About the Tutorial

Materialize is a UI component library created with CSS, JavaScript, and HTML. Materialize UI components help in constructing attractive, consistent, and functional web pages and web apps, while adhering to modern web design principles such as browser portability, device independence, and graceful degradation. It helps in creating faster, beautiful, and responsive websites. It is inspired from Google Material Design.

Audience

This tutorial is meant for professionals who would like to learn the basics of Materialize and how to use it to create faster, beautiful, and responsive web pages and apps. This tutorial explains all the fundamental concepts of Materialize.

Prerequisites

Before proceeding with this tutorial, you should have a basic understanding of HTML, CSS, JavaScript, Document Object Model (DOM), and any text editor. In addition, it will help if you know how web-based applications work.

Execute Materialize Online

For most of the examples given in this tutorial, you will find a Try-it option. Use this option to execute your Materialize programs on the spot and enjoy your learning. Try the following example using the Try-it option available at the top right corner of the following sample code box.

```html
<!DOCTYPE html>
<html>
  <head>
    <title>The Materialize Example</title>
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/css/materialize.min.css">
    <script type="text/javascript" src="https://code.jquery.com/jquery-2.1.1.min.js"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/js/materialize.min.js"></script>
  </head>
  <body>
    <div class="card-panel teal lighten-2"><h3>Hello World!</h3></div>
  </body>
</html>
```
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Materialize is a UI component library created with CSS, JavaScript, and HTML. Materialize reusable UI components help in constructing attractive, consistent, and functional web pages and web apps while adhering to modern web design principles such as browser portability, device independence, and graceful degradation.

Some of its salient features are as follows:

- In-built responsive designing.
- Standard CSS with minimal footprint.
- New versions of common user interface controls such as buttons, checkboxes, and text fields adapted to follow Material Design concepts.
- Enhanced and specialized features such as cards, tabs, navigation bars, toasts, and so on.
- Free to use and requires jQuery JavaScript library to function properly.
- Cross-browser, and can be used to create reusable web components.

**Responsive Design**

Materialize has in-built responsive designing so that the website created using Materialize will redesign itself as per the device size. Materialize classes are created in such a way that the website can fit any screen size.

The websites created using Materialize are fully compatible with PC, tablets, and mobile devices.

**Extensible**

Materialize is by design very minimal and flat. It is designed considering the fact that it is much easier to add new CSS rules than to overwrite the existing CSS rules. It supports shadows and bold colors. The colors and shades remain uniform across various platforms and devices.

And most important of all, it is absolutely free to use.
How to Use Materialize?

There are two ways to use Materialize:

**Local Installation** - You can download the `materialize.min.css` and `materialize.min.js` files on your local machine and include it in your HTML code.

**CDN Based Version** - You can include the `materialize.min.css` and `materialize.min.js` files into your HTML code directly from the Content Delivery Network (CDN).

### Local Installation

- Go to [http://materializecss.com/getting-started.html](http://materializecss.com/getting-started.html) to download the latest version available.

- Then, put the downloaded `materialize.min.js` file in a directory of your website, e.g. `/js` and `materialize.min.css` in `/css`.

### Example

Include the css and js file in your HTML file as follows.

```html
<!DOCTYPE html>
<html>
    <head>
        <title>The Materialize Example</title>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
        <link rel="stylesheet" href="materialize.min.css">
        <script type="text/javascript" src="https://code.jquery.com/jquery-2.1.1.min.js"></script>
        <script src="materialize.min.js"></script>
    </head>
    <body>
        <div class="card-panel teal lighten-2"><h3>Hello World!</h3></div>
    </body>
</html>
```
It will produce the following result.

![Hello World!]

**CDN Based Version**

You can include the `materialize.min.js` and `materialize.min.css` files into your HTML code directly from the Content Delivery Network (CDN). [cdnjs.cloudflare.com](https://cdnjs.cloudflare.com) provides content for the latest version.

We are using cdnjs.cloudflare.com CDN version of the library throughout this tutorial.

**Example**

Rewrite the above example using `materialize.min.css` and `materialize.min.js` from cdnjs.cloudflare.com CDN.

```html
<!DOCTYPE html>
<html>
    <head>
        <title>The Materialize Example</title>
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
        <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/css/materialize.min.css">
        <script type="text/javascript" src="https://code.jquery.com/jquery-2.1.1.min.js"></script>
        <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/js/materialize.min.js"></script>
    </head>
</html>
```
<body>
    <div class="card-panel teal lighten-2"><h3>Hello World!</h3></div>
</body>

It will produce the following result.

Hello World!
Materialize supports a rich set of color classes. These color classes are inspired and developed considering the colors used in marketing, road signs, and sticky notes.

