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org.apache.commons.collections4.multimap

## Class ArrayListValuedHashMap<K,V>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + [org.apache.commons.collections4.multimap.AbstractMultiValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html)<K,V>
    - [org.apache.commons.collections4.multimap.AbstractListValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html)<K,V>
      * org.apache.commons.collections4.multimap.ArrayListValuedHashMap<K,V>
* Type Parameters: K - the type of the keys in this map V - the type of the values in this map All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [ListValuedMap](http://docs.google.com/org/apache/commons/collections4/ListValuedMap.html)<K,V>, [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)<K,V>  
    
  public class ArrayListValuedHashMap<K,V>  
  extends [AbstractListValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html)<K,V>  
  implements [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true)  
  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. This is the standard implementation of a ListValuedMap.  
  **Note that ArrayListValuedHashMap is not synchronized and is not thread-safe.** If you wish to use this map from multiple threads concurrently, you must use appropriate synchronization. This class may throw exceptions when accessed by concurrent threads without synchronization.Since: 4.1 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.multimap.ArrayListValuedHashMap)

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [ArrayListValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html#ArrayListValuedHashMap--)() Creates an empty ArrayListValuedHashMap with the default initial map capacity (16) and the default initial list capacity (3). |
| * + [ArrayListValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html#ArrayListValuedHashMap-int-)(int initialListCapacity) Creates an empty ArrayListValuedHashMap with the default initial map capacity (16) and the specified initial list capacity. |
| * + [ArrayListValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html#ArrayListValuedHashMap-int-int-)(int initialMapCapacity, int initialListCapacity) Creates an empty ArrayListValuedHashMap with the specified initial map and list capacities. |
| * + [ArrayListValuedHashMap](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html#ArrayListValuedHashMap-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/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. |
| * + [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. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + protected [ArrayList](https://docs.oracle.com/javase/7/docs/api/java/util/ArrayList.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html)> | * + [createCollection](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html#createCollection--)() Creates a new value collection using the provided factory. |
| * + void | * + [trimToSize](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html#trimToSize--)() Trims the capacity of all value collections to their current size. |

### Methods inherited from class org.apache.commons.collections4.multimap.[**AbstractListValuedMap**](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html)[get](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html#get-K-), [getMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html#getMap--), [remove](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html#remove-java.lang.Object-)

### Methods inherited from class org.apache.commons.collections4.multimap.[**AbstractMultiValuedMap**](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html)[asMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#asMap--), [clear](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#clear--), [containsKey](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#containsKey-java.lang.Object-), [containsMapping](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#containsMapping-java.lang.Object-java.lang.Object-), [containsValue](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#containsValue-java.lang.Object-), [doReadObject](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#doReadObject-java.io.ObjectInputStream-), [doWriteObject](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#doWriteObject-java.io.ObjectOutputStream-), [entries](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#entries--), [equals](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#equals-java.lang.Object-), [hashCode](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#hashCode--), [isEmpty](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#isEmpty--), [keys](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#keys--), [keySet](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#keySet--), [mapIterator](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#mapIterator--), [put](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#put-K-V-), [putAll](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#putAll-K-java.lang.Iterable-), [putAll](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#putAll-java.util.Map-), [putAll](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#putAll-org.apache.commons.collections4.MultiValuedMap-), [removeMapping](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#removeMapping-java.lang.Object-java.lang.Object-), [setMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#setMap-java.util.Map-), [size](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#size--), [toString](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.html#toString--), [values](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractMultiValuedMap.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 org.apache.commons.collections4.[**MultiValuedMap**](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html)[asMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#asMap--), [clear](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#clear--), [containsKey](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#containsKey-java.lang.Object-), [containsMapping](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#containsMapping-java.lang.Object-java.lang.Object-), [containsValue](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#containsValue-java.lang.Object-), [entries](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#entries--), [isEmpty](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#isEmpty--), [keys](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#keys--), [keySet](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#keySet--), [mapIterator](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#mapIterator--), [put](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#put-K-V-), [putAll](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#putAll-K-java.lang.Iterable-), [putAll](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#putAll-java.util.Map-), [putAll](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#putAll-org.apache.commons.collections4.MultiValuedMap-), [removeMapping](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#removeMapping-java.lang.Object-java.lang.Object-), [size](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#size--), [values](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html#values--)

### Constructor Detail

#### ArrayListValuedHashMap public ArrayListValuedHashMap() Creates an empty ArrayListValuedHashMap with the default initial map capacity (16) and the default initial list capacity (3).

#### ArrayListValuedHashMap public ArrayListValuedHashMap(int initialListCapacity) Creates an empty ArrayListValuedHashMap with the default initial map capacity (16) and the specified initial list capacity.Parameters: initialListCapacity - the initial capacity used for value collections

#### ArrayListValuedHashMap public ArrayListValuedHashMap(int initialMapCapacity, int initialListCapacity) Creates an empty ArrayListValuedHashMap with the specified initial map and list capacities.Parameters: initialMapCapacity - the initial hashmap capacity initialListCapacity - the initial capacity used for value collections

#### ArrayListValuedHashMap public ArrayListValuedHashMap([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.Parameters: map - a MultiValuedMap to copy into this map

#### ArrayListValuedHashMap public ArrayListValuedHashMap([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/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.Parameters: map - a Map to copy into this map

### Method Detail

#### createCollection protected [ArrayList](https://docs.oracle.com/javase/7/docs/api/java/util/ArrayList.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html)> createCollection() Description copied from class: [AbstractListValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html#createCollection--) Creates a new value collection using the provided factory.Specified by: [createCollection](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html#createCollection--) in class [AbstractListValuedMap](http://docs.google.com/org/apache/commons/collections4/multimap/AbstractListValuedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html),[V](http://docs.google.com/org/apache/commons/collections4/multimap/ArrayListValuedHashMap.html)> Returns: a new list

#### trimToSize public void trimToSize() Trims the capacity of all value collections to their current size.

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