

Supported Data Types

Ultimus statement of support for external data types

This document provides guidelines to Ultimus customers and partners on the support for external data types for each version of Ultimus BPM Suite currently supported.

External data types may be consumed from the following areas of Ultimus BPM Studio:

a. **Web service data types**

- Web Services Flobot
- Event conditions and business rules
- Form, page, and form control event actions

b. **.NET Code data types**

- .NET Code Flobot
- Event conditions and business rules
- Form, page, and form control event actions

c. **Database (SQL Server, Oracle, and IBM DB2) data types**

- Database Flobot
- Form Recordsets
- Databound variables

The following sections are outlined for each currently supported Ultimus BPM Suite version supported:

- Web Services and .NET Code data types
- Microsoft SQL Server database data types
- Oracle database data types
- IBM DB2 (introduced support in Ultimus BPM Suite 7.1 SP1)

Data types supported for Ultimus BPM Suite 6.0 SP1 begin on page 2. Data types supported for Ultimus BPM Suite 7.1 SP1 begin on page 4.

This document was last updated on July 24, 2006.

Supported Data Types

Conventions used in this document

Web services and .NET Code data types

Conventions used in this document

The following conventions are used throughout this document:

bold Bold text denotes items that you must select or click on in an application, such as menu options, dialog box options, and dialog box output. Bold text is also used to designate labels within table columns or to add emphasis in a list.

monospace Text in this font denotes text or characters that you should input to an application, application output, sections of code, programming examples, and syntax examples. This is also used for the proper names of disk drives, paths, directories, device names, file names, file extensions, code excerpts, and URLs.



This icon denotes a note, which alerts you to important information.

Data types supported for Ultimus BPM Suite 6.0 SP1

This section outlines data types supported for Ultimus BPM Suite 6.0 SP1.

Web services and .NET Code data types

This section outlines the explicit set of data types that Ultimus BPM Suite 6.0 SP1 supports when integrating with Web services and .NET Code. Calling any Web services or .NET Code not explicitly on this list is not supported by Ultimus.



Note: Ultimus only supports the calling of Web services and .NET Code that contain single-dimensional arrays. Ultimus does not support the consumption of multi-dimensional array structures.

These data types are listed below in alphabetical order:

- `System.Boolean`
- `System.Char`
- `System.DateTime`
- `System.Double`
- `System.Int16`
- `System.Int32`
- `System.Sbyte`



Note: When using `System.Sbyte`, hard code 0 into the destination field to obtain a numeric return value.

- System.Single
- System.String
- System.UInt16
- System.UInt32

Microsoft SQL Server database data types

This section outlines the explicit set of data types that Ultimus BPM Suite 6.0 SP1 supports when integrating with Microsoft SQL Server database. Calling any Microsoft SQL database structure not explicitly on this list is not supported by Ultimus.

These data types are listed below in alphabetical order:

- Bit
- Char
- DateTime
- Decimal
- Float
- Int
- Money
- Nchar
- Ntext



Note: Ntext is supported, but it cannot be used as part of a filter criteria.

- Numeric
- Nvarchar
- Real
- SmallDateTime
- SmallInt
- SmallMoney
- Text



Note: Text is supported, but it cannot be used as part of a filter criteria.

- TinyInt

Supported Data Types

Data types supported for Ultimus BPM Suite 7.1 SP1

Oracle 9i database data types

- UniqueIdentifier
- Varchar

Oracle 9i database data types

This section outlines the explicit set of data types that Ultimus BPM Suite 6.0 SP1 supports when integrating with Oracle 9i database. Calling any Oracle 9i database structure not explicitly on this list is not supported by Ultimus.

These data types are listed below in alphabetical order:

- Char
- Date



Note: The Database Flobot does not support passing or retrieving date values earlier than March 1900.

- Float
- Long



Note: Long is supported, but it cannot be used as part of a filter criteria.

