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* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* [Class](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)
* Use
* [Tree](http://docs.google.com/overview-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-all.html)
* [Help](http://docs.google.com/help-doc.html)
* Prev
* Next
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/class-use/MultiValuedMap.html)
* [No Frames](http://docs.google.com/MultiValuedMap.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)

Uses of Interface

org.apache.commons.collections4.MultiValuedMap

* Packages that use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

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| --- | --- |
| * Package | * Description |
| * [org.apache.commons.collections4](#3znysh7) | * This package contains the interfaces and utilities shared across all the subpackages of this component. |
| * [org.apache.commons.collections4.multimap](#2et92p0) | * This package contains implementations of the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) interfaces. |

### Uses of [**MultiValuedMap**](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) in [**org.apache.commons.collections4**](http://docs.google.com/org/apache/commons/collections4/package-summary.html)Subinterfaces of [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) in [org.apache.commons.collections4](http://docs.google.com/org/apache/commons/collections4/package-summary.html)

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| --- | --- |
| * + Modifier and Type | * + Interface and Description |
| * + interface | * + [ListValuedMap](http://docs.google.com/org/apache/commons/collections4/ListValuedMap.html)<K,V> Defines a map that holds a list of values against each key. |
| * + interface | * + [SetValuedMap](http://docs.google.com/org/apache/commons/collections4/SetValuedMap.html)<K,V> Defines a map that holds a set of values against each key. |

* + Fields in [org.apache.commons.collections4](http://docs.google.com/org/apache/commons/collections4/package-summary.html) declared as [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

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| * + Modifier and Type | * + Field and Description |
| * + static [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) | * + MultiMapUtils.[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). |

* + Methods in [org.apache.commons.collections4](http://docs.google.com/org/apache/commons/collections4/package-summary.html) that return [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + MultiMapUtils.[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> | * + MultiMapUtils.[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> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + MultiMapUtils.[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> | * + MultiMapUtils.[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 in [org.apache.commons.collections4](http://docs.google.com/org/apache/commons/collections4/package-summary.html) with parameters of type [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

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| * + Modifier and Type | * + Method and Description |
| * + static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + MultiMapUtils.[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> [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V> | * + MultiMapUtils.[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> | * + MultiMapUtils.[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> | * + MultiMapUtils.[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> | * + MultiMapUtils.[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 | * + MultiMapUtils.[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. |
| * + boolean | * + MultiValuedMap.[putAll](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#putAll-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends [K](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)> map) Copies all mappings from the specified map to this multi-valued map (optional operation). |
| * + static <K,V> [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V> | * + MultiMapUtils.[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> | * + MultiMapUtils.[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. |

### Uses of [**MultiValuedMap**](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) in [**org.apache.commons.collections4.multimap**](http://docs.google.com/org/apache/commons/collections4/multimap/package-summary.html)Classes in [org.apache.commons.collections4.multimap](http://docs.google.com/org/apache/commons/collections4/multimap/package-summary.html) that implement [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

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| * + Modifier and Type | * + Class and Description |
| * + class | * + [AbstractListValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html)<K,V> Abstract implementation of the [ListValuedMap](http://docs.google.com/org/apache/commons/collections4/ListValuedMap.html) interface to simplify the creation of subclass implementations. |
| * + class | * + [AbstractMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html)<K,V> Abstract implementation of the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) interface to simplify the creation of subclass implementations. |
| * + class | * + [AbstractMultiValuedMapDecorator](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html)<K,V> Decorates another MultiValuedMap to provide additional behaviour. |
| * + class | * + [AbstractSetValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractSetValuedMap.html)<K,V> Abstract implementation of the [SetValuedMap](http://docs.google.com/org/apache/commons/collections4/SetValuedMap.html) interface to simplify the creation of subclass implementations. |
| * + class | * + [ArrayListValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html)<K,V> Implements a ListValuedMap, using a [HashMap](https://docs.oracle.com/javase/7/docs/api/java/util/HashMap.html?is-external=true) to provide data storage and [ArrayList](https://docs.oracle.com/javase/7/docs/api/java/util/ArrayList.html?is-external=true)s as value collections. |
| * + class | * + [HashSetValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/HashSetValuedHashMap.html)<K,V> Implements a SetValuedMap, using a [HashMap](https://docs.oracle.com/javase/7/docs/api/java/util/HashMap.html?is-external=true) to provide data storage and [HashSet](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html?is-external=true)s as value collections. |
| * + class | * + [TransformedMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)<K,V> Decorates another MultiValuedMap to transform objects that are added. |
| * + class | * + [UnmodifiableMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html)<K,V> Decorates another [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) to ensure it can't be altered. |

