**Quiz: Image Optimization Environment**

Before you start automating your build process with tools like ImageMagick or ImageOptim, you will first need to [**install Node.js**](https://nodejs.org/en/download/). [**Node.js**](https://nodejs.org/en) is a JavaScript runtime built on [**Chrome's V8 JavaScript engine**](https://developers.google.com/v8/). It also comes with a package manager, [**npm**](https://www.npmjs.com/), that gives you access to thousands of code packages, like Grunt, that you can use in your projects. **Make sure you've**[**installed Node.js and updated npm**](https://docs.npmjs.com/getting-started/installing-node)**.** Then, use the links below to finish setting up your build process.

ImageMagick:

* [**ImageMagick**](http://www.imagemagick.org/)
* [**Simple ImageMagick installer for Mac**](http://cactuslab.com/imagemagick/)
* [**GraphicsMagick**](http://www.graphicsmagick.org/) (a fork of ImageMagick)

Grunt:

* [**Coach JohnMav's Webcast**](https://discussions.udacity.com/t/grunt-and-setting-up-a-grunt-workflow-intermediate/21984?_ga=1.59327722.672083044.1467344711) with step-by-step instructions for setting up Grunt
* [**Getting started with Grunt**](http://gruntjs.com/getting-started)
* [**Grunt for People Who Think Things Like Grunt are Weird and Hard**](http://24ways.org/2013/grunt-is-not-weird-and-hard/)
* [**Generate multi-resolution images with Grunt**](http://addyosmani.com/blog/generate-multi-resolution-images-for-srcset-with-grunt/)
* [**Grunt plugin for generating multiple images**](https://github.com/andismith/grunt-responsive-images)

Files used in scripting examples:

* [**convert.sh**](http://udacity.github.io/responsive-images/convert.sh) (includes instructions)
* [**Gruntfile.js**](http://udacity.github.io/responsive-images/Gruntfile.js) (remove line 7, engine: 'im', on Windows)
* [**Imager.js**](https://github.com/BBC-News/Imager.js/): responsive image loading developed for BBC News

Image processing tools:

* [**ImageOptim**](http://imageoptim.com/) (Mac only)
* [**Trimage**](http://trimage.org/) - Similar to ImageOptim (Windows, Mac, Linux)
* [**ImageAlpha**](https://github.com/pornel/ImageAlpha)
* [**File Optimizer**](http://nikkhokkho.sourceforge.net/static.php?page=FileOptimizer) (Windows, Linux)