- Number
- VarChar2

Data types supported for Ultimus BPM Suite 7.1 SP1

This section outlines data types supported for Ultimus BPM Suite 7.1 SP1.

Web services and .NET Code data types

This section outlines the explicit set of data types that Ultimus BPM Suite 7.1 SP1 supports when integrating with Web services and .NET Code. Calling any Web services or .NET Code not explicitly on this list is not supported by Ultimus.



Note: Ultimus only supports the calling of Web services and .NET Code that contain single-dimensional arrays. Ultimus does not support the consumption of multi-dimensional array structures.

These data types are listed below in alphabetical order:

- System.Boolean
- System.Char

Supported Data Types

Data types supported for Ultimus BPM Suite 7.1 SP1

Microsoft SQL Server database data types

- `System.DateTime`
- `System.Double`
- `System.Int16`
- `System.Int32`
- `System.Overloaded` (supported for .NET Code only)
- `System.Sbyte`



Note: When using `System.Sbyte`, hard code 0 into the destination field to obtain a numeric return value.

- `System.Single`
- `System.String`
- `System.UInt16`
- `System.UInt32`

Microsoft SQL Server database data types

This section outlines the explicit set of data types that Ultimus BPM Suite 7.1 SP1 supports when integrating with Microsoft SQL Server database. Calling any Microsoft SQL database structure not explicitly on this list is not supported by Ultimus.

These data types are listed below in alphabetical order:

- `Bit`
- `Char`
- `DateTime`
- `Decimal`
- `Float`
- `Int`
- `Money`
- `Nchar`
- `Ntext`



Note: `Ntext` is supported, but it cannot be used as part of a filter criteria.

- `Numeric`
- `Nvarchar`

Supported Data Types

Data types supported for Ultimus BPM Suite 7.1 SP1

Oracle database data types

- Real
- SmallDateTime
- SmallInt
- SmallMoney
- Text



Note: Text is supported, but it cannot be used as part of a filter criteria.

- TinyInt
- UniqueIdentifier
- Varchar

Oracle database data types

This section outlines the explicit set of data types that Ultimus BPM Suite 7.1 SP1 supports for supported Oracle databases. Calling any Oracle database structure not explicitly on these lists is not supported by Ultimus.

Oracle 9i

This section outlines the explicit set of data types that Ultimus BPM Suite 7.1 SP1 supports when integrating with Oracle 9i database.

These data types are listed below in alphabetical order:

- Char
- CLOB



Note: CLOB is supported, but it cannot be used as part of a filter criteria.

- Date



Note: The Database Flobot does not support passing or retrieving date values earlier than March 1900.

- Float
- Long



Note: Long is supported, but it cannot be used as part of a filter criteria.

- Nchar

- Number
- Nvarchar2
- VarChar2

Oracle 10g

This section outlines the explicit set of data types that Ultimus BPM Suite 7.1 SP1 supports when integrating with Oracle 10g database.

These data types are listed below in alphabetical order:

- Char
- CLOB



Note: CLOB is supported, but it cannot be used as part of a filter criteria.

- Date



Note: The Database Flobot does not support passing or retrieving date values earlier than March 1900.

- Float
- Long



Note: Long is supported, but it cannot be used as part of a filter criteria.

- Nchar
- Number
- Nvarchar2
- VarChar2

Supported Data Types

Data types supported for Ultimus BPM Suite 7.1 SP1

IBM DB2 database data types

IBM DB2 database data types

This section outlines the explicit set of data types that Ultimus BPM Suite 7.1 SP1 supports when integrating with IBM DB2 database. Calling any IBM DB2 database structure not explicitly on this list is not supported by Ultimus.

These data types are listed below in alphabetical order:

- Char
- Date



Note: The Database Flobot does not support passing or retrieving date values earlier than March 1900.

- Decimal
- Integer
- Real
- SmallInt
- Time
- Time Stamp
- Varchar