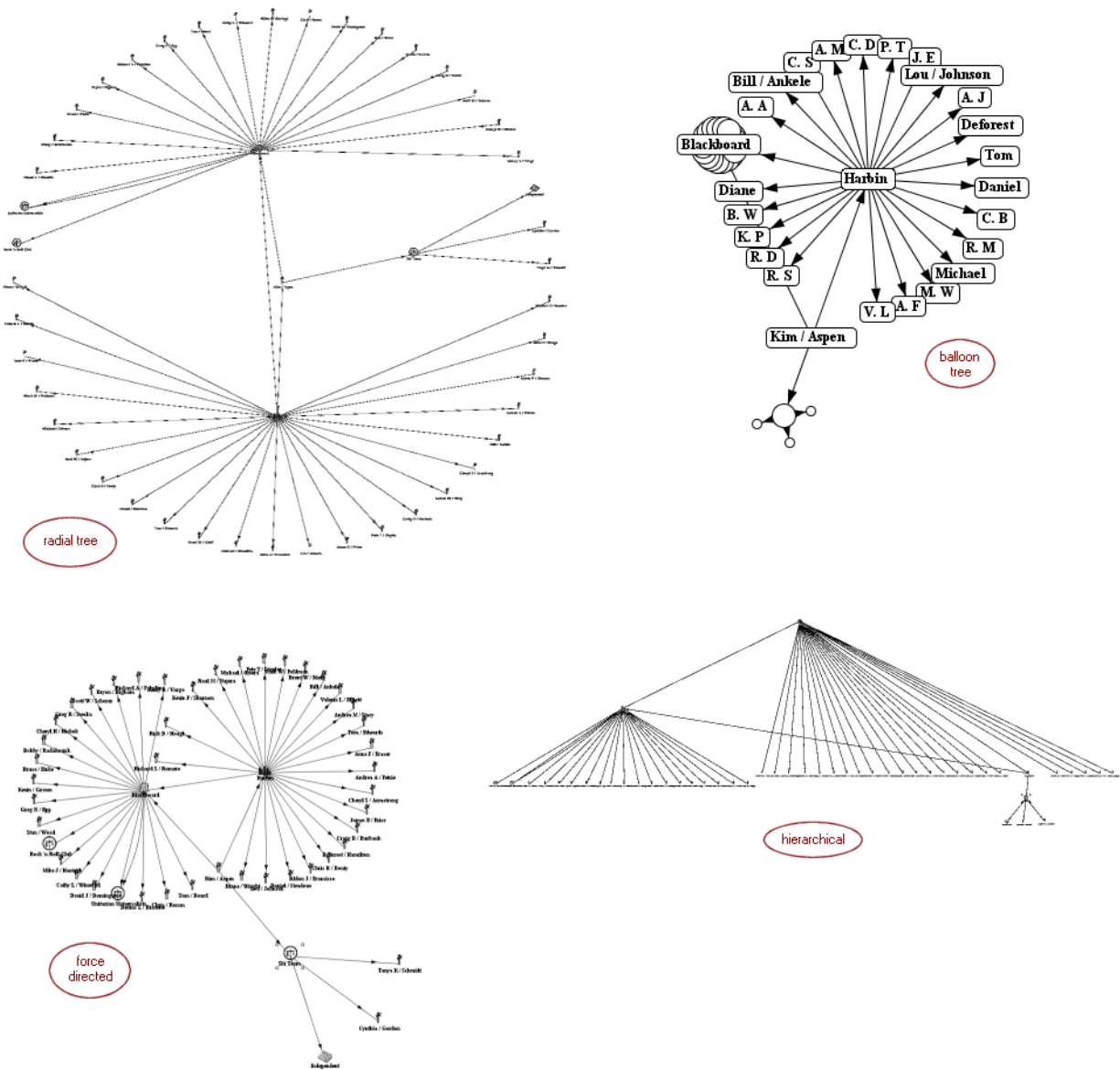


Figure 6–19 Link Analysis Layouts



6.4 Using Graphs

WebTAS can create a variety of graphs for visually grouping any combination of data. For example, a graph can help assess the types of events that have taken place over a given timeframe.

6.4.1 Types of Graphs

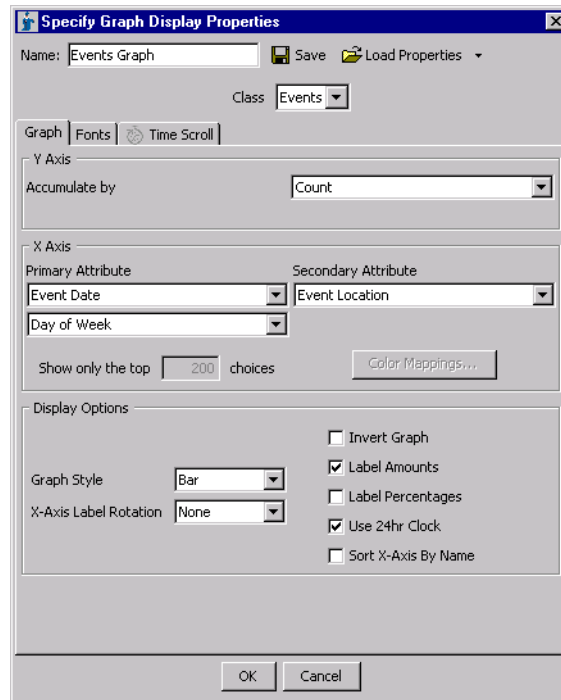
WebTAS provides the following types of graphs:

- Bar Graph
- Stacking Bar Graph
- Line Graph
- Scatter Plot
- Area Graph
- Stacking Area Graph
- Pie Chart

6.4.2 Formatting a Graph

The Graph Display Properties dialog (see Figure [6-20](#)) lets you choose attributes for display and lets you format the graph appearance.

Figure 6–20 Graph Properties

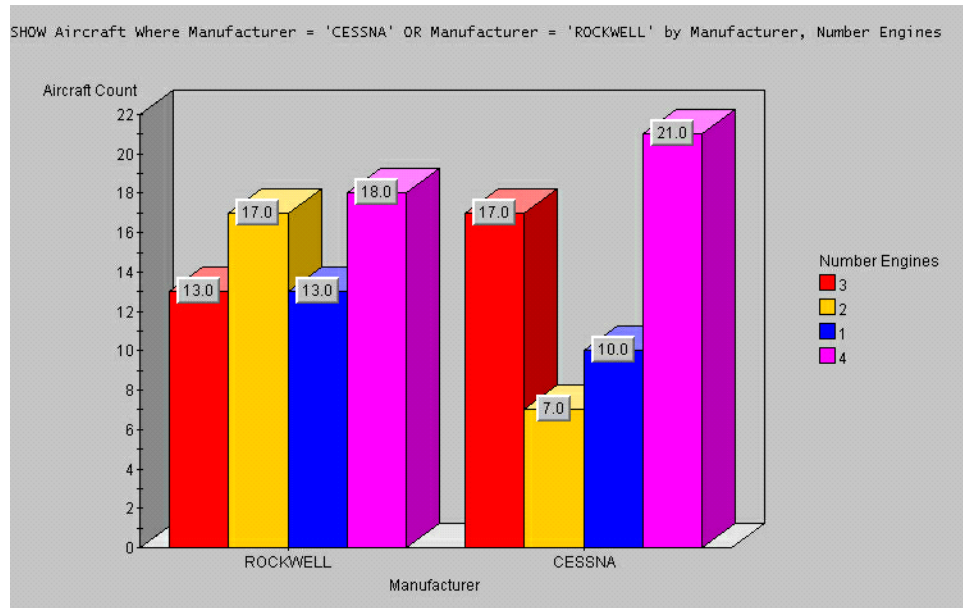


The dialog box is titled "Specify Graph Display Properties". It contains the following fields and options:

- Name:** Events Graph
- Save** button and **Load Properties** button
- Class:** Events
- Graph** tab (selected), **Fonts** tab, and **Time Scroll** button
- Y Axis:**
 - Accumulate by:** Count
- X Axis:**
 - Primary Attribute:** Event Date
 - Secondary Attribute:** Event Location
 - Day of Week:** (dropdown menu)
 - Show only the top:** 200 choices
 - Color Mappings...** button
- Display Options:**
 - Graph Style:** Bar
 - X-Axis Label Rotation:** None
 - ☐ Invert Graph
 - ☒ Label Amounts
 - ☐ Label Percentages
 - ☒ Use 24hr Clock
 - ☐ Sort X-Axis By Name
- OK** and **Cancel** buttons

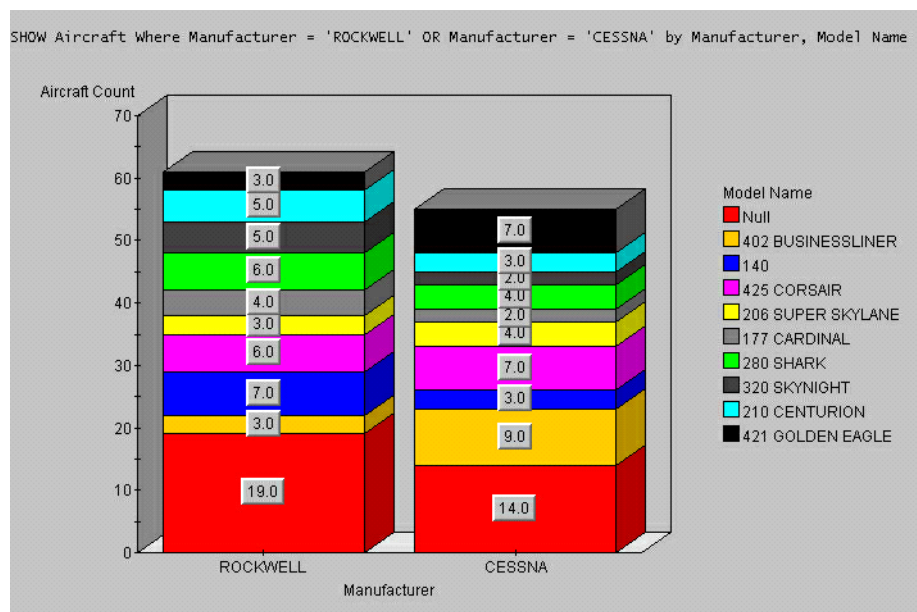
6.4.2.1 Bar Graph

A bar graph displays data in a two dimensional X–Y format, usually with the dependent variable for the X location and the independent variable for the Y location. Figure 6–21 shows a sample bar graph.

Figure 6–21 Bar Graph

6.4.2.2 Stacking Bar Graph

Stacking bar graphs display data in a bar graph format but with color-coded results stacked on top of each other as shown in Figure 6–22.

Figure 6–22 Stacking Bar Graph

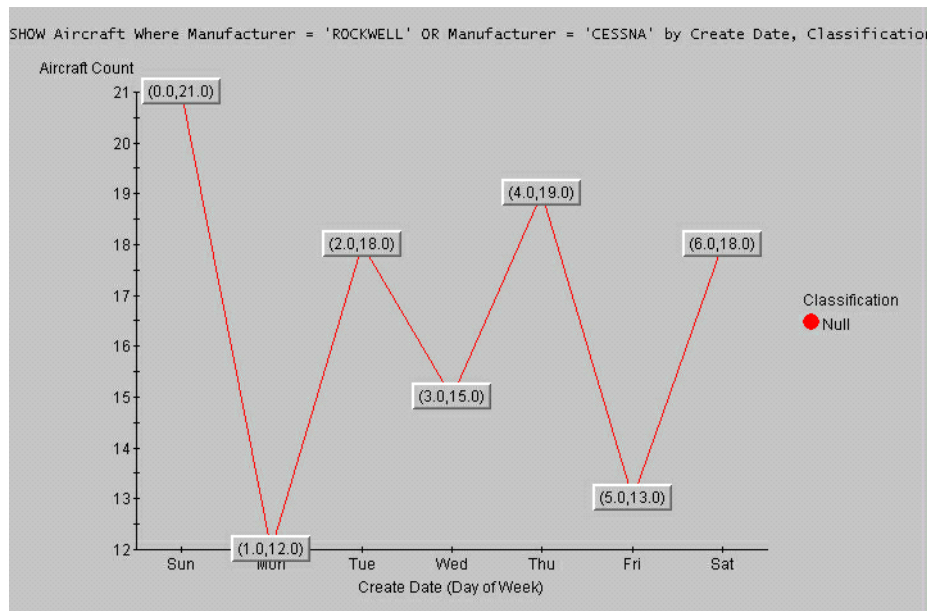
EXERCISE: SHOW KIDNAPPINGS ON A STACKING BAR GRAPH

1. Show Kidnappings on a Graph
2. Accumulate by Number Kidnapped
3. X Axis: Event Date/ Day of Week
4. Secondary Attribute: Victim Type
5. Graph style Stacking Bar
6. Save your display properties as Kidnapping SB graph

6.4.2.3 Line Graph

Line graphs display data as points connected by straight lines. Line graphs can be helpful in discerning trends in date-related information. Figure 6–23 shows a sample line graph.

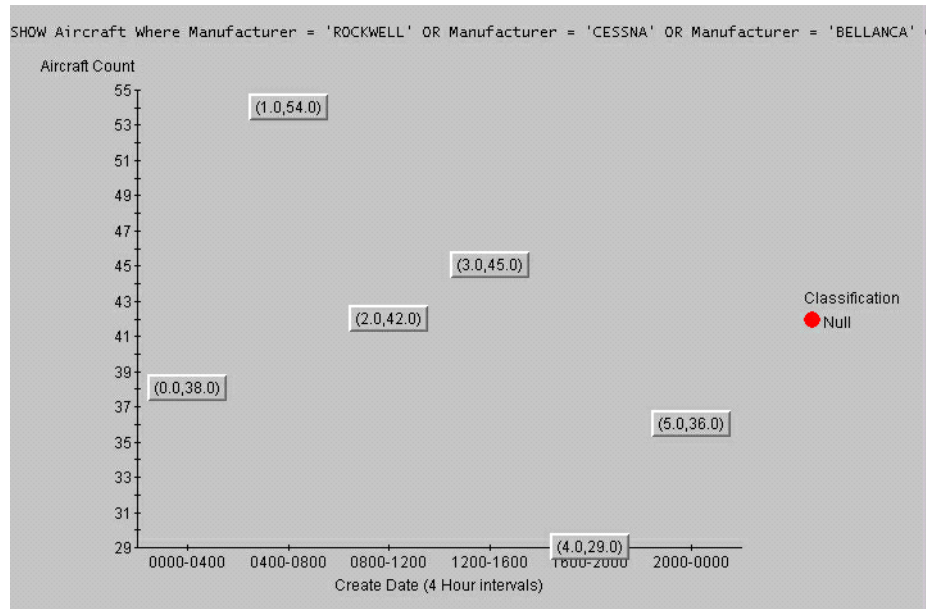
Figure 6–23 Line Graph



6.4.2.4 Scatter Plot

Scatter plots display data as points in X-Y format as shown in Figure 6-24.

