| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/SocketImpl.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/net/SocketException.html)   [**NEXT CLASS**](http://docs.google.com/java/net/SocketImplFactory.html) | [**FRAMES**](http://docs.google.com/index.html?java/net/SocketImpl.html)    [**NO FRAMES**](http://docs.google.com/SocketImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#tyjcwt) | [METHOD](#3dy6vkm) | DETAIL: [FIELD](#2s8eyo1) | [CONSTR](#35nkun2) | [METHOD](#44sinio) |

## **java.net**

Class SocketImpl

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **java.net.SocketImpl**

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

public abstract class **SocketImpl**extends [Object](http://docs.google.com/java/lang/Object.html)implements [SocketOptions](http://docs.google.com/java/net/SocketOptions.html)

The abstract class SocketImpl is a common superclass of all classes that actually implement sockets. It is used to create both client and server sockets.

A "plain" socket implements these methods exactly as described, without attempting to go through a firewall or proxy.

**Since:** JDK1.0

| **Field Summary** | |
| --- | --- |
| protected  [InetAddress](http://docs.google.com/java/net/InetAddress.html) | [**address**](http://docs.google.com/java/net/SocketImpl.html#address)            The IP address of the remote end of this socket. |
| protected  [FileDescriptor](http://docs.google.com/java/io/FileDescriptor.html) | [**fd**](http://docs.google.com/java/net/SocketImpl.html#fd)            The file descriptor object for this socket. |
| protected  int | [**localport**](http://docs.google.com/java/net/SocketImpl.html#localport)            The local port number to which this socket is connected. |
| protected  int | [**port**](http://docs.google.com/java/net/SocketImpl.html#port)            The port number on the remote host to which this socket is connected. |

| **Fields inherited from interface java.net.**[**SocketOptions**](http://docs.google.com/java/net/SocketOptions.html) |
| --- |
| [IP\_MULTICAST\_IF](http://docs.google.com/java/net/SocketOptions.html#IP_MULTICAST_IF), [IP\_MULTICAST\_IF2](http://docs.google.com/java/net/SocketOptions.html#IP_MULTICAST_IF2), [IP\_MULTICAST\_LOOP](http://docs.google.com/java/net/SocketOptions.html#IP_MULTICAST_LOOP), [IP\_TOS](http://docs.google.com/java/net/SocketOptions.html#IP_TOS), [SO\_BINDADDR](http://docs.google.com/java/net/SocketOptions.html#SO_BINDADDR), [SO\_BROADCAST](http://docs.google.com/java/net/SocketOptions.html#SO_BROADCAST), [SO\_KEEPALIVE](http://docs.google.com/java/net/SocketOptions.html#SO_KEEPALIVE), [SO\_LINGER](http://docs.google.com/java/net/SocketOptions.html#SO_LINGER), [SO\_OOBINLINE](http://docs.google.com/java/net/SocketOptions.html#SO_OOBINLINE), [SO\_RCVBUF](http://docs.google.com/java/net/SocketOptions.html#SO_RCVBUF), [SO\_REUSEADDR](http://docs.google.com/java/net/SocketOptions.html#SO_REUSEADDR), [SO\_SNDBUF](http://docs.google.com/java/net/SocketOptions.html#SO_SNDBUF), [SO\_TIMEOUT](http://docs.google.com/java/net/SocketOptions.html#SO_TIMEOUT), [TCP\_NODELAY](http://docs.google.com/java/net/SocketOptions.html#TCP_NODELAY) |

| **Constructor Summary** | |
| --- | --- |
| [**SocketImpl**](http://docs.google.com/java/net/SocketImpl.html#SocketImpl())() |

