JavaScript is disabled on your browser.

[Skip navigation links](#1fob9te)

* [Overview](http://docs.google.com/overview-summary.html)
* Package
* Class
* [Use](http://docs.google.com/package-use.html)
* [Tree](http://docs.google.com/package-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 Package](http://docs.google.com/org/apache/commons/collections4/map/package-summary.html)
* [Next Package](http://docs.google.com/org/apache/commons/collections4/multiset/package-summary.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/multimap/package-summary.html)
* [No Frames](http://docs.google.com/package-summary.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)

Package org.apache.commons.collections4.multimap

This package contains implementations of the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) interfaces.

See: [Description](#3znysh7)

* Class Summary

|  |  |
| --- | --- |
| * Class | * Description |
| * [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. |
| * [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. |
| * [AbstractMultiValuedMapDecorator](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMapDecorator.html)<K,V> | * Decorates another MultiValuedMap to provide additional behaviour. |
| * [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. |
| * [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. |
| * [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. |
| * [TransformedMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/TransformedMultiValuedMap.html)<K,V> | * Decorates another MultiValuedMap to transform objects that are added. |
| * [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. |

## Package org.apache.commons.collections4.multimap Description

This package contains implementations of the [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) interfaces. A MultiValuedMap holds a collection of values against each key.

The following implementations are provided in the package:

* ArrayListValuedHashMap - ListValuedMap implementation using a HashMap/ArrayList
* HashSetValuedHashMap - SetValuedMap implementation using a HashMap/HashSet

The following decorators are provided in the package:

* Transformed - transforms elements added to the MultiValuedMap
* Unmodifiable - ensures the collection cannot be altered

[Skip navigation links](#3dy6vkm)

* [Overview](http://docs.google.com/overview-summary.html)
* Package
* Class
* [Use](http://docs.google.com/package-use.html)
* [Tree](http://docs.google.com/package-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 Package](http://docs.google.com/org/apache/commons/collections4/map/package-summary.html)
* [Next Package](http://docs.google.com/org/apache/commons/collections4/multiset/package-summary.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/multimap/package-summary.html)
* [No Frames](http://docs.google.com/package-summary.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)

Copyright © 2001–2019 [The Apache Software Foundation](https://www.apache.org/). All rights reserved.