| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/ScatteringByteChannel.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/nio/channels/ReadableByteChannel.html)   [**NEXT CLASS**](http://docs.google.com/java/nio/channels/SelectableChannel.html) | [**FRAMES**](http://docs.google.com/index.html?java/nio/channels/ScatteringByteChannel.html)    [**NO FRAMES**](http://docs.google.com/ScatteringByteChannel.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#3dy6vkm) |

## **java.nio.channels**

Interface ScatteringByteChannel

**All Superinterfaces:** [Channel](http://docs.google.com/java/nio/channels/Channel.html), [Closeable](http://docs.google.com/java/io/Closeable.html), [ReadableByteChannel](http://docs.google.com/java/nio/channels/ReadableByteChannel.html) **All Known Implementing Classes:** [DatagramChannel](http://docs.google.com/java/nio/channels/DatagramChannel.html), [FileChannel](http://docs.google.com/java/nio/channels/FileChannel.html), [Pipe.SourceChannel](http://docs.google.com/java/nio/channels/Pipe.SourceChannel.html), [SocketChannel](http://docs.google.com/java/nio/channels/SocketChannel.html)

public interface **ScatteringByteChannel**extends [ReadableByteChannel](http://docs.google.com/java/nio/channels/ReadableByteChannel.html)

A channel that can read bytes into a sequence of buffers.

A *scattering* read operation reads, in a single invocation, a sequence of bytes into one or more of a given sequence of buffers. Scattering reads are often useful when implementing network protocols or file formats that, for example, group data into segments consisting of one or more fixed-length headers followed by a variable-length body. Similar *gathering* write operations are defined in the [GatheringByteChannel](http://docs.google.com/java/nio/channels/GatheringByteChannel.html) interface.

**Since:** 1.4

| **Method Summary** | |
| --- | --- |
| long | [**read**](http://docs.google.com/java/nio/channels/ScatteringByteChannel.html#read(java.nio.ByteBuffer%5B%5D))([ByteBuffer](http://docs.google.com/java/nio/ByteBuffer.html)[] dsts)            Reads a sequence of bytes from this channel into the given buffers. |
| long | [**read**](http://docs.google.com/java/nio/channels/ScatteringByteChannel.html#read(java.nio.ByteBuffer%5B%5D,%20int,%20int))([ByteBuffer](http://docs.google.com/java/nio/ByteBuffer.html)[] dsts, int offset, int length)            Reads a sequence of bytes from this channel into a subsequence of the given buffers. |

| **Methods inherited from interface java.nio.channels.**[**ReadableByteChannel**](http://docs.google.com/java/nio/channels/ReadableByteChannel.html) |
| --- |
| [read](http://docs.google.com/java/nio/channels/ReadableByteChannel.html#read(java.nio.ByteBuffer)) |

| **Methods inherited from interface java.nio.channels.**[**Channel**](http://docs.google.com/java/nio/channels/Channel.html) |
| --- |
| [close](http://docs.google.com/java/nio/channels/Channel.html#close()), [isOpen](http://docs.google.com/java/nio/channels/Channel.html#isOpen()) |

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

### read

long **read**([ByteBuffer](http://docs.google.com/java/nio/ByteBuffer.html)[] dsts,  
 int offset,  
 int length)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Reads a sequence of bytes from this channel into a subsequence of the given buffers.

An invocation of this method attempts to read up to *r* bytes from this channel, where *r* is the total number of bytes remaining the specified subsequence of the given buffer array, that is,

dsts[offset].remaining()  
 + dsts[offset+1].remaining()  
 + ... + dsts[offset+length-1].remaining()

at the moment that this method is invoked.

Suppose that a byte sequence of length *n* is read, where 0 <= *n* <= *r*. Up to the first dsts[offset].remaining() bytes of this sequence are transferred into buffer dsts[offset], up to the next dsts[offset+1].remaining() bytes are transferred into buffer dsts[offset+1], and so forth, until the entire byte sequence is transferred into the given buffers. As many bytes as possible are transferred into each buffer, hence the final position of each updated buffer, except the last updated buffer, is guaranteed to be equal to that buffer's limit.

This method may be invoked at any time. If another thread has already initiated a read operation upon this channel, however, then an invocation of this method will block until the first operation is complete.

**Parameters:**dsts - The buffers into which bytes are to be transferredoffset - The offset within the buffer array of the first buffer into which bytes are to be transferred; must be non-negative and no larger than dsts.lengthlength - The maximum number of buffers to be accessed; must be non-negative and no larger than dsts.length - offset **Returns:**The number of bytes read, possibly zero, or -1 if the channel has reached end-of-stream **Throws:** [IndexOutOfBoundsException](http://docs.google.com/java/lang/IndexOutOfBoundsException.html) - If the preconditions on the offset and length parameters do not hold [NonReadableChannelException](http://docs.google.com/java/nio/channels/NonReadableChannelException.html) - If this channel was not opened for reading [ClosedChannelException](http://docs.google.com/java/nio/channels/ClosedChannelException.html) - If this channel is closed [AsynchronousCloseException](http://docs.google.com/java/nio/channels/AsynchronousCloseException.html) - If another thread closes this channel while the read operation is in progress [ClosedByInterruptException](http://docs.google.com/java/nio/channels/ClosedByInterruptException.html) - If another thread interrupts the current thread while the read operation is in progress, thereby closing the channel and setting the current thread's interrupt status [IOException](http://docs.google.com/java/io/IOException.html) - If some other I/O error occurs

### read

long **read**([ByteBuffer](http://docs.google.com/java/nio/ByteBuffer.html)[] dsts)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Reads a sequence of bytes from this channel into the given buffers.

An invocation of this method of the form c.read(dsts) behaves in exactly the same manner as the invocation

c.read(dsts, 0, dsts.length);

**Parameters:**dsts - The buffers into which bytes are to be transferred **Returns:**The number of bytes read, possibly zero, or -1 if the channel has reached end-of-stream **Throws:** [NonReadableChannelException](http://docs.google.com/java/nio/channels/NonReadableChannelException.html) - If this channel was not opened for reading [ClosedChannelException](http://docs.google.com/java/nio/channels/ClosedChannelException.html) - If this channel is closed [AsynchronousCloseException](http://docs.google.com/java/nio/channels/AsynchronousCloseException.html) - If another thread closes this channel while the read operation is in progress [ClosedByInterruptException](http://docs.google.com/java/nio/channels/ClosedByInterruptException.html) - If another thread interrupts the current thread while the read operation is in progress, thereby closing the channel and setting the current thread's interrupt status [IOException](http://docs.google.com/java/io/IOException.html) - If some other 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/ScatteringByteChannel.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*** |
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| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#3dy6vkm) |

[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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