



Beginner's Guide to SASS

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Who am I?

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What is SASS?

SASS: „Syntactically Awesome Style Sheets“



So what is SASS then?

SASS is a CSS preprocessor

A what?



It's something like: „coding in CSS“



SASS has two syntaxes

SASS (indented syntax)

```
nav
  ul
    margin: 0
    padding: 0
    list-style: none

  li
    display: inline-block

  a
    display: block
    padding: 6px 12px
    text-decoration: none
```

SCSS

```
nav {
  ul {
    margin: 0;
    padding: 0;
    list-style: none;
  }

  li { display: inline-block; }

  a {
    display: block;
    padding: 6px 12px;
    text-decoration: none;
  }
}
```



Important SASS features

- Variables
- Nesting
- Partials
- Import
- Mixins
- Extend/Inheritance
- Operators



Variables

SCSS

```
$font-stack:    Helvetica, sans-serif;
$primary-color: #333;

body {
  font: 100% $font-stack;
  color: $primary-color;
}
```

CSS

```
body {
  font: 100% Helvetica, sans-serif;
  color: #333;
}
```




Nesting

SCSS

```
nav {  
  ul {  
    margin: 0;  
    padding: 0;  
    list-style: none;  
  }  
  
  li { display: inline-block; }  
  
  a {  
    display: block;  
    padding: 6px 12px;  
    text-decoration: none;  
  }  
}
```

CSS

```
nav ul {  
  margin: 0;  
  padding: 0;  
  list-style: none;  
}  
  
nav li {  
  display: inline-block;  
}  
  
nav a {  
  display: block;  
  padding: 6px 12px;  
  text-decoration: none;  
}
```



Partials

```
/*  
Theme Name: My Theme  
Theme URI: http://example.com/my-theme  
Author: Me  
Author URI: http://example.com/  
Description: Just a random theme  
*/  
@import "_variables"; // Sass files with leading underscore  
@import "_normalize";  
@import "_navigation";
```



Import

```
/*  
Theme Name: Twentyfifteen Child  
Theme URI: http://example.com/my-theme  
Author: Me  
Author URI: http://example.com/  
Description: Just a random theme  
Template: twentyfifteen  
*/  
  
// this is an ordinary CSS import  
@import "../twentyfifteen/style.css";  
// files without a extension in will merge in (they must have the extension .sass or .scss)  
@import "_variables";  
@import "_child_theme_styles";
```



Mixins („Functions“ in CSS)

SCSS

```
@mixin border-radius($radius) {  
  -webkit-border-radius: $radius;  
  -moz-border-radius: $radius;  
  -ms-border-radius: $radius;  
  border-radius: $radius;  
}  
  
.box { @include border-radius(10px); }
```

CSS

```
.box {  
  -webkit-border-radius: 10px;  
  -moz-border-radius: 10px;  
  -ms-border-radius: 10px;  
  border-radius: 10px;  
}
```



Extend/Inheritance

SCSS

```
.message {  
  border: 1px solid #ccc;  
  padding: 10px;  
  color: #333;  
}  
  
.success {  
  @extend .message;  
  border-color: green;  
}  
  
.error {  
  @extend .message;  
  border-color: red;  
}
```

CSS

```
.message, .success, .error {  
  border: 1px solid #cccccc;  
  padding: 10px;  
  color: #333;  
}  
  
.success {  
  border-color: green;  
}  
  
.error {  
  border-color: red;  
}
```



Operators

SCSS

```
.container { width: 100%; }

article[role="main"] {
  float: left;
  width: 600px / 960px * 100%;
}

aside[role="complimentary"] {
  float: right;
  width: 300px / 960px * 100%;
}
```

CSS

```
.container {
  width: 100%;
}

article[role="main"] {
  float: left;
  width: 62.5%;
}

aside[role="complimentary"] {
  float: right;
  width: 31.25%;
}
```



Extensions

- There are several extensions to add more features to SASS
- Probably the most used of those extensions is **Compass**
- It extends SASS with useful helpers and mixins
- Especially when using it for CSS3



