

RTView Datasource - XML

XML - Schema

- Users can create displays that connect to XML data based on RTView schema
- Schema has two types of data: scalar, and tabular

- Scalar values

- Single line defines name and value

Example:

```
<?xml version="1.0"?>
  <dataset xmlns="www.sl.com" version="1.0">
    <data key="element1_status" value="completed" />
    <data key="element1_value" value="15.4" />
  </dataset>
```

- Tabular values

- Each column (tc) is defined, specifying datatype
- Each row (tr) is defined to hold individual values (td)

XML - Example

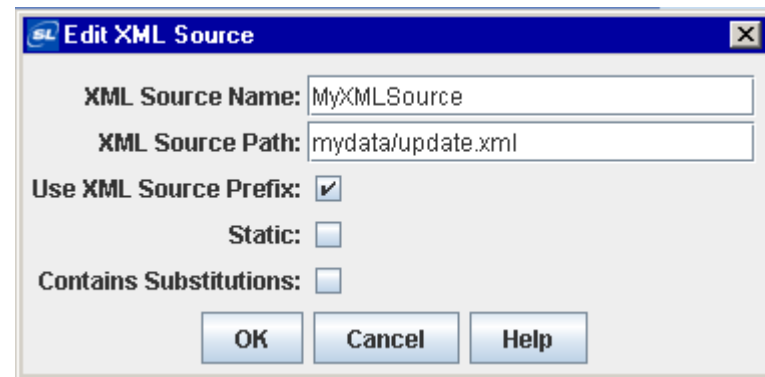
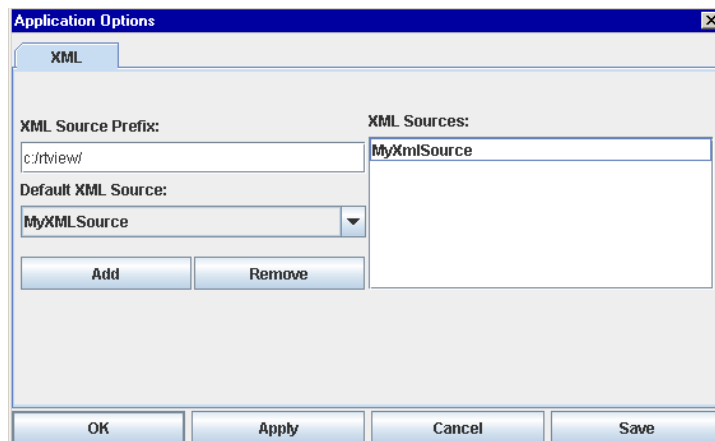
```
<?xml version="1.0"?>
  <dataset xmlns="www.sl.com" version="1.0">
    <table key="trade_table">
      <tc name="Customer"
        type="string"
        index="true" />
      <tc name="Symbol"
        type="string"
        index="false" />
      <tc name="Shares"
        type="int"
        index="false" />
      <tr name="TID 0">
        <td>Alice Chen</td>
        <td>IBM</td>
        <td>18</td>
      </tr>
      <tr name="TID 1">
        <td>Betty Jones</td>
        <td>CVTX</td>
        <td>19</td>
      </tr>
    </table>
  </dataset>
```

XML - Configuration

To configure, select Tools->Options>XML

- XML Source Name: user-specified name used to attach to XML source
- XML Source Path: path to the XML source file: filename or URL (http address)
- XML Source Prefix: path appended to all XML sources
- Static: mark if XML source is to be read only once
- Contains Substitutions: used if Source Path contains substitutions

All XML related settings are saved under OPTIONS.ini



XML - Data Simulator

- Generates sample xml files containing both scalar and tabular values. These files are updated regularly every 2 seconds (default).
- Invoked by the command

`run_simdata.bat`
- Optionally, use `-u` flag to specify custom update period (in ms)
`run_simdata.bat -u1000`

See Appendix D>XML Data Attachment in Documentation for all command line options

Exercise

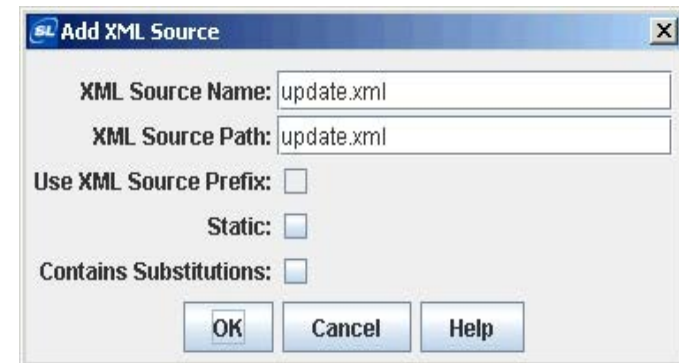
Ex 1: Configure RTView with XML data settings

1. From a command window, launch the XML Simulator in the class directory
start run_simdata.bat
2. Invoke the Display Builder in the same directory
3. From the Display Builder, configure the XML data source by selecting Tools>Options>XML
4. Select “Add”
5. Enter “update.xml” for XML Source Name
6. Select “OK” to accept
7. Select “Apply” to apply XML changes.

If the entry changes from yellow to white, the file has been successfully found.

