| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/TabularData.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [**PREV CLASS**](http://docs.google.com/javax/management/openmbean/SimpleType.html)   [**NEXT CLASS**](http://docs.google.com/javax/management/openmbean/TabularDataSupport.html) | [**FRAMES**](http://docs.google.com/index.html?javax/management/openmbean/TabularData.html)    [**NO FRAMES**](http://docs.google.com/TabularData.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | FIELD | CONSTR | [METHOD](#3znysh7) | DETAIL: FIELD | CONSTR | [METHOD](#2et92p0) |

## **javax.management.openmbean**

Interface TabularData

**All Known Implementing Classes:** [TabularDataSupport](http://docs.google.com/javax/management/openmbean/TabularDataSupport.html)

public interface **TabularData**

The TabularData interface specifies the behavior of a specific type of complex *open data* objects which represent *tabular data* structures.

**Since:** 1.5

| **Method Summary** | |
| --- | --- |
| [Object](http://docs.google.com/java/lang/Object.html)[] | [**calculateIndex**](http://docs.google.com/javax/management/openmbean/TabularData.html#calculateIndex(javax.management.openmbean.CompositeData))([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) value)            Calculates the index that would be used in this TabularData instance to refer to the specified composite data value parameter if it were added to this instance. |
| void | [**clear**](http://docs.google.com/javax/management/openmbean/TabularData.html#clear())()            Removes all CompositeData values (ie rows) from this TabularData instance. |
| boolean | [**containsKey**](http://docs.google.com/javax/management/openmbean/TabularData.html#containsKey(java.lang.Object%5B%5D))([Object](http://docs.google.com/java/lang/Object.html)[] key)            Returns true if and only if this TabularData instance contains a CompositeData value (ie a row) whose index is the specified key. |
| boolean | [**containsValue**](http://docs.google.com/javax/management/openmbean/TabularData.html#containsValue(javax.management.openmbean.CompositeData))([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) value)            Returns true if and only if this TabularData instance contains the specified CompositeData value. |
| boolean | [**equals**](http://docs.google.com/javax/management/openmbean/TabularData.html#equals(java.lang.Object))([Object](http://docs.google.com/java/lang/Object.html) obj)            Compares the specified obj parameter with this TabularData instance for equality. |
| [CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) | [**get**](http://docs.google.com/javax/management/openmbean/TabularData.html#get(java.lang.Object%5B%5D))([Object](http://docs.google.com/java/lang/Object.html)[] key)            Returns the CompositeData value whose index is key, or null if there is no value mapping to key, in this TabularData instance. |
| [TabularType](http://docs.google.com/javax/management/openmbean/TabularType.html) | [**getTabularType**](http://docs.google.com/javax/management/openmbean/TabularData.html#getTabularType())()            Returns the *tabular type* describing this TabularData instance. |
| int | [**hashCode**](http://docs.google.com/javax/management/openmbean/TabularData.html#hashCode())()            Returns the hash code value for this TabularData instance. |
| boolean | [**isEmpty**](http://docs.google.com/javax/management/openmbean/TabularData.html#isEmpty())()            Returns true if the number of CompositeData values (ie the number of rows) contained in this TabularData instance is zero. |
| [Set](http://docs.google.com/java/util/Set.html)<?> | [**keySet**](http://docs.google.com/javax/management/openmbean/TabularData.html#keySet())()            Returns a set view of the keys (ie the index values) of the CompositeData values (ie the rows) contained in this TabularData instance. |
| void | [**put**](http://docs.google.com/javax/management/openmbean/TabularData.html#put(javax.management.openmbean.CompositeData))([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) value)            Adds value to this TabularData instance. |
| void | [**putAll**](http://docs.google.com/javax/management/openmbean/TabularData.html#putAll(javax.management.openmbean.CompositeData%5B%5D))([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)[] values)            Add all the elements in values to this TabularData instance. |
| [CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) | [**remove**](http://docs.google.com/javax/management/openmbean/TabularData.html#remove(java.lang.Object%5B%5D))([Object](http://docs.google.com/java/lang/Object.html)[] key)            Removes the CompositeData value whose index is key from this TabularData instance, and returns the removed value, or returns null if there is no value whose index is key. |
| int | [**size**](http://docs.google.com/javax/management/openmbean/TabularData.html#size())()            Returns the number of CompositeData values (ie the number of rows) contained in this TabularData instance. |
| [String](http://docs.google.com/java/lang/String.html) | [**toString**](http://docs.google.com/javax/management/openmbean/TabularData.html#toString())()            Returns a string representation of this TabularData instance. |
| [Collection](http://docs.google.com/java/util/Collection.html)<?> | [**values**](http://docs.google.com/javax/management/openmbean/TabularData.html#values())()            Returns a collection view of the CompositeData values (ie the rows) contained in this TabularData instance. |

| **Method Detail** |
| --- |

### getTabularType

[TabularType](http://docs.google.com/javax/management/openmbean/TabularType.html) **getTabularType**()

Returns the *tabular type* describing this TabularData instance.