Compass examples

SCSS

```
@import "compass";

.button {
  @include border-radius(2px);
  @include box-shadow(0 0 10px #666);
  @include background(
    linear-gradient(
      to bottom, #ccc 0%,#eee 100%
    )
  );
}
```

CSS

```
.button {
  -moz-border-radius: 2px;
  -webkit-border-radius: 2px;
  border-radius: 2px;
  -moz-box-shadow: 0 0 10px #666666;
  -webkit-box-shadow: 0 0 10px #666666;
  box-shadow: 0 0 10px #666666;
  background: url('...==');
  background: -webkit-gradient(
    linear, 50% 0%, 50% 100%,
    color-stop(0%, #cccccc), color-stop(100%, #eee)
  );
  background: -moz-linear-gradient(top, #ccc 0%, #eee 100%);
  background: -webkit-linear-gradient(top, #ccc 0%, #eee 100%);
  background: linear-gradient(to bottom, #ccc 0%, #eee 100%);
}
```




OK, so which browser supports SASS?

NOT A SINGLE ONE! 😞



And how does it work then?

SASS will be compiled



How will SASS be compiled?

- SASS/Compass (Ruby gem)
- libsass (C/C++ library, implemented in many programming languages)
- grunt-sass (libsass)/grunt-contrib-sass (ruby)
- grunt-compass (veraltet)/grunt-contrib-compass (ruby)
- gulp-sass (libsass)/gulp-ruby-sass (ruby)
- gulp-compass (ruby)
- CodeKit (Mac, commercial)
- Compass.app (Mac, commercial)
- <http://sassmeister.com/> (Online-Compiler with many extensions)



Alternatives

- CSS-Preprozessors:
 - LESS
 - Stylus
 - Myth
- CSS-Postprozessors
 - Autoprefixer
 - Pleeese (node.js)
- CSS3/CSS4 😊



Tips (comments)

Beware of comments!

- SASS knows two kinds of comments
 - single line comments (which do not exist in CSS)
 - block comments
- single line comments will be deleted on compilation
- block comments will remain in the compiled file



Tips (comments)

SCSS

```
$main-font-color: black;
$main-background-color: white;

body {
  color: $main-font-color;
}

.content {
  // color: $main-font-color;
  /*
  background-color: $main-background-color;
  margin: 0;
  */
  margin: 0 auto;
}
```

CSS

```
body {
  color: black;
}

.content {
  /*
  background-color: $main-background-color;
  margin: 0;
  */
  margin: 0 auto;
}
```



Tips (nesting)

HTML

```
<div class="main-nav">
  <ul class="nav-list">
    <li class="nav-node">
      <a class="nav-link" href="#"></a>
    </li>
    <li class="nav-node">
      <a class="nav-link" href="#"></a>
    </li>
    <li class="nav-node">
      <a class="nav-link" href="#"></a>
    </li>
  </ul>
</div>
```

SCSS

```
.main-nav {
  .nav-list {
    padding-left: 0;
    .nav-node {
      display: inline-block;
      .nav-link {
        color: black;
      }
    }
  }
}
```

PLEASE DON'T!!!



Tips (nesting)

SCSS (bad!)

```
.main-nav {  
  .nav-list {  
    padding-left: 0;  
    .nav-node {  
      display: inline-block;  
      .nav-link {  
        color: black;  
      }  
    }  
  }  
}
```

CSS

```
.main-nav .nav-list {  
  padding-left: 0;  
}  
.main-nav .nav-list .nav-node {  
  display: inline-block;  
}  
.main-nav .nav-list .nav-node .nav-link {  
  color: black;  
}
```




Tips (nesting)

SCSS (better!)

```
.main-nav {  
  .nav-list {  
    padding-left: 0;  
  }  
  .nav-node {  
    display: inline-block;  
  }  
  .nav-link {  
    color: black;  
  }  
}
```

CSS

```
.main-nav .nav-list {  
  padding-left: 0;  
}  
.main-nav .nav-node {  
  display: inline-block;  
}  
.main-nav .nav-link {  
  color: black;  
}
```



Tips (The Parent Selector „&“)

