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org.apache.commons.collections4

## Interface MultiMap<K,V>

* Type Parameters: K - the type of the keys in this map V - the type of the values in this map All Superinterfaces: [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)>, [IterableGet](http://docs.google.com/org/apache/commons/collections4/IterableGet.html)<K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)>, [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)>, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)>, [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> All Known Implementing Classes: [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)  
  Deprecated.   
  since 4.1, use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instead  
    
  [@Deprecated](https://docs.oracle.com/javase/7/docs/api/java/lang/Deprecated.html?is-external=true)  
  public interface MultiMap<K,V>  
  extends [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)>  
  Defines a map that holds a collection of values against each key.  
  A MultiMap is a Map with slightly different semantics. Putting a value into the map will add the value to a Collection at that key. Getting a value will return a Collection, holding all the values put to that key.  
  For example:  
   MultiMap mhm = new MultiValueMap();  
   mhm.put(key, "A");  
   mhm.put(key, "B");  
   mhm.put(key, "C");  
   Collection coll = (Collection) mhm.get(key);  
  coll will be a collection containing "A", "B", "C".  
  NOTE: Additional methods were added to this interface in Commons Collections 3.1. These were added solely for documentation purposes and do not change the interface as they were defined in the superinterface Map anyway.Since: 2.0

### Nested Class Summary

### 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)>

### Method SummaryAll Methods Instance Methods Abstract Methods Deprecated Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + boolean | * + [containsValue](http://docs.google.com/org/apache/commons/collections4/MultiMap.html#containsValue-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Deprecated.  Checks whether the map contains the value specified. |
| * + [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) | * + [get](http://docs.google.com/org/apache/commons/collections4/MultiMap.html#get-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Deprecated.  Gets the collection of values associated with the specified key. |
| * + [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) | * + [put](http://docs.google.com/org/apache/commons/collections4/MultiMap.html#put-K-java.lang.Object-)([K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html) key, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Deprecated.  Adds the value to the collection associated with the specified key. |
| * + [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) | * + [remove](http://docs.google.com/org/apache/commons/collections4/MultiMap.html#remove-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Deprecated.  Removes all values associated with the specified key. |
| * + boolean | * + [removeMapping](http://docs.google.com/org/apache/commons/collections4/MultiMap.html#removeMapping-K-V-)([K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html) key, [V](http://docs.google.com/org/apache/commons/collections4/MultiMap.html) item) Deprecated.  Removes a specific value from map. |
| * + int | * + [size](http://docs.google.com/org/apache/commons/collections4/MultiMap.html#size--)() Deprecated.  Gets the number of keys in this map. |
| * + [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> | * + [values](http://docs.google.com/org/apache/commons/collections4/MultiMap.html#values--)() Deprecated.  Gets a collection containing all the values in the map. |

### Methods inherited from interface java.util.[**Map**](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)[clear](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#clear--), [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-), [containsKey](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsKey-java.lang.Object-), [entrySet](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#entrySet--), [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#equals-java.lang.Object-), [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-), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#hashCode--), [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#isEmpty--), [keySet](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#keySet--), [merge](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#merge-K-V-java.util.function.BiFunction-), [putAll](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#putAll-java.util.Map-), [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-)

### Methods inherited from interface org.apache.commons.collections4.[**Put**](http://docs.google.com/org/apache/commons/collections4/Put.html)[clear](http://docs.google.com/org/apache/commons/collections4/Put.html#clear--), [putAll](http://docs.google.com/org/apache/commons/collections4/Put.html#putAll-java.util.Map-)

### Methods inherited from interface org.apache.commons.collections4.[**IterableGet**](http://docs.google.com/org/apache/commons/collections4/IterableGet.html)[mapIterator](http://docs.google.com/org/apache/commons/collections4/IterableGet.html#mapIterator--)

### Methods inherited from interface org.apache.commons.collections4.[**Get**](http://docs.google.com/org/apache/commons/collections4/Get.html)[containsKey](http://docs.google.com/org/apache/commons/collections4/Get.html#containsKey-java.lang.Object-), [entrySet](http://docs.google.com/org/apache/commons/collections4/Get.html#entrySet--), [isEmpty](http://docs.google.com/org/apache/commons/collections4/Get.html#isEmpty--), [keySet](http://docs.google.com/org/apache/commons/collections4/Get.html#keySet--)

