

HTML5 + CSS3 + JavaScript



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## WEB DEVELOPMENT WITH HTML5, CSS3 AND JAVASCRIPT

View HTML5 + CSS3 + JavaScript course details at  
<http://www.edureka.co/front-end-web-development>

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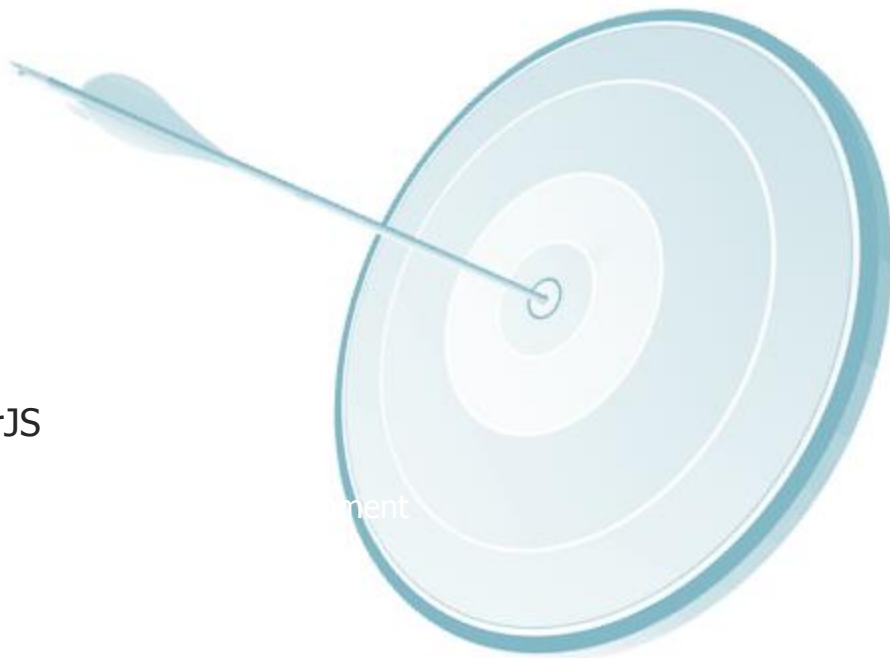
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At the end of this module, you will be able to:

- Importance of Web Development
- Web Designer Vs. Web Developer
- Front-end and Back-end Web Development
- HTML, CSS and JavaScript - An Overview
- JavaScript Frameworks - jQuery and AngularJS
- Advanced Web Development Topics



- **The Internet is ubiquitous**

- Accessible through mobile and desktop
- Customers/users need to find you/your business
- Builds trust in your organization and improves your reputation
- Your website is your first round-the-clock sales person!

- **The Website**

- Creates first impression of your business
- Create it to suit the needs of your target audience
- Reflects your expertise and reputation
- Can bring business from any part of the world!
- Call to Action – Encourage the users to give you business

- **You need Web Development skills to create a Website!**

- **A Web Designer**

- Designs the look and feel of a website (creative side of website)
- Decides the layout, fonts, color, images and overall branding
- Creates the visual mock-up of the website
- Rarely does the development of a website!
- A Right-brained (Creative) Person

- **A Web Developer**

- Brings the website mock-up to life on the Internet (development side of website)
- Develops the website and hosts on a web server
- Has Web Development Skills: HTML, CSS, JavaScript, PHP, Perl, Python, Java, Ruby
- A Left-brained (Logical) Person

- **Gain Web Development skills to become a Web Developer!**

LEARN	
RUBY	PHOTOSHOP
ANGULAR	ILLUSTRATOR
HTML&CSS	UI
PHP	BRANDING
PYTHON	TYPOGRAPHY
JAVASCRIPT	UX
SWIFT	ILLUSTRATION
WORDPRESS	INDESIGN
ANDROID	PRINT
CODE	DESIGN

Courtesy: [www.smashingmagazine.com](http://www.smashingmagazine.com)

- **Front End Web Development**

- Defined components on the page with HTML
- Make them look pleasing with CSS
- Enable interactivity with JavaScript
- Enhance productivity with use of frameworks

- **Back End Web Development**

- Create the page components and content dynamically on the web server
- Send the HTML + CSS + JavaScript to web browser (used by a human user)
- Generate pages by programming in Java, JavaScript, PHP, Perl, Python, Ruby
- Aim to achieve fast response times to end users

- **Front End Web Development is the focus of this webinar!**

## ■ HTML

- Hypertext Markup Language
- Structure of Page



## ■ JavaScript

- Interactivity with User
- Dynamic Updates in a Web Page



## ■ CSS

- Cascading Style Sheets
- Presentation/Styling



- **HyperText**
  - Text with references (hyperlinks) to other text
- **"Hyper" - meaning**
  - Greek Origin: "over", "beyond"
- **First Idea**
  - Vannevar Bush, USA, in 1945





- Save the following code in a test.html file

```
<!DOCTYPE html>
<html>
  <head>
    <title>This is a Edureka Course</title>
  </head>
  <body>
    <p>Welcome to HTML5, CSS3 and JavaScript!</p>
  </body>
</html>
```

