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org.apache.commons.collections4

## Class MultiMapUtils

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.MultiMapUtils
* public class MultiMapUtils  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
* Provides utility methods and decorators for [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instances.  
  It contains various type safe and null safe methods. Additionally, it provides the following decorators:
  + [unmodifiableMultiValuedMap(MultiValuedMap)](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#unmodifiableMultiValuedMap-org.apache.commons.collections4.MultiValuedMap-)
  + [transformedMultiValuedMap(MultiValuedMap, Transformer, Transformer)](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#transformedMultiValuedMap-org.apache.commons.collections4.MultiValuedMap-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)

Since: 4.1

### Field SummaryFields

|  |  |
| --- | --- |
| * + Modifier and Type | * + Field and Description |
| * + static [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) | * + [EMPTY\_MULTI\_VALUED\_MAP](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#EMPTY_MULTI_VALUED_MAP) An empty [UnmodifiableMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html). |

### Method SummaryAll Methods Static Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + [emptyIfNull](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#emptyIfNull-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map) Returns an immutable empty MultiValuedMap if the argument is null, or the argument itself otherwise. |
| * + static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + [emptyMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#emptyMultiValuedMap--)() Returns immutable EMPTY\_MULTI\_VALUED\_MAP with generic type safety. |
| * + static <K,V> [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V> | * + [getCollection](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#getCollection-org.apache.commons.collections4.MultiValuedMap-K-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a Collection from MultiValuedMap in a null-safe manner. |
| * + static <K,V> [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<V> | * + [getValuesAsBag](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#getValuesAsBag-org.apache.commons.collections4.MultiValuedMap-K-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a Bag from MultiValuedMap in a null-safe manner. |
| * + static <K,V> [List](https://docs.oracle.com/javase/7/docs/api/java/util/List.html?is-external=true)<V> | * + [getValuesAsList](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#getValuesAsList-org.apache.commons.collections4.MultiValuedMap-K-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a List from MultiValuedMap in a null-safe manner. |
| * + static <K,V> [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<V> | * + [getValuesAsSet](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#getValuesAsSet-org.apache.commons.collections4.MultiValuedMap-K-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a Set from MultiValuedMap in a null-safe manner. |
| * + static boolean | * + [isEmpty](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#isEmpty-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<?,?> map) Null-safe check if the specified MultiValuedMap is empty. |
| * + static <K,V> [ListValuedMap](http://docs.google.com/org/apache/commons/collections4/ListValuedMap.html)<K,V> | * + [newListValuedHashMap](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#newListValuedHashMap--)() Creates a [ListValuedMap](http://docs.google.com/org/apache/commons/collections4/ListValuedMap.html) with an [ArrayList](https://docs.oracle.com/javase/7/docs/api/java/util/ArrayList.html?is-external=true) as collection class to store the values mapped to a key. |
| * + static <K,V> [SetValuedMap](http://docs.google.com/org/apache/commons/collections4/SetValuedMap.html)<K,V> | * + [newSetValuedHashMap](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#newSetValuedHashMap--)() Creates a [SetValuedMap](http://docs.google.com/org/apache/commons/collections4/SetValuedMap.html) with an [HashSet](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html?is-external=true) as collection class to store the values mapped to a key. |
| * + static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + [transformedMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#transformedMultiValuedMap-org.apache.commons.collections4.MultiValuedMap-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super V,? extends V> valueTransformer) Returns a TransformedMultiValuedMap backed by the given map. |
| * + static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + [unmodifiableMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiMapUtils.html#unmodifiableMultiValuedMap-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends K,? extends V> map) Returns an UnmodifiableMultiValuedMap backed by the given map. |

### 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-)

### Field Detail

#### EMPTY\_MULTI\_VALUED\_MAP public static final [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) EMPTY\_MULTI\_VALUED\_MAP An empty [UnmodifiableMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html).

