| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/SQLOutputImpl.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/sql/rowset/serial/SQLInputImpl.html)   NEXT CLASS | [**FRAMES**](http://docs.google.com/index.html?javax/sql/rowset/serial/SQLOutputImpl.html)    [**NO FRAMES**](http://docs.google.com/SQLOutputImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

## **javax.sql.rowset.serial**

Class SQLOutputImpl

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **javax.sql.rowset.serial.SQLOutputImpl**

**All Implemented Interfaces:** [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html)

public class **SQLOutputImpl**extends [Object](http://docs.google.com/java/lang/Object.html)implements [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html)

The output stream for writing the attributes of a custom-mapped user-defined type (UDT) back to the database. The driver uses this interface internally, and its methods are never directly invoked by an application programmer.

When an application calls the method PreparedStatement.setObject, the driver checks to see whether the value to be written is a UDT with a custom mapping. If it is, there will be an entry in a type map containing the Class object for the class that implements SQLData for this UDT. If the value to be written is an instance of SQLData, the driver will create an instance of SQLOutputImpl and pass it to the method SQLData.writeSQL. The method writeSQL in turn calls the appropriate SQLOutputImpl.writeXXX methods to write data from the SQLData object to the SQLOutputImpl output stream as the representation of an SQL user-defined type.

| **Constructor Summary** | |
| --- | --- |
| [**SQLOutputImpl**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#SQLOutputImpl(java.util.Vector,%20java.util.Map))([Vector](http://docs.google.com/java/util/Vector.html)<?> attributes, [Map](http://docs.google.com/java/util/Map.html)<[String](http://docs.google.com/java/lang/String.html),?> map)            Creates a new SQLOutputImpl object initialized with the given vector of attributes and type map. |

| **Method Summary** | |
| --- | --- |
| void | [**writeArray**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeArray(java.sql.Array))([Array](http://docs.google.com/java/sql/Array.html) x)            Writes an Array object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeAsciiStream**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeAsciiStream(java.io.InputStream))([InputStream](http://docs.google.com/java/io/InputStream.html) x)            Writes a stream of ASCII characters to this SQLOutputImpl object. |
| void | [**writeBigDecimal**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeBigDecimal(java.math.BigDecimal))([BigDecimal](http://docs.google.com/java/math/BigDecimal.html) x)            Writes a java.math.BigDecimal object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeBinaryStream**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeBinaryStream(java.io.InputStream))([InputStream](http://docs.google.com/java/io/InputStream.html) x)            Writes a stream of uninterpreted bytes to this SQLOutputImpl object. |
| void | [**writeBlob**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeBlob(java.sql.Blob))([Blob](http://docs.google.com/java/sql/Blob.html) x)            Writes a Blob object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeBoolean**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeBoolean(boolean))(boolean x)            Writes a boolean in the Java programming language to this SQLOutputImpl object. |
| void | [**writeByte**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeByte(byte))(byte x)            Writes a byte in the Java programming language to this SQLOutputImpl object. |
| void | [**writeBytes**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeBytes(byte%5B%5D))(byte[] x)            Writes an array of bytes in the Java programming language to this SQLOutputImpl object. |
| void | [**writeCharacterStream**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeCharacterStream(java.io.Reader))([Reader](http://docs.google.com/java/io/Reader.html) x)            Writes a stream of Unicode characters to this SQLOutputImpl object. |
| void | [**writeClob**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeClob(java.sql.Clob))([Clob](http://docs.google.com/java/sql/Clob.html) x)            Writes a Clob object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeDate**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeDate(java.sql.Date))([Date](http://docs.google.com/java/sql/Date.html) x)            Writes a java.sql.Date object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeDouble**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeDouble(double))(double x)            Writes a double in the Java programming language to this SQLOutputImpl object. |
| void | [**writeFloat**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeFloat(float))(float x)            Writes a float in the Java programming language to this SQLOutputImpl object. |
| void | [**writeInt**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeInt(int))(int x)            Writes an int in the Java programming language to this SQLOutputImpl object. |
| void | [**writeLong**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeLong(long))(long x)            Writes a long in the Java programming language to this SQLOutputImpl object. |
| void | [**writeNClob**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeNClob(java.sql.NClob))([NClob](http://docs.google.com/java/sql/NClob.html) x)            Writes an SQL NCLOB value to the stream. |
| void | [**writeNString**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeNString(java.lang.String))([String](http://docs.google.com/java/lang/String.html) x)            Writes the next attribute to the stream as a String in the Java programming language. |
| void | [**writeObject**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeObject(java.sql.SQLData))([SQLData](http://docs.google.com/java/sql/SQLData.html) x)            Writes to the stream the data contained in the given SQLData object. |
| void | [**writeRef**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeRef(java.sql.Ref))([Ref](http://docs.google.com/java/sql/Ref.html) x)            Writes a Ref object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeRowId**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeRowId(java.sql.RowId))([RowId](http://docs.google.com/java/sql/RowId.html) x)            Writes an SQL ROWID value to the stream. |
| void | [**writeShort**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeShort(short))(short x)            Writes a short in the Java programming language to this SQLOutputImpl object. |
| void | [**writeSQLXML**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeSQLXML(java.sql.SQLXML))([SQLXML](http://docs.google.com/java/sql/SQLXML.html) x)            Writes an SQL XML value to the stream. |
| void | [**writeString**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeString(java.lang.String))([String](http://docs.google.com/java/lang/String.html) x)            Writes a String in the Java programming language to this SQLOutputImpl object. |
| void | [**writeStruct**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeStruct(java.sql.Struct))([Struct](http://docs.google.com/java/sql/Struct.html) x)            Writes a Struct object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeTime**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeTime(java.sql.Time))([Time](http://docs.google.com/java/sql/Time.html) x)            Writes a java.sql.Time object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeTimestamp**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeTimestamp(java.sql.Timestamp))([Timestamp](http://docs.google.com/java/sql/Timestamp.html) x)            Writes a java.sql.Timestamp object in the Java programming language to this SQLOutputImpl object. |
| void | [**writeURL**](http://docs.google.com/javax/sql/rowset/serial/SQLOutputImpl.html#writeURL(java.net.URL))([URL](http://docs.google.com/java/net/URL.html) url)            Writes an java.sql.Type.DATALINK object in the Java programming language to this SQLOutputImpl object. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Constructor Detail** |
| --- |

