| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/IIOImage.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/imageio/IIOException.html)   [**NEXT CLASS**](http://docs.google.com/javax/imageio/IIOParam.html) | [**FRAMES**](http://docs.google.com/index.html?javax/imageio/IIOImage.html)    [**NO FRAMES**](http://docs.google.com/IIOImage.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: [FIELD](#1t3h5sf) | [CONSTR](#26in1rg) | [METHOD](#1ksv4uv) |

## **javax.imageio**

Class IIOImage

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 **javax.imageio.IIOImage**

public class **IIOImage**extends [Object](http://docs.google.com/java/lang/Object.html)

A simple container class to aggregate an image, a set of thumbnail (preview) images, and an object representing metadata associated with the image.

The image data may take the form of either a RenderedImage, or a Raster. Reader methods that return an IIOImage will always return a BufferedImage using the RenderedImage reference. Writer methods that accept an IIOImage will always accept a RenderedImage, and may optionally accept a Raster.

Exactly one of getRenderedImage and getRaster will return a non-null value. Subclasses are responsible for ensuring this behavior.

**See Also:**[ImageReader.readAll(int, ImageReadParam)](http://docs.google.com/javax/imageio/ImageReader.html#readAll(int,%20javax.imageio.ImageReadParam)), [ImageReader.readAll(java.util.Iterator)](http://docs.google.com/javax/imageio/ImageReader.html#readAll(java.util.Iterator)), [ImageWriter.write(javax.imageio.metadata.IIOMetadata, IIOImage, ImageWriteParam)](http://docs.google.com/javax/imageio/ImageWriter.html#write(javax.imageio.metadata.IIOMetadata,%20javax.imageio.IIOImage,%20javax.imageio.ImageWriteParam)), [ImageWriter.write(IIOImage)](http://docs.google.com/javax/imageio/ImageWriter.html#write(javax.imageio.IIOImage)), [ImageWriter.writeToSequence(IIOImage, ImageWriteParam)](http://docs.google.com/javax/imageio/ImageWriter.html#writeToSequence(javax.imageio.IIOImage,%20javax.imageio.ImageWriteParam)), [ImageWriter.writeInsert(int, IIOImage, ImageWriteParam)](http://docs.google.com/javax/imageio/ImageWriter.html#writeInsert(int,%20javax.imageio.IIOImage,%20javax.imageio.ImageWriteParam))

| **Field Summary** | |
| --- | --- |
| protected  [RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) | [**image**](http://docs.google.com/javax/imageio/IIOImage.html#image)            The RenderedImage being referenced. |
| protected  [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) | [**metadata**](http://docs.google.com/javax/imageio/IIOImage.html#metadata)            An IIOMetadata object containing metadata associated with the image. |
| protected  [Raster](http://docs.google.com/java/awt/image/Raster.html) | [**raster**](http://docs.google.com/javax/imageio/IIOImage.html#raster)            The Raster being referenced. |
| protected  [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> | [**thumbnails**](http://docs.google.com/javax/imageio/IIOImage.html#thumbnails)            A List of BufferedImage thumbnails, or null. |

| **Constructor Summary** | |
| --- | --- |
| [**IIOImage**](http://docs.google.com/javax/imageio/IIOImage.html#IIOImage(java.awt.image.Raster,%20java.util.List,%20javax.imageio.metadata.IIOMetadata))([Raster](http://docs.google.com/java/awt/image/Raster.html) raster, [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> thumbnails, [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) metadata)            Constructs an IIOImage containing a Raster, and thumbnails and metadata associated with it. |
| [**IIOImage**](http://docs.google.com/javax/imageio/IIOImage.html#IIOImage(java.awt.image.RenderedImage,%20java.util.List,%20javax.imageio.metadata.IIOMetadata))([RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) image, [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> thumbnails, [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) metadata)            Constructs an IIOImage containing a RenderedImage, and thumbnails and metadata associated with it. |

