| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AreaAveragingScaleFilter.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/java/awt/image/AffineTransformOp.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/image/BandCombineOp.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/image/AreaAveragingScaleFilter.html)    [**NO FRAMES**](http://docs.google.com/AreaAveragingScaleFilter.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
| SUMMARY: NESTED | [FIELD](#2et92p0) | [CONSTR](#1t3h5sf) | [METHOD](#4d34og8) | DETAIL: FIELD | [CONSTR](#26in1rg) | [METHOD](#35nkun2) |

## **java.awt.image**

Class AreaAveragingScaleFilter

[java.lang.Object](http://docs.google.com/java/lang/Object.html)  
 [java.awt.image.ImageFilter](http://docs.google.com/java/awt/image/ImageFilter.html)  
 [java.awt.image.ReplicateScaleFilter](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html)  
 **java.awt.image.AreaAveragingScaleFilter**

**All Implemented Interfaces:** [ImageConsumer](http://docs.google.com/java/awt/image/ImageConsumer.html), [Cloneable](http://docs.google.com/java/lang/Cloneable.html)

public class **AreaAveragingScaleFilter**extends [ReplicateScaleFilter](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html)

An ImageFilter class for scaling images using a simple area averaging algorithm that produces smoother results than the nearest neighbor algorithm.

This class extends the basic ImageFilter Class to scale an existing image and provide a source for a new image containing the resampled image. The pixels in the source image are blended to produce pixels for an image of the specified size. The blending process is analogous to scaling up the source image to a multiple of the destination size using pixel replication and then scaling it back down to the destination size by simply averaging all the pixels in the supersized image that fall within a given pixel of the destination image. If the data from the source is not delivered in TopDownLeftRight order then the filter will back off to a simple pixel replication behavior and utilize the requestTopDownLeftRightResend() method to refilter the pixels in a better way at the end.

It is meant to be used in conjunction with a FilteredImageSource object to produce scaled versions of existing images. Due to implementation dependencies, there may be differences in pixel values of an image filtered on different platforms.

**See Also:**[FilteredImageSource](http://docs.google.com/java/awt/image/FilteredImageSource.html), [ReplicateScaleFilter](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html), [ImageFilter](http://docs.google.com/java/awt/image/ImageFilter.html)

| **Field Summary** | |
| --- | --- |

| **Fields inherited from class java.awt.image.**[**ReplicateScaleFilter**](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html) |
| --- |
| [destHeight](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#destHeight), [destWidth](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#destWidth), [outpixbuf](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#outpixbuf), [srccols](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#srccols), [srcHeight](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#srcHeight), [srcrows](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#srcrows), [srcWidth](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#srcWidth) |

| **Fields inherited from class java.awt.image.**[**ImageFilter**](http://docs.google.com/java/awt/image/ImageFilter.html) |
| --- |
| [consumer](http://docs.google.com/java/awt/image/ImageFilter.html#consumer) |

| **Fields inherited from interface java.awt.image.**[**ImageConsumer**](http://docs.google.com/java/awt/image/ImageConsumer.html) |
| --- |
| [COMPLETESCANLINES](http://docs.google.com/java/awt/image/ImageConsumer.html#COMPLETESCANLINES), [IMAGEABORTED](http://docs.google.com/java/awt/image/ImageConsumer.html#IMAGEABORTED), [IMAGEERROR](http://docs.google.com/java/awt/image/ImageConsumer.html#IMAGEERROR), [RANDOMPIXELORDER](http://docs.google.com/java/awt/image/ImageConsumer.html#RANDOMPIXELORDER), [SINGLEFRAME](http://docs.google.com/java/awt/image/ImageConsumer.html#SINGLEFRAME), [SINGLEFRAMEDONE](http://docs.google.com/java/awt/image/ImageConsumer.html#SINGLEFRAMEDONE), [SINGLEPASS](http://docs.google.com/java/awt/image/ImageConsumer.html#SINGLEPASS), [STATICIMAGEDONE](http://docs.google.com/java/awt/image/ImageConsumer.html#STATICIMAGEDONE), [TOPDOWNLEFTRIGHT](http://docs.google.com/java/awt/image/ImageConsumer.html#TOPDOWNLEFTRIGHT) |