### SQLOutputImpl

public **SQLOutputImpl**([Vector](http://docs.google.com/java/util/Vector.html)<?> attributes,  
 [Map](http://docs.google.com/java/util/Map.html)<[String](http://docs.google.com/java/lang/String.html),?> map)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Creates a new SQLOutputImpl object initialized with the given vector of attributes and type map. The driver will use the type map to determine which SQLData.writeSQL method to invoke. This method will then call the appropriate SQLOutputImpl writer methods in order and thereby write the attributes to the new output stream.

**Parameters:**attributes - a Vector object containing the attributes of the UDT to be mapped to one or more objects in the Java programming languagemap - a java.util.Map object containing zero or more entries, with each entry consisting of 1) a String giving the fully qualified name of a UDT and 2) the Class object for the SQLData implementation that defines how the UDT is to be mapped **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the attributes or the map is a null value

| **Method Detail** |
| --- |

### writeString

public void **writeString**([String](http://docs.google.com/java/lang/String.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a String in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL CHAR, VARCHAR, or LONGVARCHAR before returning it to the database.

**Specified by:**[writeString](http://docs.google.com/java/sql/SQLOutput.html#writeString(java.lang.String)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeBoolean

public void **writeBoolean**(boolean x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a boolean in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL BIT before returning it to the database.

**Specified by:**[writeBoolean](http://docs.google.com/java/sql/SQLOutput.html#writeBoolean(boolean)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeByte

public void **writeByte**(byte x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a byte in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL BIT before returning it to the database.

**Specified by:**[writeByte](http://docs.google.com/java/sql/SQLOutput.html#writeByte(byte)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeShort

public void **writeShort**(short x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a short in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL SMALLINT before returning it to the database.

**Specified by:**[writeShort](http://docs.google.com/java/sql/SQLOutput.html#writeShort(short)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeInt

public void **writeInt**(int x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes an int in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL INTEGER before returning it to the database.

**Specified by:**[writeInt](http://docs.google.com/java/sql/SQLOutput.html#writeInt(int)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeLong

public void **writeLong**(long x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a long in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL BIGINT before returning it to the database.

**Specified by:**[writeLong](http://docs.google.com/java/sql/SQLOutput.html#writeLong(long)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeFloat

public void **writeFloat**(float x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a float in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL REAL before returning it to the database.

**Specified by:**[writeFloat](http://docs.google.com/java/sql/SQLOutput.html#writeFloat(float)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeDouble

public void **writeDouble**(double x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a double in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL DOUBLE before returning it to the database.