### Method Detail

#### removeMapping boolean removeMapping([K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html) key, [V](http://docs.google.com/org/apache/commons/collections4/MultiMap.html) item) Deprecated.  Removes a specific value from map. The item is removed from the collection mapped to the specified key. Other values attached to that key are unaffected. If the last value for a key is removed, implementations typically return null from a subsequent get(Object), however they may choose to return an empty collection.Parameters: key - the key to remove from item - the item to remove Returns: true if the mapping was removed, false otherwise Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the map is unmodifiable [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the key or value is of an invalid type [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the key or value is null and null is invalid Since: 4.0 (signature in previous releases: V remove(K, V))

#### size int size() Deprecated.  Gets the number of keys in this map. Implementations typically return only the count of keys in the map This cannot be mandated due to backwards compatibility of this interface.Specified by: [size](http://docs.google.com/org/apache/commons/collections4/Get.html#size--) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Specified by: [size](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#size--) in interface [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/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Returns: the number of key-collection mappings in this map See Also: [Map.size()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#size--)

#### get [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) get([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Deprecated.  Gets the collection of values associated with the specified key. The returned value will implement Collection. Implementations are free to declare that they return Collection subclasses such as List or Set. Implementations typically return null if no values have been mapped to the key, however the implementation may choose to return an empty collection. Implementations may choose to return a clone of the internal collection.Specified by: [get](http://docs.google.com/org/apache/commons/collections4/Get.html#get-java.lang.Object-) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Specified by: [get](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-) in interface [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/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Parameters: key - the key to retrieve Returns: the Collection of values, implementations should return null for no mapping, but may return an empty collection Throws: [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the key is of an invalid type [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the key is null and null keys are invalid See Also: [Map.get(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-)

#### containsValue boolean containsValue([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Deprecated.  Checks whether the map contains the value specified. Implementations typically check all collections against all keys for the value. This cannot be mandated due to backwards compatibility of this interface.Specified by: [containsValue](http://docs.google.com/org/apache/commons/collections4/Get.html#containsValue-java.lang.Object-) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Specified by: [containsValue](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsValue-java.lang.Object-) in interface [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/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Parameters: value - the value to search for Returns: true if the map contains the value Throws: [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the value is of an invalid type [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the value is null and null value are invalid See Also: [Map.containsValue(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsValue-java.lang.Object-)

#### put [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) put([K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html) key, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Deprecated.  Adds the value to the collection associated with the specified key. Unlike a normal Map the previous value is not replaced. Instead the new value is added to the collection stored against the key. The collection may be a List, Set or other collection dependent on implementation.Specified by: [put](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#put-K-V-) in interface [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/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Specified by: [put](http://docs.google.com/org/apache/commons/collections4/Put.html#put-K-V-) in interface [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<[K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Parameters: key - the key to store against value - the value to add to the collection at the key Returns: typically the value added if the map changed and null if the map did not change Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the map is unmodifiable [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the key or value is of an invalid type [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the key or value is null and null is invalid [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the key or value is invalid See Also: [Map.put(Object, Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#put-K-V-)

#### remove [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) remove([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Deprecated.  Removes all values associated with the specified key. Implementations typically return null from a subsequent get(Object), however they may choose to return an empty collection.Specified by: [remove](http://docs.google.com/org/apache/commons/collections4/Get.html#remove-java.lang.Object-) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#remove-java.lang.Object-) in interface [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/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Parameters: key - the key to remove values from Returns: the Collection of values removed, implementations should return null for no mapping found, but may return an empty collection Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the map is unmodifiable [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the key is of an invalid type [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the key is null and null keys are invalid See Also: [Map.remove(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#remove-java.lang.Object-)

#### values [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> values() Deprecated.  Gets a collection containing all the values in the map. Implementations typically return a collection containing the combination of values from all keys. This cannot be mandated due to backwards compatibility of this interface.Specified by: [values](http://docs.google.com/org/apache/commons/collections4/Get.html#values--) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Specified by: [values](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#values--) in interface [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/MultiMap.html),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> Returns: a collection view of the values contained in this map See Also: [Map.values()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#values--)

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