**HTML AND CSS**

• HTML documents

• Using doctype

• The head element

• Using <head>

• The body element

• Using id and class attributes

HTML Text

• Headings

• Block and Inline Elements

HTML Lists

• List Types

• Creating Lists

• List Rendering

HTML Links

• Link concepts.

• Linking Documents

• Understanding Targets

• Linking to Targets

HTML Tables

• Table Elements

• Structuring a Table

• Table Data

• Spanning Columns and Rows

• Formatting Tables

HTML Images and Objects

• Image and Object Concepts

• Adding Images

• Adding Objects

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HTML Forms HTML Forms

• HTML forms fundamentals

Form Basics

• Form Settings

HTML form inputs

• Text inputs

• Selections

• Input attributes.

• Input commands.

Organizing HTML forms

• Labels

• Fieldsets

• Tab index

• Access keys

HTML form scenarios

• Scripting forms

• Handling multiple forms

HTML5 Fundamentals

What’s new in HTML5.

• What is HTML5?

• New HTML5 Elements

• New JavaScript APIs

• When is HTML5 Fully Compliant with All Browsers?

• Markup Example Before and After HTML5

• Detecting HTML5 Features

Semantic HTML

• What Is Semantic HTML?

• Auditing a Site for Semantic Issues

HTML Outlines

• Outlines in HTML4 vs. HTML5

• Text-level Semantic Elements

• Semantic Forms

Forms

• New Input Types?

• New Input Types: Markup Review

• New Input Types: In Different Browsers to Native

Validation

• Using the Datalist Tag

• Working with Pseudo Classes

• Exposing Custom Validation Messages

• Native Validation Rules

• Custom Validation Rules

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4 Styling with CSS

HTML5 Design

• XHTML vs. HTML5

• Building with HTML5

• HTML5 Audio & Video

• HTML5 Video Captions

Styling With CSS

• Overview of CSS

• Adding CSS and How

• Fonts

• Colors

• Shadowing

• Rounded Corners

• Gradients

• Transforms

Form Inputs

**BOOTSTRAP**

History of Bootstrap

• Need for Bootstrap

• Technologies and Features of Bootstrap

• Bootstrap Requirements

• Build a Template for Bootstrap Use

• Bootstrap Containers

• Bootstrap Grid System

• Bootstrap Typography

• Bootstrap Tables

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1,2 Bootstrap Forms & Layout

• Bootstrap Form

• Bootstrap Inputs

• Bootstrap Inputs Group

• Bootstrap List Groups

• Form State and Buttons

• Bootstrap Button Groups

• Bootstrap Images and Utilities

• Utilities for Positioning and Responsiveness

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(3+3)

2 Whole Page Controls &

Extending Bootstrap

• Navigation by Tabs, Pills and with Dropdown

• Navbar

• Breadcrumbs

• Pagination

• Carousel

• Toast

• Panels

• Labels

**JAVASCRIPT**

The Role of JavaScript in Web Applications

• The Document Object Model (DOM)

