| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/ByteArrayOutputStream.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/java/io/ByteArrayInputStream.html)   [**NEXT CLASS**](http://docs.google.com/java/io/CharArrayReader.html) | [**FRAMES**](http://docs.google.com/index.html?java/io/ByteArrayOutputStream.html)    [**NO FRAMES**](http://docs.google.com/ByteArrayOutputStream.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: [FIELD](#4d34og8) | [CONSTR](#3rdcrjn) | [METHOD](#35nkun2) |

## **java.io**

Class ByteArrayOutputStream

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [java.io.OutputStream](http://docs.google.com/java/io/OutputStream.html)  
 **java.io.ByteArrayOutputStream**

**All Implemented Interfaces:** [Closeable](http://docs.google.com/java/io/Closeable.html), [Flushable](http://docs.google.com/java/io/Flushable.html)

public class **ByteArrayOutputStream**extends [OutputStream](http://docs.google.com/java/io/OutputStream.html)

This class implements an output stream in which the data is written into a byte array. The buffer automatically grows as data is written to it. The data can be retrieved using toByteArray() and toString().

Closing a ByteArrayOutputStream has no effect. The methods in this class can be called after the stream has been closed without generating an IOException.

**Since:** JDK1.0

| **Field Summary** | |
| --- | --- |
| protected  byte[] | [**buf**](http://docs.google.com/java/io/ByteArrayOutputStream.html#buf)            The buffer where data is stored. |
| protected  int | [**count**](http://docs.google.com/java/io/ByteArrayOutputStream.html#count)            The number of valid bytes in the buffer. |

| **Constructor Summary** | |
| --- | --- |
| [**ByteArrayOutputStream**](http://docs.google.com/java/io/ByteArrayOutputStream.html#ByteArrayOutputStream())()            Creates a new byte array output stream. |
| [**ByteArrayOutputStream**](http://docs.google.com/java/io/ByteArrayOutputStream.html#ByteArrayOutputStream(int))(int size)            Creates a new byte array output stream, with a buffer capacity of the specified size, in bytes. |

| **Method Summary** | |
| --- | --- |
| void | [**close**](http://docs.google.com/java/io/ByteArrayOutputStream.html#close())()            Closing a ByteArrayOutputStream has no effect. |
| void | [**reset**](http://docs.google.com/java/io/ByteArrayOutputStream.html#reset())()            Resets the count field of this byte array output stream to zero, so that all currently accumulated output in the output stream is discarded. |
| int | [**size**](http://docs.google.com/java/io/ByteArrayOutputStream.html#size())()            Returns the current size of the buffer. |
| byte[] | [**toByteArray**](http://docs.google.com/java/io/ByteArrayOutputStream.html#toByteArray())()            Creates a newly allocated byte array. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/io/ByteArrayOutputStream.html#toString())()            Converts the buffer's contents into a string decoding bytes using the platform's default character set. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/io/ByteArrayOutputStream.html#toString(int))(int hibyte)  **Deprecated.** *This method does not properly convert bytes into characters. As of JDK 1.1, the preferred way to do this is via the toString(String enc) method, which takes an encoding-name argument, or the toString() method, which uses the platform's default character encoding.* |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/io/ByteArrayOutputStream.html#toString(java.lang.String))([String](http://docs.google.com/java/lang/String.html) charsetName)            Converts the buffer's contents into a string by decoding the bytes using the specified [charsetName](http://docs.google.com/java/nio/charset/Charset.html). |
| void | [**write**](http://docs.google.com/java/io/ByteArrayOutputStream.html#write(byte%5B%5D,%20int,%20int))(byte[] b, int off, int len)            Writes len bytes from the specified byte array starting at offset off to this byte array output stream. |
| void | [**write**](http://docs.google.com/java/io/ByteArrayOutputStream.html#write(int))(int b)            Writes the specified byte to this byte array output stream. |
| void | [**writeTo**](http://docs.google.com/java/io/ByteArrayOutputStream.html#writeTo(java.io.OutputStream))([OutputStream](http://docs.google.com/java/io/OutputStream.html) out)            Writes the complete contents of this byte array output stream to the specified output stream argument, as if by calling the output stream's write method using out.write(buf, 0, count). |

| **Methods inherited from class java.io.**[**OutputStream**](http://docs.google.com/java/io/OutputStream.html) |
| --- |
| [flush](http://docs.google.com/java/io/OutputStream.html#flush()), [write](http://docs.google.com/java/io/OutputStream.html#write(byte%5B%5D)) |

| **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()), [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)) |

| **Field Detail** |
| --- |

### buf

protected byte[] **buf**

The buffer where data is stored.

### count

protected int **count**

The number of valid bytes in the buffer.

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

### ByteArrayOutputStream

public **ByteArrayOutputStream**()

Creates a new byte array output stream. The buffer capacity is initially 32 bytes, though its size increases if necessary.

### ByteArrayOutputStream

public **ByteArrayOutputStream**(int size)

Creates a new byte array output stream, with a buffer capacity of the specified size, in bytes.

**Parameters:**size - the initial size. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if size is negative.

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

### write

public void **write**(int b)

Writes the specified byte to this byte array output stream.

**Specified by:**[write](http://docs.google.com/java/io/OutputStream.html#write(int)) in class [OutputStream](http://docs.google.com/java/io/OutputStream.html) **Parameters:**b - the byte to be written.