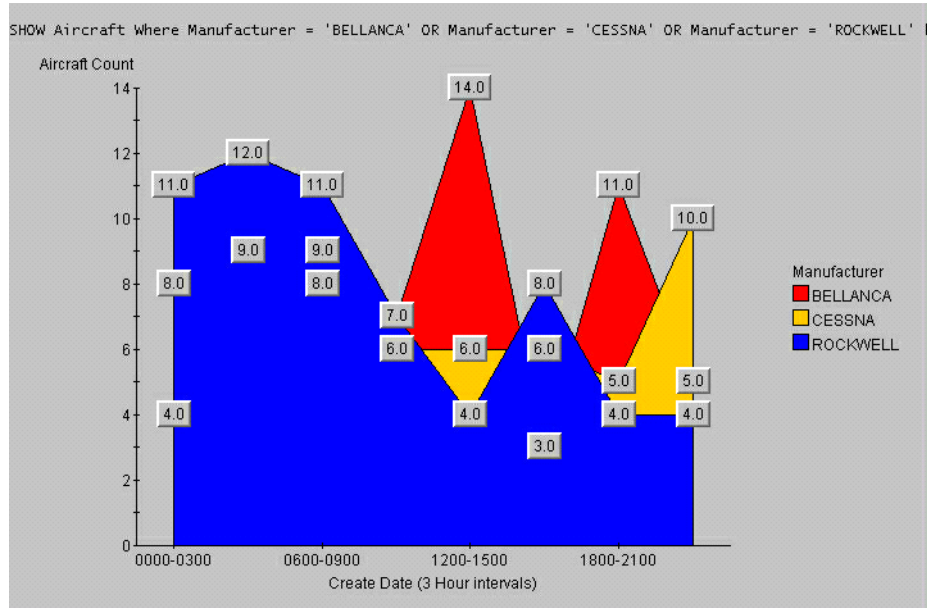
Figure 6-24 Scatter Plot



6.4.2.5 Area Graph

Area graphs show data as overlapping line graphs, where the area beneath each line is filled. Figure 6-25 shows a sample area graph

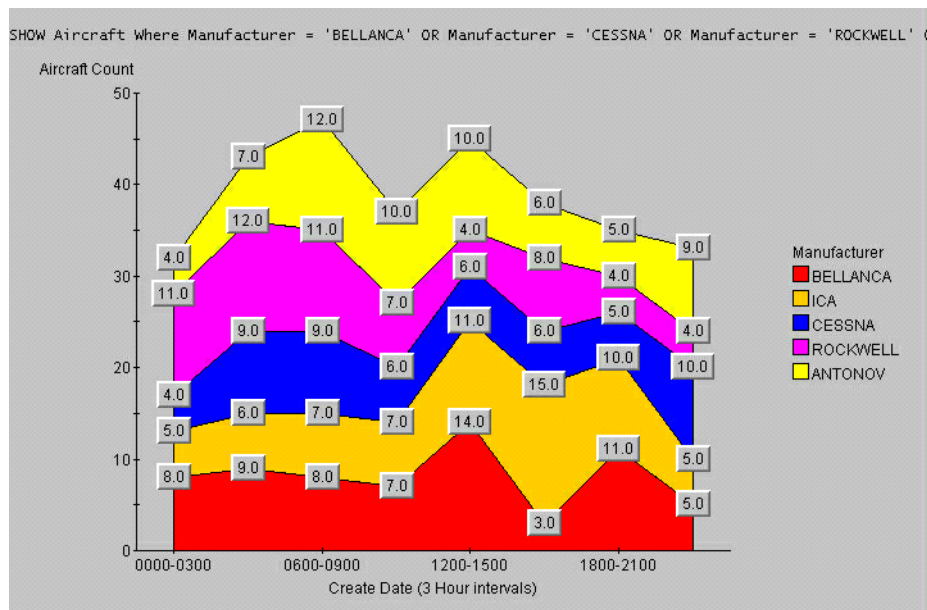
Figure 6–25 Area Graph



6.4.2.6 Stacking Area Graph

Stacking area graphs look like area graphs except the areas are stacked on top of each other as shown in Figure 6–26.

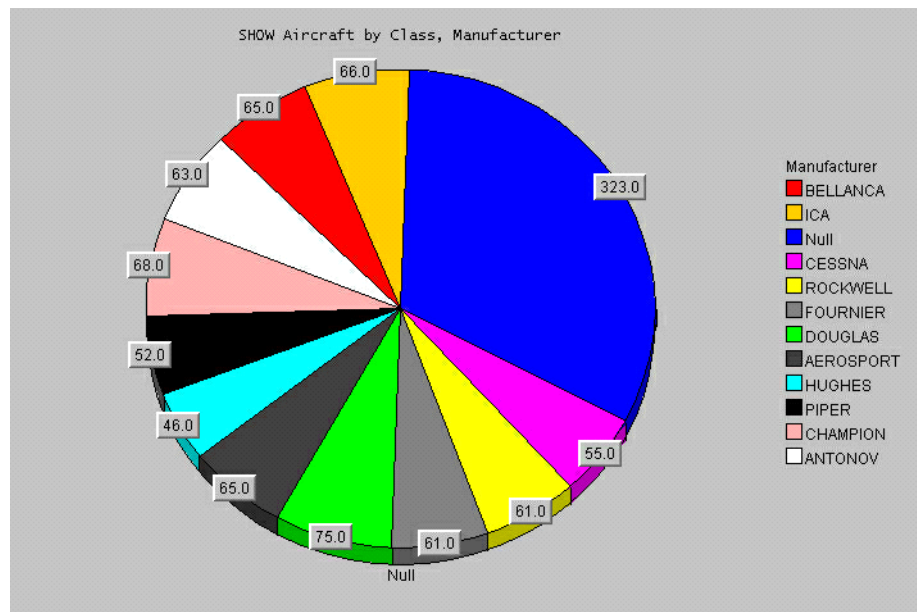
Figure 6–26 Stacking Area Graph



6.4.2.7 Pie Chart

Pie charts display data as slices of a circle, as shown in Figure 6–27. Pie charts are helpful for visualizing relative quantities and percentages.

Figure 6–27 Pie Chart



EXERCISE: SHOW KIDNAPPINGS ON A PIE CHART

1. Show Kidnappings on a New Graph
2. Accumulate by Number Kidnapped
3. X Axis: Class
4. Secondary Attribute: Event Date/ Day of Week
5. Set Graph style to Pie
6. Save your display properties as Kidnapping Pie Graph

6.5 Using Charts

WebTAS can create a variety of charts for visually grouping any combination of data. For example, a chart can help assess the types of events that have taken place over a given timeframe.

6.5.1 Types of Charts

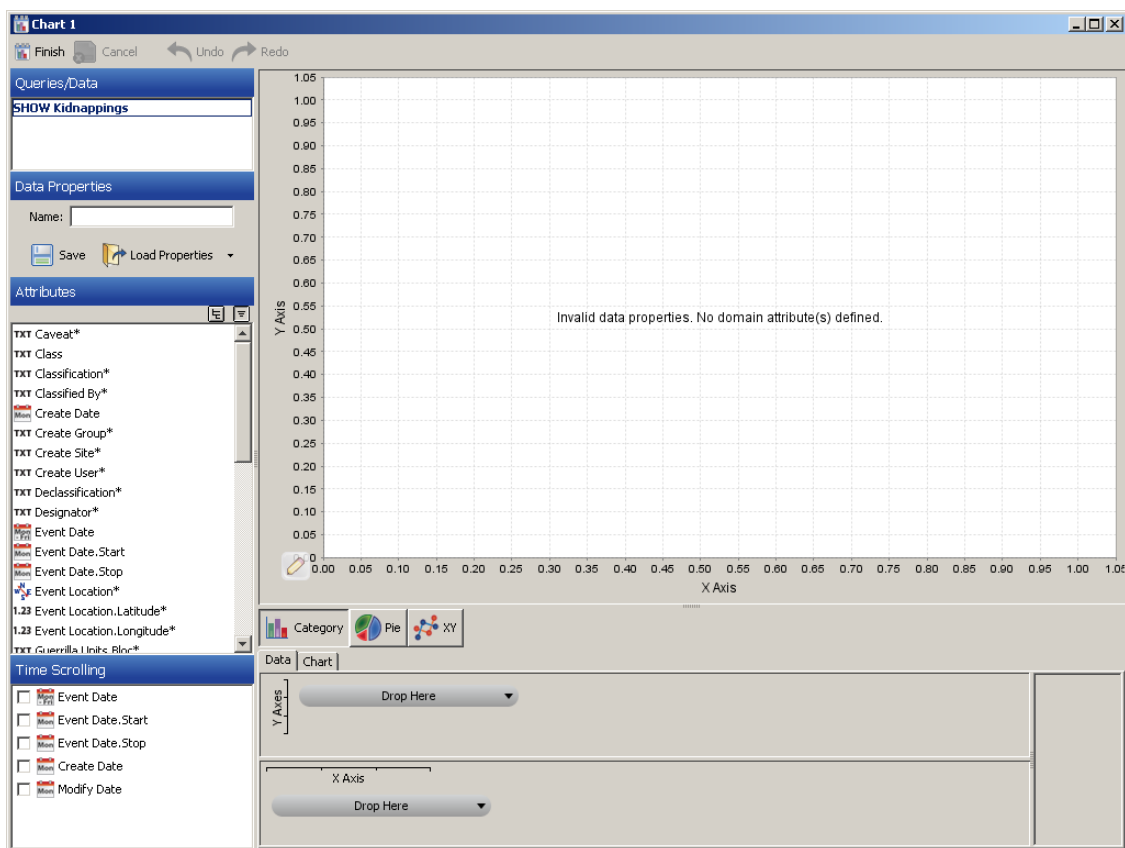
WebTAS provides the following types of charts:

- Pie
- Bar
- Stacked Bar
- Stacked Bar 3D
- Line
- Line 3D
- Area
- Stacked Area
- Layered Bar
- Scatter
- Block
- Step

6.5.2 Formatting a Chart

When sending a query to a chart the Chart will open in the Edit Mode.

Figure 6–28 Edit Mode

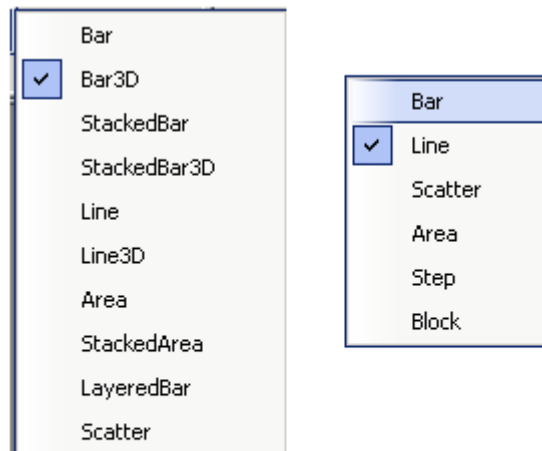


Select one of the three tabs:

- Category
- Pie
- XY

Then populate the X and Y axis or the Pie chart slice data and select the display as type.

Figure 6–29 Category and XY Display as Types



EXERCISE: SHOW KIDNAPPINGS ON A PIE CHART

1. Query Show Kidnappings on a Chart.
2. Select the Pie tab.
3. Use Victim Type as the Pie Slice and Number Kidnapped as the Pie slice Size.
4. Add Kidnappings by Victim Type as the title.
5. Show the Legend.

EXERCISE: SHOW KIDNAPPINGS ON A CATEGORY CHART

1. Query Show Kidnappings on a Chart
2. Select the category tab.

3. Use Victim Type as the X-Axis and Number Kidnapped as the Y-Axis
4. View all of the possible display types.
5. Add Victim Type as a Sub-type
6. View all possible display types.

EXERCISE: SHOW KIDNAPPINGS ON AN XY CHART.

1. Query Show Kidnappings on a Chart
2. Select the XY tab.
3. Use Victim Type as the X-Axis and Number Kidnapped as the Y-Axis
4. View all of the possible display types.
5. Add Victim Type as a Sub-type
6. View all possible display types.

6.6 Using Grids

WebTAS can chart data on a grid, which is a matrix designed to display correlated clusters of events or objects as shown in Figure. The example shows three dimensions: a horizontal weekday, a vertical month, and each cell with accumulated counts.

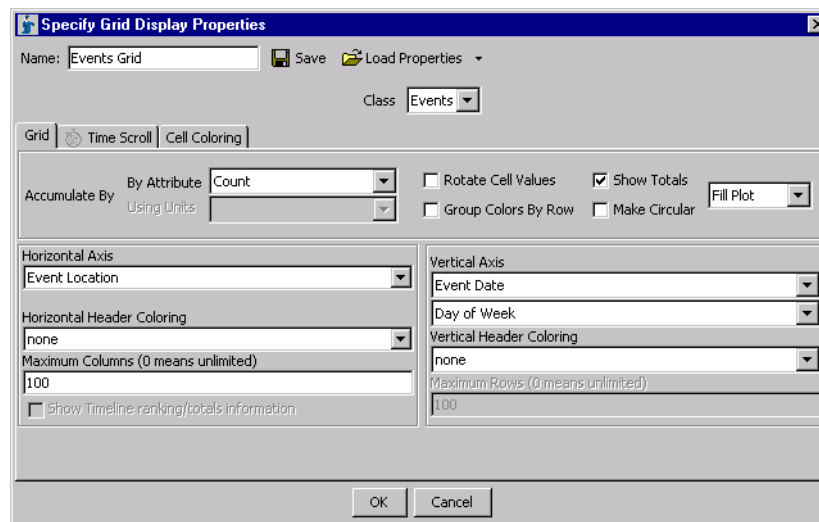
Figure 6–30 Grid

Grid		CALL DTG																											
		CALL DTG																											
		Sep 06 1998 05:49:30																											
		Qtr4							Qtr1							Qtr2							Qtr3						
		S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	J	A	S	O	N	D	J	J	A	S	O
CALL DTG	Sunday (6 71.0)	0	0	0	0	1	0	0	0	7	15	2	9	34	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Monday (5 189.0)	0	0	12	14	11	8	5	16	16	19	15	40	14	15	2	2	0	0	0	0	0	0	0	0	0	0	0	0
	Tuesday (4 199.0)	0	0	7	7	13	6	9	16	18	30	22	31	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wednesday (2 242.0)	0	0	7	24	7	3	6	29	25	32	22	23	42	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Thursday (3 240.0)	0	0	5	14	14	7	7	20	30	15	30	26	39	32	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Friday (1 271.0)	0	0	6	9	12	4	3	39	31	32	61	22	38	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Saturday (7 49.0)	0	0	0	0	2	0	0	2	4	4	4	6	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

6.6.1 Formatting a Grid

The Grid Display Properties dialog lets you choose attributes for display and lets you format the grid appearance. WebTAS displays the Grid Display Properties dialog when first creating a grid see Figure 6–31.

Figure 6–31 Grid Display Properties



The dialog box "Specify Grid Display Properties" has the following fields and options:

- Name:** Events Grid
- Save** button
- Load Properties** button
- Class:** Events
- Grid** tab (selected)
- Accumulate By:** By Attribute (Count), Using Units ()
- Rotate Cell Values:** ☐
- Show Totals:** ☒
- Group Colors By Row:** ☐
- Make Circular:** ☐
- Fill Plot:**
- Horizontal Axis:** Event Location
- Horizontal Header Coloring:** none
- Maximum Columns (0 means unlimited):** 100
- Show Timeline ranking/totals information:** ☐
- Vertical Axis:** Event Date
- Day of Week:**
- Vertical Header Coloring:** none
- Maximum Rows (0 means unlimited):** 100
- OK** and **Cancel** buttons

Once displayed, grid axes show rank and count values as seen in Figure 6–32. (A rank that includes a "T" is tied with another row or column.)

Figure 6–32 Grid Rank and Count Values

CALL DTG	Sunday (6 71.0)	0	0	0	0	1	0	0	0	7	15	2
	Monday (5 189.0)	0	0	12	14	11	8	5	16	16	19	15
	Tuesday (4 199.0)	0	0	7	7	13	6	9	16	18	30	22
	Wednesday (2 242.0)	0	0	7	24	7	3	6	29	25	32	22
	Thursday (3 240.0)	0	0	5	14	14	7	7	20	30	15	30
	Friday (1 271.0)	0	0	6	9	12	4	3	39	31	32	61
	Saturday (7 49.0)	0	0	0	0	2	0	0	2	4	4	4

You can prevent a grid row or column from changing position when you re-sort the associated axis by clicking the header button for the row or column. A padlock symbol appears as shown in Figure 6–32. You can click a header button again to unlock the row or column.