### Method Detail

#### emptyMultiValuedMap public static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> emptyMultiValuedMap() Returns immutable EMPTY\_MULTI\_VALUED\_MAP with generic type safety.Type Parameters: K - the type of key in the map V - the type of value in the map Returns: immutable and empty MultiValuedMap

#### emptyIfNull public static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> emptyIfNull([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map) Returns an immutable empty MultiValuedMap if the argument is null, or the argument itself otherwise.Type Parameters: K - the type of key in the map V - the type of value in the map Parameters: map - the map, may be null Returns: an empty [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) if the argument is null

#### isEmpty public static boolean isEmpty([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<?,?> map) Null-safe check if the specified MultiValuedMap is empty. If the provided map is null, returns true.Parameters: map - the map to check, may be null Returns: true if the map is empty or null

#### getCollection public static <K,V> [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V> getCollection([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a Collection from MultiValuedMap in a null-safe manner.Type Parameters: K - the key type V - the value type Parameters: map - the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) to use key - the key to look up Returns: the Collection in the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html), or null if input map is null

#### getValuesAsList public static <K,V> [List](https://docs.oracle.com/javase/7/docs/api/java/util/List.html?is-external=true)<V> getValuesAsList([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a List from MultiValuedMap in a null-safe manner.Type Parameters: K - the key type V - the value type Parameters: map - the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) to use key - the key to look up Returns: the Collection in the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) as List, or null if input map is null

#### getValuesAsSet public static <K,V> [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<V> getValuesAsSet([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a Set from MultiValuedMap in a null-safe manner.Type Parameters: K - the key type V - the value type Parameters: map - the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) to use key - the key to look up Returns: the Collection in the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) as Set, or null if input map is null

#### getValuesAsBag public static <K,V> [Bag](http://docs.google.com/org/apache/commons/collections4/Bag.html)<V> getValuesAsBag([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, K key) Gets a Bag from MultiValuedMap in a null-safe manner.Type Parameters: K - the key type V - the value type Parameters: map - the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) to use key - the key to look up Returns: the Collection in the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) as Bag, or null if input map is null

#### newListValuedHashMap public static <K,V> [ListValuedMap](http://docs.google.com/org/apache/commons/collections4/ListValuedMap.html)<K,V> newListValuedHashMap() Creates a [ListValuedMap](http://docs.google.com/org/apache/commons/collections4/ListValuedMap.html) with an [ArrayList](https://docs.oracle.com/javase/7/docs/api/java/util/ArrayList.html?is-external=true) as collection class to store the values mapped to a key.Type Parameters: K - the key type V - the value type Returns: a new ListValuedMap

#### newSetValuedHashMap public static <K,V> [SetValuedMap](http://docs.google.com/org/apache/commons/collections4/SetValuedMap.html)<K,V> newSetValuedHashMap() Creates a [SetValuedMap](http://docs.google.com/org/apache/commons/collections4/SetValuedMap.html) with an [HashSet](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html?is-external=true) as collection class to store the values mapped to a key.Type Parameters: K - the key type V - the value type Returns: a new [SetValuedMap](http://docs.google.com/org/apache/commons/collections4/SetValuedMap.html)

#### unmodifiableMultiValuedMap public static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> unmodifiableMultiValuedMap([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends K,? extends V> map) Returns an UnmodifiableMultiValuedMap backed by the given map.Type Parameters: K - the key type V - the value type Parameters: map - the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) to decorate, must not be null Returns: an unmodifiable [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) backed by the provided map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if map is null

#### transformedMultiValuedMap public static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> transformedMultiValuedMap([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super V,? extends V> valueTransformer) Returns a TransformedMultiValuedMap backed by the given map. This method returns a new MultiValuedMap (decorating the specified map) that will transform any new entries added to it. Existing entries in the specified map will not be transformed. If you want that behaviour, see [TransformedMultiValuedMap.transformedMap(org.apache.commons.collections4.MultiValuedMap<K, V>, org.apache.commons.collections4.Transformer<? super K, ? extends K>, org.apache.commons.collections4.Transformer<? super V, ? extends V>)](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html#transformedMap-org.apache.commons.collections4.MultiValuedMap-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-). Each object is passed through the transformers as it is added to the Map. It is important not to use the original map after invoking this method, as it is a back door for adding untransformed objects. If there are any elements already in the map being decorated, they are NOT transformed.Type Parameters: K - the key type V - the value type Parameters: map - the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) to transform, must not be null, typically empty keyTransformer - the transformer for the map keys, null means no transformation valueTransformer - the transformer for the map values, null means no transformation Returns: a transformed MultiValuedMap backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if map is null

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