- A Web Site

- Serves one or more HTML Pages
  - Default Page: index.html, index.php

- Served / Hosted by a Web Server

- HTTP Web Server
  - httpd, apache2, Ngnix, inetmgr.exe - Internet Information Server (Microsoft's)
- Web Application Server
  - Apache Tomcat (Open Source), IBM WebSphere (Licensed)

- Technologies

- HTML, HTTP, TCP/IP Protocols
- Operating Systems: Linux, Windows, MacOS

- **HTML (Web) Page / Document**

- User Interface for the Web (site or application)
- A plain text file – human readable
- Transported on HTTP - HyperText Transfer Protocol

- **Page Types**

- Static – ready-made pages with fixed page content
  - File Extension: .html, .htm
- Dynamic – generated on the fly with varying page content
  - Generated on the Web Server
  - Interspersed with JavaScript, PHP, JSP, ASP
  - File Extensions: .js, .php, .jsp, .asp, .aspx

- **Cascading Style Sheet**

- Describes the look and formatting of a page
- Used for Changing Presentation and Styling
- Can apply to a mark-up language

- HTML, XHTML, XML, SVG

- Separates Content from *Presentation*

- Properties (*Attributes*) Styled

- Layout, Font (Typography), Color, Background
- Box Properties: Border, Margin, Padding
- Lists, Tables



## ▪ Style Selector

- The HTML elements to which the Style rule should be applied
- It is a match expression
- Specified as:
  - Element's tag name
    - ❖ h1, p, label - case insensitive
  - Value of Element's attribute
    - ❖ id, class - Case Sensitive
  - Element's placement in the Document tree
    - ❖ Child element is nested within Parent
    - ❖ A Sibling element is at the same nesting level

## ■ CSS Declaration Block

- List of **Declarations**
- Enclosed in **curly braces** `{ . . . }`
- Declaration
  - **property** : **value(s)** ;
- **property** and **value(s)** are pre-defined
- **Property name** is unique
- **Property value** – Specified in multiple formats
  - keywords (words) or mnemonics (in combination with some symbols like: **#**, **/**)
  - numerical, hexadecimal, or a combination
  - some values may have **units of measure**

## ▪ New CSS3 Structural Pseudo-Class Selectors

-  • **E:first-of-type** – Selects the first element of type **E** for its parent

```
li:first-of-type { color: red; }
```

-  • **E:last-of-type** - Selects the last element of type **E** for its parent

```
li:last-of-type { color: yellow; }
```

-  • **E:only-child** - Selects if **E** is only the child of its parent

```
li:only-child { color: blue; }
```

-  • **E:nth-child(n)** - Selects nth child of the element **E**

```
li:nth-child(3) { color: yellow; }
```

-  • **E:nth-last-child(n)** - Selects nth last child of the element **E**

```
li:nth-last-child(2) { color: red; }
```

- Transformation
  - Change of position, shape and size of an element
- CSS3 Transforms
  - 2-D: Two Dimensions
  - 3-D: Three Dimensions (not covered in this course)
- Transform Operations
  - move, scale, spin, stretch and turn elements



- Specified with **transform** attribute

- Translation – Movement along X-axis and Y-axis

```
transform: translate( 50px, 100px );
```

- Rotation – in clock-wise direction

```
transform: rotate( 5deg );
```

- Scaling – increase/decrease size along width and height

```
transform: scale( 2, 2 );
```

- Skewing – tilting (turning) in X-axis and Y-axis directions

```
transform: skew( 10deg, 5deg );
```

- Changing from one style to another (on an event)

- CSS property on which the transition effect has to take place
- Time Duration over which transition has to take place (smoothly)

- ❖ Specified in seconds (s) or milliseconds (ms)

```
p { width: 100px; }
```

```
p:hover { width: 200px; transition: width 2s; }
```

- Transition starts on events
  - ❖ Events: **hover**, **active**, **checked**, **focus**, **enabled**, **disabled**
  - ❖ **@media** queries, and **JavaScript**

- Specify multiple transitions sets with a comma

```
p { width: 200px; height: 100px; }
```

```
p:hover {  
    width: 400px; height: 200px;  
    transition: width 2s, height 5s; }
```

- Mocha, later renamed as LiveScript - Developed by Netscape
- Based on ECMAScript 5.1 (Ver. 6.0 is finalized in mid 2015)
- ~~Live~~Script → JavaScript (due to Java popularity)
- Scripting Language for Web Browsers
  - Dynamically Typed
  - Interpreted by JavaScript Engine
- Can not Do (for Security Reasons)
  - Unlimited reading/writing of files from **client machine**'s file system
  - Writing to the files on the **Server**
  - Can not close a window that was not opened by **it**
  - Can not read from a web page served by **another web server**
- Microsoft's version - JScript



- Structure and Style of a Page, Access / Update Content
- DOM + JavaScript = Dynamic HTML (on client-side)
- What JavaScript can do with DOM?
  - Change an HTML Element
  - Change an attribute of an HTML Element
  - Change the CSS style of an HTML Element
  - Remove an existing HTML element or its attributes
  - Add new a HTML Element or a new attribute to an Element
  - React to an event associated with an HTML Element
  - Create a new event listener and associate with an HTML Element