Exercise: Show Kidnappings on a Grid

1. Show Kidnappings on a New Grid
2. Set By Attribute Number Kidnapped
3. Horizontal Axis: Event Date/2 hour intervals
4. Vertical Axis: Event Date/Day of Week
5. Save your display properties as Kidnappings Grid

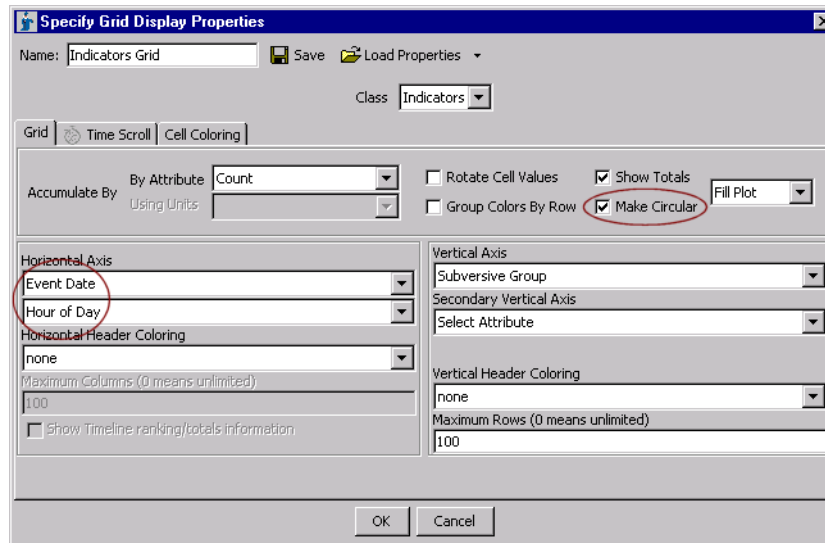
6.6.2 Operations Clock

The circular option for a grid (see Figure 6–34) lets you create a 24-hour operations or "ops" clock that shows time-of-day information at a glance.

Exercise: Create an Ops Clock

1. Create a valid query and send it to a New Grid.
2. Check the Make Circular checkbox (see Figure 6–33).
3. For the horizontal axis, choose a date attribute and "Hour of Day" as shown in Figure 6–33.

Figure 6–33 Grid Properties - Ops Clock

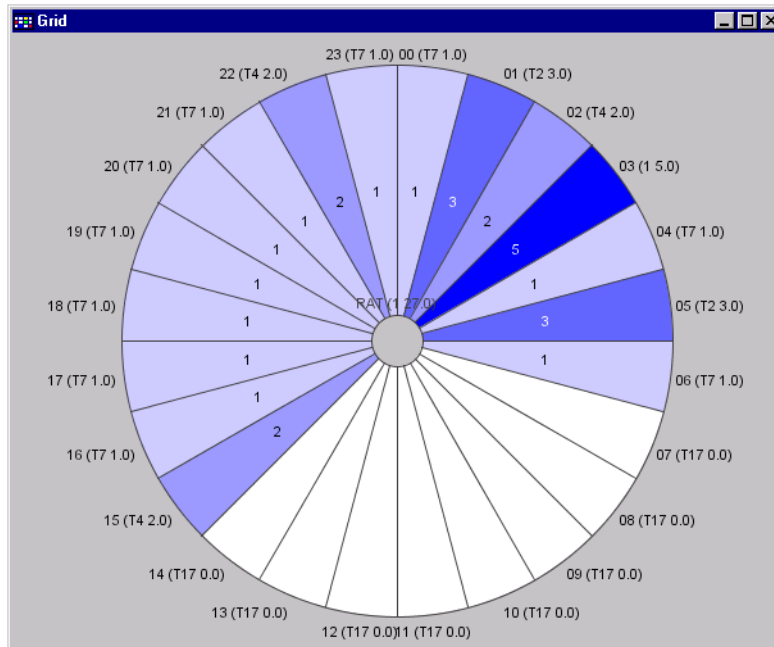


The image shows a Windows-style dialog box titled "Specify Grid Display Properties". At the top, there is a "Name:" field containing "Indicators Grid", a "Save" icon, and a "Load Properties" button. Below this is a "Class:" dropdown menu set to "Indicators". The dialog has three tabs: "Grid", "Time Scroll", and "Cell Coloring", with "Grid" being the active tab. In the "Grid" section, there are options for "Accumulate By" (set to "By Attribute" with a "Count" dropdown), "Using Units" (empty), "Rotate Cell Values" (unchecked), "Show Totals" (checked), "Group Colors By Row" (unchecked), "Make Circular" (checked and circled in red), and "Fill Plot" (dropdown). Below these are two main sections: "Horizontal Axis" and "Vertical Axis". The "Horizontal Axis" section has "Event Date" (dropdown, circled in red), "Hour of Day" (dropdown), "Horizontal Header Coloring" (set to "none"), "Maximum Columns (0 means unlimited)" (set to "100"), and a checkbox for "Show Timeline ranking/totals information" (unchecked). The "Vertical Axis" section has "Subversive Group" (dropdown), "Secondary Vertical Axis" (dropdown), "Select Attribute" (dropdown), "Vertical Header Coloring" (set to "none"), and "Maximum Rows (0 means unlimited)" (set to "100"). At the bottom are "OK" and "Cancel" buttons.

4. Choose an attribute for the vertical axes.
5. Click the OK button.

The ops clock populates its display with results that are positioned at the time of day that they occur (see Figure 6–34). Note that the ops clock is in 24-hour format—the example data in Figure 6–34 occurs from afternoon through night into the early morning hours.

Figure 6–34 Ops Clock



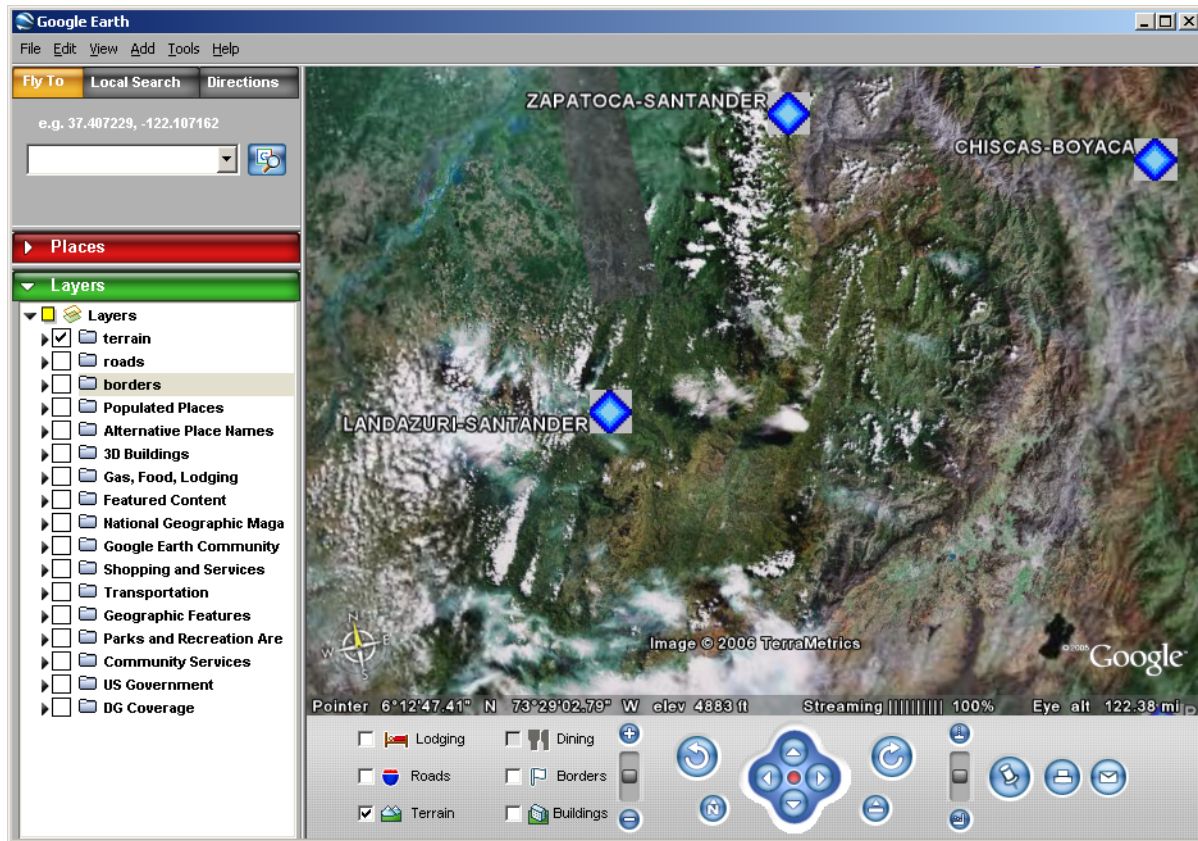
6.7 Using Google Earth

If your administrator configured WebTAS with Google Earth as explained in the WebTAS Installation and System Administration Manual, the following additional option appears as a view output choice on the Query Panel.

Send Results to Google Earth

Sending your results to Google Earth launches the Google Earth application and overlays the result objects onto the overhead photographic satellite view as shown in Figure 6–35.

Figure 6–35 Google Earth Example



Google Earth is a separate application that must already be installed on the system before this option will work. You can save these "WebTAS" views in Google Earth and return to them by opening them later—directly in Google Earth and independent of whether Project Tool is running or not.

Google Earth provides its own interface for viewing, zooming, saving, or otherwise working with its imagery. See the Google Earth documentation for specifics about working with Google Earth, either on its own or as an application that WebTAS launches.

6.7.1 Configure Google Earth

You can configure WebTAS to use Google Earth by modifying the `webtas.client.properties.3.1.0.0` file as follows:

```
#####  
#####  
# Keyhole Export Configuration (aka Google Earth properties)  
#  
# To enable Google Earth maps:  
#   1. Install Google Earth  
#   2. Uncomment the 3 keyhole property lines below
```



```
# 3. Verify that the path specified for keyholeApplication
is correct for your system
# 4. Verify that the path specified for keyholeTempDir is
correct for your system
#####
#####
#keyholeEnabled=true
#keyholeApplication=C:/Program Files/Google/Google
Earth/GoogleEarth.exe
#keyholeTempDir=C:/WebTAS
```

Uncomment the three lines in Red above. Ensure the Paths to the Google Earth executable and the Temp directory are correct.

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7 Using Security Manager

Module Time: 1 hour

Overview

Security Manager is the application used to manage discretionary access control (DAC). Using the Security Manager you can create roles and users, specify what capabilities are associated with each role and which users are assigned to the various roles. Security Manager also allows for the importing and exporting of roles, users and security settings from spreadsheet files. After you have updated the global data dictionary, using the Domain Editor, you can set up security for the domain using the Security Manager.

Module Objectives

After completing this module, you will be able to:

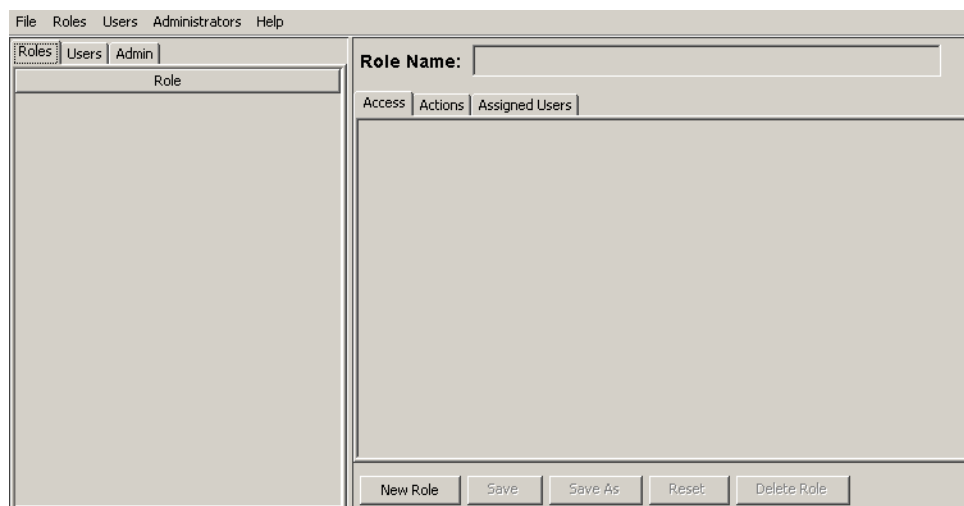
- Create Roles
- Create Users
- Explain LDAP Import Process
- Import and Export Settings to Spreadsheets

7.1 Overview

Security Manager has two panes. The left pane contains three tabs—Roles, Users, and Admin—where you access the subtabs to create, edit, and delete roles and users; and, manage other administration tasks.

The right pane contains multiple subtabs to work with roles, users, security, time-out, password policies, LDAP configuration, and import/export configurations.

Figure 7–1 Security Manager



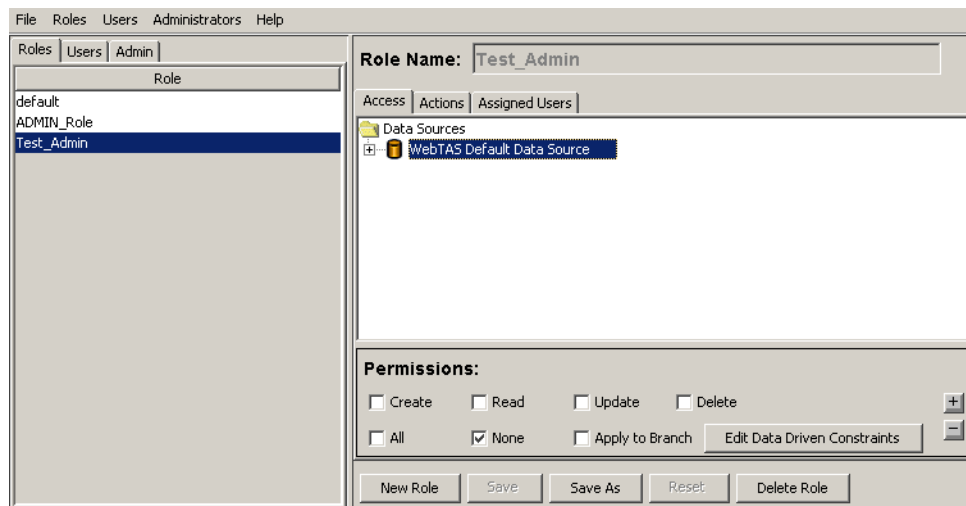
7.2 Create Roles

WebTAS roles control user access to domain data and control the program actions users can perform with the data. When creating roles, you should consider how users will work with the WebTAS domain and how you want to restrict access to data and functions. You can create as many roles as you want, but you must create at least one role. A user may be assigned to one or more roles, but must be assigned to at least one.

7.2.1 Set the Access Privileges for the Role

After you add a role, configure the appropriate permissions to access class and subclasses in the domain. To initially configure or to modify the access permissions, select the Role tab and the Access subtab.

Figure 7–2 Access Tab



The Access subtab contains a tree of classes and subclasses. If a class has subclasses below it, you will see an Expand Tree (+) button. Use the Expand Tree (+) and Collapse Tree (-) buttons to work with classes and subclasses.

In the Access subtab, customize the permissions you want to grant to the role for access to each class or subclass.

You can select one or more of the following permission types for a selected class or subclass:

- **Create [C]**—Allows this role to add data for the specified class to the WebTAS native database.
- **Read [R]**—Allows this role to run queries on the specified class data.
- **Update [U]**—Allows this role to update existing data for the specified class in the WebTAS native database.
- **Delete [D]**—Allows this role to delete data for the specified class from the WebTAS native database.
- **All [CRUD]**—Allows this role to perform all create, read, update, and delete functions.
- **None**—Denies all access to the class.

Apply to Branch—Applies the same permission types as the class to all of its subclasses.

Note

For a new role, the default permission type for each class is None

For the Create, Read, Update, or Delete permission types, when you grant the permission to a role, an indicator consisting of the first letter of the permission type (C, R, U, or D) appears to the right of the class name in square brackets. Multiple permissions result in multiple indicators to the right of the class name. If All is the permission type, [CRUD] appears to the right of the class name. If a role has a Create, Update, Delete, or All permission type, the class name appears in boldface type. If the permission type selected for a role is None or Read (only), the class name appears in regular type.

For some roles, you may need to configure the permission to a finer degree of granularity. For example, suppose you gave Role1 read access to the Clashes class, but you want to limit the clashes that Role1 can read to those occurring after August 1. In this scenario, you can limit the read permission by editing the data-driven constraint. The Edit Data Driven Constraints button opens a dialog box allowing you to define query constraints for each of the Create, Read, Update, and Delete permissions. See the WebTAS User Guide for information about editing queries.

