| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AbstractSelector.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/spi/AbstractSelectionKey.html)   [**NEXT CLASS**](http://docs.google.com/java/nio/channels/spi/SelectorProvider.html) | [**FRAMES**](http://docs.google.com/index.html?java/nio/channels/spi/AbstractSelector.html)    [**NO FRAMES**](http://docs.google.com/AbstractSelector.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: FIELD | [CONSTR](#4d34og8) | [METHOD](#17dp8vu) |

## **java.nio.channels.spi**

Class AbstractSelector

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [java.nio.channels.Selector](http://docs.google.com/java/nio/channels/Selector.html)  
 **java.nio.channels.spi.AbstractSelector**

public abstract class **AbstractSelector**extends [Selector](http://docs.google.com/java/nio/channels/Selector.html)

Base implementation class for selectors.

This class encapsulates the low-level machinery required to implement the interruption of selection operations. A concrete selector class must invoke the [begin](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#begin()) and [end](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#end()) methods before and after, respectively, invoking an I/O operation that might block indefinitely. In order to ensure that the [end](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#end()) method is always invoked, these methods should be used within a try ... finally block:

try {  
 begin();  
 // Perform blocking I/O operation here  
 ...  
 } finally {  
 end();  
 }

This class also defines methods for maintaining a selector's cancelled-key set and for removing a key from its channel's key set, and declares the abstract [register](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#register(java.nio.channels.spi.AbstractSelectableChannel,%20int,%20java.lang.Object)) method that is invoked by a selectable channel's [register](http://docs.google.com/java/nio/channels/spi/AbstractSelectableChannel.html#register(java.nio.channels.Selector,%20int,%20java.lang.Object)) method in order to perform the actual work of registering a channel.

**Since:** 1.4

| **Constructor Summary** | |
| --- | --- |
| protected | [**AbstractSelector**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#AbstractSelector(java.nio.channels.spi.SelectorProvider))([SelectorProvider](http://docs.google.com/java/nio/channels/spi/SelectorProvider.html) provider)            Initializes a new instance of this class. |

| **Method Summary** | |
| --- | --- |
| protected  void | [**begin**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#begin())()            Marks the beginning of an I/O operation that might block indefinitely. |
| protected  [Set](http://docs.google.com/java/util/Set.html)<[SelectionKey](http://docs.google.com/java/nio/channels/SelectionKey.html)> | [**cancelledKeys**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#cancelledKeys())()            Retrieves this selector's cancelled-key set. |
| void | [**close**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#close())()            Closes this selector. |
| protected  void | [**deregister**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#deregister(java.nio.channels.spi.AbstractSelectionKey))([AbstractSelectionKey](http://docs.google.com/java/nio/channels/spi/AbstractSelectionKey.html) key)            Removes the given key from its channel's key set. |
| protected  void | [**end**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#end())()            Marks the end of an I/O operation that might block indefinitely. |
| protected abstract  void | [**implCloseSelector**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#implCloseSelector())()            Closes this selector. |
| boolean | [**isOpen**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#isOpen())()            Tells whether or not this selector is open. |
| [SelectorProvider](http://docs.google.com/java/nio/channels/spi/SelectorProvider.html) | [**provider**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#provider())()            Returns the provider that created this channel. |
| protected abstract  [SelectionKey](http://docs.google.com/java/nio/channels/SelectionKey.html) | [**register**](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#register(java.nio.channels.spi.AbstractSelectableChannel,%20int,%20java.lang.Object))([AbstractSelectableChannel](http://docs.google.com/java/nio/channels/spi/AbstractSelectableChannel.html) ch, int ops, [Object](http://docs.google.com/java/lang/Object.html) att)            Registers the given channel with this selector. |

| **Methods inherited from class java.nio.channels.**[**Selector**](http://docs.google.com/java/nio/channels/Selector.html) |
| --- |
| [keys](http://docs.google.com/java/nio/channels/Selector.html#keys()), [open](http://docs.google.com/java/nio/channels/Selector.html#open()), [select](http://docs.google.com/java/nio/channels/Selector.html#select()), [select](http://docs.google.com/java/nio/channels/Selector.html#select(long)), [selectedKeys](http://docs.google.com/java/nio/channels/Selector.html#selectedKeys()), [selectNow](http://docs.google.com/java/nio/channels/Selector.html#selectNow()), [wakeup](http://docs.google.com/java/nio/channels/Selector.html#wakeup()) |

| **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** |
| --- |

### AbstractSelector

protected **AbstractSelector**([SelectorProvider](http://docs.google.com/java/nio/channels/spi/SelectorProvider.html) provider)

Initializes a new instance of this class.

