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org.apache.commons.collections4.bidimap

## Class DualLinkedHashBidiMap<K,V>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + [org.apache.commons.collections4.bidimap.AbstractDualBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)<K,V>
    - org.apache.commons.collections4.bidimap.DualLinkedHashBidiMap<K,V>
* Type Parameters: K - the type of the keys in the map V - the type of the values in the map All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V>, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<K,V>, [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<K,V>, [IterableGet](http://docs.google.com/org/apache/commons/collections4/IterableGet.html)<K,V>, [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V>, [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<K,V>  
    
  public class DualLinkedHashBidiMap<K,V>  
  extends [AbstractDualBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)<K,V>  
  implements [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true)  
  Implementation of BidiMap that uses two LinkedHashMap instances.  
  Two LinkedHashMap instances are used in this class. This provides fast lookups at the expense of storing two sets of map entries and two linked lists.Since: 4.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.bidimap.DualLinkedHashBidiMap)

### Nested Class Summary

### Nested classes/interfaces inherited from class org.apache.commons.collections4.bidimap.[**AbstractDualBidiMap**](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)[AbstractDualBidiMap.BidiMapIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.BidiMapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.BidiMapIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.BidiMapIterator.html)>, [AbstractDualBidiMap.EntrySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySet.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySet.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySet.html)>, [AbstractDualBidiMap.EntrySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySetIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySetIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySetIterator.html)>, [AbstractDualBidiMap.KeySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySet.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySet.html)>, [AbstractDualBidiMap.KeySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySetIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySetIterator.html)>, [AbstractDualBidiMap.MapEntry](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.MapEntry.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.MapEntry.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.MapEntry.html)>, [AbstractDualBidiMap.Values](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.Values.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.Values.html)>, [AbstractDualBidiMap.ValuesIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.ValuesIterator.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.ValuesIterator.html)>, [AbstractDualBidiMap.View](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html),[E](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html)>

### Nested classes/interfaces inherited from interface java.util.[**Map**](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true),[V](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)>

### Constructor SummaryConstructors

|  |  |
| --- | --- |
| * + Modifier | * + Constructor and Description |
|  | * + [DualLinkedHashBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html#DualLinkedHashBidiMap--)() Creates an empty HashBidiMap. |
|  | * + [DualLinkedHashBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html#DualLinkedHashBidiMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? extends [K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> map) Constructs a LinkedHashBidiMap and copies the mappings from specified Map. |
| * + protected | * + [DualLinkedHashBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html#DualLinkedHashBidiMap-java.util.Map-java.util.Map-org.apache.commons.collections4.BidiMap-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> inverseBidiMap) Constructs a LinkedHashBidiMap that decorates the specified maps. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + protected [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> | * + [createBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html#createBidiMap-java.util.Map-java.util.Map-org.apache.commons.collections4.BidiMap-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> inverseBidiMap) Creates a new instance of this object. |

### Methods inherited from class org.apache.commons.collections4.bidimap.[**AbstractDualBidiMap**](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)[clear](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#clear--), [containsKey](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#containsKey-java.lang.Object-), [containsValue](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#containsValue-java.lang.Object-), [createEntrySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createEntrySetIterator-java.util.Iterator-), [createKeySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createKeySetIterator-java.util.Iterator-), [createValuesIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createValuesIterator-java.util.Iterator-), [entrySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#entrySet--), [equals](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#equals-java.lang.Object-), [get](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#get-java.lang.Object-), [getKey](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#getKey-java.lang.Object-), [hashCode](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#hashCode--), [inverseBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#inverseBidiMap--), [isEmpty](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#isEmpty--), [keySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#keySet--), [mapIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#mapIterator--), [put](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#put-K-V-), [putAll](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#putAll-java.util.Map-), [remove](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#remove-java.lang.Object-), [removeValue](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#removeValue-java.lang.Object-), [size](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#size--), [toString](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#toString--), [values](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#values--)

### 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--), [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--), [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--), [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.[**Map**](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)[compute](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#compute-K-java.util.function.BiFunction-), [computeIfAbsent](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#computeIfAbsent-K-java.util.function.Function-), [computeIfPresent](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#computeIfPresent-K-java.util.function.BiFunction-), [forEach](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#forEach-java.util.function.BiConsumer-), [getOrDefault](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#getOrDefault-java.lang.Object-V-), [merge](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#merge-K-V-java.util.function.BiFunction-), [putIfAbsent](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#putIfAbsent-K-V-), [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#remove-java.lang.Object-java.lang.Object-), [replace](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#replace-K-V-), [replace](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#replace-K-V-V-), [replaceAll](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#replaceAll-java.util.function.BiFunction-)

### Constructor Detail

#### DualLinkedHashBidiMap public DualLinkedHashBidiMap() Creates an empty HashBidiMap.

#### DualLinkedHashBidiMap public DualLinkedHashBidiMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? extends [K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> map) Constructs a LinkedHashBidiMap and copies the mappings from specified Map.Parameters: map - the map whose mappings are to be placed in this map

#### DualLinkedHashBidiMap protected DualLinkedHashBidiMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> inverseBidiMap) Constructs a LinkedHashBidiMap that decorates the specified maps.Parameters: normalMap - the normal direction map reverseMap - the reverse direction map inverseBidiMap - the inverse BidiMap

### Method Detail

#### createBidiMap protected [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> createBidiMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> inverseBidiMap) Creates a new instance of this object.Specified by: [createBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createBidiMap-java.util.Map-java.util.Map-org.apache.commons.collections4.BidiMap-) in class [AbstractDualBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html)> Parameters: normalMap - the normal direction map reverseMap - the reverse direction map inverseBidiMap - the inverse BidiMap Returns: new bidi map

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