If you want all subclasses of a particular class to have the same permission types as the class, you can select the Apply to Branch button. Then edit the subclass permissions, if necessary. However, the permissions defined for a subclass cannot be less restrictive than the permissions defined for the class. For example, if the role has Read and Update permissions to the TAS Objects class and also Create or Delete permissions for the Alerts subclass, Alerts will still have only Read and Update permission because it cannot have more privileges than its parent class.

7.2.2 Set Action Privileges

After you add a role, you need to determine the program actions you want users with this role to be able to perform. Users may invoke a program action by interacting with the user interface (for example, by selecting a toolbar menu item or clicking a button). To set up access, you use the Actions subtab on the Role tab in the Security Manager window.

Similar to the Access subtab, the Actions subtab contains a tree of actions. If a folder has actions below it, you will see an expand tree (+) button or a collapse tree (-) button to the left of the folder icon.

There are two options for permissions to actions:

- Allow—Grants permission for the action to the role.
- Deny—Does not permit the role to perform the action.

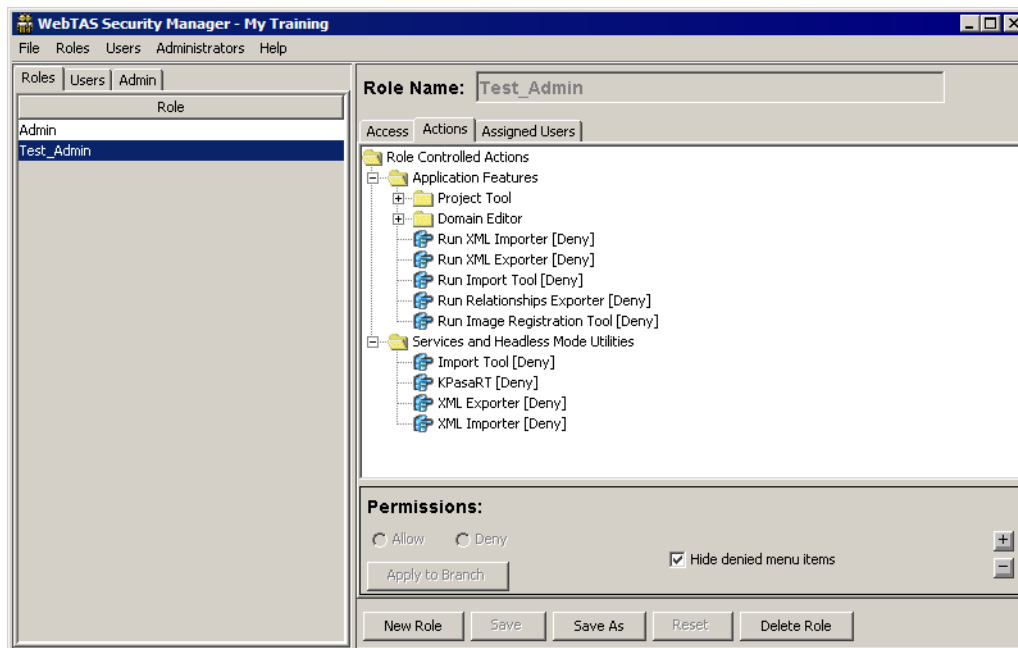
The two additional options include:

- Apply to Branch—With a class with subclasses selected, click to apply the action permission for the class to the subclasses.
- Hide denied menu items—When selected, it removes all actions that are denied for the role (not just the ones you select) from the WebTAS application menu.

Note

For the program actions you permit, you must ensure the role has access to the appropriate classes and subclasses on the Access subtab. Otherwise, program actions will not display correct and complete data.

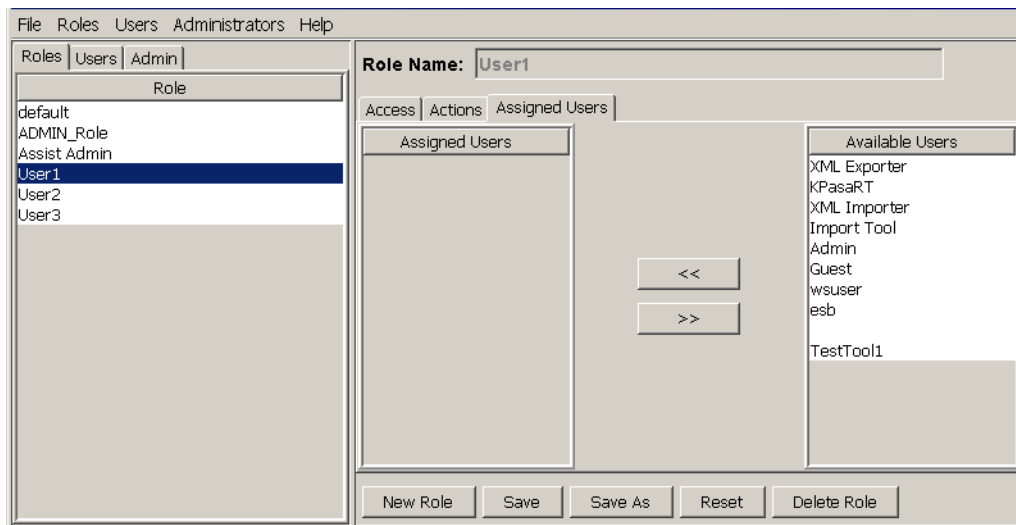
Figure 7–3 Actions Tab



You can either Allow or Deny access to an action. The default setting is Deny.

7.2.3 Assign Users

The Assigned Users subtab on the Roles tab allows you to assign one or more user accounts to one selected role.

Figure 7-4 Assigned Users

7.3 Adding Users

Eventually you must create at least one user and role with full access in order to perform additional administrative activities for WebTAS. For example, you cannot log back on to Domain Editor (nor can you log on to Project Tool) without an account and role from Security Manager.

7.3.1 Existing User Accounts

Several system-generated proxy accounts are created during the WebTAS install.

XML Exporter and Importer and the Import Tool

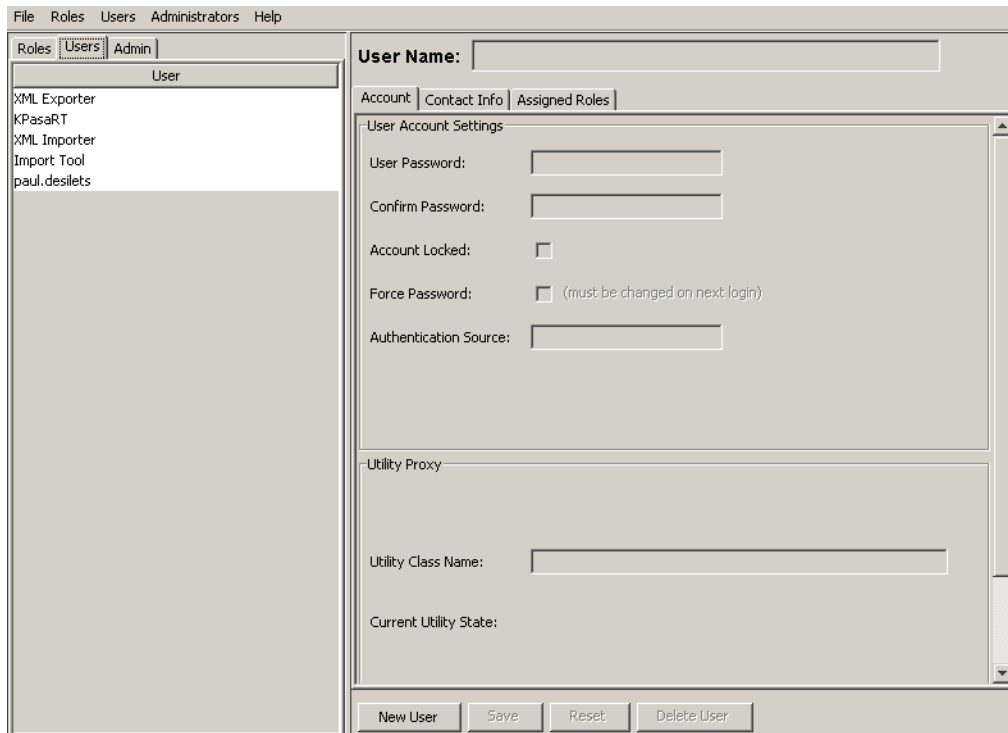
- K-PASA/RT
- Admin
- Guest
- wuser
- esb

Since account authorization is granted and not obtained by default, these accounts are created for you to use as templates. Access privileges for these accounts is set to all actions denied and all data access permissions set to None.

7.3.2 Account Tab

When you are creating a new user or updating information about an existing user the account tab is the starting point.

Figure 7–5 Account Tab



The screenshot shows the 'Account Tab' in the Security Manager interface. The top menu bar includes 'File', 'Roles', 'Users', 'Administrators', and 'Help'. The 'Users' tab is selected, and a list of users is shown on the left: 'XML Exporter', 'KPasART', 'XML Importer', 'Import Tool', and 'paul.desilets'. The 'User' tab is selected, and the 'User Name' field is empty. The 'Account' tab is selected, and the 'User Account Settings' section contains the following fields: 'User Password', 'Confirm Password', 'Account Locked' (checkbox), 'Force Password' (checkbox), and 'Authentication Source'. The 'Utility Proxy' section contains the 'Utility Class Name' field and the 'Current Utility State' label. At the bottom, there are four buttons: 'New User', 'Save', 'Reset', and 'Delete User'.

The following options/entries exist on the Account tab:

- **User Password**—Password requirements for user accounts (not downloaded via LDAP) are configured on the Admin/User Accounts tab.
- **Account Locked**—If you want to lock the account so the user cannot log on, select the Account Locked check box; otherwise, leave the check box cleared
- **Force Password**—If you want to force the user to change the password at first log on, select the Force Password check box.
- **Authentication Source**—An authentication source is always dependent on how the user account is created. The authentication source tells WebTAS how user information will be managed either by Lightweight Directory Access Protocol (LDAP) or Security Manager User Accounts.
- **Utility Class Name**—Some services and utility programs need to run in situations in which they cannot be authenticated interactively.

Users must be assigned a role. If you attempt to save the user information at this point an error dialog will appear and you will be forced to select a role for the user.

7.4 Admin Tab

On the Admin tab, you can select and configure the authentication source, set security policy enforcement options, set the administrator's password, and establish a system time out (see Figure 7–6.) You can also choose the type of password control you want to use and look up or download user information using Lightweight Directory Access Protocol (LDAP) server.

Figure 7–6 Admin - General Tab

The screenshot shows the 'Admin - General Tab' window. The top menu bar includes 'File', 'Roles', 'Users', 'Administrators', and 'Help'. Below the menu, there are tabs for 'Roles', 'Users', and 'Admin'. The 'Admin' tab is active, and within it, the 'General' sub-tab is selected. The 'General' sub-tab contains several sections: 'Security Policy Enforcement' with three checked options ('Users must login', 'Data access controlled', 'Program actions controlled'), 'Administrator Password' with 'Password' and 'Confirm' fields (both masked with asterisks), 'User Administrators' with an unchecked 'Allow Multiple Admins' checkbox, and 'Inactivity Timeout' with an unchecked 'Force user logoff after' checkbox and a '20 minutes of inactivity' field. At the bottom of the window are 'Save' and 'Reset' buttons.

7.4.1 General Tab

7.4.1.1 Set Security Policy

The security policy enforcement settings determine how overall WebTAS security is enforced.

- **Users must login**—Enforces users to log on every time they open WebTAS.
 - When someone tries to log on to WebTAS without an existing user account, they are automatically assigned the Guest user with read-only rights.



- o When User must login and Permissive Password (on the Accounts subtab) are selected, the settings for the password can be anything including just one character.
- o When User must login and Strict Password with no limits to the password format (on the Accounts subtab) are selected, the settings for the password can be anything including just one character.
- **Data access controlled**—Enforces the settings for access to classes and subclasses established on the Roles tab/Access subtab.
- **Program actions controlled**—Enforces the settings for program actions established on the Roles tab/Actions subtab.

Important

If you established role-based settings for access to data and for program actions, those settings are only enforced when you select the corresponding check boxes on the Admin tab/General subtab.

7.4.1.2 Set Administrator Password

The Administrator Password you entered when you logged in to Security Manager is the default administrator password (displayed as asterisks). You can change the administrator password in the Administrator Password group box

7.4.1.3 Set Inactivity Timeout

You can choose whether to log users out of WebTAS after a specified period of inactivity.

7.4.1.4 Allowing Multiple Administrators

You can indicate whether you want to designate certain users as domain administrators or user administrators. A user identified as a domain administrator has FULL _ACCESS to Security Manager functions for the selected domain. Only a domain administrator or the WEBTAS_ADMIN account has the ability to designate a user as a domain administrator or a user administrator.

A user administrator has responsibility for managing user accounts for their organization or group. A user administrator may create, update, and delete user accounts assigned to specific roles. However, a user administrator only has permission to work with certain roles and can only assign or remove those specific roles when creating or updating user accounts. Updating capabilities also include resetting passwords, unlocking user accounts, forcing password changes, and updating user contact information.

The user administrator cannot perform domain functions such as creating and administering roles, choosing password policies, or importing users from LDAP.

If you select the Allow Multiple Admins check box on the General subtab, Security Manager creates additional tables in the database and two additional subtabs—Domain Admin and User Admin—appear on the Admin tab (Figure 7-7). The additional subtabs allow you to identify multiple domain administrators and user administrators.

Figure 7-7 Multiple Admins



7.4.2 Accounts Tab

The Accounts tab is used to manage user accounts.

7.4.2.1 Setting User Names Policy

- **Names are case sensitive**—requires users to provide a login name with the same case used when the user's account was created. For example, John Doe will not be able to login as john doe. This policy will be enforced regardless of whether LDAP or Security Manager accounts are used for authentication.
- **Get login name from Operating System**—disables the username field in the user login dialog box. That field will be populated with a username retrieved from the operating system. This effectively prevents users from logging into the system from another user's workstation. This policy will be enforced regardless of whether LDAP or Security Manager accounts are used for authentication.

7.4.2.2 Enabling Guest User Policy

Guest accounts are a way to accommodate sites whose users are not always known ahead of time. Guest accounts can only be enabled when users are not required to logon, and a mandatory part of enabling the feature is selecting the guest user account. The admin creates that account with roles that have permissions appropriate for guests.

7.4.2.3 Set up Password Policy Settings

Select the checkbox(s) that you want to enforce.

- **Must be of mixed case**—Must have lower and upper case letters.
- **Must contain numerals**—Must contain at least one numeric character (0-9).
- **Must contain special character**—Must contain at least one special character. The underscore (_) character does not count as a special character.
- **Minimum length**—You can specify the minimum length from 8 to 40 characters.

7.4.2.4 Setting Password Controls

The password controls allow you to specify how long a password is valid and the number of new passwords you must create before reuse of old passwords is allowed.