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

### close

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

Closes this selector.

If the selector has already been closed then this method returns immediately. Otherwise it marks the selector as closed and then invokes the [implCloseSelector](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#implCloseSelector()) method in order to complete the close operation.

**Specified by:**[close](http://docs.google.com/java/nio/channels/Selector.html#close()) in class [Selector](http://docs.google.com/java/nio/channels/Selector.html) **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - If an I/O error occurs

### implCloseSelector

protected abstract void **implCloseSelector**()  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Closes this selector.

This method is invoked by the [close](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#close()) method in order to perform the actual work of closing the selector. This method is only invoked if the selector has not yet been closed, and it is never invoked more than once.

An implementation of this method must arrange for any other thread that is blocked in a selection operation upon this selector to return immediately as if by invoking the [wakeup](http://docs.google.com/java/nio/channels/Selector.html#wakeup()) method.

**Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - If an I/O error occurs while closing the selector

### isOpen

public final boolean **isOpen**()

**Description copied from class:** [**Selector**](http://docs.google.com/java/nio/channels/Selector.html#isOpen()) Tells whether or not this selector is open.

**Specified by:**[isOpen](http://docs.google.com/java/nio/channels/Selector.html#isOpen()) in class [Selector](http://docs.google.com/java/nio/channels/Selector.html) **Returns:**true if, and only if, this selector is open

### provider

public final [SelectorProvider](http://docs.google.com/java/nio/channels/spi/SelectorProvider.html) **provider**()

Returns the provider that created this channel.

**Specified by:**[provider](http://docs.google.com/java/nio/channels/Selector.html#provider()) in class [Selector](http://docs.google.com/java/nio/channels/Selector.html) **Returns:**The provider that created this channel

### cancelledKeys

protected final [Set](http://docs.google.com/java/util/Set.html)<[SelectionKey](http://docs.google.com/java/nio/channels/SelectionKey.html)> **cancelledKeys**()

Retrieves this selector's cancelled-key set.

This set should only be used while synchronized upon it.

**Returns:**The cancelled-key set

### register

protected abstract [SelectionKey](http://docs.google.com/java/nio/channels/SelectionKey.html) **register**([AbstractSelectableChannel](http://docs.google.com/java/nio/channels/spi/AbstractSelectableChannel.html) ch,  
 int ops,  
 [Object](http://docs.google.com/java/lang/Object.html) att)

Registers the given channel with this selector.

This method is invoked by a channel's [register](http://docs.google.com/java/nio/channels/spi/AbstractSelectableChannel.html#register(java.nio.channels.Selector,%20int,%20java.lang.Object)) method in order to perform the actual work of registering the channel with this selector.

**Parameters:**ch - The channel to be registeredops - The initial interest set, which must be validatt - The initial attachment for the resulting key **Returns:**A new key representing the registration of the given channel with this selector

### deregister

protected final void **deregister**([AbstractSelectionKey](http://docs.google.com/java/nio/channels/spi/AbstractSelectionKey.html) key)

Removes the given key from its channel's key set.

This method must be invoked by the selector for each channel that it deregisters.

**Parameters:**key - The selection key to be removed

### begin

protected final void **begin**()

Marks the beginning of an I/O operation that might block indefinitely.

This method should be invoked in tandem with the [end](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#end()) method, using a try ... finally block as shown [above](#3znysh7), in order to implement interruption for this selector.

Invoking this method arranges for the selector's [wakeup](http://docs.google.com/java/nio/channels/Selector.html#wakeup()) method to be invoked if a thread's [interrupt](http://docs.google.com/java/lang/Thread.html#interrupt()) method is invoked while the thread is blocked in an I/O operation upon the selector.

### end

protected final void **end**()

Marks the end of an I/O operation that might block indefinitely.

This method should be invoked in tandem with the [begin](http://docs.google.com/java/nio/channels/spi/AbstractSelector.html#begin()) method, using a try ... finally block as shown [above](#3znysh7), in order to implement interruption for this selector.

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AbstractSelector.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/spi/AbstractSelectionKey.html)   [**NEXT CLASS**](http://docs.google.com/java/nio/channels/spi/SelectorProvider.html) | [**FRAMES**](http://docs.google.com/index.html?java/nio/channels/spi/AbstractSelector.html)    [**NO FRAMES**](http://docs.google.com/AbstractSelector.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
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[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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