



HYDRAEXPRESS[®] 4.9 RELEASE NOTES



Introduction

In this Document

These release notes contain a summary of new features and enhancements, late-breaking product issues, and bug fixes. The information relating to the most recent release appears first in this document. Following sections contain release notes for all relevant prior releases. The notes for all prior releases are applicable to the most recent release as well. For change logs or other information on previous releases, please contact Technical Support.

NOTE » Rogue Wave products may contain undocumented interfaces. These interfaces are not supported for general use and may be changed or removed from release to release.

NOTE » The version of this document in the product distribution is a snapshot at the time the product distribution was created. Additional information may be added after that time because of issues found during distribution testing or after the product is released. To be sure you have the most up-to-date information, see the version of this document on the Rogue Wave web site:
<http://www.roguewave.com/support/product-documentation/hydraexpress.aspx>.

SourcePro Users: Version 2016 Required

SourcePro Users: HydraExpress 4.9 is certified with SourcePro Version 2016.



HydraExpress 4.9

New Features or Enhancements

Updated Platform Support

This release adds support for numerous updates to major supported operating systems and compilers. Please see the Support Matrix at <http://www.roguewave.com/products/hydraexpress.aspx> for details, and select *Supported Platforms*.

XML Binding

- Provided `-minimizeincludes` code generator option to eliminate unnecessary include directives from generated header files. This option can be used to avoid circular header dependencies. (HYEXPRESS-3582)

Technical Notes

XML Schema Support

This version of HydraExpress supports a subset of the features defined by the XML Schema specification that is a W3C Recommendation, 2 May 2001. This specification can be found online at

<http://www.w3c.org/TR/xmlschema-0/>

This support for a static API is available only with HydraExpress services (code generated services and servlets) via the interface provided by the HydraExpress `xmlbinding` library.

The following XML Schema features are supported in this release:

- Named and anonymous complex type definitions

- Complex type definitions with all, sequence and choice content models
- Complex type definitions with simple content
- Complex type derivations by restriction and extension (some limitations)
- Element and attribute declarations
- Simple types and simple type restrictions (restrictions not validated)
- Element declarations with occurrence constraints greater than 1
- Element declarations for optional elements (occurrence constraint of 0)
- Default values for attributes and elements
- Attribute group declarations
- Group declarations with non-recurring sequence content model
- Element and attribute references
- Nil values
- Namespace qualification of top-level elements and type definitions
- Namespace qualification of qualified attributes and local elements
- Schema in multiple documents using the include and import features
- Any type, any element, and any attribute
- Customizable mapping for element, attribute and complex type names
- Customizable C++ namespace mapping for selected XML namespace URIs
- Flexible type mapping for all 44 built-in types
- Command-line option to generate API's with a STL-based interface
- Validation of simple type facets through `isValid()`

- Substitution groups
- Union groups
- Limited support for key/keyref
- Limited support for complex schema types derived by restriction
- Restricted types that have more restrictive facets, such as restricting the value set of a type
- Restrictions which change the schema type, but do not result in a change in the mapped C++ type, such as restricting an `xsd:string` to an `xsd:NCName`
- Named model groups

Known XML Support Limitations

This version of HydraExpress does not support the following features defined by the XML Schema specification that is a W3C Recommendation, 2 May 2001. This specification can be found online at

<http://www.w3c.org/TR/xmlschema-0/>

- Robust name conflict resolution
- Mixed Content
- Unique and unique functionality of `key/keyref`

HydraExpress has limited support for complex schema types derived by restriction. Specifically, the following constructs are unsupported.

- Prohibiting a previously optional type
- Restricting `maxOccurs` from a value greater than one or unbounded to one occurrence
- Restrictions that change the C++ mapped type, such as restricting from `anyType`
- Limited support of any within a choice. Any is supported within choice as the only choice.
- Validation of a subset of user defined facets on simple types. Due to the product's design of representing various types with appropriate C++ types, facets that rely on the string representation of the data cannot be validated. For example, if a floating point number had a pattern facet that required that numbers have two to four decimal digits, HydraExpress cannot validate this facet since the conversion loses this information. Unsupported facets include the pattern and enumeration facets for all converted types since they require comparisons with the string version of the data. Also unsupported are the fractionDigits and totalDigits facets on `float` and `double` instances, since this information is lost as well.

- Validation of the basic types directly. Type conversions implicitly validate the string being converted but for restrictions on strings only the user-defined facets are validated.
- Full support for optional and nillable elements through the generic interfaces. When setting members through `set()` and `object()` the flag indicating the selection is not set. The `setXXX` APIs in the `DataObject` class use these generic methods and will thus not work correctly for optional or nillable elements.

The Word "choice" is Reserved and May Cause Naming Conflicts

The use of the word "choice" in an XML schema may result in a naming conflict, since HydraExpress generates an enumeration named choice for the first choice element of the `<choice>` declaration.

A workaround is to map a schema's choice element to another name, such as `AltChoice`, using the mapping element of the HydraExpress project file. For more information on creating customized mappings, see "Creating Customized Mappings" in the *HydraExpress XML Binding Development Guide*.

Platform Issues

Oracle Solaris Studio 12.4

- **Compiling generated source code may result in a "Signal 11" error from the compiler.**

When compiling generated source code, the compiler may generate a "Signal 11" error. This has been observed when the full path to an include file is long, and begins with specific strings (for example `"/build"` and `"/build2"`) (Oracle Bug 21166345). Shortening the include path or changing the initial directory in the path may avoid this issue.



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