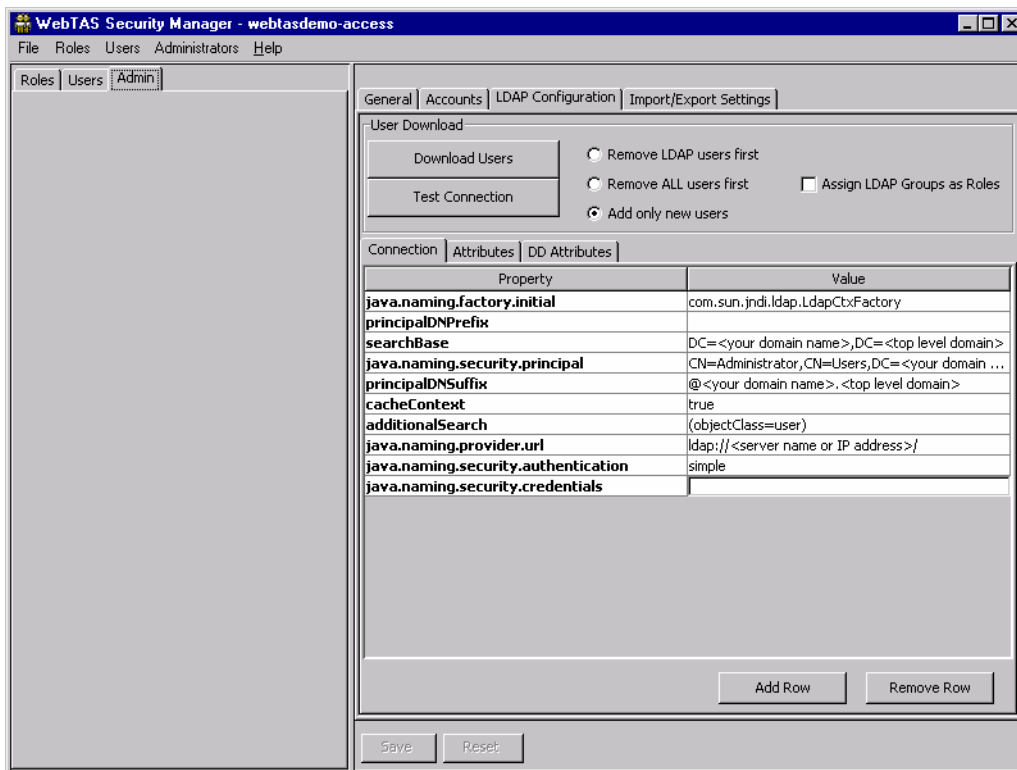
7.4.3 LDAP Configuration Tab

WebTAS uses Lightweight Directory Access Protocol (LDAP) to communicate with external user directories. If you will not be using LDAP for either authentication or for user import, you can skip this section.

Warning

If you are going to use LDAP read the Security Manager guide to ensure proper precautions are taken. This course material is not adequate to perform safe LDAP downloads.

Figure 7–8 LDAP Configuration Tab



The screenshot shows the 'WebTAS Security Manager - webtasdemo-access' window. The 'Admin' tab is selected in the left sidebar. The main panel has tabs for 'General', 'Accounts', 'LDAP Configuration', and 'Import/Export Settings'. The 'LDAP Configuration' tab is active, showing a 'User Download' section with buttons for 'Download Users' and 'Test Connection', and radio buttons for 'Remove LDAP users first', 'Remove ALL users first', and 'Add only new users'. There is also a checkbox for 'Assign LDAP Groups as Roles'. Below this is a 'Connection' section with tabs for 'Attributes' and 'DD Attributes'. The 'Attributes' tab is active, displaying a table with LDAP properties and their values.

Property	Value
java.naming.factory.initial	com.sun.jndi.ldap.LdapCtxFactory
principalDNPrefix	
searchBase	DC=<your domain name>,DC=<top level domain>
java.naming.security.principal	CN=Administrator,CN=Users,DC=<your domain ...
principalDNSuffix	@<your domain name>.<top level domain>
cacheContext	true
additionalSearch	(objectClass=user)
java.naming.provider.url	ldap://<server name or IP address>/
java.naming.security.authentication	simple
java.naming.security.credentials	

At the bottom of the table are 'Add Row' and 'Remove Row' buttons. Below the table are 'Save' and 'Reset' buttons.

7.4.3.1 Manage User Downloads

The User Download section (see Figure 7–8) allows you to perform the following tasks:

- **Remove LDAP users first**—remove the list of LDAP users so that the new download will re initialize it.
- **Remove ALL users first**—remove the list of all users so that the new download will re initialize it.
- **Add only new users**—download only new users, keeping the prior user list unchanged.
- **Assign LDAP Groups as Roles**—map users in Windows domain groups to matching Security Manager roles, if a match exists.
- **Test the Connection**—execute a test of the connection to the LDAP download source.
- **Download Users**—perform the download.

7.4.3.2 Setting Connection Values

Use the three LDAP Configuration subtabs to set the values for the LDAP download.

7.4.3.2.1 Connection

For a detailed explanation of each field see the Security Manager Guide. Ensure this section is completed before attempting to test the connection.

7.4.3.2.2 Configure the User Attribute Settings

User attributes tell the system which user contact information from an external directory you want to use in WebTAS. You can use the preestablished attributes, or you can customize the information by adding rows for new information, or removing rows.

7.4.3.2.3 Configuring Data Dictionary Attribute Settings

To map the LDAP attributes to attributes of a class defined in the Data dictionary, specify the mappings in the DD Attributes table.

7.4.4 Import/Export Settings Tab

If you have user accounts, roles, and security settings in Excel, you can import that information using the Import/Export Settings tab. You can also back up your current settings by exporting them to a spreadsheet. This feature is intended to facilitate initialization of a system with settings exported from some previously configured system that uses the same domain.

The best way to create the required spreadsheets is to perform an Export, which creates the spreadsheets in the required format. You can then make changes to the spreadsheet and perform the Import. This is also a convenient way to reset the system configuration to a known state.

A good practice is to perform an export soon after installing WebTAS and configuring roles, users, and settings. That way, you have a known initial state that you can restore.

Note

You must choose a directory before you can import or export spreadsheets.

Exporting produces the following files:

- **RoleData.xls**—containing role information
- **UserData.xls**—containing user information
- **ConfigData.xls**—containing security settings

7.4.4.1 Importing Roles, Users, and Security Settings from Spreadsheets

You can import roles, users, and security settings from spreadsheets by selecting the directory and then clicking the Import button.

Note

It is not required that all spreadsheets (RoleData.xls, UserData.xls, and ConfigData.xls) exist in the specified directory for importing. If, for example, you are importing to update the user set you may wish to have only the UserData file in the directory. Limiting the number of imported files will make the import operation faster.

When importing the spreadsheets you must select one of the following options:

- **(Re)Initialize the system**—Deletes existing information and replaces it with the imported information.
- **Add new or modified records**—Compares the spreadsheet records and existing records. New records are added. If there are existing records that differ from the imported records (a role's permissions have changed, etc.) then the existing record is replaced. This mode may take more time depending on how many records must be compared.
- **Add only new records**—Adds only new records. Does not change existing records.

8 Domain Editor Tour

Module Time: 30 minutes

Overview

Your aim is to create a domain, based on the available data sources, that is easily comprehensible to the analysts/operators using WebTAS. A domain describes the data model that WebTAS will use to manipulate data. As a review this data model is hierarchical and contains information describing the following:

- Data Sources—contain Classes
- Classes—contain Attributes
- Attributes—correspond to abstract data types
- Picklists—lists of values that can be associated with attributes
- Unit Categories and Units—categories (such as "Distance") containing any number of different units of measure (such as "Feet" and "Meters"), plus factors for converting between each
- Joins and Relationships—define linkages between classes.

A domain is stored as a file using eXtensible Markup Language (XML). (Most) WebTAS applications read a user-selected domain file at initialization time and configure themselves to operate within the given domain model.

The original data in the external data sources are not altered by WebTAS; only their representations in WebTAS and/or the native database are customized. In this way, WebTAS preserves the integrity of data being analyzed.

Module Objectives

After completing this module, you will be able to:

- Describe the components that comprise the basic domain structure

- Understand the classes in a TAS Object
- Understand what items appear in the left and right panes of the Domain Editor

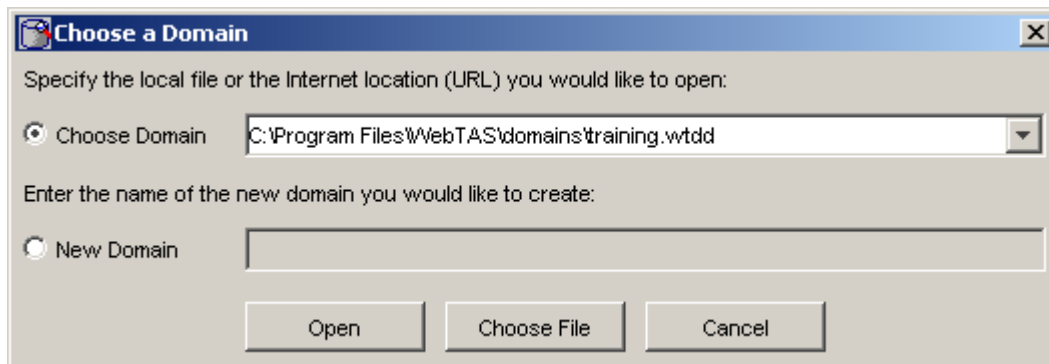
8.1 Opening Domain Editor

To open Domain Editor, do the following:

1. Select **Start > Programs > WebTAS Client > Administrator Tools > Domain Editor**. (or right-click the data dictionary and select **Open with Domain Editor**)

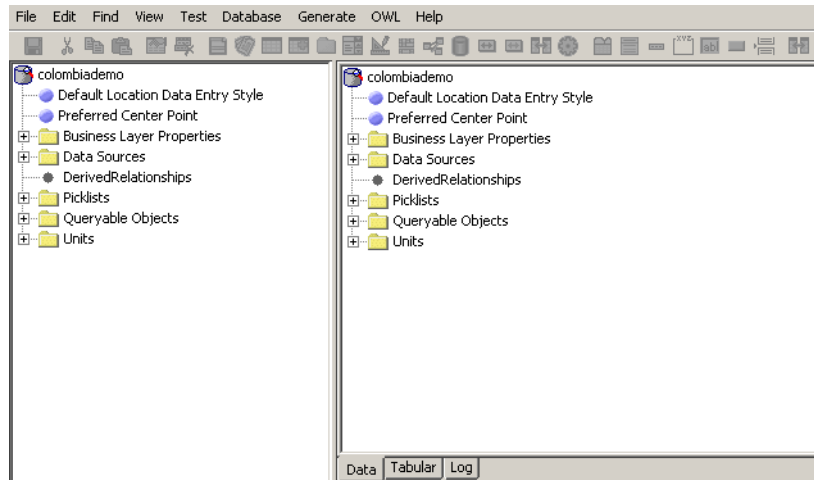
The Choose a Domain window appears (Figure 8–1).

Figure 8–1 Choose Domain



2. Select the appropriate domain or click the Choose File button to browse to the domain. This window does not appear if you use the right-click method.
3. Click OK.
The Domain Editor window appears (Figure 8–2).

Figure 8–2 Domain Editor



8.2 Domain Editor Window

The left pane or Domain pane of the Domain Editor window lists the structural hierarchy of the current domain. This hierarchy includes all classes and subclasses, as well as picklists, tables, and units supporting data contained in the classes.

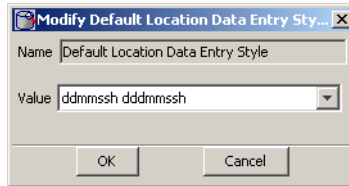
The right pane of the Domain Editor window displays one of a series of tabbed windows listing either class data or Domain Editor information, depending on the tab selected.

8.2.1 Domain Panel

All WebTAS domains are built using the same basic structure and components. Though this structure is expanded and enhanced for complex domains, the basic elements remain the same.

The following components comprise the basic domain structure.

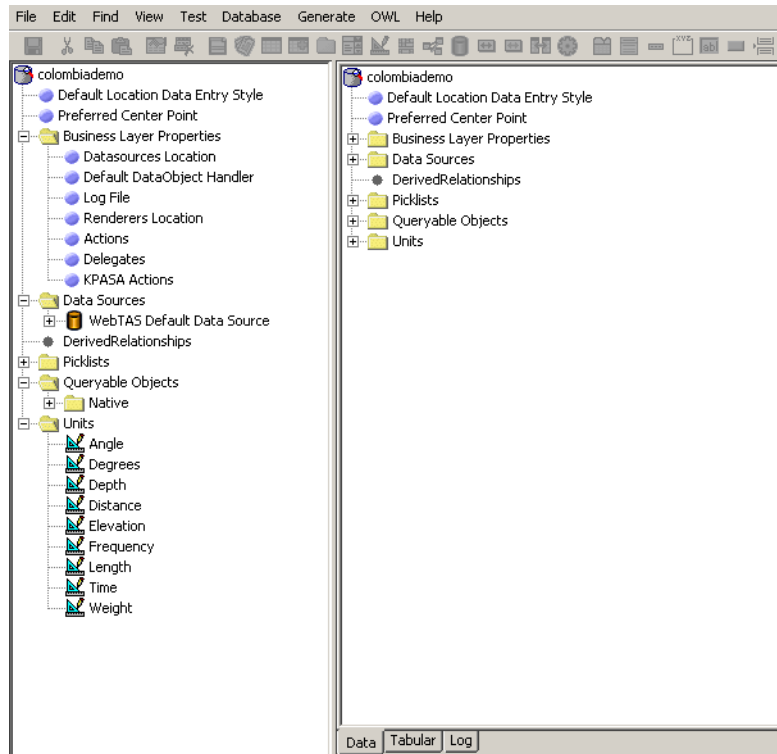
- Default Location Data Entry Style—Specifies the format for the location style.

Figure 8–3 Location Style

- Preferred Center Point—Default lon/lat set to 000000.000N 0000000.000E. To edit the Preferred Center Point location, double-click Preferred Center Point.
- Business Layer Properties—Defines the data source and renderers location, actions, delegates, and KPASA actions, if any.
- Data Sources—Lists all data sources to which the system currently connects. Expand the Data Sources folder and the WebTAS Default Data Source is visible. The Default Data Source represents the WebTAS native database required for standard WebTAS installations. This database contains a skeletal domain structure and security information. Other external data sources to which the system connects are also listed, if any.
- Derived Relationships—Lists all additional relationships that are not explicitly defined using Joins, Table Joins, and Relationships.
- Picklists—Define the lists of valid attributes from which users can select when querying the domain using the Project Tool. This enables users to quickly see all available attribute options and prevents entry of invalid options.
- Queryable Objects—Lists all of the queryable object classes configured within the domain.
- Units—Lists the units of measure available for use within the domain. By default, units are organized into categories that have one or more specific units of measure. For instance, the Distance category contains the following specific units: Kilometers, Meters, Nautical Miles, and Stature Miles. When you select Distance, these units appear in the right pane of the Domain Editor window. The reference unit for distance is Nautical Miles (conversion factor of 1), and all other units are calculated in relation to this unit.

The components described above are expanded and enhanced when you map data structures from external data sources into a domain.

Figure 8–4 Domain Editor



8.2.1.1 TAS Object

In every WebTAS domain the base class is named TAS Object. It is called the base class because it appears at the top of the class hierarchy tree and is common to all WebTAS domains. It often contains the following subclasses:

- Alert
- Assessment
- Assessment History
- Event
- Organization
- Person
- Place
- Prediction
- Relationship
- Tasking Object

You can add other classes and subclasses to the base class as desired.

8.3 Right Pane

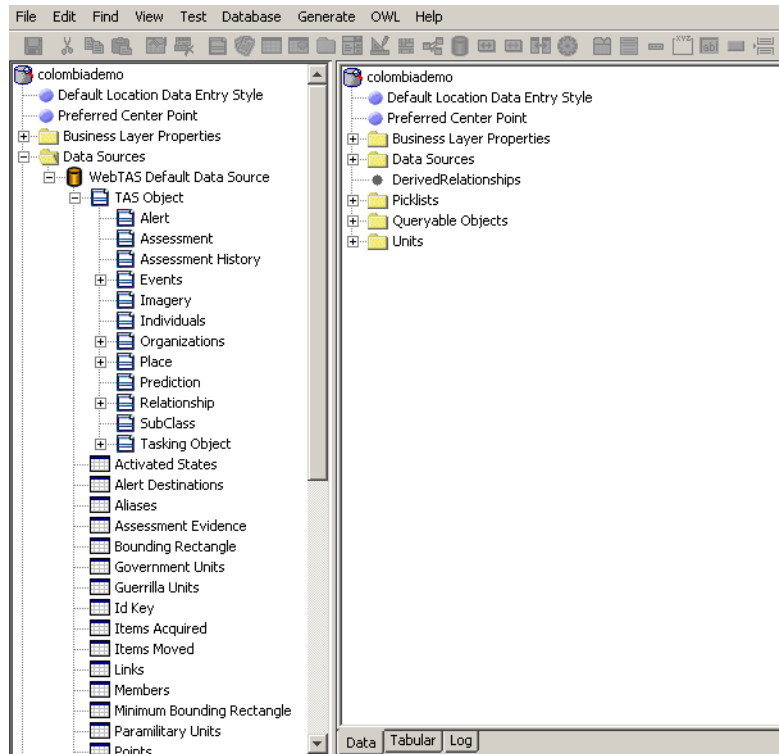
The right pane contains four subtabs. Click the tab to display the corresponding page.

