| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Reference.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/lang/ref/PhantomReference.html)   [**NEXT CLASS**](http://docs.google.com/java/lang/ref/ReferenceQueue.html) | [**FRAMES**](http://docs.google.com/index.html?java/lang/ref/Reference.html)    [**NO FRAMES**](http://docs.google.com/Reference.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#tyjcwt) |

## **java.lang.ref**

Class Reference<T>

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **java.lang.ref.Reference<T>**

**Direct Known Subclasses:** [PhantomReference](http://docs.google.com/java/lang/ref/PhantomReference.html), [SoftReference](http://docs.google.com/java/lang/ref/SoftReference.html), [WeakReference](http://docs.google.com/java/lang/ref/WeakReference.html)

public abstract class **Reference<T>**extends [Object](http://docs.google.com/java/lang/Object.html)

Abstract base class for reference objects. This class defines the operations common to all reference objects. Because reference objects are implemented in close cooperation with the garbage collector, this class may not be subclassed directly.

**Since:** 1.2

| **Method Summary** | |
| --- | --- |
| void | [**clear**](http://docs.google.com/java/lang/ref/Reference.html#clear())()            Clears this reference object. |
| boolean | [**enqueue**](http://docs.google.com/java/lang/ref/Reference.html#enqueue())()            Adds this reference object to the queue with which it is registered, if any. |
| [T](http://docs.google.com/java/lang/ref/Reference.html) | [**get**](http://docs.google.com/java/lang/ref/Reference.html#get())()            Returns this reference object's referent. |
| boolean | [**isEnqueued**](http://docs.google.com/java/lang/ref/Reference.html#isEnqueued())()            Tells whether or not this reference object has been enqueued, either by the program or by the garbage collector. |

| **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)) |

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

### get

public [T](http://docs.google.com/java/lang/ref/Reference.html) **get**()

Returns this reference object's referent. If this reference object has been cleared, either by the program or by the garbage collector, then this method returns null.

**Returns:**The object to which this reference refers, or null if this reference object has been cleared

### clear

public void **clear**()

Clears this reference object. Invoking this method will not cause this object to be enqueued.

This method is invoked only by Java code; when the garbage collector clears references it does so directly, without invoking this method.

### isEnqueued

public boolean **isEnqueued**()

Tells whether or not this reference object has been enqueued, either by the program or by the garbage collector. If this reference object was not registered with a queue when it was created, then this method will always return false.

**Returns:**true if and only if this reference object has been enqueued

### enqueue

public boolean **enqueue**()

Adds this reference object to the queue with which it is registered, if any.

This method is invoked only by Java code; when the garbage collector enqueues references it does so directly, without invoking this method.

**Returns:**true if this reference object was successfully enqueued; false if it was already enqueued or if it was not registered with a queue when it was created

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/Reference.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/lang/ref/PhantomReference.html)   [**NEXT CLASS**](http://docs.google.com/java/lang/ref/ReferenceQueue.html) | [**FRAMES**](http://docs.google.com/index.html?java/lang/ref/Reference.html)    [**NO FRAMES**](http://docs.google.com/Reference.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#tyjcwt) |

[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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