| **Method Summary** | |
| --- | --- |
| [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) | [**getMetadata**](http://docs.google.com/javax/imageio/IIOImage.html#getMetadata())()            Returns a reference to the current IIOMetadata object, or null is none is set. |
| int | [**getNumThumbnails**](http://docs.google.com/javax/imageio/IIOImage.html#getNumThumbnails())()            Returns the number of thumbnails stored in this IIOImage. |
| [Raster](http://docs.google.com/java/awt/image/Raster.html) | [**getRaster**](http://docs.google.com/javax/imageio/IIOImage.html#getRaster())()            Returns the currently set Raster, or null if only a RenderedImage is available. |
| [RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) | [**getRenderedImage**](http://docs.google.com/javax/imageio/IIOImage.html#getRenderedImage())()            Returns the currently set RenderedImage, or null if only a Raster is available. |
| [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html) | [**getThumbnail**](http://docs.google.com/javax/imageio/IIOImage.html#getThumbnail(int))(int index)            Returns a thumbnail associated with the main image. |
| [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> | [**getThumbnails**](http://docs.google.com/javax/imageio/IIOImage.html#getThumbnails())()            Returns the current List of thumbnail BufferedImages, or null if none is set. |
| boolean | [**hasRaster**](http://docs.google.com/javax/imageio/IIOImage.html#hasRaster())()            Returns true if this IIOImage stores a Raster rather than a RenderedImage. |
| void | [**setMetadata**](http://docs.google.com/javax/imageio/IIOImage.html#setMetadata(javax.imageio.metadata.IIOMetadata))([IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) metadata)            Sets the IIOMetadata to a new object, or null. |
| void | [**setRaster**](http://docs.google.com/javax/imageio/IIOImage.html#setRaster(java.awt.image.Raster))([Raster](http://docs.google.com/java/awt/image/Raster.html) raster)            Sets the current Raster. |
| void | [**setRenderedImage**](http://docs.google.com/javax/imageio/IIOImage.html#setRenderedImage(java.awt.image.RenderedImage))([RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) image)            Sets the current RenderedImage. |
| void | [**setThumbnails**](http://docs.google.com/javax/imageio/IIOImage.html#setThumbnails(java.util.List))([List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> thumbnails)            Sets the list of thumbnails to a new List of BufferedImages, or to null. |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [clone](http://docs.google.com/java/lang/Object.html#clone()), [equals](http://docs.google.com/java/lang/Object.html#equals(java.lang.Object)), [finalize](http://docs.google.com/java/lang/Object.html#finalize()), [getClass](http://docs.google.com/java/lang/Object.html#getClass()), [hashCode](http://docs.google.com/java/lang/Object.html#hashCode()), [notify](http://docs.google.com/java/lang/Object.html#notify()), [notifyAll](http://docs.google.com/java/lang/Object.html#notifyAll()), [toString](http://docs.google.com/java/lang/Object.html#toString()), [wait](http://docs.google.com/java/lang/Object.html#wait()), [wait](http://docs.google.com/java/lang/Object.html#wait(long)), [wait](http://docs.google.com/java/lang/Object.html#wait(long,%20int)) |

| **Field Detail** |
| --- |

### image

protected [RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) **image**

The RenderedImage being referenced.

### raster

protected [Raster](http://docs.google.com/java/awt/image/Raster.html) **raster**

The Raster being referenced.

### thumbnails

protected [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> **thumbnails**

A List of BufferedImage thumbnails, or null. Non-BufferedImage objects must not be stored in this List.

### metadata

protected [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) **metadata**

An IIOMetadata object containing metadata associated with the image.

| **Constructor Detail** |
| --- |

### IIOImage

public **IIOImage**([RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) image,  
 [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> thumbnails,  
 [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) metadata)

Constructs an IIOImage containing a RenderedImage, and thumbnails and metadata associated with it.

All parameters are stored by reference.

The thumbnails argument must either be null or contain only BufferedImage objects.

**Parameters:**image - a RenderedImage.thumbnails - a List of BufferedImages, or null.metadata - an IIOMetadata object, or null. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if image is null.

### IIOImage

public **IIOImage**([Raster](http://docs.google.com/java/awt/image/Raster.html) raster,  
 [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> thumbnails,  
 [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) metadata)

Constructs an IIOImage containing a Raster, and thumbnails and metadata associated with it.

All parameters are stored by reference.

**Parameters:**raster - a Raster.thumbnails - a List of BufferedImages, or null.metadata - an IIOMetadata object, or null. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if raster is null.

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

### getRenderedImage

public [RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) **getRenderedImage**()

Returns the currently set RenderedImage, or null if only a Raster is available.

**Returns:**a RenderedImage, or null.**See Also:**[setRenderedImage(java.awt.image.RenderedImage)](http://docs.google.com/javax/imageio/IIOImage.html#setRenderedImage(java.awt.image.RenderedImage))

### setRenderedImage

public void **setRenderedImage**([RenderedImage](http://docs.google.com/java/awt/image/RenderedImage.html) image)

Sets the current RenderedImage. The value is stored by reference. Any existing Raster is discarded.

