| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Inet4Address.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/IDN.html)   [**NEXT CLASS**](http://docs.google.com/java/net/Inet6Address.html) | [**FRAMES**](http://docs.google.com/index.html?java/net/Inet4Address.html)    [**NO FRAMES**](http://docs.google.com/Inet4Address.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#2et92p0) | DETAIL: FIELD | CONSTR | [METHOD](#1t3h5sf) |

## **java.net**

Class Inet4Address

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [java.net.InetAddress](http://docs.google.com/java/net/InetAddress.html)  
 **java.net.Inet4Address**

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

public final class **Inet4Address**extends [InetAddress](http://docs.google.com/java/net/InetAddress.html)

This class represents an Internet Protocol version 4 (IPv4) address. Defined by  [*RFC 790: Assigned Numbers*](http://www.ietf.org/rfc/rfc790.txt),  [*RFC 1918: Address Allocation for Private Internets*](http://www.ietf.org/rfc/rfc1918.txt), and [*RFC 2365: Administratively Scoped IP Multicast*](http://www.ietf.org/rfc/rfc2365.txt)

#### Textual representation of IP addresses

Textual representation of IPv4 address used as input to methods takes one of the following forms:

| d.d.d.d |
| --- |
| d.d.d |
| d.d |
| d |

When four parts are specified, each is interpreted as a byte of data and assigned, from left to right, to the four bytes of an IPv4 address.

When a three part address is specified, the last part is interpreted as a 16-bit quantity and placed in the right most two bytes of the network address. This makes the three part address format convenient for specifying Class B net- work addresses as 128.net.host.

When a two part address is supplied, the last part is interpreted as a 24-bit quantity and placed in the right most three bytes of the network address. This makes the two part address format convenient for specifying Class A network addresses as net.host.

When only one part is given, the value is stored directly in the network address without any byte rearrangement.

For methods that return a textual representation as output value, the first form, i.e. a dotted-quad string, is used.

#### The Scope of a Multicast Address

Historically the IPv4 TTL field in the IP header has doubled as a multicast scope field: a TTL of 0 means node-local, 1 means link-local, up through 32 means site-local, up through 64 means region-local, up through 128 means continent-local, and up through 255 are global. However, the administrative scoping is preferred. Please refer to  [*RFC 2365: Administratively Scoped IP Multicast*](http://www.ietf.org/rfc/rfc2365.txt)

**Since:** 1.4 **See Also:**[Serialized Form](http://docs.google.com/serialized-form.html#java.net.Inet4Address)

| **Method Summary** | |
| --- | --- |
| boolean | [**equals**](http://docs.google.com/java/net/Inet4Address.html#equals(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) obj)            Compares this object against the specified object. |
| byte[] | [**getAddress**](http://docs.google.com/java/net/Inet4Address.html#getAddress())()            Returns the raw IP address of this InetAddress object. |
| [String](http://docs.google.com/java/lang/String.html) | [**getHostAddress**](http://docs.google.com/java/net/Inet4Address.html#getHostAddress())()            Returns the IP address string in textual presentation form. |
| int | [**hashCode**](http://docs.google.com/java/net/Inet4Address.html#hashCode())()            Returns a hashcode for this IP address. |
| boolean | [**isAnyLocalAddress**](http://docs.google.com/java/net/Inet4Address.html#isAnyLocalAddress())()            Utility routine to check if the InetAddress in a wildcard address. |
| boolean | [**isLinkLocalAddress**](http://docs.google.com/java/net/Inet4Address.html#isLinkLocalAddress())()            Utility routine to check if the InetAddress is an link local address. |
| boolean | [**isLoopbackAddress**](http://docs.google.com/java/net/Inet4Address.html#isLoopbackAddress())()            Utility routine to check if the InetAddress is a loopback address. |
| boolean | [**isMCGlobal**](http://docs.google.com/java/net/Inet4Address.html#isMCGlobal())()            Utility routine to check if the multicast address has global scope. |
| boolean | [**isMCLinkLocal**](http://docs.google.com/java/net/Inet4Address.html#isMCLinkLocal())()            Utility routine to check if the multicast address has link scope. |
| boolean | [**isMCNodeLocal**](http://docs.google.com/java/net/Inet4Address.html#isMCNodeLocal())()            Utility routine to check if the multicast address has node scope. |
| boolean | [**isMCOrgLocal**](http://docs.google.com/java/net/Inet4Address.html#isMCOrgLocal())()            Utility routine to check if the multicast address has organization scope. |
| boolean | [**isMCSiteLocal**](http://docs.google.com/java/net/Inet4Address.html#isMCSiteLocal())()            Utility routine to check if the multicast address has site scope. |
| boolean | [**isMulticastAddress**](http://docs.google.com/java/net/Inet4Address.html#isMulticastAddress())()            Utility routine to check if the InetAddress is an IP multicast address. |
| boolean | [**isSiteLocalAddress**](http://docs.google.com/java/net/Inet4Address.html#isSiteLocalAddress())()            Utility routine to check if the InetAddress is a site local address. |