**Specified by:**[writeDouble](http://docs.google.com/java/sql/SQLOutput.html#writeDouble(double)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeBigDecimal

public void **writeBigDecimal**([BigDecimal](http://docs.google.com/java/math/BigDecimal.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a java.math.BigDecimal object in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL NUMERIC before returning it to the database.

**Specified by:**[writeBigDecimal](http://docs.google.com/java/sql/SQLOutput.html#writeBigDecimal(java.math.BigDecimal)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeBytes

public void **writeBytes**(byte[] x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes an array of bytes in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL VARBINARY or LONGVARBINARY before returning it to the database.

**Specified by:**[writeBytes](http://docs.google.com/java/sql/SQLOutput.html#writeBytes(byte%5B%5D)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeDate

public void **writeDate**([Date](http://docs.google.com/java/sql/Date.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a java.sql.Date object in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL DATE before returning it to the database.

**Specified by:**[writeDate](http://docs.google.com/java/sql/SQLOutput.html#writeDate(java.sql.Date)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeTime

public void **writeTime**([Time](http://docs.google.com/java/sql/Time.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a java.sql.Time object in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL TIME before returning it to the database.

**Specified by:**[writeTime](http://docs.google.com/java/sql/SQLOutput.html#writeTime(java.sql.Time)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeTimestamp

public void **writeTimestamp**([Timestamp](http://docs.google.com/java/sql/Timestamp.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a java.sql.Timestamp object in the Java programming language to this SQLOutputImpl object. The driver converts it to an SQL TIMESTAMP before returning it to the database.

**Specified by:**[writeTimestamp](http://docs.google.com/java/sql/SQLOutput.html#writeTimestamp(java.sql.Timestamp)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeCharacterStream

public void **writeCharacterStream**([Reader](http://docs.google.com/java/io/Reader.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a stream of Unicode characters to this SQLOutputImpl object. The driver will do any necessary conversion from Unicode to the database CHAR format.

**Specified by:**[writeCharacterStream](http://docs.google.com/java/sql/SQLOutput.html#writeCharacterStream(java.io.Reader)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeAsciiStream

public void **writeAsciiStream**([InputStream](http://docs.google.com/java/io/InputStream.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a stream of ASCII characters to this SQLOutputImpl object. The driver will do any necessary conversion from ASCII to the database CHAR format.

**Specified by:**[writeAsciiStream](http://docs.google.com/java/sql/SQLOutput.html#writeAsciiStream(java.io.InputStream)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeBinaryStream

public void **writeBinaryStream**([InputStream](http://docs.google.com/java/io/InputStream.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a stream of uninterpreted bytes to this SQLOutputImpl object.

**Specified by:**[writeBinaryStream](http://docs.google.com/java/sql/SQLOutput.html#writeBinaryStream(java.io.InputStream)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeObject

public void **writeObject**([SQLData](http://docs.google.com/java/sql/SQLData.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes to the stream the data contained in the given SQLData object. When the SQLData object is null, this method writes an SQL NULL to the stream. Otherwise, it calls the SQLData.writeSQL method of the given object, which writes the object's attributes to the stream.

The implementation of the method SQLData.writeSQ calls the appropriate SQLOutputImpl.writeXXX method(s) for writing each of the object's attributes in order. The attributes must be read from an SQLInput input stream and written to an SQLOutputImpl output stream in the same order in which they were listed in the SQL definition of the user-defined type.

**Specified by:**[writeObject](http://docs.google.com/java/sql/SQLOutput.html#writeObject(java.sql.SQLData)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the object representing data of an SQL structured or distinct type **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeRef

public void **writeRef**([Ref](http://docs.google.com/java/sql/Ref.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a Ref object in the Java programming language to this SQLOutputImpl object. The driver converts it to a serializable SerialRef SQL REF value before returning it to the database.

**Specified by:**[writeRef](http://docs.google.com/java/sql/SQLOutput.html#writeRef(java.sql.Ref)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - an object representing an SQL REF value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeBlob

public void **writeBlob**([Blob](http://docs.google.com/java/sql/Blob.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a Blob object in the Java programming language to this SQLOutputImpl object. The driver converts it to a serializable SerialBlob SQL BLOB value before returning it to the database.