- DOM Methods – Finding HTML Elements

- `getElementById()` Method

- Gets the HTML Element with specified ID

- `getElementsByClassName()` Method

- Gets the HTML Elements with specified class name

```
document.getElementsByClassName("middlePara")[0].innerHTML = "Welcome  
to Edureka!";
```

```
document.getElementsByClassName("middlePara")[1].innerHTML = "This is  
HTML5, CSS3 and JavaScript Course!";
```

- `getElementsByTagName()` method

- Gets the HTML Elements with specified element tag

```
document.getElementsByTagName("p")[0].innerHTML = "Welcome to  
Edureka!";
```

```
document.getElementsByTagName("p")[1].innerHTML = "This is HTML5,  
CSS3 and JavaScript Course!";
```

- jQuery Core – a Cross-Platform JavaScript Library
  - Simplifies client-side JavaScript scripting for a web page
  - It is FREE and Open Source
  - Used by about 6,000 most visited websites
  - It uses the familiar HTML DOM model
- Latest Versions
  - Version 1.11.3 - has support for IE 6/7/8
  - Version 2.1.4 - has NO support for IE 6/7/8
  - Development Version
    - For use during development of the website
  - Minified Version
    - For use in production (live / online) use of website

- Why use jQuery?

- JavaScript Framework
- Separates HTML and JavaScript in a web page
- Eliminates cross-browser incompatibilities
- Simple/Short, Clean and Easy to read, write and understand

- What jQuery can do?

- Can Select Elements
  - Has Selectors are similar to CSS Selectors
- Can Manipulate the Selected Elements
- Can Modify the Style of the Selected Elements
- Supports Events, Effects and Animations
- Supports JSON Parsing and Ajax (Asynchronous JavaScript + XML)

- Download the latest version

- From jquery.com website

- Reference it in HTML file

- Host it on your Web Server and Use it with `<script>` tag

`<script src="jquery-2.1.3.js"></script>`

- Point to a Public Web Server and Use it with `<script>` tag

➤ **Google CDN Server** (recommended)      **CDN – Content Delivery Network**

`<script src="http://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js">  
</script>`

➤ **Microsoft CDN Server**

`<script src="http://ajax.aspnetcdn.com/ajax/jQuery/jquery-1.11.2.min.js">  
</script>`

➤ **MaxCDN CDN Server** (moved from MediaTemple, before that Amazon)

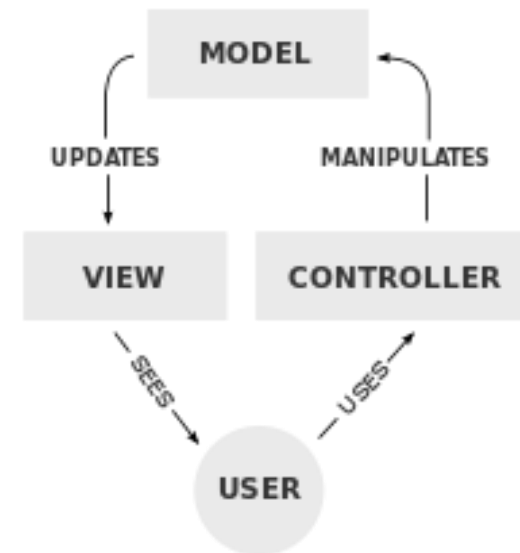
`<script src="http://code.jquery.com/jquery-2.1.3.min.js"></script>`



- Do not put the jQuery code in the `<script>` tag that loads jQuery library



- Developed by Google
- Based on MVC Pattern – on Front-End (Browser) side
  - Model – Sourcing and Managing Data
  - Controller – Application Logic – Decides what/when to display
  - View – Presentation of Data – How (Where) to display the data
- In AngularJS
  - Model
    - Represents current state of the application
    - Stored in Object Properties
  - View
    - Displays the data in the Page's DOM
  - Controller
    - Manages the relationship between the Model and the View (JavaScript Code)
  - Data Binding Concept
    - Map parts of UI to a JavaScript Object's properties
    - Sync between them happens automatically



- HTML Canvas, WebGL, SVG
- HTML5 Geolocation API
- HTML5 Drag and Drop API
- HTML5 Web Storage API
- HTML5 Web Workers
- HTML5 Server-sent Events

# Job trends for Full Stack Web Developer



→ **Module 1**

» HTML Part-1

→ **Module 2**

» HTML Part-2

→ **Module 3**

» CSS

→ **Module 4**

» HTML5

→ **Module 5**

» HTML5 Forms, Audio and Video

→ **Module 6**

» CSS3

→ **Module 7**

» Java Script- Part 1

→ **Module 8**

» Java Script- Part 2

→ **Module 9**

» jQuery and AngularJS

→ **Module 10**

» Advanced Web Programming

Criteria and guidelines mentioned in this presentation may change. Please visit our website for latest and additional information on Front End Web Development course.

# QUESTIONS



Thank you!

