# mPDF

## New features in mPDF Version 5.1

- CSS background (images, colours or gradients) on <TR> and <TABLE>
- CSS border on <TR> (only in border-collapsed mode)
- support for Mozilla and CSS3 gradient syntax:
  - -moz-linear-gradient, linear-gradient
  - -moz-radial-gradient, radial-gradient
  - -moz-repeating-linear-gradient, linear-repeating-gradient
  - -moz-repeating-radial-gradient, radial-repeating-gradient
- expanded support for gradients (including in SVG images):
  - multiple colour 'stops'
  - opacity (transparency)
  - angle and/or position can be specified
- gradient can be used as an image mask (custom mPDF styles: gradient-mask)
- CSS3 image-orientation supported for <IMG> (similar to existing custom mPDF attribute: rotate)
- CSS3 image-resolution supported for <IMG>
- background-image-resolution (custom mPDF CSS-type style) to define resolution of background images
- improved support for SVG images
- SVG and WMF images supported in background-image
- file attachments (embedded in PDF file) → → → → →

## Tables: borders, background images & gradients

Background images or gradients can be set on whole tables or table rows (as well as individual table cells)

| | | |
|---|---|---|
| Row 1 | This is data | This is data |
| This row has | a background-image | of the bayeux tapestry |
| Row 3 | This is long data | This is data |
| This row has | a gradient set | which spans all 3 cells |
| Row 5 | Also data | Also data |

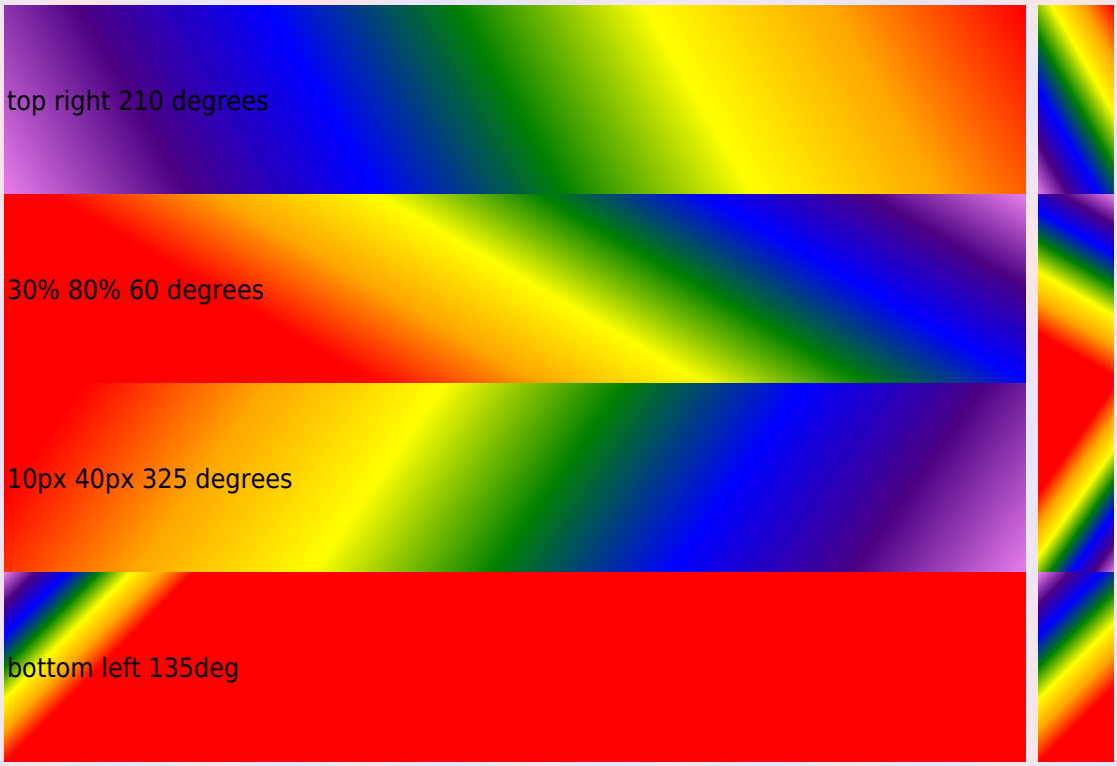
Border can be set on table rows (only when border-collapse is set to collapse)

| | | |
|---|---|---|
| Row 1 | This is data | This is data |
| Row 2 | This is data<br>This is data<br>This is data<br>This is data | Also data |
| Row 3 | This is long data | This is data |