SCSS

```
/* wrong */
.nav-link {
  color: black;
  .active { color: navy; }
  :hover { color: gray; }
}

/* correct */
.nav-link {
  color: black;
  &.active { color: navy; }
  &:hover { color: gray; }
}
```

CSS

```
/* wrong */
.nav-link { color: black; }
.nav-link .active { color: navy; }
.nav-link :hover { color: gray; }

/* correct */
.nav-link { color: black; }
.nav-link.active { color: navy; }
.nav-link:hover { color: gray; }
```



Tips (The Parent Selector „&“)

SCSS (not easy to understand)

```
.social-link {  
  border: 0;  
  &-facebook {  
    background-image: url(facebook.png);  
  }  
  &-twitter {  
    background-image: url(twitter.png);  
  }  
}
```

CSS

```
.social-link {  
  border: 0;  
}  
.social-link-facebook {  
  background-image: url(facebook.png);  
}  
.social-link-twitter {  
  background-image: url(twitter.png);  
}
```



Tips (The Parent Selector „&“)

SCSS (redundant nesting)

```
.message {  
  span {  
    a {  
      border-color: gray;  
    }  
  }  
}  
body.error .message {  
  span {  
    a {  
      border-color: red;  
    }  
  }  
}
```

SCSS (optimized)

```
.message {  
  span {  
    a {  
      border-color: gray;  
      body.error & {  
        border-color: red;  
      }  
    }  
  }  
}
```



Tips (useful Mixins)

Different contents per pixel ratio (Retina)

```
@mixin pixel-ratio($ratio){
  @media (-webkit-min-device-pixel-ratio: $ratio), /* Webkit browsers */
         (min--moz-device-pixel-ratio: $ratio), /* old Firefox (prior to FF 16) */
         (min-resolution: #{$ratio}dppx), /* the standard using dppx */
         (min-resolution: #{$ratio * 96}dpi){ /* fallback using dpi */
    @content;
  }
}
```



Tips (useful Mixins)

Different background images per pixel ratio

```
@mixin background-image-hidpi($normalImage, $hdpiImage, $ratio){  
  // normal image  
  background-image: url("#{normalImage}");  
  // high dpi image  
  @include pixel-ratio($ratio){  
    background-image: url("#{hdpiImage}");  
  }  
}
```



Tips (useful Mixins)

Mobile First with IE<9

```
@mixin respond-to-ie($size){
  @if $old-ie {
    @content;
  } @else {
    @media all and (min-width: $size) {
      @content;
    }
  }
}
```

```
<!--[if lte IE 8]>
<link rel="stylesheet" href="old_ie.css" media="all" />
<![endif]-->
<!--[if gt IE 8]><!-->
<link rel="stylesheet" href="styles.css" media="all" />
<!--<![endif]-->
```

style.scss

```
$old-ie: false !default;
@import "_respond-to-ie";

@include respond-to-ie($breakMedium){
  body {
    margin: 0;
  }
}
```

old_ie.scss

```
$old-ie: true;
@import styles.scss
```



Tips (alternative stylesheets)

```
<link rel="stylesheet" title="(current)" href="topnav_current.css" />  
<link rel="stylesheet alternate" title="red" href="topnav_red.css" />  
<link rel="stylesheet alternate" title="blue" href="topnav_blue.css" />  
<link rel="stylesheet alternate" title="green" href="topnav_green.css" />
```

```
// overwrite navigation Colors  
$topnavBackgroundColor: transparent;  
$topnavColor: $colorWhite;  
$topnavHoverBackgroundColor: $colorWhite;  
$topnavHoverColor: $colorWhite;  
$topnavActiveBackgroundColor: #3F80E9;  
$topnavActiveColor: $colorWhite;  
$subnavBackgroundColor: #3F80E9;  
$subnavColor: $colorWhite;  
$subnavDividerColor: $colorWhite;
```

```
@import "topnav_medium";
```




Sources/Links

- <http://sass-lang.com/>
- <http://compass-style.org>
- <http://sass-compatibility.github.io/>

Questions?



Thanks and have fun with SASS!