### write

public void **write**(byte[] b,  
 int off,  
 int len)

Writes len bytes from the specified byte array starting at offset off to this byte array output stream.

**Overrides:**[write](http://docs.google.com/java/io/OutputStream.html#write(byte%5B%5D,%20int,%20int)) in class [OutputStream](http://docs.google.com/java/io/OutputStream.html) **Parameters:**b - the data.off - the start offset in the data.len - the number of bytes to write.

### writeTo

public void **writeTo**([OutputStream](http://docs.google.com/java/io/OutputStream.html) out)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Writes the complete contents of this byte array output stream to the specified output stream argument, as if by calling the output stream's write method using out.write(buf, 0, count).

**Parameters:**out - the output stream to which to write the data. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs.

### reset

public void **reset**()

Resets the count field of this byte array output stream to zero, so that all currently accumulated output in the output stream is discarded. The output stream can be used again, reusing the already allocated buffer space.

**See Also:**[ByteArrayInputStream.count](http://docs.google.com/java/io/ByteArrayInputStream.html#count)

### toByteArray

public byte[] **toByteArray**()

Creates a newly allocated byte array. Its size is the current size of this output stream and the valid contents of the buffer have been copied into it.

**Returns:**the current contents of this output stream, as a byte array.**See Also:**[size()](http://docs.google.com/java/io/ByteArrayOutputStream.html#size())

### size

public int **size**()

Returns the current size of the buffer.

**Returns:**the value of the count field, which is the number of valid bytes in this output stream.**See Also:**[count](http://docs.google.com/java/io/ByteArrayOutputStream.html#count)

### toString

public [String](http://docs.google.com/java/lang/String.html) **toString**()

Converts the buffer's contents into a string decoding bytes using the platform's default character set. The length of the new String is a function of the character set, and hence may not be equal to the size of the buffer.

This method always replaces malformed-input and unmappable-character sequences with the default replacement string for the platform's default character set. The [CharsetDecoder](http://docs.google.com/java/nio/charset/CharsetDecoder.html) class should be used when more control over the decoding process is required.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**String decoded from the buffer's contents.**Since:** JDK1.1

### toString

public [String](http://docs.google.com/java/lang/String.html) **toString**([String](http://docs.google.com/java/lang/String.html) charsetName)  
 throws [UnsupportedEncodingException](http://docs.google.com/java/io/UnsupportedEncodingException.html)

Converts the buffer's contents into a string by decoding the bytes using the specified [charsetName](http://docs.google.com/java/nio/charset/Charset.html). The length of the new String is a function of the charset, and hence may not be equal to the length of the byte array.

This method always replaces malformed-input and unmappable-character sequences with this charset's default replacement string. The [CharsetDecoder](http://docs.google.com/java/nio/charset/CharsetDecoder.html) class should be used when more control over the decoding process is required.

**Parameters:**charsetName - the name of a supported [charset](http://docs.google.com/java/nio/charset/Charset.html) **Returns:**String decoded from the buffer's contents. **Throws:** [UnsupportedEncodingException](http://docs.google.com/java/io/UnsupportedEncodingException.html) - If the named charset is not supported**Since:** JDK1.1

### toString

[@Deprecated](http://docs.google.com/java/lang/Deprecated.html)  
public [String](http://docs.google.com/java/lang/String.html) **toString**(int hibyte)

**Deprecated.** *This method does not properly convert bytes into characters. As of JDK 1.1, the preferred way to do this is via the toString(String enc) method, which takes an encoding-name argument, or the toString() method, which uses the platform's default character encoding.*

Creates a newly allocated string. Its size is the current size of the output stream and the valid contents of the buffer have been copied into it. Each character *c* in the resulting string is constructed from the corresponding element *b* in the byte array such that:

c == (char)(((hibyte & 0xff) << 8) | (b & 0xff))

**Parameters:**hibyte - the high byte of each resulting Unicode character. **Returns:**the current contents of the output stream, as a string.**See Also:**[size()](http://docs.google.com/java/io/ByteArrayOutputStream.html#size()), [toString(String)](http://docs.google.com/java/io/ByteArrayOutputStream.html#toString(java.lang.String)), [toString()](http://docs.google.com/java/io/ByteArrayOutputStream.html#toString())

### close

public void **close**()  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Closing a ByteArrayOutputStream has no effect. The methods in this class can be called after the stream has been closed without generating an IOException.

**Specified by:**[close](http://docs.google.com/java/io/Closeable.html#close()) in interface [Closeable](http://docs.google.com/java/io/Closeable.html)**Overrides:**[close](http://docs.google.com/java/io/OutputStream.html#close()) in class [OutputStream](http://docs.google.com/java/io/OutputStream.html) **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs.

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/ByteArrayOutputStream.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/java/io/ByteArrayInputStream.html)   [**NEXT CLASS**](http://docs.google.com/java/io/CharArrayReader.html) | [**FRAMES**](http://docs.google.com/index.html?java/io/ByteArrayOutputStream.html)    [**NO FRAMES**](http://docs.google.com/ByteArrayOutputStream.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: [FIELD](#4d34og8) | [CONSTR](#3rdcrjn) | [METHOD](#35nkun2) |

[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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