* + Methods in [org.apache.commons.collections4.multimap](http://docs.google.com/org/apache/commons/collections4/multimap/package-summary.html) that return [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

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| * + Modifier and Type | * + Method and Description |
| * + protected [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html)> | * + AbstractMultiValuedMapDecorator.[decorated](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html#decorated--)() The decorated multi-valued map. |

* + Methods in [org.apache.commons.collections4.multimap](http://docs.google.com/org/apache/commons/collections4/multimap/package-summary.html) with parameters of type [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

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| * + Modifier and Type | * + Method and Description |
| * + boolean | * + AbstractMultiValuedMap.[putAll](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#putAll-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends [K](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html)> map) Copies all of the mappings from the specified MultiValuedMap to this map. |
| * + boolean | * + AbstractMultiValuedMapDecorator.[putAll](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html#putAll-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends [K](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html)> map) |
| * + boolean | * + TransformedMultiValuedMap.[putAll](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html#putAll-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends [K](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)> map) |
| * + boolean | * + UnmodifiableMultiValuedMap.[putAll](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html#putAll-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends [K](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html)> map) |
| * + static <K,V> [TransformedMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)<K,V> | * + TransformedMultiValuedMap.[transformedMap](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-)([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) Factory method to create a transforming MultiValuedMap that will transform existing contents of the specified map. |
| * + static <K,V> [TransformedMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)<K,V> | * + TransformedMultiValuedMap.[transformingMap](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html#transformingMap-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) Factory method to create a transforming MultiValuedMap. |
| * + static <K,V> [UnmodifiableMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html)<K,V> | * + UnmodifiableMultiValuedMap.[unmodifiableMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/UnmodifiableMultiValuedMap.html#unmodifiableMultiValuedMap-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends K,? extends V> map) Factory method to create an unmodifiable MultiValuedMap. |

* + Constructors in [org.apache.commons.collections4.multimap](http://docs.google.com/org/apache/commons/collections4/multimap/package-summary.html) with parameters of type [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)

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| * + Constructor and Description |
| * + [AbstractMultiValuedMapDecorator](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html#AbstractMultiValuedMapDecorator-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html)> map) Constructor that wraps (not copies). |
| * + [ArrayListValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html#ArrayListValuedHashMap-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends [K](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html)> map) Creates an ArrayListValuedHashMap copying all the mappings of the given map. |
| * + [HashSetValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/HashSetValuedHashMap.html#HashSetValuedHashMap-org.apache.commons.collections4.MultiValuedMap-)([MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<? extends [K](http://docs.google.com/org/apache/commons/collections4/multimap/HashSetValuedHashMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/multimap/HashSetValuedHashMap.html)> map) Creates an HashSetValuedHashMap copying all the mappings of the given map. |
| * + [TransformedMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.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](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html),[V](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super [K](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html),? extends [K](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super [V](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)> valueTransformer) Constructor that wraps (not copies). |

[Skip navigation links](#1t3h5sf)

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* [Class](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)
* Use
* [Tree](http://docs.google.com/overview-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-all.html)
* [Help](http://docs.google.com/help-doc.html)
* Prev
* Next
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/class-use/MultiValuedMap.html)
* [No Frames](http://docs.google.com/MultiValuedMap.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)

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