**Specified by:**[writeBlob](http://docs.google.com/java/sql/SQLOutput.html#writeBlob(java.sql.Blob)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - an object representing an SQL BLOB value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeClob

public void **writeClob**([Clob](http://docs.google.com/java/sql/Clob.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a Clob object in the Java programming language to this SQLOutputImpl object. The driver converts it to a serializable SerialClob SQL CLOB value before returning it to the database.

**Specified by:**[writeClob](http://docs.google.com/java/sql/SQLOutput.html#writeClob(java.sql.Clob)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - an object representing an SQL CLOB value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeStruct

public void **writeStruct**([Struct](http://docs.google.com/java/sql/Struct.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes a Struct object in the Java programming language to this SQLOutputImpl object. The driver converts this value to an SQL structured type before returning it to the database.

This method should be used when an SQL structured type has been mapped to a Struct object in the Java programming language (the standard mapping). The method writeObject should be used if an SQL structured type has been custom mapped to a class in the Java programming language.

**Specified by:**[writeStruct](http://docs.google.com/java/sql/SQLOutput.html#writeStruct(java.sql.Struct)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - an object representing the attributes of an SQL structured type **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeArray

public void **writeArray**([Array](http://docs.google.com/java/sql/Array.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes an Array object in the Java programming language to this SQLOutputImpl object. The driver converts this value to a serializable SerialArray SQL ARRAY value before returning it to the database.

**Specified by:**[writeArray](http://docs.google.com/java/sql/SQLOutput.html#writeArray(java.sql.Array)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - an object representing an SQL ARRAY value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeURL

public void **writeURL**([URL](http://docs.google.com/java/net/URL.html) url)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes an java.sql.Type.DATALINK object in the Java programming language to this SQLOutputImpl object. The driver converts this value to a serializable SerialDatalink SQL DATALINK value before return it to the database.

**Specified by:**[writeURL](http://docs.google.com/java/sql/SQLOutput.html#writeURL(java.net.URL)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**url - an object representing a SQL DATALINK value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if the SQLOutputImpl object is in use by a SQLData object attempting to write the attribute values of a UDT to the database.

### writeNString

public void **writeNString**([String](http://docs.google.com/java/lang/String.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes the next attribute to the stream as a String in the Java programming language. The driver converts this to a SQL NCHAR or NVARCHAR or LONGNVARCHAR value (depending on the argument's size relative to the driver's limits on NVARCHAR values) when it sends it to the stream.

**Specified by:**[writeNString](http://docs.google.com/java/sql/SQLOutput.html#writeNString(java.lang.String)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - the value to pass to the database **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if a database access error occurs**Since:** 1.6

### writeNClob

public void **writeNClob**([NClob](http://docs.google.com/java/sql/NClob.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes an SQL NCLOB value to the stream.

**Specified by:**[writeNClob](http://docs.google.com/java/sql/SQLOutput.html#writeNClob(java.sql.NClob)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - a NClob object representing data of an SQL NCLOB value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if a database access error occurs**Since:** 1.6

### writeRowId

public void **writeRowId**([RowId](http://docs.google.com/java/sql/RowId.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes an SQL ROWID value to the stream.

**Specified by:**[writeRowId](http://docs.google.com/java/sql/SQLOutput.html#writeRowId(java.sql.RowId)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - a RowId object representing data of an SQL ROWID value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if a database access error occurs**Since:** 1.6

### writeSQLXML

public void **writeSQLXML**([SQLXML](http://docs.google.com/java/sql/SQLXML.html) x)  
 throws [SQLException](http://docs.google.com/java/sql/SQLException.html)

Writes an SQL XML value to the stream.

**Specified by:**[writeSQLXML](http://docs.google.com/java/sql/SQLOutput.html#writeSQLXML(java.sql.SQLXML)) in interface [SQLOutput](http://docs.google.com/java/sql/SQLOutput.html) **Parameters:**x - a SQLXML object representing data of an SQL XML value **Throws:** [SQLException](http://docs.google.com/java/sql/SQLException.html) - if a database access error occurs**Since:** 1.6

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/SQLOutputImpl.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/sql/rowset/serial/SQLInputImpl.html)   NEXT CLASS | [**FRAMES**](http://docs.google.com/index.html?javax/sql/rowset/serial/SQLOutputImpl.html)    [**NO FRAMES**](http://docs.google.com/SQLOutputImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#3znysh7) | [METHOD](#2et92p0) | DETAIL: FIELD | [CONSTR](#3dy6vkm) | [METHOD](#4d34og8) |

[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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