- red
- pink
- purple
- deep-purple
- indigo
- blue
- light-blue
- cyan
- teal
- green
- light-green
- lime
- yellow
- amber
- orange
- deep-orange
- brown
- grey
- blue-grey
- black
- white
- transparent

Usage

Following is the list of lightness/darkness classes, which can be used to vary the color applied.

- lighten-1
- lighten-2
- lighten-3
- lighten-4
- lighten-5
- darken-1
- darken-2
- darken-3
- darken-4
- accent-1
- accent-2
- accent-3
- accent-4

Example
The following example demonstrates how to use the above classes to render the background or to change the color of the text. In case of background, add the classes as such and in case of text, suffix '-text' to color class and prefix 'text-' to lightning class.

**materialize_colors.htm**

```html
<!DOCTYPE html>
<html>
<head>
  <title>The Materialize Colors Example</title>
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/css/materialize.min.css">
  <script type="text/javascript" src="https://code.jquery.com/jquery-2.1.1.min.js"></script>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/js/materialize.min.js"></script>
</head>
<body>
  <h2>Color Theme Demo</h2>
  <hr />
  <div class="card-panel">
    <div class="card-panel red lighten-2">
      <h1>Red Colored Theme</h1>
    </div>
    <span class="red-text text-darken-2">
      <h2>Red Colored Text</h2>
    </span>
    <ul>
      <li class="red lighten-5">Using red lighten-5</li>
      <li class="red lighten-4">Using red lighten-4</li>
      <li class="red lighten-3">Using red lighten-3</li>
      <li class="red lighten-2">Using red lighten-2</li>
      <li class="red lighten-1">Using red lighten-1</li>
      <li class="red">Using red</li>
    </ul>
  </div>
</body>
</html>
```
<li class="red darken-1"><p>Using red darken-1</p></li>
<li class="red darken-2"><p>Using red darken-2</p></li>
<li class="red darken-3"><p>Using red darken-3</p></li>
<li class="red darken-4"><p>Using red darken-4</p></li>
<li class="red accent-1"><p>Using red accent-1</p></li>
<li class="red accent-2"><p>Using red accent-2</p></li>
<li class="red accent-3"><p>Using red accent-3</p></li>
<li class="red accent-4"><p>Using red accent-4</p></li>
</ul>
</div>
</body>
</html>

**Result**

Verify the result.
Materialize provides a 12 column fluid responsive grid.

It uses the row and column style classes to define rows and columns respectively.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Class Name &amp; Description</th>
</tr>
</thead>
</table>
| 1       | **row**
          | Specifies a padding-less container to be used for responsive columns. This class is mandatory for responsive classes to be fully responsive. |
| 2       | **col**
          | Specifies a column with sub-classes.                                                      |

**col** has several sub-classes meant for different types of screens.

### Columns for Small Screen Devices

Following is a list of column-level styles for small screen devices, typically smartphones.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Class Name &amp; Description</th>
</tr>
</thead>
</table>
| 1       | **s1**
          | Defines 1 of 12 columns with width as 08.33%.                                             |
| 2       | **s2**
          | Defines 2 of 12 columns with width as 16.66%.                                             |
| 3       | **s3**
          | Defines 3 of 12 columns with width as 25.00%.                                             |
| 4       | **s4**
          | Defines 4 of 12 columns with width as 33.33%.                                             |
|         | **s5  –  s11**                                                                           |
| 12      | **s12**
          | Defines 12 of 12 columns with width as 100%. Default class for small screen phones.       |
## Columns for Medium Screen Devices

Following is a list of column-level styles for medium screen devices, typically tablets.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Class Name &amp; Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>m1</td>
</tr>
<tr>
<td></td>
<td>Defines 1 of 12 columns with width as 08.33%.</td>
</tr>
<tr>
<td>2</td>
<td>m2</td>
</tr>
<tr>
<td></td>
<td>Defines 2 of 12 columns with width as 16.66%.</td>
</tr>
<tr>
<td>3</td>
<td>m3</td>
</tr>
<tr>
<td></td>
<td>Defines 3 of 12 columns with width as 25.00%.</td>
</tr>
<tr>
<td>4</td>
<td>m4</td>
</tr>
<tr>
<td></td>
<td>Defines 4 of 12 columns with width as 33.33%.</td>
</tr>
<tr>
<td></td>
<td>m5 – m11</td>
</tr>
<tr>
<td>12</td>
<td>m12</td>
</tr>
<tr>
<td></td>
<td>Defines 12 of 12 columns with width as 100%. Default class for medium screen phones.</td>
</tr>
</tbody>
</table>