| **Methods inherited from class java.net.**[**InetAddress**](http://docs.google.com/java/net/InetAddress.html) |
| --- |
| [getAllByName](http://docs.google.com/java/net/InetAddress.html#getAllByName(java.lang.String)), [getByAddress](http://docs.google.com/java/net/InetAddress.html#getByAddress(byte%5B%5D)), [getByAddress](http://docs.google.com/java/net/InetAddress.html#getByAddress(java.lang.String,%20byte%5B%5D)), [getByName](http://docs.google.com/java/net/InetAddress.html#getByName(java.lang.String)), [getCanonicalHostName](http://docs.google.com/java/net/InetAddress.html#getCanonicalHostName()), [getHostName](http://docs.google.com/java/net/InetAddress.html#getHostName()), [getLocalHost](http://docs.google.com/java/net/InetAddress.html#getLocalHost()), [isReachable](http://docs.google.com/java/net/InetAddress.html#isReachable(int)), [isReachable](http://docs.google.com/java/net/InetAddress.html#isReachable(java.net.NetworkInterface,%20int,%20int)), [toString](http://docs.google.com/java/net/InetAddress.html#toString()) |

| **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()), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [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)) |

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

### isMulticastAddress

public boolean **isMulticastAddress**()

Utility routine to check if the InetAddress is an IP multicast address. IP multicast address is a Class D address i.e first four bits of the address are 1110.

**Overrides:**[isMulticastAddress](http://docs.google.com/java/net/InetAddress.html#isMulticastAddress()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the InetAddress is an IP multicast address**Since:** JDK1.1

### isAnyLocalAddress

public boolean **isAnyLocalAddress**()

Utility routine to check if the InetAddress in a wildcard address.

**Overrides:**[isAnyLocalAddress](http://docs.google.com/java/net/InetAddress.html#isAnyLocalAddress()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the Inetaddress is a wildcard address.**Since:** 1.4

### isLoopbackAddress

public boolean **isLoopbackAddress**()

**Description copied from class:** [**InetAddress**](http://docs.google.com/java/net/InetAddress.html#isLoopbackAddress()) Utility routine to check if the InetAddress is a loopback address.

**Overrides:**[isLoopbackAddress](http://docs.google.com/java/net/InetAddress.html#isLoopbackAddress()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the InetAddress is a loopback address; or false otherwise.

### isLinkLocalAddress

public boolean **isLinkLocalAddress**()

Utility routine to check if the InetAddress is an link local address.

**Overrides:**[isLinkLocalAddress](http://docs.google.com/java/net/InetAddress.html#isLinkLocalAddress()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the InetAddress is a link local address; or false if address is not a link local unicast address.**Since:** 1.4

### isSiteLocalAddress

public boolean **isSiteLocalAddress**()

Utility routine to check if the InetAddress is a site local address.

**Overrides:**[isSiteLocalAddress](http://docs.google.com/java/net/InetAddress.html#isSiteLocalAddress()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the InetAddress is a site local address; or false if address is not a site local unicast address.**Since:** 1.4

### isMCGlobal

public boolean **isMCGlobal**()

Utility routine to check if the multicast address has global scope.

