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org.apache.commons.collections4.list

## Class AbstractLinkedList.LinkedListIterator<E>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.list.AbstractLinkedList.LinkedListIterator<E>
* All Implemented Interfaces: [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<E>, [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<E>, [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html)<E> Direct Known Subclasses: [AbstractLinkedList.LinkedSubListIterator](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedSubListIterator.html), [CursorableLinkedList.Cursor](http://docs.google.com/org/apache/commons/collections4/list/CursorableLinkedList.Cursor.html) Enclosing class: [AbstractLinkedList](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.html)>  
    
  protected static class AbstractLinkedList.LinkedListIterator<E>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<E>, [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html)<E>  
  A list iterator over the linked list.

### Field SummaryFields

|  |  |
| --- | --- |
| * + Modifier and Type | * + Field and Description |
| * + protected [AbstractLinkedList.Node](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.Node.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> | * + [current](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#current) The last node that was returned by [next()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next--) or [previous()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#previous--). |
| * + protected int | * + [expectedModCount](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#expectedModCount) The modification count that the list is expected to have. |
| * + protected [AbstractLinkedList.Node](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.Node.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> | * + [next](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next) The node that will be returned by [next()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next--). |
| * + protected int | * + [nextIndex](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#nextIndex) The index of [next](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next). |
| * + protected [AbstractLinkedList](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> | * + [parent](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#parent) The parent list |

### Constructor SummaryConstructors

|  |  |
| --- | --- |
| * + Modifier | * + Constructor and Description |
| * + protected | * + [LinkedListIterator](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#LinkedListIterator-org.apache.commons.collections4.list.AbstractLinkedList-int-)([AbstractLinkedList](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> parent, int fromIndex) Create a ListIterator for a list. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + void | * + [add](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#add-E-)([E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) obj) |
| * + protected void | * + [checkModCount](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#checkModCount--)() Checks the modification count of the list is the value that this object expects. |
| * + protected [AbstractLinkedList.Node](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.Node.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> | * + [getLastNodeReturned](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#getLastNodeReturned--)() Gets the last node returned. |
| * + boolean | * + [hasNext](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#hasNext--)() |
| * + boolean | * + [hasPrevious](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#hasPrevious--)() Checks to see if there is a previous element that can be iterated to. |
| * + [E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) | * + [next](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next--)() |
| * + int | * + [nextIndex](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#nextIndex--)() |
| * + [E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) | * + [previous](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#previous--)() Gets the previous element from the container. |
| * + int | * + [previousIndex](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#previousIndex--)() |
| * + void | * + [remove](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#remove--)() |
| * + void | * + [set](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#set-E-)([E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) obj) |

### Methods inherited from class java.lang.[**Object**](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[clone](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#clone--), [equals](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#equals-java.lang.Object-), [finalize](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#finalize--), [getClass](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#getClass--), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#hashCode--), [notify](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notify--), [notifyAll](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notifyAll--), [toString](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#toString--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-int-)

### Methods inherited from interface java.util.[**Iterator**](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)[forEachRemaining](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true#forEachRemaining-java.util.function.Consumer-)

### Field Detail

#### parent protected final [AbstractLinkedList](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> parent The parent list

#### next protected [AbstractLinkedList.Node](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.Node.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> next The node that will be returned by [next()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next--). If this is equal to [AbstractLinkedList.header](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.html#header) then there are no more values to return.

#### nextIndex protected int nextIndex The index of [next](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next).

#### current protected [AbstractLinkedList.Node](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.Node.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> current The last node that was returned by [next()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next--) or [previous()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#previous--). Set to null if [next()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next--) or [previous()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#previous--) haven't been called, or if the node has been removed with [remove()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#remove--) or a new node added with [add(Object)](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#add-E-). Should be accessed through [getLastNodeReturned()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#getLastNodeReturned--) to enforce this behaviour.

#### expectedModCount protected int expectedModCount The modification count that the list is expected to have. If the list doesn't have this count, then a [ConcurrentModificationException](https://docs.oracle.com/javase/7/docs/api/java/util/ConcurrentModificationException.html?is-external=true) may be thrown by the operations.

### Constructor Detail

#### LinkedListIterator protected LinkedListIterator([AbstractLinkedList](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> parent, int fromIndex) throws [IndexOutOfBoundsException](https://docs.oracle.com/javase/7/docs/api/java/lang/IndexOutOfBoundsException.html?is-external=true) Create a ListIterator for a list.Parameters: parent - the parent list fromIndex - the index to start at Throws: [IndexOutOfBoundsException](https://docs.oracle.com/javase/7/docs/api/java/lang/IndexOutOfBoundsException.html?is-external=true) - if fromIndex is less than 0 or greater than the size of the list

### Method Detail

#### checkModCount protected void checkModCount() Checks the modification count of the list is the value that this object expects.Throws: [ConcurrentModificationException](https://docs.oracle.com/javase/7/docs/api/java/util/ConcurrentModificationException.html?is-external=true) - If the list's modification count isn't the value that was expected.

#### getLastNodeReturned protected [AbstractLinkedList.Node](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.Node.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> getLastNodeReturned() throws [IllegalStateException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalStateException.html?is-external=true) Gets the last node returned.Returns: the last node returned Throws: [IllegalStateException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalStateException.html?is-external=true) - If [next()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#next--) or [previous()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#previous--) haven't been called, or if the node has been removed with [remove()](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#remove--) or a new node added with [add(Object)](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html#add-E-).

#### hasNext public boolean hasNext()Specified by: [hasNext](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true#hasNext--) in interface [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> Specified by: [hasNext](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#hasNext--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)>

#### next public [E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) next()Specified by: [next](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true#next--) in interface [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> Specified by: [next](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#next--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)>

#### hasPrevious public boolean hasPrevious() Description copied from interface: [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html#hasPrevious--) Checks to see if there is a previous element that can be iterated to.Specified by: [hasPrevious](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#hasPrevious--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> Specified by: [hasPrevious](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html#hasPrevious--) in interface [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> Returns: true if the iterator has a previous element

#### previous public [E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) previous() Description copied from interface: [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html#previous--) Gets the previous element from the container.Specified by: [previous](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#previous--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> Specified by: [previous](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html#previous--) in interface [OrderedIterator](http://docs.google.com/org/apache/commons/collections4/OrderedIterator.html)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> Returns: the previous element in the iteration

#### nextIndex public int nextIndex()Specified by: [nextIndex](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#nextIndex--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)>

#### previousIndex public int previousIndex()Specified by: [previousIndex](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#previousIndex--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)>

#### remove public void remove()Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true#remove--) in interface [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)> Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#remove--) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)>

#### set public void set([E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) obj)Specified by: [set](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#set-E-) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)>

#### add public void add([E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html) obj)Specified by: [add](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#add-E-) in interface [ListIterator](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true)<[E](http://docs.google.com/org/apache/commons/collections4/list/AbstractLinkedList.LinkedListIterator.html)>

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