



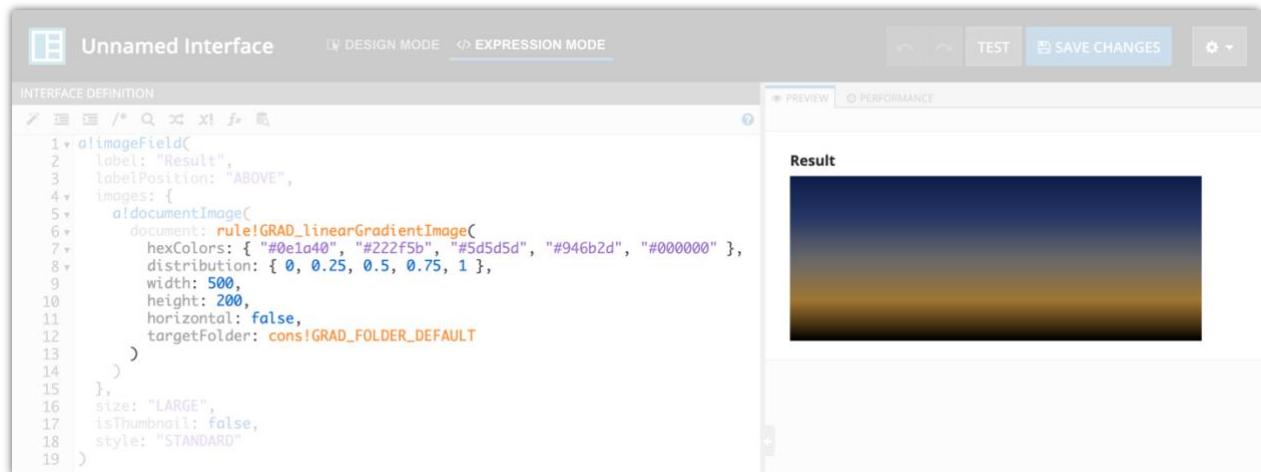
# Gradient Image Generator Plugin for Appian

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Version 1.0

# Introduction

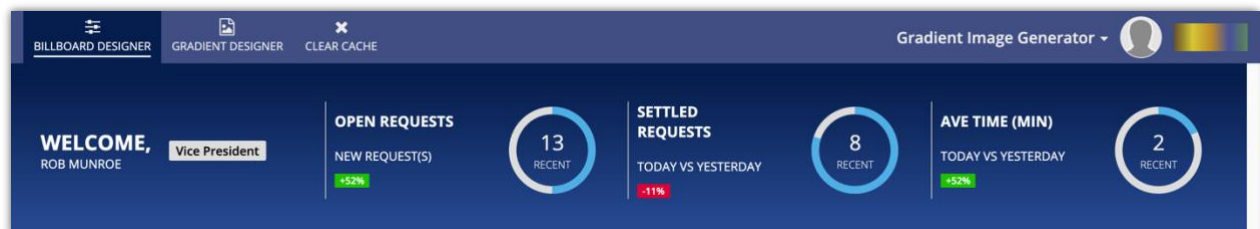
This plugin provides an Expression Function called `linearGradientImage()` for generating simple, linear gradient PNG images based on the colors, distribution ratios, and dimensions you specify.



As seen above, the function returns an Appian `Document` data type which can be used in places such as an `a!documentImage()` or even linked to.

The genesis for this plugin was to provide gradient color backgrounds for a [Billboard Layout](#) component's `backgroundMedia` value. A companion Appian Application is distributed with the plugin that includes Expression Rules and Interfaces for easy configuration of Billboard Layouts using this plugin.

Note that this companion application requires the [Color Picker Component](#) plugin.



# Performance

To ensure high performance, the function will cache the generated images in Appian's document management system and return existing images on subsequent calls (based on a file naming convention) rather than generating the same image over and over.

Initial image generation usually takes 100 - 200 milliseconds, and subsequent calls that return the existing images usually take less than 10 milliseconds.