# Mozilla and CSS3 gradient syntax

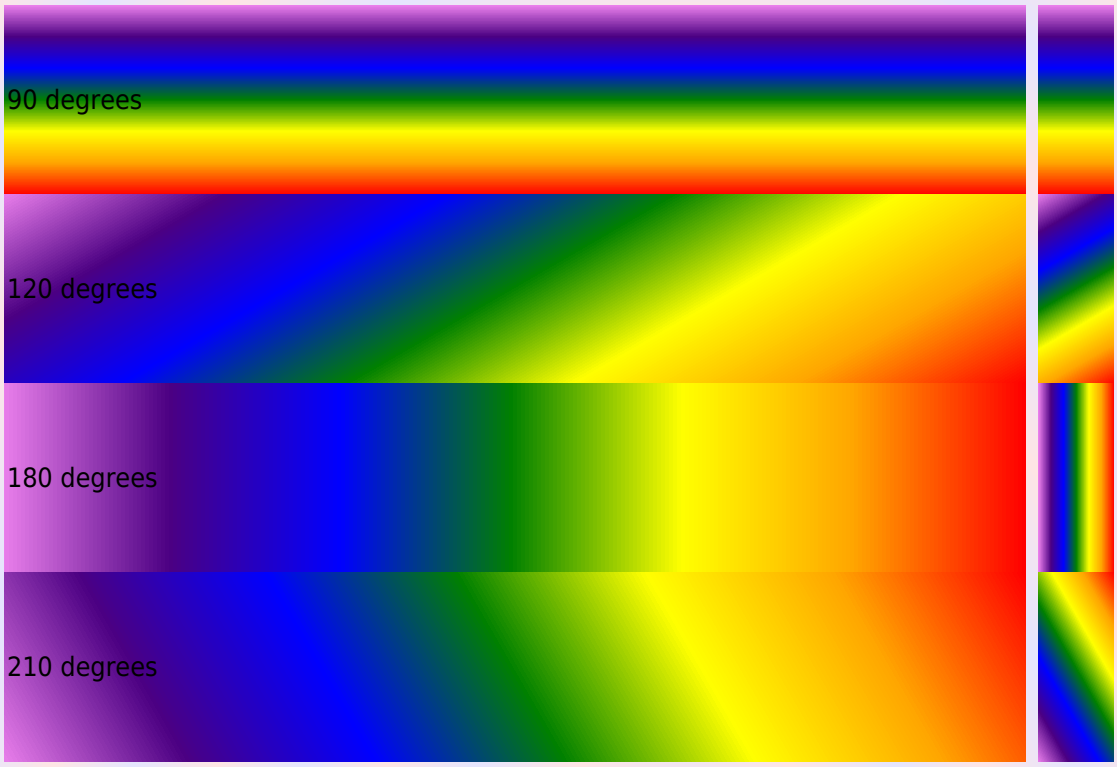
## Linear gradients

### Angle set AND points e.g. -moz-linear-gradient(34% 84% 30deg, red, orange, yellow...




### Points set only e.g. -moz-linear-gradient(bottom left, red, orange, yellow...

### Angle set but no points e.g. -moz-linear-gradient(30deg, red, orange, yellow...




Linear and radial gradients are not specified in the CSS2 specification. The CSS3 draft specification gives a way of outputting gradients, but currently this is not supported by any browser.