| **Constructor Summary** | |
| --- | --- |
| [**AreaAveragingScaleFilter**](http://docs.google.com/java/awt/image/AreaAveragingScaleFilter.html#AreaAveragingScaleFilter(int,%20int))(int width, int height)            Constructs an AreaAveragingScaleFilter that scales the pixels from its source Image as specified by the width and height parameters. |

| **Method Summary** | |
| --- | --- |
| void | [**setHints**](http://docs.google.com/java/awt/image/AreaAveragingScaleFilter.html#setHints(int))(int hints)            Detect if the data is being delivered with the necessary hints to allow the averaging algorithm to do its work. |
| void | [**setPixels**](http://docs.google.com/java/awt/image/AreaAveragingScaleFilter.html#setPixels(int,%20int,%20int,%20int,%20java.awt.image.ColorModel,%20byte%5B%5D,%20int,%20int))(int x, int y, int w, int h, [ColorModel](http://docs.google.com/java/awt/image/ColorModel.html) model, byte[] pixels, int off, int scansize)            Combine the components for the delivered byte pixels into the accumulation arrays and send on any averaged data for rows of pixels that are complete. |
| void | [**setPixels**](http://docs.google.com/java/awt/image/AreaAveragingScaleFilter.html#setPixels(int,%20int,%20int,%20int,%20java.awt.image.ColorModel,%20int%5B%5D,%20int,%20int))(int x, int y, int w, int h, [ColorModel](http://docs.google.com/java/awt/image/ColorModel.html) model, int[] pixels, int off, int scansize)            Combine the components for the delivered int pixels into the accumulation arrays and send on any averaged data for rows of pixels that are complete. |

| **Methods inherited from class java.awt.image.**[**ReplicateScaleFilter**](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html) |
| --- |
| [setDimensions](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#setDimensions(int,%20int)), [setProperties](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#setProperties(java.util.Hashtable)) |

| **Methods inherited from class java.awt.image.**[**ImageFilter**](http://docs.google.com/java/awt/image/ImageFilter.html) |
| --- |
| [clone](http://docs.google.com/java/awt/image/ImageFilter.html#clone()), [getFilterInstance](http://docs.google.com/java/awt/image/ImageFilter.html#getFilterInstance(java.awt.image.ImageConsumer)), [imageComplete](http://docs.google.com/java/awt/image/ImageFilter.html#imageComplete(int)), [resendTopDownLeftRight](http://docs.google.com/java/awt/image/ImageFilter.html#resendTopDownLeftRight(java.awt.image.ImageProducer)), [setColorModel](http://docs.google.com/java/awt/image/ImageFilter.html#setColorModel(java.awt.image.ColorModel)) |

| **Methods inherited from class java.lang.**[**Object**](http://docs.google.com/java/lang/Object.html) |
| --- |
| [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)) |

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

### AreaAveragingScaleFilter

public **AreaAveragingScaleFilter**(int width,  
 int height)

Constructs an AreaAveragingScaleFilter that scales the pixels from its source Image as specified by the width and height parameters.

**Parameters:**width - the target width to scale the imageheight - the target height to scale the image

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

### setHints

public void **setHints**(int hints)

Detect if the data is being delivered with the necessary hints to allow the averaging algorithm to do its work.

Note: This method is intended to be called by the ImageProducer of the Image whose pixels are being filtered. Developers using this class to filter pixels from an image should avoid calling this method directly since that operation could interfere with the filtering operation.