**Returns:**the tabular type.

### calculateIndex

[Object](http://docs.google.com/java/lang/Object.html)[] **calculateIndex**([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) value)

Calculates the index that would be used in this TabularData instance to refer to the specified composite data value parameter if it were added to this instance. This method checks for the type validity of the specified value, but does not check if the calculated index is already used to refer to a value in this TabularData instance.

**Parameters:**value - the composite data value whose index in this TabularData instance is to be calculated; must be of the same composite type as this instance's row type; must not be null. **Returns:**the index that the specified value would have in this TabularData instance. **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if value is null [InvalidOpenTypeException](http://docs.google.com/javax/management/openmbean/InvalidOpenTypeException.html) - if value does not conform to this TabularData instance's row type definition.

### size

int **size**()

Returns the number of CompositeData values (ie the number of rows) contained in this TabularData instance.

**Returns:**the number of values contained.

### isEmpty

boolean **isEmpty**()

Returns true if the number of CompositeData values (ie the number of rows) contained in this TabularData instance is zero.

**Returns:**true if this TabularData is empty.

### containsKey

boolean **containsKey**([Object](http://docs.google.com/java/lang/Object.html)[] key)

Returns true if and only if this TabularData instance contains a CompositeData value (ie a row) whose index is the specified key. If key is null or does not conform to this TabularData instance's TabularType definition, this method simply returns false.

**Parameters:**key - the index value whose presence in this TabularData instance is to be tested. **Returns:**true if this TabularData indexes a row value with the specified key.

### containsValue

boolean **containsValue**([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) value)

Returns true if and only if this TabularData instance contains the specified CompositeData value. If value is null or does not conform to this TabularData instance's row type definition, this method simply returns false.

**Parameters:**value - the row value whose presence in this TabularData instance is to be tested. **Returns:**true if this TabularData instance contains the specified row value.

### get

[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) **get**([Object](http://docs.google.com/java/lang/Object.html)[] key)

Returns the CompositeData value whose index is key, or null if there is no value mapping to key, in this TabularData instance.

**Parameters:**key - the key of the row to return. **Returns:**the value corresponding to key. **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if the key is null [InvalidKeyException](http://docs.google.com/javax/management/openmbean/InvalidKeyException.html) - if the key does not conform to this TabularData instance's \* TabularType definition

### put

void **put**([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) value)

Adds value to this TabularData instance. The composite type of value must be the same as this instance's row type (ie the composite type returned by this.getTabularType().[getRowType()](http://docs.google.com/javax/management/openmbean/TabularType.html#getRowType())), and there must not already be an existing value in this TabularData instance whose index is the same as the one calculated for the value to be added. The index for value is calculated according to this TabularData instance's TabularType definition (see TabularType.[getIndexNames()](http://docs.google.com/javax/management/openmbean/TabularType.html#getIndexNames())).

**Parameters:**value - the composite data value to be added as a new row to this TabularData instance; must be of the same composite type as this instance's row type; must not be null. **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if value is null [InvalidOpenTypeException](http://docs.google.com/javax/management/openmbean/InvalidOpenTypeException.html) - if value does not conform to this TabularData instance's row type definition. [KeyAlreadyExistsException](http://docs.google.com/javax/management/openmbean/KeyAlreadyExistsException.html) - if the index for value, calculated according to this TabularData instance's TabularType definition already maps to an existing value in the underlying HashMap.

### remove

[CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html) **remove**([Object](http://docs.google.com/java/lang/Object.html)[] key)

Removes the CompositeData value whose index is key from this TabularData instance, and returns the removed value, or returns null if there is no value whose index is key.

**Parameters:**key - the index of the value to get in this TabularData instance; must be valid with this TabularData instance's row type definition; must not be null. **Returns:**previous value associated with specified key, or null if there was no mapping for key. **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if the key is null [InvalidKeyException](http://docs.google.com/javax/management/openmbean/InvalidKeyException.html) - if the key does not conform to this TabularData instance's TabularType definition

### putAll

void **putAll**([CompositeData](http://docs.google.com/javax/management/openmbean/CompositeData.html)[] values)

Add all the elements in values to this TabularData instance. If any element in values does not satisfy the constraints defined in [put](http://docs.google.com/javax/management/openmbean/TabularData.html#put(javax.management.openmbean.CompositeData)), or if any two elements in values have the same index calculated according to this TabularData instance's TabularType definition, then an exception describing the failure is thrown and no element of values is added, thus leaving this TabularData instance unchanged.

