29 December 2017

INTRODUCTION TO SASS

Syntactically Awesome Style Sheets (SASS)

What is SASS?

- SASS is a popular preprocessor to CSS
- Sass allows the use of the concept of DRY (don't repeat yourself)
- LESS is another preprocessor competitor to SASS (you would only need to learn one CSS preprocessor language).

Syllabus:

- Introduction
- SASS vs SCSS vs CSS
- Setup (Mac)
- SASS Hello World
- Sass Concepts
- Partials & Imports
- Mix-ins and Inheritance (@extend)
- Nesting
- Functions
- Conditions and Loops

Useful Links:

- http://sass-lang.com/
- https://www.youtube.com/watch?v=S4mPsoZ7sG4&index=3&list=PLUoqTnNH-2XxOt7UsKlTqbfrA2ucGosCR (Brad Hussey)
- https://www.youtube.com/watch?v=P1G4_zxOxtk (Help People)
- https://www.youtube.com/watch?v=St5B7hnMLjg (The net ninja)
- https://www.youtube.com/watch?v=fbVD32w1oTo&list=RDQMlTWf3p81b5Q&index=1 (LevelUpTuts)

Introduction & Overview:

What is a preprocessor? A scripting language that extends CSS and gets compiled into regular CSS syntax.

A ".sass or .scss" file is a preprocessed file that will later be converted to a ".css" file that the browser can understand.

Advantages of using SASS:

- Cleaner, reusable and extendable code
- Very easy syntax to learn
- Features like mixins, variables, extends, imports etc. (CSS like a programming language)
- More efficient workflow (especially for larger projects)

We will be looking at version 3 of SASS which introduces SCSS (Sassy CSS).

SASS VS SCSS VS CSS:

- Sass is a new syntax, it has no Curley braces or semicolons and uses indentation & nesting for hierarchy.
- SCSS is like vanilla CSS i.e. it has no new syntax to learn (valid CSS == valid SCSS) however it still access to the features of SASS such as mixins, variables etc.
- CSS is the original language that requires you to type everything, it has no mixins, variables etc. and can become very messy code.

We will use SASS syntax as it is a different syntax but once we have learned it we are able to use either SASS or SCSS (SCSS is the same as SASS but uses curly braces { } and semicolons ; in its syntax just like CSS).

Setup (Mac):

Go to http://sass-lang.com/ to follow the guide on installing SASS onto your computer.

SASS requires ruby dependency but if you are using a Mac, Ruby comes pre-installed on your machine. You can installs SASS either using a Application (e.g. Koala) or through the command line. Ruby uses gems as its package manager.

Install SASS:

1. Open Terminal
2. Install Sass using the terminal command (*sudo for super user do*):

   ```
   sudo gem install sass
   ```

3. Double check SASS is installed on your machine by typing the command:

   ```
   sass -v
   ```

It should return Sass version number e.g: `sass 3.5.4`

You should now be ready to use SASS in your projects.

Please refer to the sass-lang.com/install page to view installation instruction for other operating systems (OS).

SASS Hello World:

In this example we will be creating our first sass file to understand how our sass file is compiled to spit out our css file for our Hello World html page. The project files can be found in the Sass Hello World Example folder.

We can write our SASS codes in any editor of your choice (we will be using CS Code/Atom as our text editor).