| **Method Summary** | |
| --- | --- |
| protected abstract  void | [**accept**](http://docs.google.com/java/net/SocketImpl.html#accept(java.net.SocketImpl))([SocketImpl](http://docs.google.com/java/net/SocketImpl.html) s)            Accepts a connection. |
| protected abstract  int | [**available**](http://docs.google.com/java/net/SocketImpl.html#available())()            Returns the number of bytes that can be read from this socket without blocking. |
| protected abstract  void | [**bind**](http://docs.google.com/java/net/SocketImpl.html#bind(java.net.InetAddress,%20int))([InetAddress](http://docs.google.com/java/net/InetAddress.html) host, int port)            Binds this socket to the specified local IP address and port number. |
| protected abstract  void | [**close**](http://docs.google.com/java/net/SocketImpl.html#close())()            Closes this socket. |
| protected abstract  void | [**connect**](http://docs.google.com/java/net/SocketImpl.html#connect(java.net.InetAddress,%20int))([InetAddress](http://docs.google.com/java/net/InetAddress.html) address, int port)            Connects this socket to the specified port number on the specified host. |
| protected abstract  void | [**connect**](http://docs.google.com/java/net/SocketImpl.html#connect(java.net.SocketAddress,%20int))([SocketAddress](http://docs.google.com/java/net/SocketAddress.html) address, int timeout)            Connects this socket to the specified port number on the specified host. |
| protected abstract  void | [**connect**](http://docs.google.com/java/net/SocketImpl.html#connect(java.lang.String,%20int))([String](http://docs.google.com/java/lang/String.html) host, int port)            Connects this socket to the specified port on the named host. |
| protected abstract  void | [**create**](http://docs.google.com/java/net/SocketImpl.html#create(boolean))(boolean stream)            Creates either a stream or a datagram socket. |
| protected  [FileDescriptor](http://docs.google.com/java/io/FileDescriptor.html) | [**getFileDescriptor**](http://docs.google.com/java/net/SocketImpl.html#getFileDescriptor())()            Returns the value of this socket's fd field. |
| protected  [InetAddress](http://docs.google.com/java/net/InetAddress.html) | [**getInetAddress**](http://docs.google.com/java/net/SocketImpl.html#getInetAddress())()            Returns the value of this socket's address field. |
| protected abstract  [InputStream](http://docs.google.com/java/io/InputStream.html) | [**getInputStream**](http://docs.google.com/java/net/SocketImpl.html#getInputStream())()            Returns an input stream for this socket. |
| protected  int | [**getLocalPort**](http://docs.google.com/java/net/SocketImpl.html#getLocalPort())()            Returns the value of this socket's localport field. |
| protected abstract  [OutputStream](http://docs.google.com/java/io/OutputStream.html) | [**getOutputStream**](http://docs.google.com/java/net/SocketImpl.html#getOutputStream())()            Returns an output stream for this socket. |
| protected  int | [**getPort**](http://docs.google.com/java/net/SocketImpl.html#getPort())()            Returns the value of this socket's port field. |
| protected abstract  void | [**listen**](http://docs.google.com/java/net/SocketImpl.html#listen(int))(int backlog)            Sets the maximum queue length for incoming connection indications (a request to connect) to the count argument. |
| protected abstract  void | [**sendUrgentData**](http://docs.google.com/java/net/SocketImpl.html#sendUrgentData(int))(int data)            Send one byte of urgent data on the socket. |
| protected  void | [**setPerformancePreferences**](http://docs.google.com/java/net/SocketImpl.html#setPerformancePreferences(int,%20int,%20int))(int connectionTime, int latency, int bandwidth)            Sets performance preferences for this socket. |
| protected  void | [**shutdownInput**](http://docs.google.com/java/net/SocketImpl.html#shutdownInput())()            Places the input stream for this socket at "end of stream". |
| protected  void | [**shutdownOutput**](http://docs.google.com/java/net/SocketImpl.html#shutdownOutput())()            Disables the output stream for this socket. |
| protected  boolean | [**supportsUrgentData**](http://docs.google.com/java/net/SocketImpl.html#supportsUrgentData())()            Returns whether or not this SocketImpl supports sending urgent data. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/java/net/SocketImpl.html#toString())()            Returns the address and port of this socket as a String. |

| **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)) |

| **Methods inherited from interface java.net.**[**SocketOptions**](http://docs.google.com/java/net/SocketOptions.html) |
| --- |
| [getOption](http://docs.google.com/java/net/SocketOptions.html#getOption(int)), [setOption](http://docs.google.com/java/net/SocketOptions.html#setOption(int,%20java.lang.Object)) |