**Parameters:**image - a RenderedImage. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if image is null.**See Also:**[getRenderedImage()](http://docs.google.com/javax/imageio/IIOImage.html#getRenderedImage())

### hasRaster

public boolean **hasRaster**()

Returns true if this IIOImage stores a Raster rather than a RenderedImage.

**Returns:**true if a Raster is available.

### getRaster

public [Raster](http://docs.google.com/java/awt/image/Raster.html) **getRaster**()

Returns the currently set Raster, or null if only a RenderedImage is available.

**Returns:**a Raster, or null.**See Also:**[setRaster(java.awt.image.Raster)](http://docs.google.com/javax/imageio/IIOImage.html#setRaster(java.awt.image.Raster))

### setRaster

public void **setRaster**([Raster](http://docs.google.com/java/awt/image/Raster.html) raster)

Sets the current Raster. The value is stored by reference. Any existing RenderedImage is discarded.

**Parameters:**raster - a Raster. **Throws:** [IllegalArgumentException](http://docs.google.com/java/lang/IllegalArgumentException.html) - if raster is null.**See Also:**[getRaster()](http://docs.google.com/javax/imageio/IIOImage.html#getRaster())

### getNumThumbnails

public int **getNumThumbnails**()

Returns the number of thumbnails stored in this IIOImage.

**Returns:**the number of thumbnails, as an int.

### getThumbnail

public [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html) **getThumbnail**(int index)

Returns a thumbnail associated with the main image.

**Parameters:**index - the index of the desired thumbnail image. **Returns:**a thumbnail image, as a BufferedImage. **Throws:** [IndexOutOfBoundsException](http://docs.google.com/java/lang/IndexOutOfBoundsException.html) - if the supplied index is negative or larger than the largest valid index. [ClassCastException](http://docs.google.com/java/lang/ClassCastException.html) - if a non-BufferedImage object is encountered in the list of thumbnails at the given index.**See Also:**[getThumbnails()](http://docs.google.com/javax/imageio/IIOImage.html#getThumbnails()), [setThumbnails(java.util.List)](http://docs.google.com/javax/imageio/IIOImage.html#setThumbnails(java.util.List))

### getThumbnails

public [List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> **getThumbnails**()

Returns the current List of thumbnail BufferedImages, or null if none is set. A live reference is returned.

**Returns:**the current List of BufferedImage thumbnails, or null.**See Also:**[getThumbnail(int)](http://docs.google.com/javax/imageio/IIOImage.html#getThumbnail(int)), [setThumbnails(java.util.List)](http://docs.google.com/javax/imageio/IIOImage.html#setThumbnails(java.util.List))

### setThumbnails

public void **setThumbnails**([List](http://docs.google.com/java/util/List.html)<? extends [BufferedImage](http://docs.google.com/java/awt/image/BufferedImage.html)> thumbnails)

Sets the list of thumbnails to a new List of BufferedImages, or to null. The reference to the previous List is discarded.

The thumbnails argument must either be null or contain only BufferedImage objects.

**Parameters:**thumbnails - a List of BufferedImage thumbnails, or null.**See Also:**[getThumbnail(int)](http://docs.google.com/javax/imageio/IIOImage.html#getThumbnail(int)), [getThumbnails()](http://docs.google.com/javax/imageio/IIOImage.html#getThumbnails())

### getMetadata

public [IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) **getMetadata**()

Returns a reference to the current IIOMetadata object, or null is none is set.

**Returns:**an IIOMetadata object, or null.**See Also:**[setMetadata(javax.imageio.metadata.IIOMetadata)](http://docs.google.com/javax/imageio/IIOImage.html#setMetadata(javax.imageio.metadata.IIOMetadata))

### setMetadata

public void **setMetadata**([IIOMetadata](http://docs.google.com/javax/imageio/metadata/IIOMetadata.html) metadata)

Sets the IIOMetadata to a new object, or null.

**Parameters:**metadata - an IIOMetadata object, or null.**See Also:**[getMetadata()](http://docs.google.com/javax/imageio/IIOImage.html#getMetadata())

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/IIOImage.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/imageio/IIOException.html)   [**NEXT CLASS**](http://docs.google.com/javax/imageio/IIOParam.html) | [**FRAMES**](http://docs.google.com/index.html?javax/imageio/IIOImage.html)    [**NO FRAMES**](http://docs.google.com/IIOImage.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#3znysh7) | [CONSTR](#2et92p0) | [METHOD](#tyjcwt) | DETAIL: [FIELD](#1t3h5sf) | [CONSTR](#26in1rg) | [METHOD](#1ksv4uv) |

[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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