Mozilla (Firefox) has developed its own way of producing gradients, which approximates to the CSS3 draft specification:

- *-moz-linear-gradient*
- *-moz-repeating-linear-gradient*
- *-moz-radial-gradient* and
- *-moz-repeating-radial-gradient*

WebKit (Safari, Chrome etc.) have a separate way of defining gradients using *-webkit-gradient*

Microsoft (IE) does not support any such method of specifying gradients, but does have a function *filter: progid:DXImageTransform.Microsoft.gradient()*

When writing HTML for cross-browser compatibility, it is common to see something like this in a stylesheet:

```
background: #999999; /* for non-css3 browsers */
filter:  progid:DXImageTransform.Microsoft.gradient(startColorstr='#cccccc',
endColorstr='#000000'); /* for IE */
background: -webkit-gradient(linear, left top, left bottom, from(#cccccc),
to(#000000)); /* for webkit browsers */
background: -moz-linear-gradient(top, #cccccc, #000000); /* for firefox 3.6+
*/
```

mPDF versions <= 5.0 supported a custom style property *background-gradient* which accepted both linear and radial gradients. These continue to be supported (and both old and new forms can be used together); note the differences:

- mPDF background-gradients are output underneath background-images, and both can be specified; whereas the new CSS3/Mozilla-type gradients are defined as a type of background-image
- CSS3/Mozilla gradients support multiple colour-stops, opacity, repeating-gradients, and a greater number of options for defining the gradient axis (linear gradients) or shape and extent (radial gradients)

mPDF will attempt to parse a CSS stylesheet written for cross-browser compatibility:

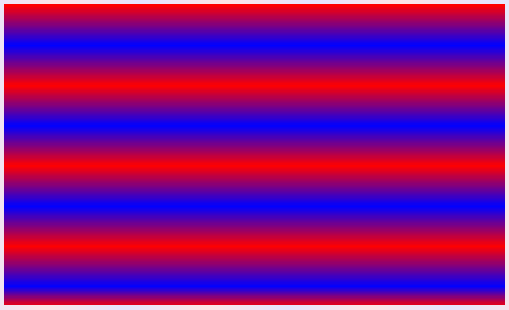
- parse and support *-moz* type gradients
- parse and support CSS3 gradient syntax
- ignore *-webkit* syntax gradients

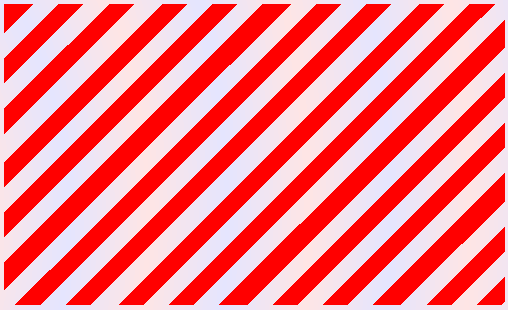
More details can be found at:

- Mozilla linear - https://developer.mozilla.org/en/CSS/-moz-linear-gradient
- Mozilla radial - https://developer.mozilla.org/en/CSS/-moz-radial-gradient
- Mozilla gradients use - https://developer.mozilla.org/en/Using_gradients
- CSS3 linear gradients - http://dev.w3.org/csswg/css3-images/#linear-gradients
- CSS3 radial gradients - http://dev.w3.org/csswg/css3-images/#radial-gradients
- WebKit gradients - http://webkit.org/blog/175/introducing-css-gradients/

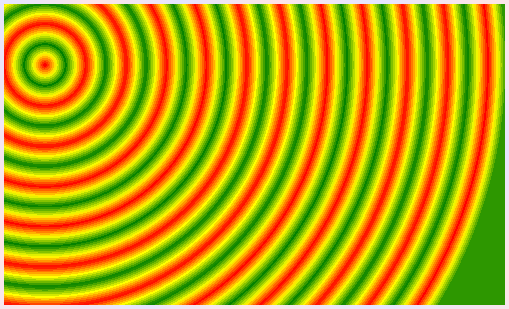
## Repeating gradients

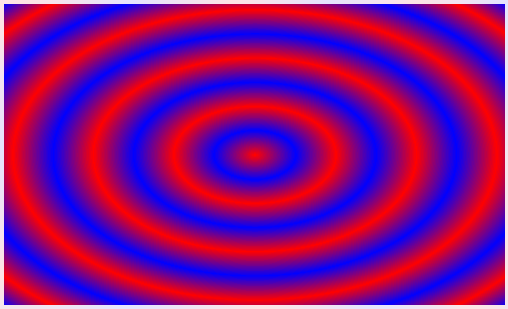
```
background: repeating-linear-gradient(red, blue 20px, red 40px);

background: -moz-repeating-linear-gradient(top left -45deg, red, red 10px,
rgba(255,255,255,0) 10px, rgba(255,255,255,0) 20px);
```