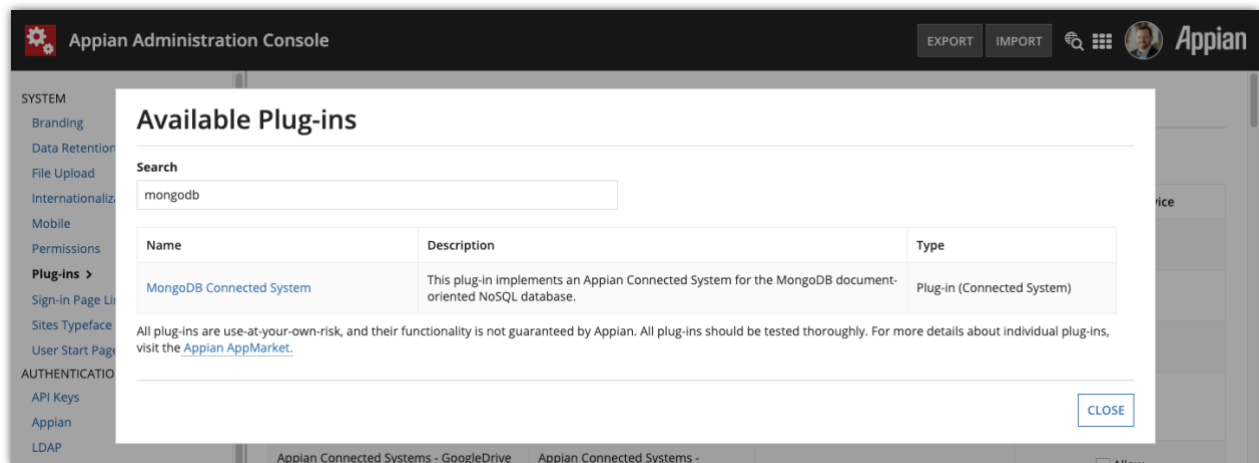
You may wish to generate the image in a lower environment (e.g. DEV) and copy/move the image into your application as well, however the speed at which the plugin returns existing images is comparable to directly referencing an image using a Constant.

# Compatibility

This plugin and its companion application were built and tested on Appian version 20.2.

# Installation

If installing to a fully-managed Appian Cloud instance, install using the [Plugins](#) panel of the [Administration Console](#).



If installing to a self-managed Appian instance, copy the `GradientImageGenerator-1.0.jar` plugin JAR file to the `<APPIAN_HOME>/_admin/plugins` directory.

Import the companion `Generate Gradient Image Companion App 1.0.zip` application as normal in your Appian instance.

# Expression Function

## linearGradientImage()

This is the expression function that generates the PNG gradient image. It allows specification of many values to produce gradients that match your color schemes.

**Returns:** Document

**hexColors** (List of Text String): The list of colors in the gradient, as hexadecimal, e.g. { "#FFAA00", "#EE5500", "#EEEEEE" }

**distribution** (List of Number (Floating Point)): The distribution positions of the colors in the gradient change as a percentage (value between 0 and 1), e.g. { 0.0, 0.2, 1.0 }

**width** (Number (Integer)): The width of the image in pixels

**height** (Number (Integer)): The height of the image in pixels

**horizontal** (Boolean): If true, the gradient will be oriented horizontally instead of vertically

**targetFolder** (Folder): The Appian Folder to store (and cache) the image

## Example

```
a!imageField(  
  label: "Result",  
  labelPosition: "ABOVE",  
  images: {  
    a!documentImage(  
      document: rule!GRAD_linearGradientImage(  
        hexColors: { "#cc3300", "#ff9966", "#ffcc00", "#99cc33", "#339900" },  
        distribution: { 0, 0.25, 0.5, 0.75, 1 },  
        width: 500,  
        height: 200,  
        horizontal: false,  
        targetFolder: cons!GRAD_FOLDER_DEFAULT,  
      )  
    )  
  },  
  size: "LARGE",  
  isThumbnail: false,  
  style: "STANDARD"  
)
```

This would produce an image named:

```
linear_cc3300_ff9966_ffcc00_99cc33_339900_0.0_0.25_0.5_0.75_1.0_500_200_vertical.png
```



# Companion Application

The companion application features 2 Expression Rules and a Site that are of most interest.

## Expression Rules

### GRAD\_linearGradientImage()

This Expression Rule simply wraps around the `linearGradientImage()` function, accepting the same arguments and passing them to the plugin.

The reason it exists is that the Appian Interface Designer's **Design Mode** will throw an error for any Interface that directly references `linearGradientImage()`. This only occurs in Design Mode, so this rule can be bypassed if you plan to use Expression Mode in the Interface Designer.

It is recommended that you use this Expression Rule in any interface referencing the plugin as future enhancements to the plugin and companion application can gracefully handle changes.

### GRAD\_billboardGradientImage()

This Expression Rule provides simplified arguments that are suitable for a [Billboard Layout](#) component's `backgroundMedia` value, providing sensible and aesthetically pleasing defaults.