8. Select “Save” to save options (select No for local location)

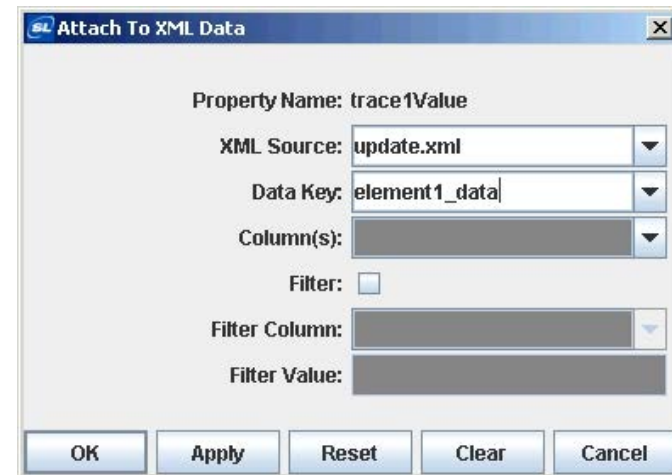
The xml settings are saved under OPTIONS.ini



Exercise

Ex 2: Attach Trend Graph to XML Data

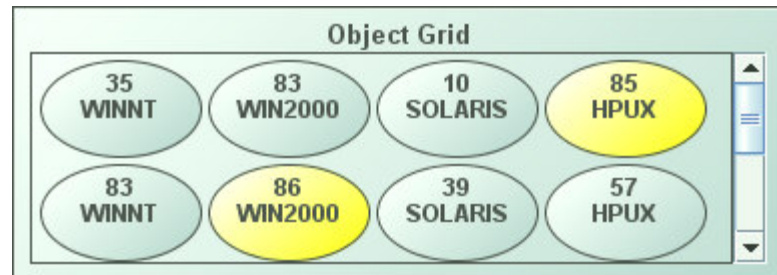
1. From the Display Builder, select “Edit>Add” to bring up Object Palettes
2. Click on “Graphs” palette and select on Trend Graph Object
3. Click in empty display to place graph
4. In Object Property Window, locate the “trace1Value” property under the “Trace 01” category
5. Right-click on the property and select “Attach to Data”.
6. Select “XML” as data source.
7. Select “update.xml” as XML Source
8. Select “element1_data” as Data Key
9. Select “OK” to apply changes
10. Save your display to your class directory
e.g., xml_example.rtv



Exercise

Ex 3: Attach Object Grid to XML Tabular Data

1. From the Display Builder, select “Edit>Add” to bring up Object Palettes
2. Click on “Tables” palette and add Object Grid to display
3. In Object Property Window, locate the “valueTable” property under the “Data” category.
4. Right-click on the property to select “Attach to Data”.
5. Select “XML” as data source.
6. Select “update.xml” as XML Source.
7. Select “system_table” as Data Key
8. Select “System” and “CPU Usage” for Column(s)
9. Select “OK” to apply changes.



35 WINNT	83 WIN2000	10 SOLARIS	85 HPUX
83 WINNT	86 WIN2000	39 SOLARIS	57 HPUX

Exercise

Ex 4: Optional: Attach New Object to Grid

1. Select the object grid object in the display from Ex 3.
2. To change object used in Object Grid, double click on Icon:iconProperties.
3. From the dialog set "Icon Class Name", type obj_meter03
4. Set the following values for "label" Property Name:

Map:Column

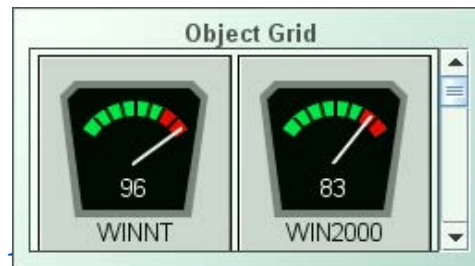
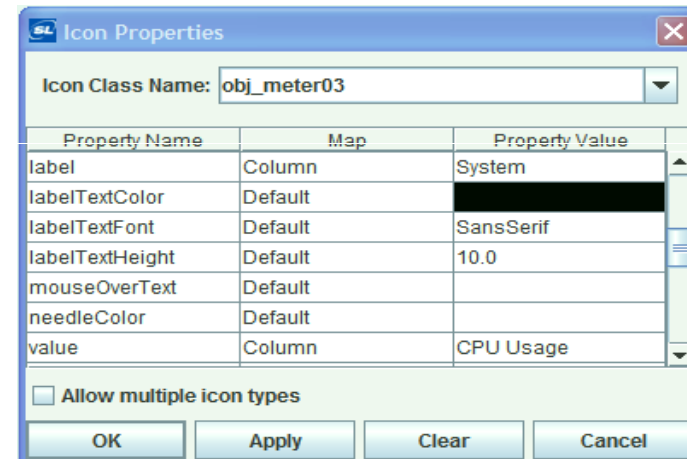
Property Value:System

5. Set the following values for "value" Property Name:

Map:Column

Property Value:CPU Usage

6. Select "OK"



XML - Java Server Page

- Using Java Server Pages is a convenient way to provide data to RTView. Instead of directly referencing an XML file, you reference a JSP file on an active server.
- Via the JSP file, the server returns formatted XML data to each client that requests it.
- The advantage of retrieving XML data from Java Server Pages is that an intermediary XML file is not necessary and all client server communication is managed automatically by the HTTP server.
- Using Java Server Pages also provides a way to limit the data transferred to only what is requested by the individual clients.
- See `RTV_HOME/demos/dstutorials` for sample displays and jsp code