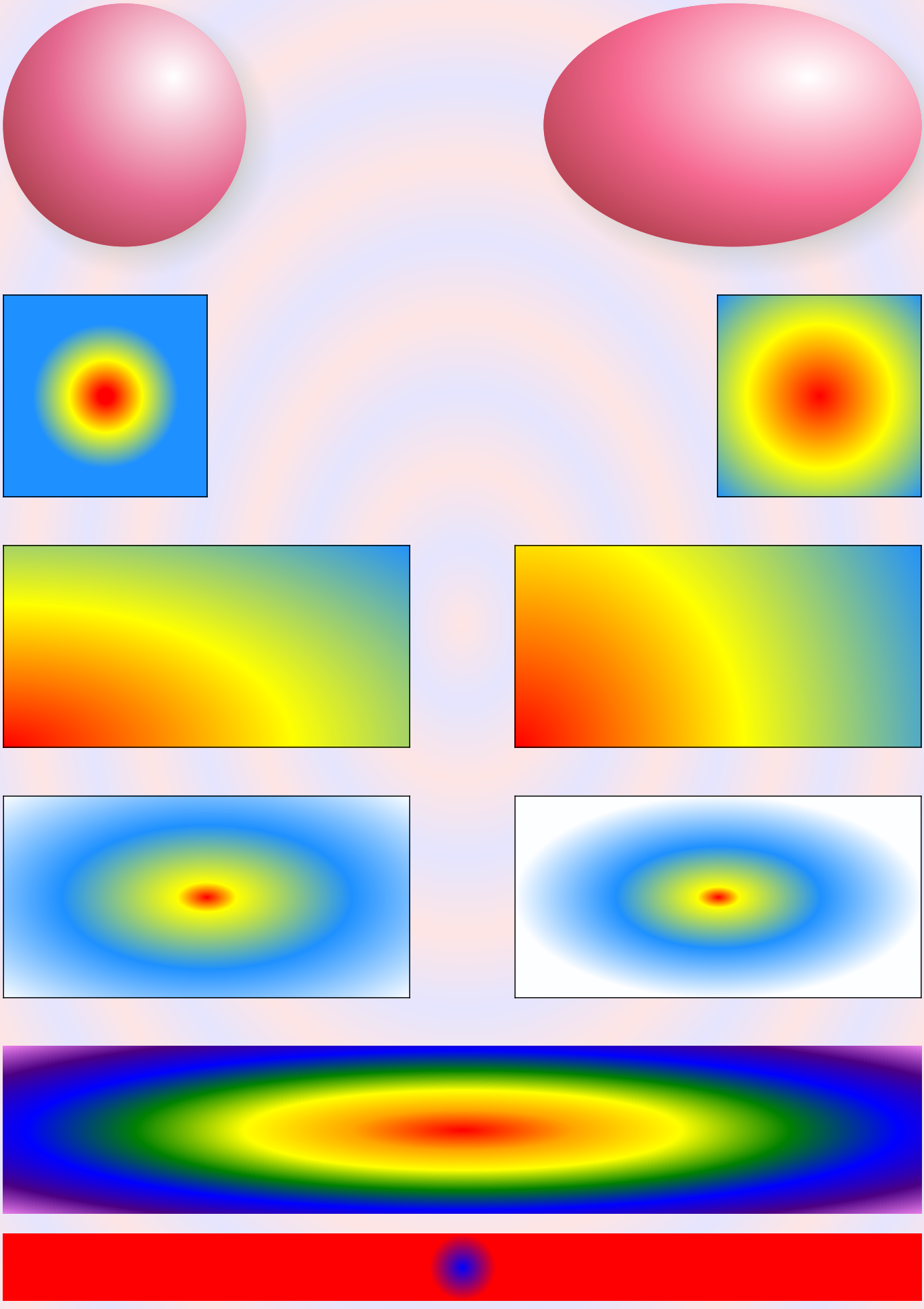


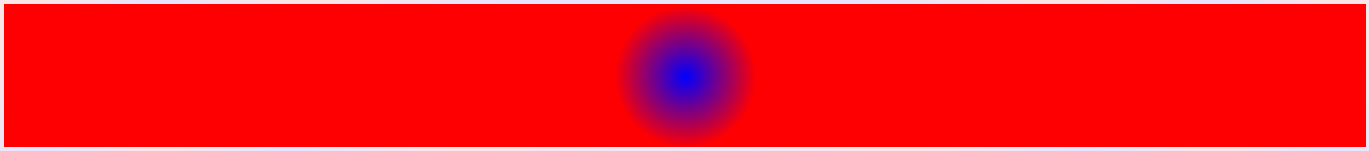
```
background: repeating-radial-gradient(20px 30px, circle farthest-side, red,
yellow, green 10px, yellow 15px, red 20px);

background: repeating-radial-gradient(red, blue 20px, red 40px);
```





## Radial gradients





# Gradient Image mask

Gradients (linear or radial) can also be used to produce 'masks' for images. The same syntax is used as for background gradients (e.g. -moz-linear-gradient) but is set using a custom mPDF style: *gradient-mask*. The rgba() method for defining colours is used: colours are ignored, but the opacity value is used to mask the image.

```
<img src="windmill.jpg" style="gradient-mask: -moz-radial-gradient(center,
ellipse closest-side, rgba(255,255,255,1), rgba(255,255,255,1) 30%,
rgba(255,255,255,0) 90%, rgba(255,255,255,0));" />

<img src="windmill.jpg" style="gradient-mask: -moz-radial-gradient(center,
ellipse closest-side, rgba(255,255,255,1), rgba(255,255,255,1) 70%,
rgba(255,255,255,0) 90%, rgba(255,255,255,0));" />

<img src="windmill.jpg" style="gradient-mask: -moz-linear-gradient(left,
rgba(0,0,0,0) , rgba(0,0,0,1) 50% , rgba(0,0,0,0) 100%);" />
```

## Image orientation

Images can be rotated using a custom mPDF HTML attribute: rotate. mPDF now also supports the draft CSS3 property of image-orientation. Rotation can be expressed in degrees, radians or grad units; it is corrected if necessary to an orthogonal rotation i.e. 90, 180 or 270 degrees. NB This does not work on background-images.

```