**Overrides:**[isMCGlobal](http://docs.google.com/java/net/InetAddress.html#isMCGlobal()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the address has is a multicast address of global scope, false if it is not of global scope or it is not a multicast address**Since:** 1.4

### isMCNodeLocal

public boolean **isMCNodeLocal**()

Utility routine to check if the multicast address has node scope.

**Overrides:**[isMCNodeLocal](http://docs.google.com/java/net/InetAddress.html#isMCNodeLocal()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the address has is a multicast address of node-local scope, false if it is not of node-local scope or it is not a multicast address**Since:** 1.4

### isMCLinkLocal

public boolean **isMCLinkLocal**()

Utility routine to check if the multicast address has link scope.

**Overrides:**[isMCLinkLocal](http://docs.google.com/java/net/InetAddress.html#isMCLinkLocal()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the address has is a multicast address of link-local scope, false if it is not of link-local scope or it is not a multicast address**Since:** 1.4

### isMCSiteLocal

public boolean **isMCSiteLocal**()

Utility routine to check if the multicast address has site scope.

**Overrides:**[isMCSiteLocal](http://docs.google.com/java/net/InetAddress.html#isMCSiteLocal()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the address has is a multicast address of site-local scope, false if it is not of site-local scope or it is not a multicast address**Since:** 1.4

### isMCOrgLocal

public boolean **isMCOrgLocal**()

Utility routine to check if the multicast address has organization scope.

**Overrides:**[isMCOrgLocal](http://docs.google.com/java/net/InetAddress.html#isMCOrgLocal()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a boolean indicating if the address has is a multicast address of organization-local scope, false if it is not of organization-local scope or it is not a multicast address**Since:** 1.4

### getAddress

public byte[] **getAddress**()

Returns the raw IP address of this InetAddress object. The result is in network byte order: the highest order byte of the address is in getAddress()[0].

**Overrides:**[getAddress](http://docs.google.com/java/net/InetAddress.html#getAddress()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**the raw IP address of this object.

### getHostAddress

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

Returns the IP address string in textual presentation form.

**Overrides:**[getHostAddress](http://docs.google.com/java/net/InetAddress.html#getHostAddress()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**the raw IP address in a string format.**Since:** JDK1.0.2

### hashCode

public int **hashCode**()

Returns a hashcode for this IP address.

**Overrides:**[hashCode](http://docs.google.com/java/net/InetAddress.html#hashCode()) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Returns:**a hash code value for this IP address.**See Also:**[Object.equals(java.lang.Object)](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### equals

public boolean **equals**([Object](http://docs.google.com/java/lang/Object.html) obj)

Compares this object against the specified object. The result is true if and only if the argument is not null and it represents the same IP address as this object.

Two instances of InetAddress represent the same IP address if the length of the byte arrays returned by getAddress is the same for both, and each of the array components is the same for the byte arrays.

**Overrides:**[equals](http://docs.google.com/java/net/InetAddress.html#equals(java.lang.Object)) in class [InetAddress](http://docs.google.com/java/net/InetAddress.html) **Parameters:**obj - the object to compare against. **Returns:**true if the objects are the same; false otherwise.**See Also:**[InetAddress.getAddress()](http://docs.google.com/java/net/InetAddress.html#getAddress())

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Inet4Address.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/IDN.html)   [**NEXT CLASS**](http://docs.google.com/java/net/Inet6Address.html) | [**FRAMES**](http://docs.google.com/index.html?java/net/Inet4Address.html)    [**NO FRAMES**](http://docs.google.com/Inet4Address.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#2et92p0) | DETAIL: FIELD | CONSTR | [METHOD](#1t3h5sf) |

[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.

Copyright 2006 Sun Microsystems, Inc. All rights reserved. Use is subject to [license terms](http://docs.google.com/legal/license.html). Also see the [documentation redistribution policy](http://java.sun.com/docs/redist.html).