**Specified by:**[setHints](http://docs.google.com/java/awt/image/ImageConsumer.html#setHints(int)) in interface [ImageConsumer](http://docs.google.com/java/awt/image/ImageConsumer.html)**Overrides:**[setHints](http://docs.google.com/java/awt/image/ImageFilter.html#setHints(int)) in class [ImageFilter](http://docs.google.com/java/awt/image/ImageFilter.html) **Parameters:**hints - a set of hints that the ImageConsumer uses to process the pixels**See Also:**[ImageConsumer.setHints(int)](http://docs.google.com/java/awt/image/ImageConsumer.html#setHints(int))

### setPixels

public void **setPixels**(int x,  
 int y,  
 int w,  
 int h,  
 [ColorModel](http://docs.google.com/java/awt/image/ColorModel.html) model,  
 byte[] pixels,  
 int off,  
 int scansize)

Combine the components for the delivered byte pixels into the accumulation arrays and send on any averaged data for rows of pixels that are complete. If the correct hints were not specified in the setHints call then relay the work to our superclass which is capable of scaling pixels regardless of the delivery hints.

Note: This method is intended to be called by the ImageProducer of the Image whose pixels are being filtered. Developers using this class to filter pixels from an image should avoid calling this method directly since that operation could interfere with the filtering operation.

**Specified by:**[setPixels](http://docs.google.com/java/awt/image/ImageConsumer.html#setPixels(int,%20int,%20int,%20int,%20java.awt.image.ColorModel,%20byte%5B%5D,%20int,%20int)) in interface [ImageConsumer](http://docs.google.com/java/awt/image/ImageConsumer.html)**Overrides:**[setPixels](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#setPixels(int,%20int,%20int,%20int,%20java.awt.image.ColorModel,%20byte%5B%5D,%20int,%20int)) in class [ReplicateScaleFilter](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html) **Parameters:**x - the X coordinate of the upper-left corner of the area of pixels to be sety - the Y coordinate of the upper-left corner of the area of pixels to be setw - the width of the area of pixelsh - the height of the area of pixelsmodel - the specified ColorModelpixels - the array of pixelsoff - the offset into the pixels arrayscansize - the distance from one row of pixels to the next in the pixels array**See Also:**[ReplicateScaleFilter](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html)

### setPixels

public void **setPixels**(int x,  
 int y,  
 int w,  
 int h,  
 [ColorModel](http://docs.google.com/java/awt/image/ColorModel.html) model,  
 int[] pixels,  
 int off,  
 int scansize)

Combine the components for the delivered int pixels into the accumulation arrays and send on any averaged data for rows of pixels that are complete. If the correct hints were not specified in the setHints call then relay the work to our superclass which is capable of scaling pixels regardless of the delivery hints.

Note: This method is intended to be called by the ImageProducer of the Image whose pixels are being filtered. Developers using this class to filter pixels from an image should avoid calling this method directly since that operation could interfere with the filtering operation.

**Specified by:**[setPixels](http://docs.google.com/java/awt/image/ImageConsumer.html#setPixels(int,%20int,%20int,%20int,%20java.awt.image.ColorModel,%20int%5B%5D,%20int,%20int)) in interface [ImageConsumer](http://docs.google.com/java/awt/image/ImageConsumer.html)**Overrides:**[setPixels](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html#setPixels(int,%20int,%20int,%20int,%20java.awt.image.ColorModel,%20int%5B%5D,%20int,%20int)) in class [ReplicateScaleFilter](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html) **Parameters:**x - the X coordinate of the upper-left corner of the area of pixels to be sety - the Y coordinate of the upper-left corner of the area of pixels to be setw - the width of the area of pixelsh - the height of the area of pixelsmodel - the specified ColorModelpixels - the array of pixelsoff - the offset into the pixels arrayscansize - the distance from one row of pixels to the next in the pixels array**See Also:**[ReplicateScaleFilter](http://docs.google.com/java/awt/image/ReplicateScaleFilter.html)

| | [**Overview**](http://docs.google.com/overview-summary.html) | [**Package**](http://docs.google.com/package-summary.html) | **Class** | [**Use**](http://docs.google.com/class-use/AreaAveragingScaleFilter.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/java/awt/image/AffineTransformOp.html)   [**NEXT CLASS**](http://docs.google.com/java/awt/image/BandCombineOp.html) | [**FRAMES**](http://docs.google.com/index.html?java/awt/image/AreaAveragingScaleFilter.html)    [**NO FRAMES**](http://docs.google.com/AreaAveragingScaleFilter.html)     [**All Classes**](http://docs.google.com/allclasses-noframe.html) |
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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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