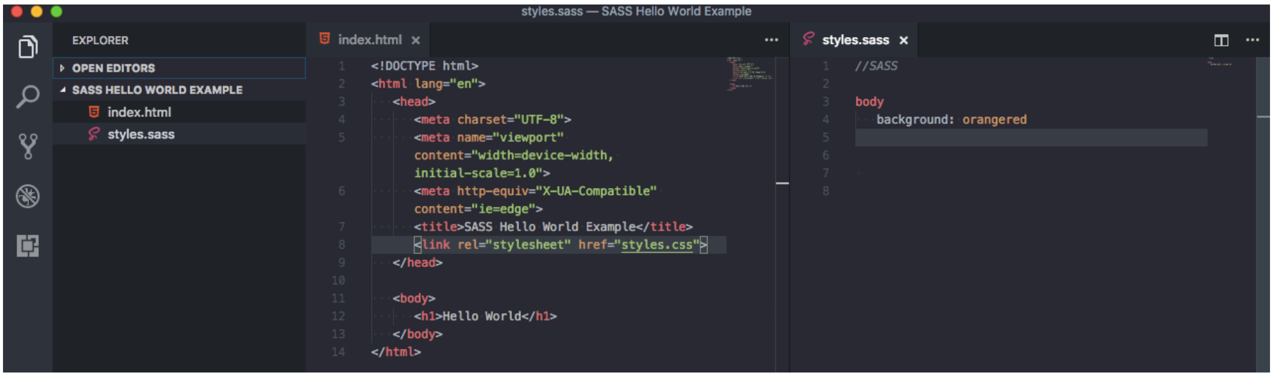
SASS require a compiler to compile the preprocessed .sass (or .scss) files into .css files. We can use either a GUI Application such as:

- Koala http://koala-app.com/ (Free)
- Codekit https://codekitapp.com/ (Paid/Free Trial (b*uy now popup every 15mins*))

or we can use the terminal as our sass compiler. In this example we will be using the terminal to compile our .sass file into .css code.

In the SASS Hello World Example folder we have two files:

- index.html (within <Body> tags we have Hello World in <h1> tags)
- styles.sass (our sass file to make the body-colour of our html page orangered)



index.html

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <meta name="viewport"
        content="width=device-width,
        initial-scale=1.0">
        <meta http-equiv="X-UA-Compatible"
        content="ie=edge">
        <title>SASS Hello World Example</title>
        <link rel="stylesheet" href="styles.css">
    </head>

    <body>
        <h1>Hello World</h1>
    </body>
</html>
```

styles.sass

```
//SASS

body
    background: orangered
```

We require Terminal (or GUI application) to compile our sass code into plain css code which the browser can read. To do this we need to open up Terminal and cd into the directory containing our project files (.sass file). VS Code has an integrated terminal (*view>integrated terminal*) and this by default cd to the folder opened within the VS Explorer menu.

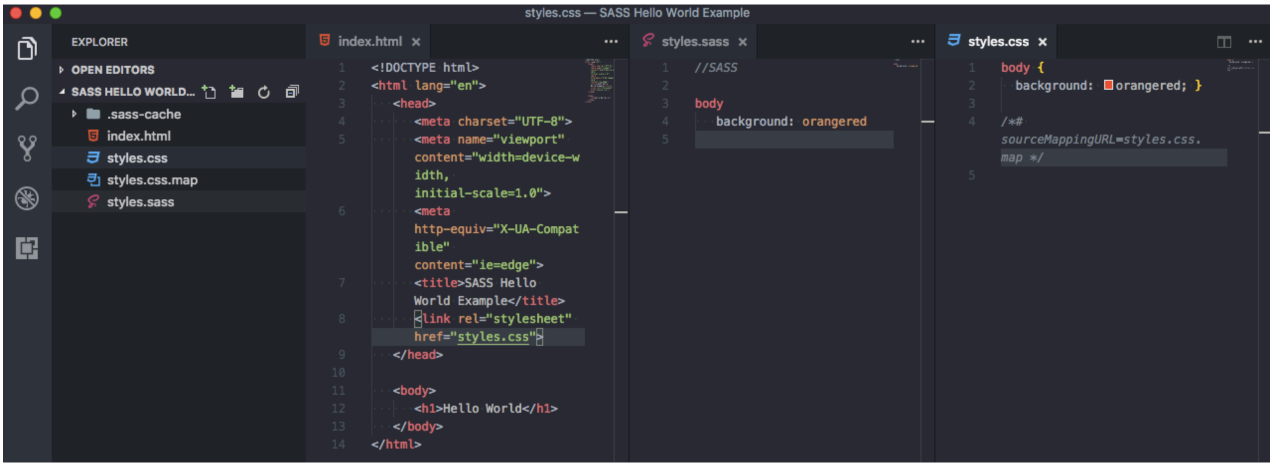
We now need to run the sass --watch command and add two arguments:

1. Which file/folder to watch and
2. Where to compile the css code.

The sass command in the terminal would look something like:

