

Team Developer 2005.1

XML Operations

SQLWindows applications can read, write, and manipulate XML documents using the Document Object Model. Details of these XML capabilities are available in a new chapter "Handling XML", in the book "Developing with SQLWindows" (dev.pdf). Similar information is available in online help, under the table-of-contents entry SQLWindows Programming / Handling XML. Numerous online help topics are indexed on "XML".

UDV Serialization and Deserialization

Closely related to XML support is the ability to serialize the instance variables of a UDV (user-defined variable), or array, to an XML document, and to deserialize an XML document into a UDV or array. This ability will be extremely useful, particularly to those developers who wish to save and reuse the "state" of an application. To understand how these features work, see the SQLWindows Function Reference Manual, or the online help, for functions SalXMLSerializeUDV, SalXMLDeserializeUDV, and SalXMLGetLastError. To support serialization, there are three new properties available when you modify an instance variable in a class definition (either through Coding Assistant or by choosing "Add Next Level" in the right-click context menu):

- XML Serialize: allows you to indicate whether this specific instance variable should take part in serialization operations. Default is Yes.
- XML datatype: allows to designate a general SQLWindows datatype such as "Number" as a more specific XML datatype such as "Currency". No default value.
- XML Nulls Allowed: allows you to indicate whether null values in the XML document are permitted when deserializing XML into a UDV. Default is Yes.

XML Sample Applications

There are new sample applications to demonstrate some of the XML-related features in Team Developer 2005.1. xml_editor_demo.apt shows how to manipulate the XML Document Object Model. xml_serialization_demo.apt shows how to use serialization and deserialization with UDVs and arrays. CreateXMLData.app writes the result sets of SQL queries to XML, and LoadXMLData.app loads an existing XML document into the XML Document Object Model, then "walks" the document tree. Each of these sample applications has an accompanying documentation file with the same name and extension ".htm" (for example, xml_editor_demo.htm.) This documentation provides deeper insight into the sample applications.

Find-and-Replace Enhancements

Find and Replace can now be accessed from the SQLWindows toolbar. A drop-down combo box holds recently used search strings, or you can type your own. There are buttons for Find, Find Next, Find Previous, and Help. Find, Find Again, and Replace are now also context menu choices at many places in the SQLWindows outline.

Report Builder Enhancements

- The Conditional Output feature that is available in many blocks of a report is now also available for the Page Header and Page Footer blocks.
- The Define Query dialog now shows the datatypes of columns that are available for use in the query.
- The Define Query dialog now allows you to edit the names of specific columns used in the Conditions tab (Column/Formula), the Sort tab (Sort by, Asc/Desc), and the Group Conditions tab (Column/Formula).
- The Define Query dialog now permits you to enter case-sensitive database table names when delimited by quotes. Because of this new feature, you must now take extra care when working with table names that contain one or more quotes as part of the name (some database vendors permit quote characters in the names of tables.) If you encounter such a quote character, you must "escape" it by appending a second quote character next to the one that is part of the table name. Otherwise the quote in the table name might be misinterpreted as the delimiter of a case-sensitive name, instead of part of the name itself.
- The Define Query dialog now permits you to control the sequence of columns in the result set by dragging columns to new positions using the mouse.
- LOB datatypes (BLOB and CLOB) can be passed to an input item, and Report Builder will show a picture (if the BLOB is a known graphic type such as JPG) or a text box (if it is a CLOB containing text).
- The Format Block command now provides the ability to specify general formatting properties (font, color, etc.) for all fields within a report block using a single dialog. It is still possible to override those properties for an individual field.
- The "Between Lines" setting in the Borders page of Fields properties is now saved with the rest of the report design
- It is now possible to cut and paste report elements between multiple Report Builder windows within the same Report Builder instance.
- The Formula Editor dialog now gives you the choice of displaying all formulas, used formulas, or unused formulas. Thus you can delete all unused formulas by displaying a list of them, then deleting them.

Note: The internal structure of Report Builder templates has changed. Templates that are saved in this version of Team Developer can't be opened by earlier versions.

Table Window Enhancements

New SAL function SalTblCreateColumnEx allows you to create new table window columns dynamically at runtime, specifying the data type of the column as well as other features such as title, display width, column position, and data length in characters.

ODBC Router Enhancements

The ODBC Router for client connectivity in the Linux version is now a native Linux component.

Miscellaneous Enhancements

For connections to Infomix databases, using function SqlGetParameter with parameter DBB_BRAND will now return value DBV_BRAND_INFOMIXONLINE rather than the more generic value 41.

New Reserved Words in SQLWindows

There are a large number of new function and constant names related to XML processing. However, these are stored not in the core outline of SQLWindows, but in a supplied

library, xmllib.apl, which you may optionally include in your application. Examine that file to see the new names. In addition to those names, the following names are reserved:

- SalTblCreateColumnEx
- SalXMLSerializeUDV
- SalXMLDeserializeUDV
- SalXMLGetLastError

Team Developer Guide to New Features

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