- Data Tab
- Tabular Tab
- Log Tab
- GUI Tab

8.3.1 Data Tab

The Data tab appears by default when you start the Domain Editor. Highlight a class in the left pane to display the data (attributes and tables) and subclasses of the class. You can select classes, class attributes, picklists, tables, and units displaying on this page for editing purposes.

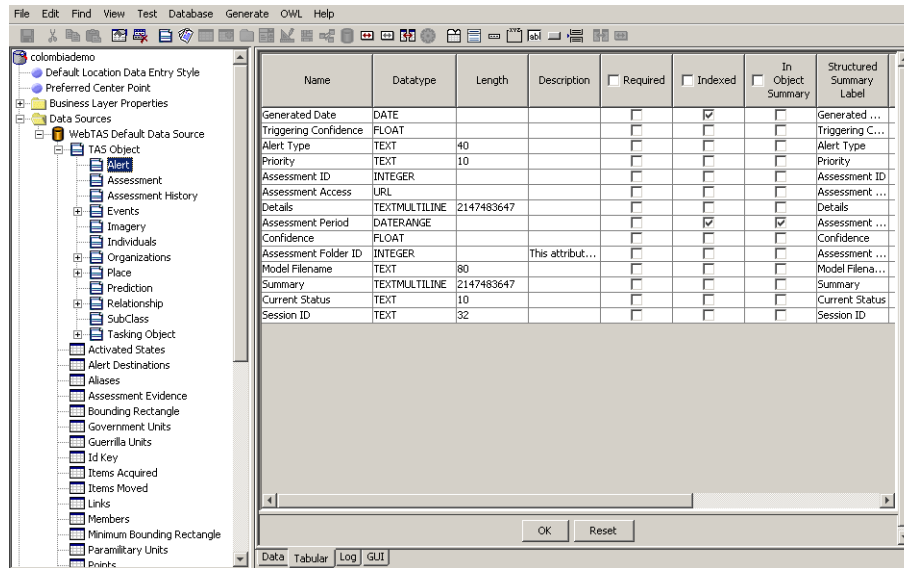
Figure 8–5 Data Tab View



8.3.2 Tabular Tab

The Tabular tab displays non-editable information summarizing the properties of attributes contained in the highlighted class. This information provides helpful data about attributes, including names, data types, lengths, descriptions, whether the attribute value is required upon creation of an object and so on.

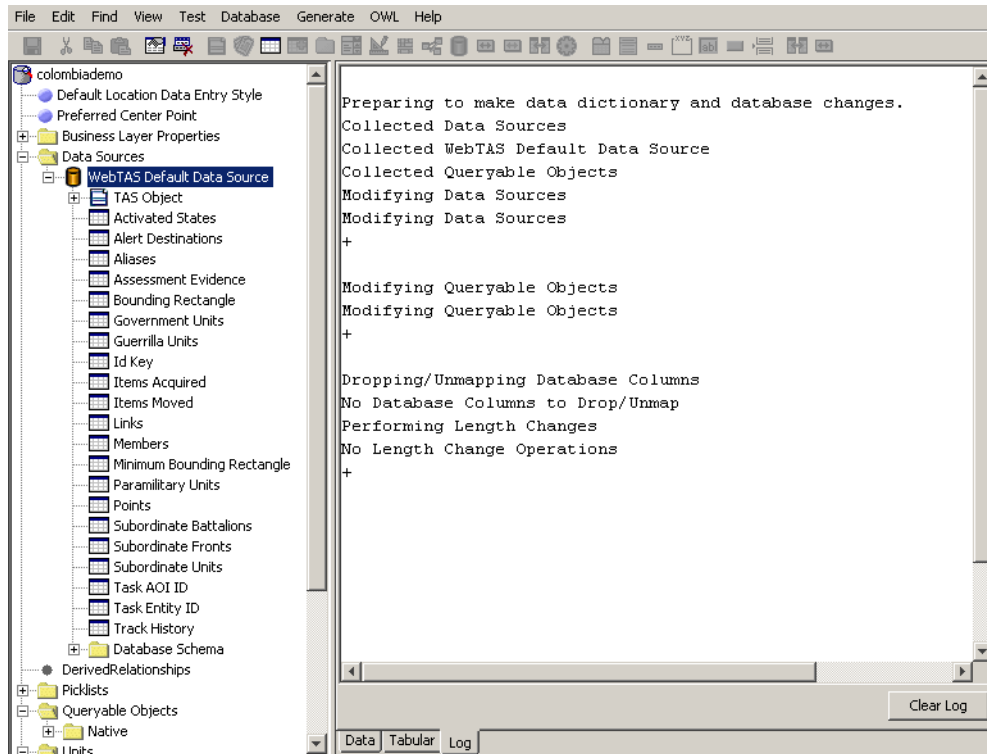
Data for all the attributes displays and includes the attribute name, data type, field length, and a description of the attribute. Also displayed on this page are fields which are defined when creating or modifying an attribute.

Figure 8–6 Tabular Tab View

8.3.3 Log Tab

Click the Log tab to display a running log of WebTAS execution messages. These messages may be somewhat cryptic yet are useful to the WebTAS Development Team in case errors occur during the execution of Domain Editor. In the future, more comprehensive messages detailing all additions, modifications, and deletions of classes, tables, or attributes will display on this page.

Figure 8–7 Log Tab View



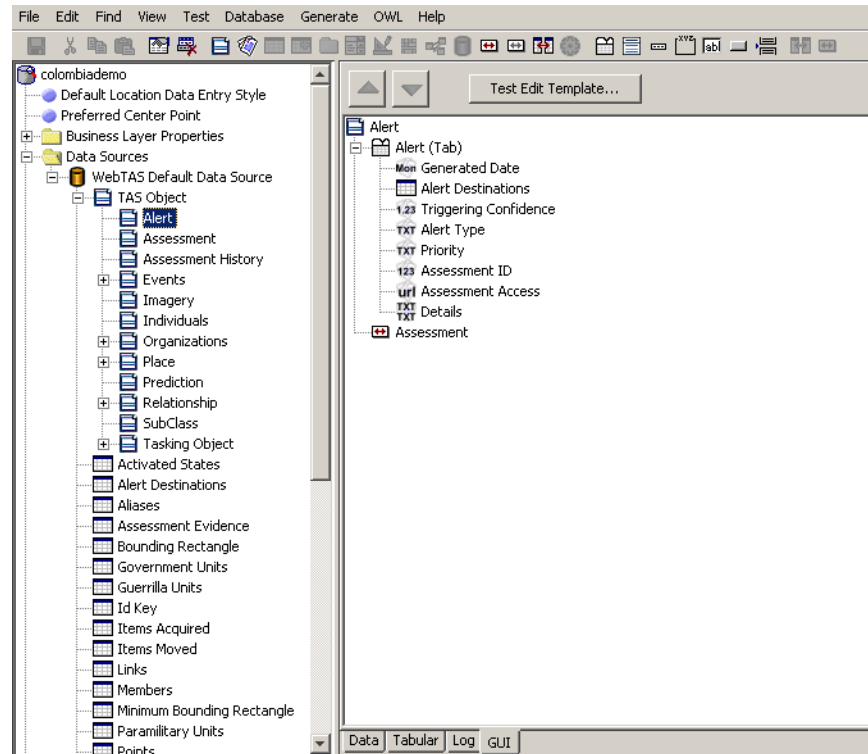
8.3.4 GUI Tab

The GUI tab displays the GUI layout hierarchy shown to the user when entering a class instance. The position of the GUI relative to other attributes' GUIs within a window can also be specified

You can reorder class attributes using the reordering (up/down) buttons shown in

Use the Test Edit Template option to check the appearance and behavior of the data entry window as it will appear to users.

Figure 8–8 GUI Tab View



8.3.5 Toolbar

Both the menu bar and the toolbar contain many of the options you will use when working in Domain Editor. Also, some options appear on right-click menus

Figure 8–9 Domain Editor Toolbar



For a description of the icons see the Domain Editor Manual. All actions are also available from the **Edit > New > Choices**.

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9 Using the Domain Editor

Module Time: 2.5 hours

Overview

Field Engineers are often tasked with creating new domains which connect a variety of data sources in ways that are useful to a given customer. This process requires mapping in various tables, creating classes, tables, and attributes, defining joins, and creating native relationship classes. Very often a snippet or a mask may be used when creating an attribute to combine, manipulate, or otherwise format the database data before using it in WebTAS displays.

Module Objectives

After completing this module, you will be able to:

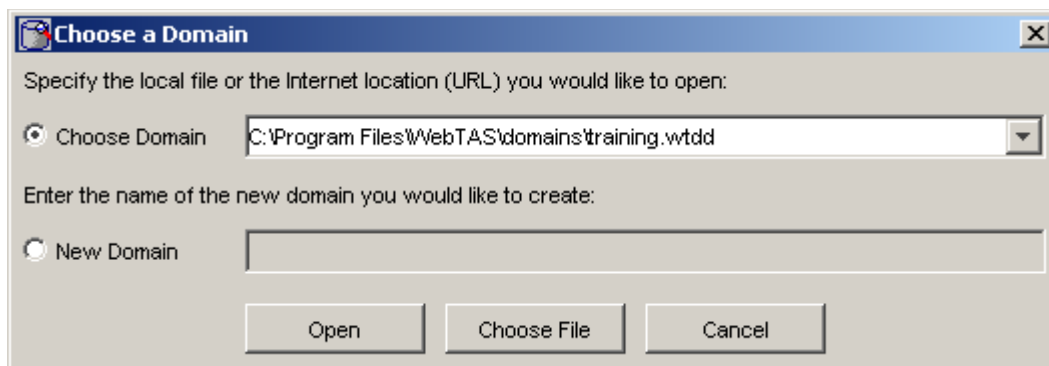
- Create an Empty Domain
- Create a New Table and Class (Native)
- Create New Attributes (Native)
- Create Picklists and associate with attributes
- Map an External Data Source to the domain
- Create Location Attributes
- Define Joins
- Configure Queryable Objects Folder

9.1 Create an Empty Domain

There are two methods to create an empty domain:

The easiest is to select New Domain from the Choose a Domain dialog. Then answer the questions to create an empty domain. (Not currently functional)

Figure 9–1 Choose a Domain



In the second method there are four steps required to create a new domain:

1. Create the database to be used as the WebTAS Default Data Source.
2. Create a Data Dictionary.
3. Run the Security Manager to create Roles and Users.
4. Run the Domain Editor to create additional tables in the database.

9.1.1 Create the Database

For all databases except Microsoft Access, create a separate database schema and user.

Create a new native database in the product of choice. Create a user login to that database that will be shared across all WebTAS users.

This configuration is possible because WebTAS Security Manager controls access to the database, relying less on the database product itself.

Note

The particulars for each database are beyond the scope of this document. Refer to the database product documentation for instructions regarding installation, configuration, and management of the database and its users. Involve the database administrator if necessary.

For Microsoft Access

Create a directory named databases in C:\WebTAS-UserSpace. Launch Microsoft Access and create a new database. For example, myaccessdb.mdb. Save the database to the WebTAS databases directory (C:\WebTAS-UserSpace\databases by default).

9.1.2 Create a Data Dictionary

Make a copy of the client.wtdd file (located in C:\Program Files\WebTAS\Domain Templates), paste in the C:\WebTAS-UserSpace\domains directory, and rename the copy to something meaningful (your-domain.wtdd).

Open your-domain.wtdd in a text editor.

Find the <Name> element near the top of the file:

```
<Name>WebTAS Data Dictionary</Name>
```

Rename the domain to something meaningful to you. Choose a name that is similar to the base filename ("your-domain") for your *.wtdd file.

```
<Name>Your Data Dictionary</Name>
```

Find the <DataSourceConnInfo> element:

```
<DataSourceConnInfo>  
<Name>WebTAS Default Data Source</Name>  
</DataSourceConnInfo>
```

Expand or replace the <DataSourceConnInfo> element with the connection settings for your database product. Paste the appropriate boilerplate settings into yourdomain.wtdd (right after <Name>WebTAS Default Data Source</Name>).

Then, update the entries with your specifics.

Templates--Connection Settings for Supported, Non-Microsoft Access Databases

Oracle

```
<SourceURL>jdbc:oracle:thin:@<database host name or ipaddress>:<port number>:<instance name></SourceURL>  
<DataSourceDriver>oracle.jdbc.driver.OracleDriver</DataSourceDriver>  
<UserId>db_account_login_id</UserId>  
<Password>account_password</Password>  
<Schema>database schema name</Schema>
```

Example:

```
<SourceURL>jdbc:oracle:thin:@oraclesvr:1521:ORCL</SourceURL>  
<DataSourceDriver>oracle.jdbc.driver.OracleDriver</DataSourceDriver>  
<UserId>myuser</UserId>  
<Password>password</Password>  
<Schema>myuser</Schema>
```

Microsoft SQL Server

```
<SourceURL>jdbc:jtds:sqlserver:<database host name or ip address>:<port number>/<database name></SourceURL>  
<DataSourceDriver>net.sourceforge.jtds.jdbc.Driver</DataSourceDriver>  
<UserId>db_account_login_id</UserId>  
<Password>account_password</Password>
```

Example:

```
<SourceURL>jdbc:jtds:sqlserver:123.45.67.89:1234/mydb</SourceURL>  
<DataSourceDriver>net.sourceforge.jtds.jdbc.Driver</DataSourceDriver>  
<UserId>mydbuser</UserId>  
<Password>password</Password>
```

Sybase

```
<SourceURL>jdbc:sybase:Tds:<database host name or ip address>:<port number>/<database name></SourceURL>  
<DataSourceDriver>com.sybase.jdbc2.jdbc.SybDriver</DataSourceDriver>  
<UserId>db_account_login_id</UserId>  
<Password>account_password</Password>
```

Example:

```
<SourceURL>jdbc:sybase:Tds:143.56.78.21:2220/MySybaseDB</SourceURL>  
<DataSourceDriver>com.sybase.jdbc2.jdbc.SybDriver</DataSourceDriver>  
<UserId>mysybaseuser</UserId>  
<Password>password</Password>
```

PostgreSQL

```
<SourceURL>jdbc:postgresql:<database host name or ip address>:<port number>/<database name></SourceURL>  
<DataSourceDriver>org.postgresql.Driver</DataSourceDriver>  
<UserId>db_account_login_id</UserId>  
<Password>account_password</Password>
```

Example:

```
<SourceURL>jdbc:postgresql:dbsvr:2345/mydb</SourceURL>
<DataSourceDriver>org.postgresql.Driver</DataSourceDriver>
<UserId>myuser</UserId>
<Password>password</Password>
```

MySQL

```
<SourceURL>jdbc:mysql:<database host name or ip address>:<port
number>/<database name></SourceURL>
<DataSourceDriver>com.mysql.jdbc.Driver</DataSourceDriver>
<UserId>db_account_login_id</UserId>
<Password>account_password</Password>
```

Example:

```
<SourceURL>jdbc:mysql:123.45.67.89:2110/mysqlldb</SourceURL>
<DataSourceDriver>com.mysql.jdbc.Driver</DataSourceDriver>
<UserId>myuser</UserId>
<Password>password</Password>
```

Hypersonic SQL (HSQL)

```
<SourceURL>jdbc:hsqldb:hsqldb:<database host name or ip address>:<port
number>/<database name></SourceURL>
<DataSourceDriver>org.hsqldb.jdbcDriver</DataSourceDriver>
<UserId>sa</UserId>
```

Example:

```
<SourceURL>jdbc:hsqldb:hsqldb:hsqldb:2345/mydb</SourceURL>
<DataSourceDriver>org.hsqldb.jdbcDriver</DataSourceDriver>
<UserId>sa</UserId>
```

Note

The default user id for HSQL is "sa" unless specifically set by the administrator.