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

### fd

protected [FileDescriptor](http://docs.google.com/java/io/FileDescriptor.html) **fd**

The file descriptor object for this socket.

### address

protected [InetAddress](http://docs.google.com/java/net/InetAddress.html) **address**

The IP address of the remote end of this socket.

### port

protected int **port**

The port number on the remote host to which this socket is connected.

### localport

protected int **localport**

The local port number to which this socket is connected.

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

### SocketImpl

public **SocketImpl**()

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

### create

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

Creates either a stream or a datagram socket.

**Parameters:**stream - if true, create a stream socket; otherwise, create a datagram socket. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs while creating the socket.

### connect

protected abstract void **connect**([String](http://docs.google.com/java/lang/String.html) host,  
 int port)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Connects this socket to the specified port on the named host.

**Parameters:**host - the name of the remote host.port - the port number. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when connecting to the remote host.

### connect

protected abstract void **connect**([InetAddress](http://docs.google.com/java/net/InetAddress.html) address,  
 int port)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Connects this socket to the specified port number on the specified host.

**Parameters:**address - the IP address of the remote host.port - the port number. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when attempting a connection.

### connect

protected abstract void **connect**([SocketAddress](http://docs.google.com/java/net/SocketAddress.html) address,  
 int timeout)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Connects this socket to the specified port number on the specified host. A timeout of zero is interpreted as an infinite timeout. The connection will then block until established or an error occurs.

**Parameters:**address - the Socket address of the remote host.timeout - the timeout value, in milliseconds, or zero for no timeout. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when attempting a connection.**Since:** 1.4

### bind

protected abstract void **bind**([InetAddress](http://docs.google.com/java/net/InetAddress.html) host,  
 int port)  
 throws [IOException](http://docs.google.com/java/io/IOException.html)

Binds this socket to the specified local IP address and port number.

**Parameters:**host - an IP address that belongs to a local interface.port - the port number. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when binding this socket.

### listen

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

Sets the maximum queue length for incoming connection indications (a request to connect) to the count argument. If a connection indication arrives when the queue is full, the connection is refused.

**Parameters:**backlog - the maximum length of the queue. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when creating the queue.

### accept

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

Accepts a connection.

**Parameters:**s - the accepted connection. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when accepting the connection.

### getInputStream

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

Returns an input stream for this socket.

**Returns:**a stream for reading from this socket. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when creating the input stream.

### getOutputStream

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

Returns an output stream for this socket.

**Returns:**an output stream for writing to this socket. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when creating the output stream.

### available

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

Returns the number of bytes that can be read from this socket without blocking.

**Returns:**the number of bytes that can be read from this socket without blocking. **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when determining the number of bytes available.

### close

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

Closes this socket.

**Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when closing this socket.

### shutdownInput

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

Places the input stream for this socket at "end of stream". Any data sent to this socket is acknowledged and then silently discarded. If you read from a socket input stream after invoking shutdownInput() on the socket, the stream will return EOF.

**Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when shutting down this socket.**Since:** 1.3 **See Also:**[Socket.shutdownOutput()](http://docs.google.com/java/net/Socket.html#shutdownOutput()), [Socket.close()](http://docs.google.com/java/net/Socket.html#close()), [Socket.setSoLinger(boolean, int)](http://docs.google.com/java/net/Socket.html#setSoLinger(boolean,%20int))

### shutdownOutput

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

Disables the output stream for this socket. For a TCP socket, any previously written data will be sent followed by TCP's normal connection termination sequence. If you write to a socket output stream after invoking shutdownOutput() on the socket, the stream will throw an IOException.

**Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if an I/O error occurs when shutting down this socket.**Since:** 1.3 **See Also:**[Socket.shutdownInput()](http://docs.google.com/java/net/Socket.html#shutdownInput()), [Socket.close()](http://docs.google.com/java/net/Socket.html#close()), [Socket.setSoLinger(boolean, int)](http://docs.google.com/java/net/Socket.html#setSoLinger(boolean,%20int))

### getFileDescriptor

protected [FileDescriptor](http://docs.google.com/java/io/FileDescriptor.html) **getFileDescriptor**()

Returns the value of this socket's fd field.

**Returns:**the value of this socket's fd field.**See Also:**[fd](http://docs.google.com/java/net/SocketImpl.html#fd)

### getInetAddress

protected [InetAddress](http://docs.google.com/java/net/InetAddress.html) **getInetAddress**()

Returns the value of this socket's address field.

**Returns:**the value of this socket's address field.**See Also:**[address](http://docs.google.com/java/net/SocketImpl.html#address)

### getPort

protected int **getPort**()

Returns the value of this socket's port field.

**Returns:**the value of this socket's port field.**See Also:**[port](http://docs.google.com/java/net/SocketImpl.html#port)

### supportsUrgentData

protected boolean **supportsUrgentData**()

Returns whether or not this SocketImpl supports sending urgent data. By default, false is returned unless the method is overridden in a sub-class

**Returns:**true if urgent data supported**Since:** 1.4 **See Also:**[address](http://docs.google.com/java/net/SocketImpl.html#address)

### sendUrgentData

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

Send one byte of urgent data on the socket. The byte to be sent is the low eight bits of the parameter

**Parameters:**data - The byte of data to send **Throws:** [IOException](http://docs.google.com/java/io/IOException.html) - if there is an error sending the data.**Since:** 1.4

### getLocalPort

protected int **getLocalPort**()

Returns the value of this socket's localport field.

**Returns:**the value of this socket's localport field.**See Also:**[localport](http://docs.google.com/java/net/SocketImpl.html#localport)

### toString

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

Returns the address and port of this socket as a String.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a string representation of this socket.

### setPerformancePreferences

protected void **setPerformancePreferences**(int connectionTime,  
 int latency,  
 int bandwidth)

Sets performance preferences for this socket.

Sockets use the TCP/IP protocol by default. Some implementations may offer alternative protocols which have different performance characteristics than TCP/IP. This method allows the application to express its own preferences as to how these tradeoffs should be made when the implementation chooses from the available protocols.

Performance preferences are described by three integers whose values indicate the relative importance of short connection time, low latency, and high bandwidth. The absolute values of the integers are irrelevant; in order to choose a protocol the values are simply compared, with larger values indicating stronger preferences. Negative values represent a lower priority than positive values. If the application prefers short connection time over both low latency and high bandwidth, for example, then it could invoke this method with the values (1, 0, 0). If the application prefers high bandwidth above low latency, and low latency above short connection time, then it could invoke this method with the values (0, 1, 2). By default, this method does nothing, unless it is overridden in a a sub-class.

**Parameters:**connectionTime - An int expressing the relative importance of a short connection timelatency - An int expressing the relative importance of low latencybandwidth - An int expressing the relative importance of high bandwidth**Since:** 1.5

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/SocketImpl.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/net/SocketException.html)   [**NEXT CLASS**](http://docs.google.com/java/net/SocketImplFactory.html) | [**FRAMES**](http://docs.google.com/index.html?java/net/SocketImpl.html)    [**NO FRAMES**](http://docs.google.com/SocketImpl.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#tyjcwt) | [METHOD](#3dy6vkm) | DETAIL: [FIELD](#2s8eyo1) | [CONSTR](#35nkun2) | [METHOD](#44sinio) |

[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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