The gradients produced will always be vertically oriented and will include a 10% top color buffer before beginning the gradient. This looks best when using a Site with a **Selected Tab Background Color** the same as the **hexTopColor** value, as seen below.



**hexTopColor** (Text): The top color of the gradient

**hexBottomColor** (Text): The bottom color of the gradient

**billboardHeight** (Text): The same value set for the Billboard Layout's **height** property, e.g. **SHORT** or **AUTO**

**customWidth** (Number (Integer)): If **billboardHeight** is set to **AUTO**, this is the width in pixels of the generated image

**customHeight** (Number (Integer)): If **billboardHeight** is set to **AUTO**, this is the height in pixels of the generated image

**targetFolder** (Folder): An Appian **Folder** where the generated image is to be stored. If left blank, defaults to **cons!GRAD\_FOLDER\_DEFAULT**,

# Gradient Image Generator Site

The companion application includes a single Site to give further examples and help design gradients images as well as Billboard backgrounds.

## Billboard Designer

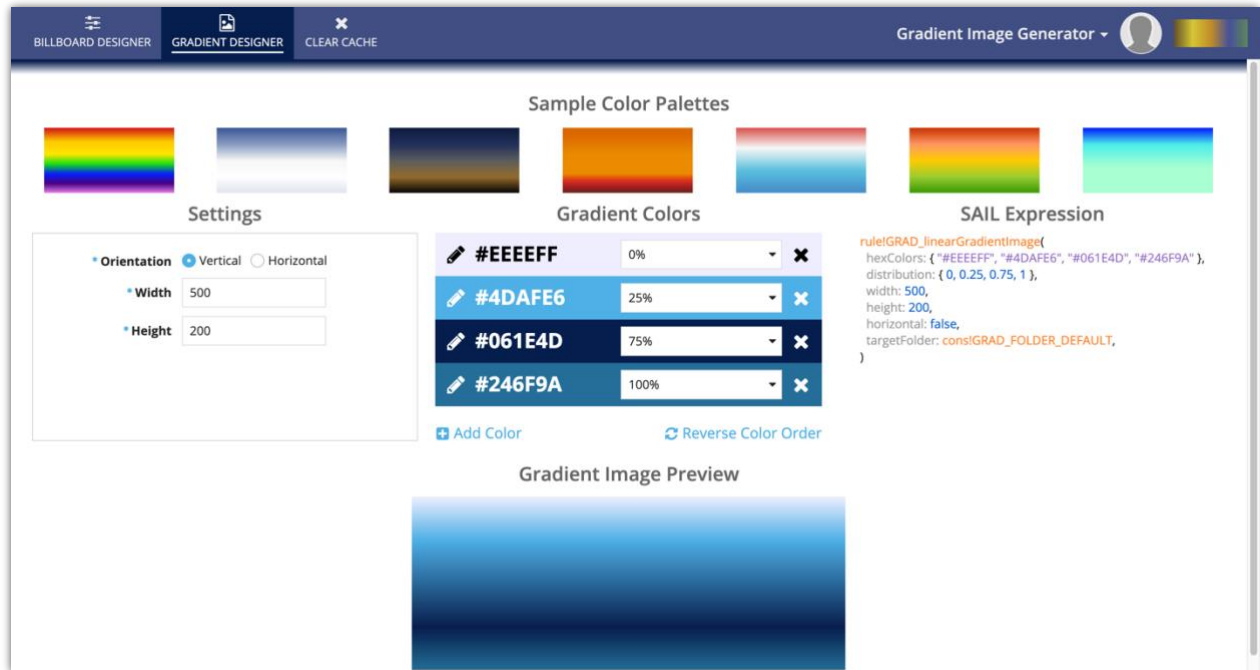
This page of the Site allows you to experiment with Billboard background colors and produces a SAIL Expression snippet that you can copy and paste into your Interfaces.