Connection Settings for Microsoft Access Databases

Replace the <DataSourceConnInfo> element as follows:

```
<DataSourceConnInfo>
  <Name>WebTAS Default Data Source</Name>
<SourceURL>jdbc:odbc:DRIVER={Microsoft Access Driver
(*.mdb)};DBQ=C:\WebTAS-UserSpace\databases\myaccessdb.mdb</SourceURL>
  <DataSourceDriver>sun.jdbc.odbc.JdbcOdbcDriver</DataSourceDriver>
</DataSourceConnInfo>
```

Change the filename myaccessdb.mdb to the name of your database.

9.1.3 Run Security Manager to Create Roles and Users

Security Manager automatically adds and updates the administration tables required to support WebTAS.

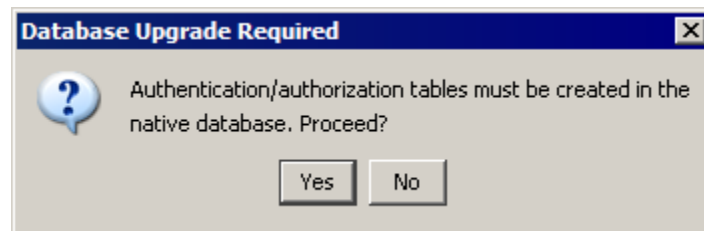
Run Security Manager

1. Select **Start > All Programs > WebTAS Client > Administrator Tools > Security Manager**.

The Choose a Domain window appears.

2. Open the domain.wtdd or use Browse Domains to find the domain.
3. Security Manager will inform you data migration must occur before using this database. This happens when creating a new domain or migrating an older, existing domain.

Figure 9–2 Database Upgrade



4. Click **OK**.
5. Security Manager automatically adds and updates the administration tables required to support WebTAS.
6. When prompted, set the WebTAS administrator password.
7. Click **OK**.
8. Add roles and users for your environment.

Note

You must create at least one role and one user. The role should have all privileges.

9. Click **Save**.

9.1.4 Run Domain Editor to Create Additional Tables in the Database

The Domain Editor will create all of the additional table required to make your domain functional.

Run Domain Editor

1. Select **Start > Programs > WebTAS Client > Administrator Tools > Domain Editor**.
The Choose a Domain window appears.
2. Select the domain.wtdd or click Browse Domains to find.
3. Select **Database > (Re)Create All Database Tables**.
Domain Editor displays a warning that this action will cause all database tables to be (re)created.
4. Click Yes.
All remaining WebTAS tables needed for the native database are created.
5. Click the Log tab to check for any errors.
6. Click Save.
7. Close Domain Editor.

The domain is now ready to be customized for your particular needs.

9.1.5 Classes and Tables and Subtables—What's the Difference

WebTAS end-users do not have to know the difference between classes, tables and subtables. WebTAS domain designers and domain administrators need to be aware of the distinctions.

9.1.5.1 Classes

A class maps to one or more WebTAS native database tables according to native database persistence rules and conventions. This mapping provides the storage for native database objects of the class, and also provides the plumbing that preserves class inheritance behavior during queries. If you want to add a data container to the WebTAS Default Data Source create a new class and add the attributes desired.

All classes configured for the WebTAS native database appear beneath the TAS Object class, listed in alphabetical order.

9.1.5.2 Tables

Classes in WebTAS usually refer to WebTAS Native (Default Data Source) content. A table maps to one table in a data source, most often external, but sometimes native. Tables can be queried just like classes, but do not exhibit inheritance behavior.

Note

Tables are typically read-only, except in cases where custom modifiable data sources have been written.

Tables from external data sources are listed below their respective data sources. These lists of tables are available to the Domain Administrator when adding table attributes or when joining table attributes to classes.

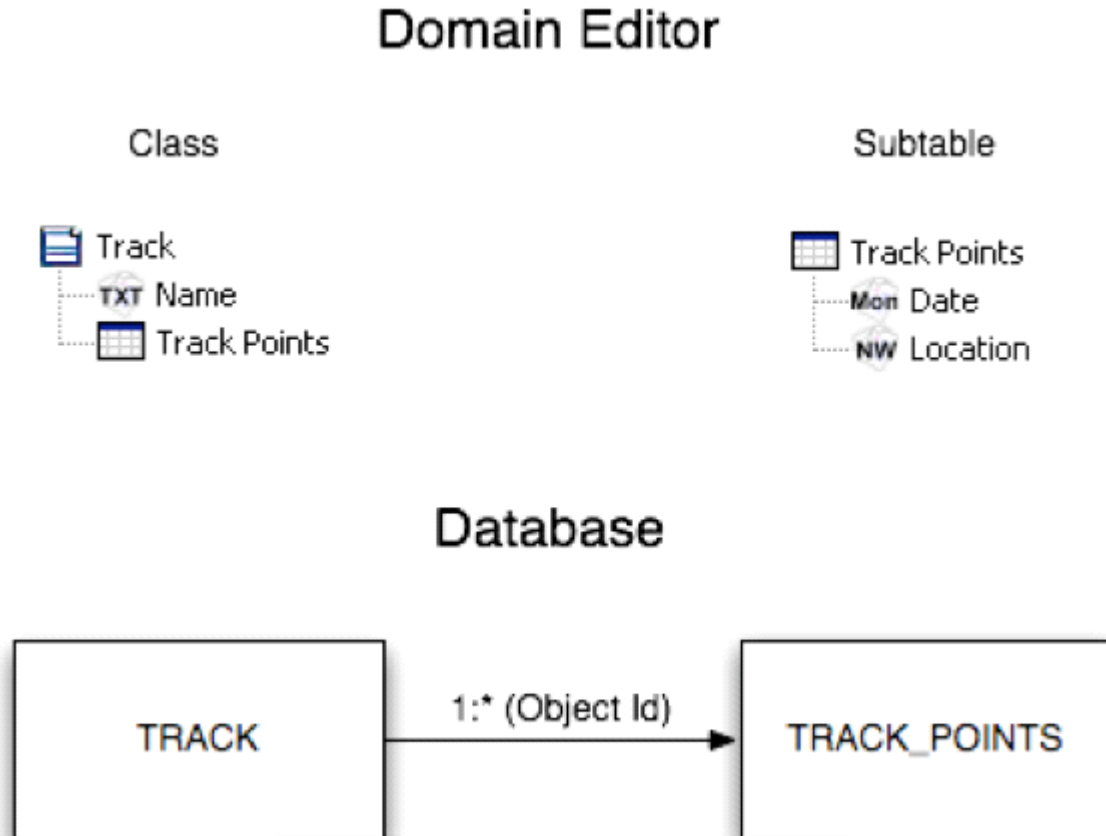
9.1.5.3 Subtables

A subtable maps to one WebTAS native database table with a many-to-1 relation to one or more classes. Subtable rows with the same primary key of a class are "owned" by the class instance. Subtable rows are added or modified when the associated class instance is added or modified. Subtable rows are deleted when the associated class instance is deleted.

9.1.5.4 Attributes

For database data sources, an attribute is typically mapped to one or more columns in the physical database table of the class, table or subtable. Attributes can also be configured as virtual or computed (advanced topics).

Figure 9–3 Class and Subtable Associations



Create a New Table

1. Open your new domain in the Domain Editor.
2. Select the Default Data Source.
3. **Edit > New > Table.**
4. Enter the name of the table (**Track Points**).
5. Click **OK**.

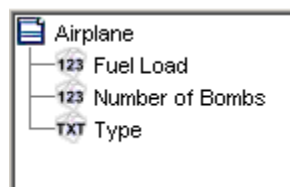
Create a New Class

1. Select the TAS Object.
2. **Edit > New > Class.**
3. Enter the name of the Class (**Track**).
4. Click **OK**.

9.1.6 Attributes

Attributes describe all the characteristics of classes. Attributes appear in the right pane of the Domain Editor for the selected object class. The icons differ according to the attribute type. For instance, if you have a class of aircraft, one attribute may be fuel load. You can add attributes to any native class within the WebTAS domain. For example, the airplane class has attributes of fuel load, number of bombs carried, and type.

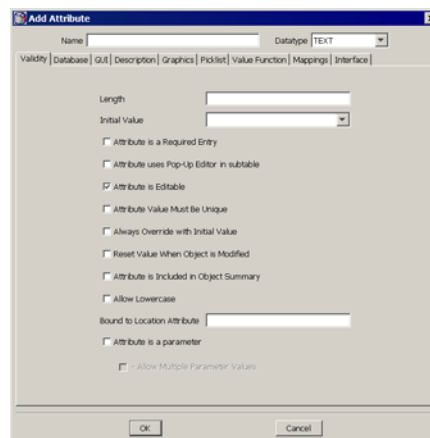
Figure 9–4 Attribute Example



There are different attribute/data types within WebTAS. The Domain Editor manual provides a detailed definition of each data type. The specific attributes in a particular domain vary according to the nature of objects and how you want to manipulate them within WebTAS.

The add attribute window can be reached via the menu **Edit > New > Attribute**, from the Toolbar or by right-clicking in the right pane.

Figure 9–5 Add Attribute



For a description of the tabs, see the Domain Editor manual.

Create attributes for Table

1. Select the Table you created (**Track Points**).
2. **Edit > New > Attribute.**
3. Create an attribute named **Point Date** of type Date.
4. Create an attribute named **Location** of type Location.
5. Create an attribute named **Point Type** of type text and length 255.

Create attributes for Class

1. Select the Class you created (**Track**).
2. **Edit > New > Attribute.**
3. Create an attribute named **Type** of type Text and length 25.
4. Create an attribute named **Origin Country** of type Text and length 80.
5. Create an attribute named **Destination Country** of type Text and length 80.
6. Create an attribute named **Suspect Cargo** of type Text and length 80.
7. Create an attribute named **Track Points** of type Table and associated with the Track Point s table.

9.1.7 Picklists

Picklists are a type of attribute requiring additional steps to create. They are predefined lists of all available values for a particular attribute. Picklists constrict the choices for an attribute's value by specifying the values a user can select.

Create a Picklist

1. Select the Picklist folder and **Edit > New > Picklist.**

Figure 9–6 Add Picklist

2. Enter name (**Suspect Cargo**) of picklist.
3. In the options field enter the value to be displayed (**Cocaine**) and click the Add button.
4. Perform Step 3 for **Cocaine Base**, **HCL**, **Marijuana** and **Heroin**.
5. Click OK.

Create a second Picklist named **Track Type** with the following values:

AIR, MER, NAV, UNK

Reorder you list to be UNK, AIR, MER, and NAV.

For a picklist to be available to the attribute, it must be linked to an attribute(s) using the Properties dialog.

Associate a picklist to an attribute

1. Select the Track - Type attribute.
2. Right-click and select properties.
3. Select the Picklist tab and choose the **Track Type** picklist from the list.



4. Click **OK**.
5. Select the Track - Suspect Cargo attribute.
6. Right-click and select properties.
7. Select the Picklist tab and choose the **Suspect Cargo** picklist from the list.
8. Click **OK**.

9.1.8 Units

Often when you are entering numeric information you must convert the value into the units required by the input field. WebTAS uses the units subsystem to perform these unit conversions for you. When you define a new unit category, you specify all the different units within that category you want to support, along with the conversion factors.

Suppose you want to support the entry of distances in nautical miles (nm), statute miles (sm), and kilometers (km). First, WebTAS requires you choose one of your units to be the base unit. The base unit is the unit the other units of the category will be converted to for storage in the WebTAS database. The choice of base unit is somewhat arbitrary, but the logical choice is the unit you would like to be the default when users enter data. Once you have selected the base unit, you specify the rest of the category's units along with their conversion factors to the base unit.

For example:

Nautical miles as the base unit—Conversion factor is 1.0, since values entered in the base unit are stored in the base unit and values entered in another unit are converted into the base unit prior to being stored.

Statute miles—Conversion factor to nautical miles is 0.86897624 (statute miles times 0.86897624 = nautical miles).

Kilometers—Conversion factor to nautical miles is 0.5399568034 (kilometers times 0.5399568034 = nautical miles).

When a new float attribute is created, you can select the appropriate unit category from the provided droplist. The droplist is created from the defined units. WebTAS converts the value to the base unit before storing the value in the database.

Create a New Unit type

1. With the Unit folder selected, **Edit > New > Unit Category** or right-click in the right pane.
2. Name the Unit Category (Area) and click OK.

3. Select the new category and add a new unit.
4. Name the unit and (Acres) populate the conversion factor. (Start with a conversion factor of 1.0)
5. Click OK.
6. Repeat Steps 3 through 5 for Hectares.(One acre = 0.404685 hectares)

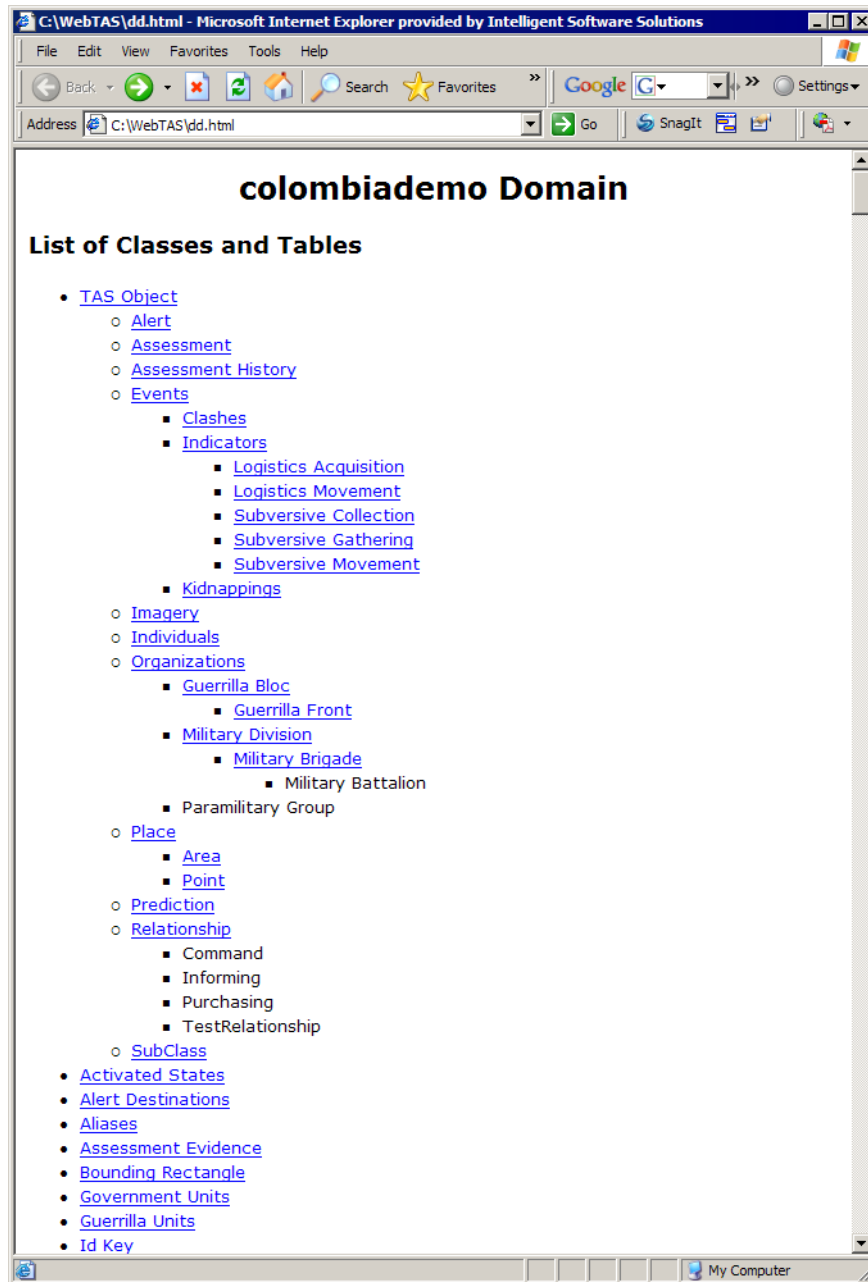
9.1.9 Mapping to another Database Schema

For each database data source a folder named Database Schema is displayed. When expanded, this folder displays the database schema for the data source. It enables you to view the database tables and views in an external data source connected to WebTAS. This helps you map tables and columns to classes and attributes into the WebTAS domain from the external data source.