<img src="tiger2.png" style="image-orientation: -90deg" width="100" />
<img src="tiger2.png" style="image-orientation: 3.14159rad" width="100" />
```

## Image resolution

Image files (which do not have an output width or height specified) are displayed in mPDF at the default resolution set by the variable $mpdf->img_dpi. This can be overridden using the draft CSS3 property 'image-resolution', which can be applied to <IMG> or background-images.
The next 3 image files are identical (300px x 300px) but they have been saved with a different specified resolution: the first at 96dpi, the second at 300dpi.
NB When used in combination with 'from-image', a specified resolution is only used if the image does not have an intrinsic resolution. Only JPG, PNG and BMP files store a specified DPI resolution in the file.

```
<img src="tiger300px300dpi.png" style="image-resolution: from-image;" />
<img src="tiger300px300dpi.png" style="image-resolution: 150dpi;" />
<img src="tiger300px96dpi.png" style="image-resolution: from-image;" />
```

Image resolution can also be applied to a background-image. This can be used as an alternative to the custom mPDF style property - 'background-image-resize'

```
<div height="300px" width="300px" style="background: #FFCCEE
url(tiger300px96dpi.png); background-image-resolution: from-image; border: 0.2mm
solid black;">
```

Hallo
world

```
<div height="300px" width="300px" style="background-image:
url(tiger300px300dpi.png); background-image-resolution: from-image; border:
0.2mm solid black;">
```

# Mixed effects