```
sass --watch styles.sass:styles.css
```

This will create a styles.css file if one does not already exist and a styles.css.map (mapping file ignore but do not delete).

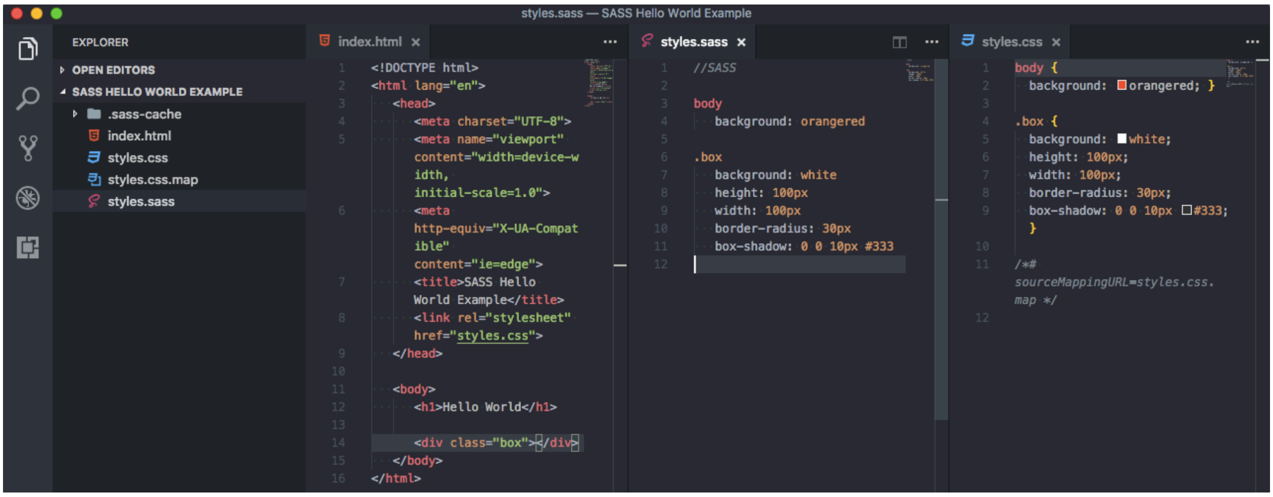


```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>SASS Hello World Example</title>
    <link rel="stylesheet" href="styles.css">
  </head>

  <body>
    <h1>Hello World</h1>
  </body>
</html>
```

```
//SASS

body
  background: orangered

```

```
body {
  background: orangered; }

/*# sourceMappingURL=styles.css.map */

```

Leave the terminal running in the background and the sass watch command will continue to run in the background and look for any changes made to the .sass file and compile it to the .css file (i.e. every time you press save to the .sass file). In the example above we added a new box style to the .sass file and pressed save to update the .css file.



```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta http-equiv="X-UA-Compatible" content="ie=edge">
    <title>SASS Hello World Example</title>
    <link rel="stylesheet" href="styles.css">
  </head>

  <body>
    <h1>Hello World</h1>

    <div class="box"></div>
  </body>
</html>
```

```
//SASS

body
  background: orangered

.box
  background: white
  height: 100px
  width: 100px
  border-radius: 30px
  box-shadow: 0 0 10px #333

```

```
body {
  background: orangered; }

.box {
  background: white;
  height: 100px;
  width: 100px;
  border-radius: 30px;
  box-shadow: 0 0 10px #333;
  }

/*# sourceMappingURL=styles.css.map */

```

To end the sass watch command simply press Ctrl+C in the terminal.