9.1.9.1 Another View

You can view the schema as an HTML file by selecting **View > View in HTML**

Figure 9–7 View in HTML



You can see more detail by clicking on the link of interest.

Figure 9–8 Expanded View

Kidnappings

Description:

Database Table Name: KIDNAPPINGS0

Name	Type	Description	Database Column Name	Req	Ind
Responsible Group	TEXT 50	(Picklist: Subversive Group)	RESPONSIBLE_GROUP		
Number Kidnapped	INTEGER		NUMBER_KIDNAPPED		
Victim Type	TEXT 50	(Picklist: Type of Victim)	VICTIM_TYPE		
Roadblock	BOOLEAN		ROADBLOCK		
Ransom Demanded	BOOLEAN		RANSOM_DEMANDED		

9.1.10 External Data Sources

WebTAS can be connected to one or more external data sources to analyze information relevant to your site. External data sources provide the raw information WebTAS uses during information analysis. Data sources vary from site to site.

WebTAS supports connections to a variety of typical external data sources such as MIBDB, Oracle, Sybase, and Microsoft Access databases. Also, the system can be easily customized to support other unusual or unique data sources such as live satellite feeds. Adding an external data source entails configuring WebTAS and the operating system so WebTAS can read information from the data source.

The first and most basic task when adding an external data source is configuring a connection between WebTAS and the desired data source.

Information about users, data sources, and data structures used by WebTAS is maintained in the data dictionary file.

The specific steps required to add an external data source vary considerably depending on the type of data source and the details of the system/network configuration at hand. However, the process is fundamentally the same for all data sources.

There are two basic types of connections between WebTAS and typical external data sources:

- Open DataBase Connectivity (ODBC) connection—Applies to data sources such as Microsoft Access or Excel, and is frequently used for systems where WebTAS is installed and run on a single machine.

- Connection to a full-fledged relational database—Typically used when data sources are dedicated Oracle or Sybase database servers operating on a network with multiple WebTAS clients.

Note

Generally, WebTAS only reads information from external data sources; the only data source it writes back to is Modernized Integrated Database (MIDB).

Map an External Data Source Demo / Follow Along

1. Open your empty data dictionary in Domain Editor
2. Select Data Sources
3. Right-click in the blank area of the right pane
4. Select **New > Data Source**
5. Select Microsoft Access and click **OK**.
6. Provide a Name for the new data source (**Ships**)
7. Choose the **Use ODBC File** option
8. Click **Choose**, navigate to C:\WebTAS-UserSpace\temp
9. Open Maritime.mdb
10. Test your connection, if successful click **OK** twice
11. Expand Ships and Database Schema
12. Select Vessel
13. Deselect All
14. Include the Following:
 - Agent
 - Flag
 - ID
 - Line
 - Location Lat. and Long

- Name
 - Stevedore
 - Type
15. Rename:
 - Agent > Booking Agent
 - Flag > Country
 - Line > Shipping Company
 16. Format Names
 17. Rename your table to Ships
 18. Click the Create button to create the Ships table
 19. Select ID as the Primary Key
 20. Click the Create button to create the Ships table
 21. Save your data dictionary
 22. Open Project Tool and Show Ships on a table and a map

Create a Location Attribute

1. Open the Domain Editor and select the Ships Table
2. Right-click in the blank area of the right pane
3. Select New > Location Attribute
4. Name the attribute Location
5. Select the appropriate Latitude and Longitude
6. Click OK
7. Save the data dictionary.
8. Open Project Tool and Show Ships on a table and a map

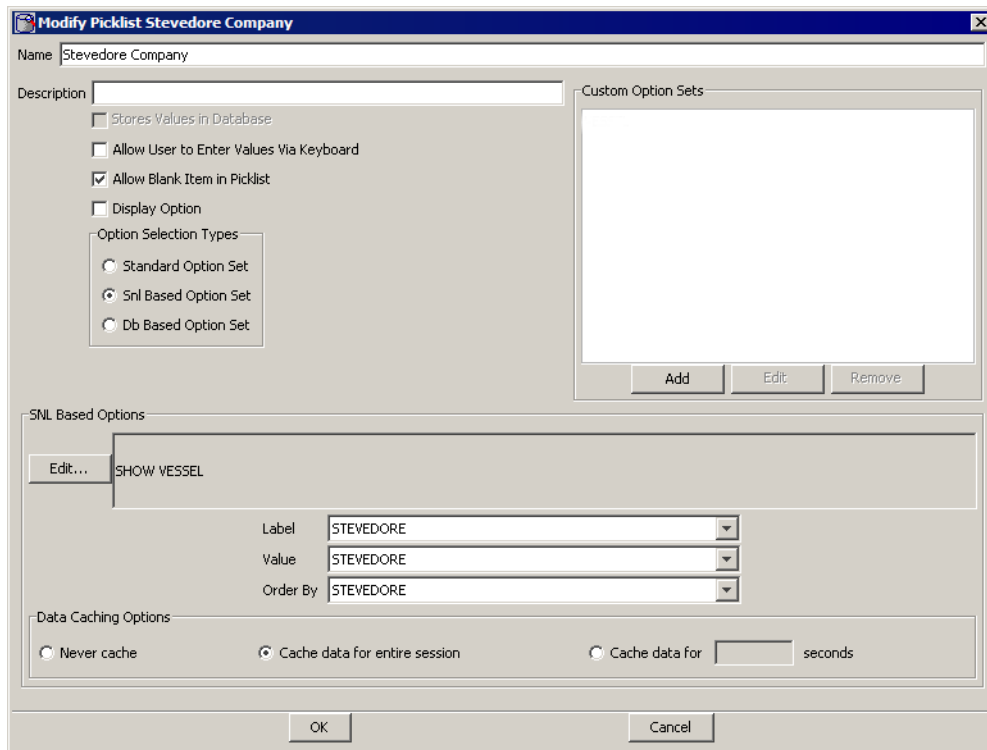
9.1.11 SNL Driven Picklists

If you want the options and values contained in a picklist to be dependent on the values in a data source you can create a picklist using the SNL Driven option.

CREATE AN SNL DRIVEN PICKLIST

1. Re-open Domain Editor to your new domain if needed.
2. Create a picklist category called Stevedore Company.
3. Select the SNL driven picklist option.
The create picklist dialog opens.

Figure 9–9 SNL Driven Picklist



4. Click the **Edit** button.
5. Select Ships and click the **Accept** button.
6. Set Value, Option and Order By to Stevedore.
7. Click Ok.
8. Add an attribute to Track called Stevedore Test

9. Associate the Stevedore Test Attribute with the Stevedore Company picklist.
10. View Track in the GUI tab.
11. Click test GUI and view the Stevedore Test field droplist.

9.2 Joins

The Domain Editor enables you to define several different types of relational joins. Joins enable you to combine data in ways that would not be possible across all data sources defined in a domain. You can join classes and tables seamlessly in any combination desired.

The two main categories of joins available within WebTAS—user interface and domain—are defined within the WebTAS domain using the Domain Editor.

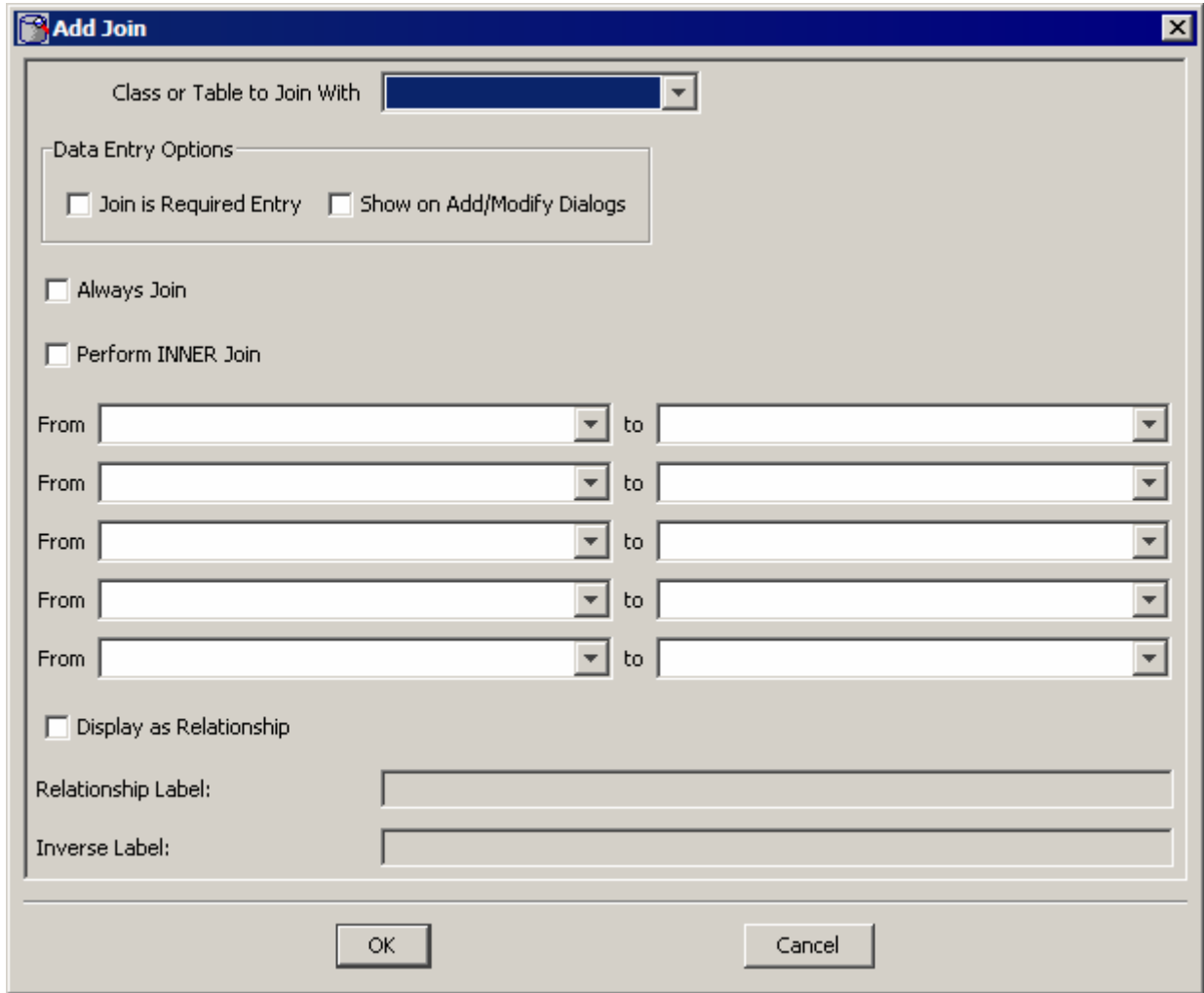
A user interface join, known as a Selection Join links data on data displays within the Project Tool. Selection joins are currently just a visual/display mechanism. If both Object Types are displayed, clicking one should highlight the other where the criteria is met. There aren't any query or DataObject building uses for selection joins.

The other two types are database joins linking data within the WebTAS domain. The following list explains the join options available within the Domain Editor.

- **New Join**—Performs a one-to-one join between classes/tables within the WebTAS domain. If there is more than one correlation between matched pairs, only the first correlation is returned. WebTAS will let the database perform this operation when applicable.
- **New Selection Join**—Performs a user interface join between data attributes in Project Tool displays at runtime. Correlates one or many rows in two displays.
- **New Table Join**—Performs a one-to-many join between classes/tables within the WebTAS domain. WebTAS will let the database perform this operation when applicable.

You can define joins between any two classes or tables in a WebTAS domain.

Figure 9–10 Join Dialog



The "Add Join" dialog box is shown. It has a title bar with a close button. The main area contains a dropdown menu labeled "Class or Table to Join With". Below this is a "Data Entry Options" group box containing two checkboxes: "Join is Required Entry" and "Show on Add/Modify Dialogs". Below the group box are two more checkboxes: "Always Join" and "Perform INNER Join". There are five rows of "From" and "to" dropdown menus. At the bottom, there are two checkboxes: "Display as Relationship", followed by "Relationship Label:" and "Inverse Label:" text labels, each with an adjacent text input field. At the very bottom are "OK" and "Cancel" buttons.

- **Join is Required Entry**—When selected, the field cannot contain a null value.
- **Show on Add/Modify Dialogs**—When selected, whatever information is shared between the two classes is displayed. You cannot modify attributes from one class to another.
- (Add Join Only) **Always Join**—Join is always added to the SQL to force correct querying. The code generates an SQL inner join here since there **MUST** be rows on both sides of the join in this situation.
- **Perform INNER Join**—Inner join syntax is used instead of left outer join, the default. This pertains to joins and table joins.
- **Display as Relationship**—creates a relationship instead of joining the objects.

- o **Relationship Label**—displays the label for the standard relationship.
- o **Inverse Label**—displays the label for the inverse of the relationship.

EXERCISE: CREATE A JOIN BETWEEN DEFAULT AND EXTERNAL DATA SOURCES

You will use the domain CIDNE_WEBTAS_UNCLASS.wtdd for this exercise. This data dictionary uses accesscolombiademo.mdb as the default data source and CIDNE.mdb as the external data source. The CIDNE database is a conversion from the CIDNE SQL database running in IRAQ.

1. Open CIDNE_WEBTAS_UNCLASS.wtdd in Domain Editor
2. In Domain Editor create a new class under TAS Object called “Incident Reports”
Create the following attributes:
 - Category
 - o Type Text
 - o Length 10
 - Tower Number
 - o Type Integer
 - o Min. = 0; Max = 10
 - Summary
 - o Type Text
 - o Length 255
3. In Domain Editor map the CIDNE Towers table to a table named Towers.
4. Create a Tower Location Attribute
5. Update Security Manager to reflect proper permissions for the Towers table
6. Open CIDNE_WEBTAS_UNCLASS.wtdd in Project Tool

7. Populate the Incident Report Records with the following data:

Table 9-1

Category	Tower Number	Summary
Radio	1	KKFM
TV	2	KKTV
Radio	3	KCME
TV	4	KOAA

8. Query Incident reports to New Table, ensure your changes appear
9. Query Incident reports to New Map.
10. Query Towers to a New Table, no records should exist
11. Close Project Tool
12. Open Domain Editor and create a JOIN from Incident Reports to TOWERS
 - Tower Number > Number
13. Re-open Project Tool, query Incident Reports to a New Table.
14. Query Incident Reports to a New Map.
15. Repeat steps 12 through 14 using a table join, notice the difference in how the data is displayed when querying Incident Reports to a table.

9.3 Undoing Changes

Saved changes cannot be undone. If you decide you do not want to implement changes you have made since your last save, exit out of Domain Editor without saving the changes by clicking No in the Save changes (Y/N)? window.

9.4 Queryable Objects

The Queryable Objects folder contains items that can be queried from within the Query Panel (Web and Project Tool). If you do not care to configure queryable objects, WebTAS will do it for you automatically.

Add items to a queryable folder

1. Open accesscolombiademo.wtdd in Domain Editor
2. Expand the Data Sources to show the TAS Object Classes
3. Add the following to Queryable Objects
 - o Events
 - o Organizations
 - o Place
 - o Imagery
 - o Guerrilla Units
 - o Government Units
 - o Members
4. Select the Queryable Objects Folder and create a new folder called Opposing Forces
5. Move Organizations, Guerrilla Units, and Government Units into the new folder
6. Delete TAS object from Queryable Objects
7. Save and exit Domain Editor
8. Open Project Tool and view the objects available to be queried.

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