• Fundamentals of JavaScript

• JavaScript Arrays and Functions

• JavaScript Objects

• JavaScript Quirks

• JavaScript Closures

• Prototypes in JavaScript

2

1 Getting Started with

Javascript

• A Hello World App in JavaScript

• Communicating with End Users from JavaScript

• Separating HTML and JavaScript Sources

• Accessing the DOM from JavaScript

• The Use of Strict Mode

• Variable Declarations: var, let and const

• Empty Values in JavaScript: undefined and null

• User Interactions Using alert, prompt, and confirm

3

1 Operators & Control

Structures

• Numbers in JavaScript

• Initializing and Manipulating Strings in JavaScript

• Analyzing and Modifying Strings in JavaScript

• Dates in JavaScript

• Using the Math Library for Common Math Operations

• Arithmetic Operators

• Logical and Conditional Operators

• Type Casting

• Looping Control Structures

2

1 & 2 Functions & Arrays

• An Introduction to Functions in JavaScript

• Global and Local Variables

• Working with Functions

• The Fundamentals of Error Handling

• Creating Arrays

• Rest Parameters in JavaScript

The Spread Syntax for Arrays

• Destructuring Arrays

• Copying Arrays

• Splicing and Slicing Arrays

• Concatenating and Sorting Arrays

2 Objects

• An Introduction to JavaScript Objects

• Removing Properties from Objects

• The "this" Keyword in JavaScript Objects

• Linking Functions to Objects

• Object Constructors

• Creating New Objects from Existing Ones

• Object Methods

• Freezing Objects

• The map Method for JavaScript Arrays

• The reduce and filter Methods for JavaScript Arrays

• The instanceOf Operator

3

2 Web Fundamentals:

Dynamic Web Pages

• The Client-Server Environment

• The History and Purpose of JavaScript

• Variables in JavaScript

• Programming Concepts in JavaScript

• Manipulating Data with Arrays and String Functions

• Making HTML Dynamic Using JavaScript

• User Input and Form Validation

• Using JavaScript for Form Validation

• Using Pattern Recognition for Form Validation

• Working with JavaScript Date Operations

• Performing Mathematical Functions with JavaScript

• Using Classes to Build JavaScript Objects

**TYPESCRIPT**

What is TypeScript?

• Benefits of TypeScript

• Setup the Environment

• Basic Data Types

• Arrays

• Tuples

• Enum

• Any and void

• null and undefined

• Type Inference

• Type Casting

• Difference between let and var

• Const declaration

• Writing and Using Classes

• Constructor method

• Inheritance of classes

• Type Casting

• Type Assertion

• Abstract class

• Interface Declaration and Initialization with an object

• When to Use Generic Functions

**ANGULAR**

Getting Started

* What are Single Page Applications (SPA)

• Characteristics of Single Page Applications

• JavaScript Frameworks used to design and develop

SPA.

2

1 Angular Introduction

• What is Angular?

• Angular Environment and IDEs

• Installing Angular CLI and Creating a sample project

• Directory structure and various configuration files

• Bootstrapping Angular Application

• Understanding the Role of AppModule and

Component Declaration

• Angular CLI commands

• Installing Bootstrap and styling your application

• Decorators in Angular

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2 Components and

DataBinding

• What are Components?

• Manually Creating Components

• Working with Component Templates and

Component Styles

• Data Databinding

String Interpolation

• Property Binding

• One Way Binding

• Two Way Binding

• Event Binding

• Passing Data between Components

2, 3 Directives

• Understanding Directives

• Structural Directives and Attribute Directives

• ngIf to Output Data Conditionally

• ngIf with an Else Condition

• Styling Elements Dynamically with ngStyle

• CSS Classes Dynamically with ngClass

• Outputting Lists with ngFor

• Getting the Index when using ngFor

• Understanding ngSwitch

• HostListener to Listen to Host Events

• HostBinding to Bind to Host Properties

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(4+2)

3

Debugging and Error

handling

• Understanding Angular Error Messages

• Using VS Code to debug Angular Applications

• Using Angular DevTools to Dive into Angular Apps

• Creating and using Global Custom ErrorHandlers

• Using the new ng Object

4

3, 4 Life Cycle Hooks

• Understanding the Component Lifecycle

• Seeing Lifecycle Hooks in Action

• Tracking Changes

• Lifecycle Hooks and Template Access

• @ViewChild()

• Getting Access to the Template & DOM with

@ViewChild

• Projecting Content into Components with ng-content

• @ContentChild() decorator

• Getting Access to ng-content with @ContentChild

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(2+2)

4 Pipes

• Pure and Impure Pipes

• Using Built in Pipes

• The PipeTransform Interface

• Creating Custom Pipes

• Performance implications of Impure Pipes

6

5 Using Services &

Dependency Injection

• Understanding DI in Angular

• Constructor based hierarchical Injector

• Singleton and non-Singleton Objects

• Using Service Classes

• Working with various Decorators in DI

• @Injector()

• @Injectable()

8

6 Forms Programming

• Building Template Forms and Reactive Forms

• Understanding FormBuilder, FormGroup,

FormControl classes

• Validating Forms

• Creating Custom Validators

• Implementing Asynchronous Validations

• Submitting form data to the server

RXJS and Http

Programming

• RXJS Introduction

• Observables, Observers and Subjects

• Consuming Web Services

• Passing parameters using HTTP Headers

• Creating custom Http Interceptors

• Error handling in RXJS

• Routing Introduction

• Route Definition Object

8

Routing

• Router Outlets

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• Passing Parameters to Routes

• Life cycle of Router

• Implementing Guards and Resolvers