## Columns for Large Screen Devices

Following is a list of column-level styles for large screen devices, typically laptops.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Class Name &amp; Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>l1</td>
</tr>
<tr>
<td></td>
<td>Defines 1 of 12 columns with width as 08.33%.</td>
</tr>
<tr>
<td>2</td>
<td>l2</td>
</tr>
<tr>
<td></td>
<td>Defines 2 of 12 columns with width as 16.66%.</td>
</tr>
<tr>
<td>3</td>
<td>l3</td>
</tr>
<tr>
<td></td>
<td>Defines 3 of 12 columns with width as 25.00%.</td>
</tr>
<tr>
<td>4</td>
<td>l4</td>
</tr>
<tr>
<td></td>
<td>Defines 4 of 12 columns with width as 33.33%.</td>
</tr>
<tr>
<td></td>
<td>l5 – l11</td>
</tr>
<tr>
<td>12</td>
<td>l12</td>
</tr>
<tr>
<td></td>
<td>Defines 12 of 12 columns with width as 100%. Default class for large screen devices.</td>
</tr>
</tbody>
</table>
Usage
Each subclass determines the number of columns of the grid to be used based on the type of a device. Consider the following HTML snippet.

```html
<div class="row">
    <div class="col s2 m4 l3">
        <p>This text will use 2 columns on a small screen, 4 on a medium screen, and 3 on a large screen.</p>
    </div>
</div>
```

Default columns to be used are 12 on a device, if a sub-class is not mentioned in the class attribute of an HTML element.

Example
materialize_grids.htm

```html
<!DOCTYPE html>
<html>
<head>
    <title>The Materialize Grids Example</title>
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/css/materialize.min.css">
    <script type="text/javascript" src="https://code.jquery.com/jquery-2.1.1.min.js"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/js/materialize.min.js"></script>
</head>
<body>
    <div class="teal">
        <h2>Mobile First Design Demo</h2>
        <p>Resize the window to see the effect!</p>
    </div>
</body>
</html>
```
# Mobile First Design Demo

Resize the window to see the effect!

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
</table>

This text will use **12 columns** on a small screen, **4 on a medium screen** (m4), and **3 on a large screen** (l3).

This text will use **4 columns** on a small screen (s4), **8 on a medium screen** (m8), and **9 on a large screen** (l9).
Materialize has several utility classes useful for day-to-day designing needs.

- **Color utility classes** – For example, .red, .green, .grey and so on
- **Alignment utility classes** – For example, .valign-wrapper, .left-align, .right-align, .center-align, .left, .right
- **Hiding Content utility classes as per device size** – For example, .hide, .hide-on-small-only, .hide-on-med-only, .hide-on-med-and-down, .hide-on-med-and-up and .hide-on-large-only
- **Formatting utility classes** – For example, truncate, hoverable

**Example**

`materialize_utilities.htm`

```html
<!DOCTYPE html>
<html>
<head>
    <title>The Materialize Example</title>
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href="https://fonts.googleapis.com/icon?family=Material+Icons">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/css/materialize.min.css">
    <script type="text/javascript" src="https://code.jquery.com/jquery-2.1.1.min.js"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/0.97.3/js/materialize.min.js"></script>
</head>
<body class="container">
    <h2>Materialize Utilities</h2>
    <hr/>
    <h3>Color Utilities Demo</h3>
    <div class="red">5.</div>
</body>
</html>
```
The latest versions of Apple Safari, Google Chrome, Mozilla Firefox, and Opera all support many HTML5 features and Internet Explorer 9.0 will also have support for some HTML5 functionality.

The mobile web browsers that come pre-installed on iPhones, iPads, and Android phones all have excellent support for HTML5.

Alignment Utilities Demo

Vertically Aligned Text

Left Aligned Text

Right Aligned Text

Center Aligned Text

Hide Utilities Demo

Hidden on all devices

Hidden on mobile devices

Formatting Utilities Demo

The latest versions of Apple Safari, Google Chrome, Mozilla Firefox, and Opera all support many HTML5 features and Internet Explorer 9.0 will also have support for some HTML5 functionality.

The mobile web browsers that come pre-installed on iPhones, iPads, and Android phones all have excellent support for HTML5.

Center Utility Demo
Result
Verify the result.
Formatting Utilities Demo

The latest versions of Apple Safari, Google Chrome, Mozilla Firefox, and O...

The mobile web browsers that come pre-installed on iPhones, iPads, and Android phones all have excellent support for HTML5.

Center Utility Demo

[Image of HTML5 logo with text: "LEARN HTML5 hyper text markup language"]
End of ebook preview
If you liked what you saw...
Buy it from our store @ https://store.tutorialspoint.com