The screenshot shows the 'Billboard Designer' interface within the 'Gradient Image Generator' application. The top navigation bar includes 'BILLBOARD DESIGNER', 'GRADIENT DESIGNER', and 'CLEAR CACHE'. The main header displays 'Gradient Image Generator' with a user profile icon. Below the header, a dashboard section shows 'WELCOME, ROB MUNROE' with a 'Vice President' role, 'OPEN REQUESTS' (13 RECENT, +52% NEW REQUEST(S)), 'SETTLED REQUESTS' (8 RECENT, -11% TODAY VS YESTERDAY), and 'AVE TIME (MIN)' (2 RECENT, +52% TODAY VS YESTERDAY). The main content area is divided into three sections: 'Settings', 'Colors', and 'SAIL Expression'. The 'Settings' section has 'Billboard Height' options: SHORT (selected), MEDIUM, TALL, and AUTO. The 'Colors' section has three color pickers: 'Top Color' (H: 220, S: 86, L: 16, R: 6, G: 30, B: 77, HEX: #061e4d), 'Bottom Color' (H: 220, S: 60, L: 35, R: 36, G: 72, B: 143, HEX: #24488f), and 'Gauge Color' (H: 202, S: 75, L: 60, R: 77, G: 175, B: 230, HEX: #4d4fe6). The 'SAIL Expression' section shows a code snippet for 'aiheaderContentLayout' with a 'header' block containing 'ai billboardLayout' and 'backgroundMedia: ai documentImage' with a 'document' rule for 'rule!GRAD\_billboardGradientImage' and 'targetFolder: const!GRAD\_FOLDER\_DEFAULT'.

Simply change the values of the **Billboard Height**, **Top Color**, and **Bottom Color** to alter the Billboard's background.

# Gradient Designer

This page of the Site allows you much finer-grained control over gradient image generation.



To begin click on a gradient in the Sample Color Palettes, or simply modify the default gradient provided. As you make changes to the Settings and Gradient Colors, the resulting image will appear below, and the SAIL Expression snippet will update, allowing you to copy and paste into your Interfaces.

## Settings

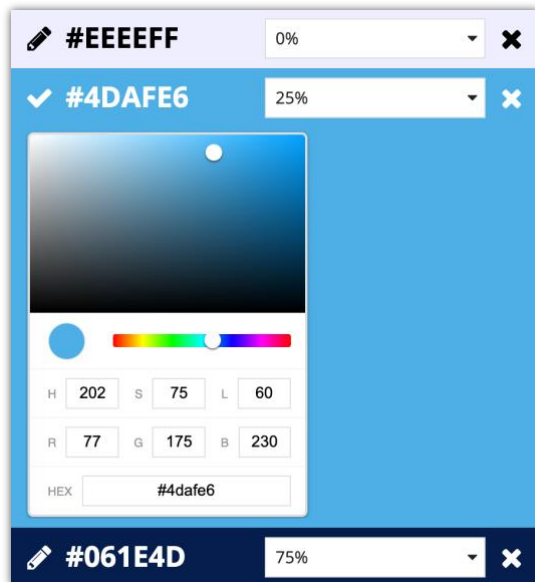
These values will alter the orientation and size in pixels of the generated image.

## Gradient Colors

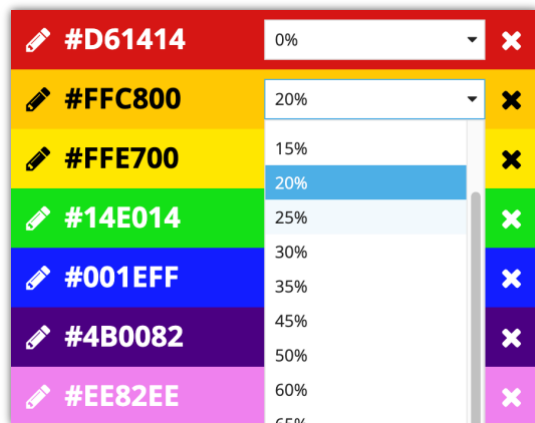
This is the list of colors, either top to bottom if the orientation is Vertical, or left-to-right if Horizontal.



To edit a color, click the **pencil icon** next to the color hex code. This will display a color picker allowing you to alter the color. When done, click the checkmark to hide the color picker.



To adjust where the color is positioned in the gradient, select a value from the **Distribution dropdown**. Note that you can only select values that differ from the existing colors, so you may need to alter another color's to position first.



To remove the color from the gradient, click the **X icon**.

To add a new color, click the **Add Color** link.

To reverse the order of the colors in the gradients (but keeping the distribution percentages the same) click the **Reverse Color Order** link.

## SAIL Expression

This section produces a snippet of SAIL that can be pasted anywhere in your application that accepts a `Document`, including `a!documentImage()`.

## Gradient Image Preview

This image is the result of the selected values in the designer. To download the PNG file, simply click on the image.

## Clear Cache

This page is the start form for a process that will delete all images in the **Default Image Folder**, which is where the designer UIs store the generated images.

Note that if you delete an image created by this application, reloading Interfaces that still reference the plugin (e.g. reloading the Site and designer pages) will regenerate the gradient images.

# Changelog

Date	Version	Description
2020-09-04	1.0	<ul style="list-style-type: none"><li>Initial version</li></ul>