**Parameters:**values - the array of composite data values to be added as new rows to this TabularData instance; if values is null or empty, this method returns without doing anything. **Throws:** [NullPointerException](http://docs.google.com/java/lang/NullPointerException.html) - if an element of values is null [InvalidOpenTypeException](http://docs.google.com/javax/management/openmbean/InvalidOpenTypeException.html) - if an element of values does not conform to this TabularData instance's row type definition [KeyAlreadyExistsException](http://docs.google.com/javax/management/openmbean/KeyAlreadyExistsException.html) - if the index for an element of values, calculated according to this TabularData instance's TabularType definition already maps to an existing value in this instance, or two elements of values have the same index.

### clear

void **clear**()

Removes all CompositeData values (ie rows) from this TabularData instance.

### keySet

[Set](http://docs.google.com/java/util/Set.html)<?> **keySet**()

Returns a set view of the keys (ie the index values) of the CompositeData values (ie the rows) contained in this TabularData instance. The returned Set is a Set<List<?>> but is declared as a Set<?> for compatibility reasons. The returned set can be used to iterate over the keys.

**Returns:**a set view (Set<List<?>>) of the index values used in this TabularData instance.

### values

[Collection](http://docs.google.com/java/util/Collection.html)<?> **values**()

Returns a collection view of the CompositeData values (ie the rows) contained in this TabularData instance. The returned Collection is a Collection<CompositeData> but is declared as a Collection<?> for compatibility reasons. The returned collection can be used to iterate over the values.

**Returns:**a collection view (Collection<CompositeData>) of the rows contained in this TabularData instance.

### equals

boolean **equals**([Object](http://docs.google.com/java/lang/Object.html) obj)

Compares the specified obj parameter with this TabularData instance for equality.

Returns true if and only if all of the following statements are true:

* obj is non null,
* obj also implements the TabularData interface,
* their row types are equal
* their contents (ie index to value mappings) are equal

This ensures that this equals method works properly for obj parameters which are different implementations of the TabularData interface.

**Overrides:**[equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)) in class [Object](http://docs.google.com/java/lang/Object.html) **Parameters:**obj - the object to be compared for equality with this TabularData instance; **Returns:**true if the specified object is equal to this TabularData instance.**See Also:**[Object.hashCode()](http://docs.google.com/java/lang/Object.html#hashCode()), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### hashCode

int **hashCode**()

Returns the hash code value for this TabularData instance.

The hash code of a TabularData instance is the sum of the hash codes of all elements of information used in equals comparisons (ie: its *tabular type* and its content, where the content is defined as all the index to value mappings).

This ensures that t1.equals(t2) implies that t1.hashCode()==t2.hashCode() for any two TabularDataSupport instances t1 and t2, as required by the general contract of the method [Object.hashCode()](http://docs.google.com/java/lang/Object.html#hashCode()).

**Overrides:**[hashCode](http://docs.google.com/java/lang/Object.html#hashCode()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**the hash code value for this TabularDataSupport instance**See Also:**[Object.equals(java.lang.Object)](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [Hashtable](http://docs.google.com/java/util/Hashtable.html)

### toString

[String](http://docs.google.com/java/lang/String.html) **toString**()

Returns a string representation of this TabularData instance.

The string representation consists of the name of the implementing class, and the tabular type of this instance.

**Overrides:**[toString](http://docs.google.com/java/lang/Object.html#toString()) in class [Object](http://docs.google.com/java/lang/Object.html) **Returns:**a string representation of this TabularData instance

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/TabularData.html) | [**Tree**](http://docs.google.com/package-tree.html) | [**Deprecated**](http://docs.google.com/deprecated-list.html) | [**Index**](http://docs.google.com/index-files/index-1.html) | [**Help**](http://docs.google.com/help-doc.html) | | --- | --- | --- | --- | --- | --- | --- | --- | | | ***Java™ Platform***  ***Standard Ed. 6*** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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[Submit a bug or feature](http://bugs.sun.com/services/bugreport/index.jsp)

For further API reference and developer documentation, see [Java SE Developer Documentation](http://docs.google.com/webnotes/devdocs-vs-specs.html). That documentation contains more detailed, developer-targeted descriptions, with conceptual overviews, definitions of terms, workarounds, and working code examples.

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