

# Image Manipulation Service

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## Welcome to the Image Manipulation Service

ImageManipulation<sup>[1]</sup> is a Java servlet that takes a URL of an image as a parameter and, based on other given parameters, can perform a variety of image related manipulations on the object. After the image is manipulated, it is then sent back as an image/type object to the calling parent, most often a browser or an HTML img tag.

```
[hostname]:[port-number]/imagemanip/ImageManipulation?url=[url-of-image][parameters]
```

Where:

- [hostname] – The hostname of the Fedora server.
- [port-number] – The port number on which the Fedora server is running.
- [url-of-image] – The URL of the image to open. Supported formats currently are gif, jpg, tiff, png, and bmp.
- [parameters] – Optional parameters that can be used to manipulate the image:
  - **Resize:** `op=resize&newWidth=[width-in-pixels]` – This resizes an image to a specified width in pixels, automatically scaling the height in proportion to the width.
  - **Zoom:** `op=zoom&zoomAmt=[zoom-value]` – This zooms an image, depending on the zoom-value.  $0 < \text{zoom-value} < 1$  : zoom out,  $\text{zoom-value}=1$  : original,  $1 < \text{zoom-value}$  : zoom in.
  - **Adjust Brightness:** `op=brightness&brightAmt=[bright-value]` – This adjusts the brightness of an image, depending on the bright-value.  $0 < \text{bright-value} < 1$  : darkens,  $\text{bright-value}=1$  : original,  $1 < \text{bright-value}$  : lightens.
  - **Watermark:** `op=watermark&wmText=[watermark-text]` – Watermarks an image, with the supplied text.
  - **Grayscale:** `op=grayscale` – Converts an image to grayscale.
  - **Crop:** `op=crop&cropX=[crop-x]&cropY=[crop-y]&cropWidth=[crop-width]&cropHeight=[crop-height]` – Crops an image, starting from (crop-x,crop-y) coordinate, and crops to the optional (crop-width,crop-height) coordinate if supplied, or just to the lower-right corner of the image. All values are measured in pixels.
  - **Convert:** `op=convert&convertTo=[format]` – Converts an image to another format. Currently supported formats are: gif, jpg, tiff, png, and bmp.

Examples:

```
/imagemanip/ImageManipulation?url=http://www.explore.cornell.edu/tour_landmarks/img/frosty_tower02.jpg&op=zoom&zoomAmt=2.5
```

```
/imagemanip/ImageManipulation?url=http://www.explore.cornell.edu/tour_landmarks/img/frosty_tower02.jpg&op=convert&convertTo=gif
```

<sup>[1]</sup> This service uses the ImageJ API from Wayne Rasband which is free to use in the public domain. For additional information regarding the ImageJ API, please refer to the ImageJ project web site at: <http://rsb.info.nih.gov/ij/>.

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