

Master Program in Java Full Stack Web Development

COURSE
BROCHURE & SYLLABUS

HTML

- What is Markup Language
- Basic Structure of HTML
- Meta Tags
- External Link Tags
- HTML Structure Tags
- Difference between HTML & XHTML
- Introduction to HTML5
- Whats new in HTML5
- HTML5 Semantic Tag
- HTML5 Multimedia
- Create Table, Div, and Frame Tag
- Content and Header Tags
- Paragraph, Span, Pre Tags
- Anchor Links and Named Anchors
- Iframe and Image Tag Implementing iFrame in Realtime
- Working with Forms
- Form Tag and Attributes
- POST and GET Method
- Text Input, TextArea, Checkbox and Radio
- Password Field
- Select Option, Option Group
- File Field and Hidden Fields
- Submit, Reset, Image Buttons
- HTML 5 Forms
- Canvas & SVGs
- Converting svgs into font-icons
- HTML5 Apis

CSS

- Introduction to CSS2 & CSS3
- Types of Style Sheets
- Media Type
- Default CSS Properties
- CSS Selectors
- Basic CSS Selectors
- Advanced CSS Selectors
- CSS properties
- Background Properties
- Block Properties
- Box Model Properties
- List Properties
- Border Properties
- Positioning Properties
- Flex
- Adding our own fonts to websites
- CSS Optimization and Compression Tips
- New CSS3 Properties
- CSS Rounded Corners
- Border Image
- Box and Text Shadow
- Multiple Backgrounds
- Background Origin
- Background Resize
- CSS Clip, Gradients, Opacity
- Transitions & Transform

JAVASCRIPT

- Introduction to Client-Side Scripting
- Introduction to Java Script
- Javascript Types
- Variables in JS
- Operators in JS
- Conditions Statements
- Java Script Loops
- JS Popup Boxes
- JS Events
- JS Arrays
- JS Objects
- JS Functions
- Using JavaScript in Realtime
- Validation of Forms
- Related Examples

JQUERY

- Introduction to jQuery
- jQuery Features
- Installing jQuery
- jQuery Syntax
- jQuery Ready Function
- jQuery Selectors
- jQuery Actions
- jQuery Custom Functionality
- jQuery Libraries
- jQuery Validation
- jQuery Slideshow

- **jQuery Dropdown**
- **JS Functions**
- **jQuery UI**
- **jQuery Accordions**
- **jQuery Tabs**
- **jQuery Tooltips**
- **jQuery Autocomplete**

JAVA PROGRAMMING

- **Introduction**
- **OOPS (Object Oriented Programming & Systems)**
- **STRING Manipulation**
- **Array**
- **Packages**
- **Exception Handling**
- **I/O Streams**
- **Multithreading**
- **Wrapper Classes**

MySQL Database

- **Understanding Basic SQL Syntax**
- **Querying Data with the SELECT Statement**
- **Filtering Results with the Where Clause**
- **Shaping Results with ORDER BY and GROUP BY**
- **Matching Different Data Tables with JOINS**

- **Creating Database Table stamp**

Spring Framework & spring Boot

- **Spring Framework**
- **Java Spring Boot**

ReactJS

- **React JS Basics**
- **React JS Features**
- **React JS Setup and Hello World Application**
- **React JS JSX**
- **React JS Component**
- **React JS State**
- **React JS Props**
- **React JS Constructor**
- **React JS Lifecycle**
- **React JS Events**
- **React JS Router**
- **React JS Forms**
- **React JS Tables**
- **React JS Portals**
- **React JS ES6**
- **React JS CSS**
- **React JS Hook**
- **React JS and Back End Integration**
- **React JS Using Back End CRUD Application**
- **React JS, JDK 1.8, Spring Boot, Hibernate, Maven, MySQL, Microservices,**

Project Lombok- Project Implementation

MongoDB

- Rest Api
- Authentication and Authorization
- Mini project - Quiz App
- Mongo DB
- Introduction & Overview of MongoDB
- MongoDB Installation
- CRUD Operation in MongoDB
- Data Modeling
- Storage Classes
- Indexing and Performance Considerations
- Aggregation
- MongoDB Replication

Angular Js

Module 1 - Introduction to Angular What is Angular?

- **Brief History of Angular Prerequisite for Angular Basic Understanding of CSS**
- **Basic Understanding on Javascript**
- **Introduction : Typescript**
- **Building Blocks of Angular**
- **What is Linting? Why does it matter to us?**
- **More on TSLint**
- **Exploring TSLint**
- **Playing With TSLint**

Module 2 - Modules

- **Modules: What makes it so cool?**
- **Modules: What does a Module look like?**
- **Modules: What does import do?**
- **Modules: Why Declarations & imports?**
- **Modules: Why Providers & Bootstrap?**
- **Modules: What is Root Module?**
- **Creating new module in Angular Application...**
- **Creating new Component in new module...**

Module 3 - Directives

- **Directives: What makes them so awesome?**
- **Directives: What really is a Directive?**
- **Directives: Types of Directives**
- **Directives: Flavours of Directives**
- **Directives: How to create Directives**
- **Directives: How does Directive look like?**

Module 4 - Components

- **What makes the Component so cool?**
- **Component Lifecycle**
- **Components: Components in Components**
- **Components: Component Interaction**
- **Components: More on Components**

Module 5 - Pipes

- **Pipes: What makes them so awesome?**
- **Pipes: What really is a Pipes?**
- **Pipes: Journey from filters to Pipes Syntax of Pipes and the Connection with**
- **Pipes: Types of Pipes**
- **Diving into Built-in Pipes**
- **Pipes: How to create Pipes**
- **Pipes: How does pipes look like? Using Multiple Pipes...**

Module 6 - Services

- **Services: What makes them so awesome?**
- **Services: What really is a Services?**
- **Services: Types of Services**
- **Services: How to create Services**
- **Services: How does Services look like?**

Module 7 – Routing

- **Routing: What does it take to do Routing ?**
- **Routing: What really is a Routing?**
- **Routing: Who does the real Routing?**
- **Angular Router: What is it?**
- **Routing: How to Create Routing**
- **Routing : How does Router look like**

Module 8 - Testing In Angular

- **What is Test Driven Development(TDD) And Behavioral Driven Development(BDD)?**
- **Testing Frameworks in JS**
- **Why to test angular code?**
- **Types of Testing**
- **How to run test?**
- **Testing: Jasmine**
- **Testing: Fundamental Concepts Dependency Injection (DI)**
- **Testing: Karma**
- **Testing: Test Entry File**
- **Component Testing**

- **Service Testing**
- **Directive Testing**
- **Pipe Testing**
- **Test debugging**

10. **Introduction to forms in Angular**

11. **Mini Project**

- **Mini Project: User Dashboard**
- **Using Bootstrap 4 in Angular Project**

AWS

1: **Introduction to AWS**

- **Navigate the AWS Management Console**
- **Recognise AWS Global Infrastructure**
- **Describe the security measures AWS provides**
- **Create an Amazon EC2 instance**
- **Remotely connecting to an EC2 instance**
- **Setting up Amazon Linux and Apache web server**
- **Browsing Amazon Machine Images (AMI)**
- **Specifying security groups and key pairs**
- **Creating new images off of running instances**

2: **AWS Storage**

- **Identify key AWS storage options**
- **Describe Amazon EBS**
- **Use Amazon EBS with Amazon EC2**
- **Working with Volumes and snapshots**
- **Transmitting data in/out of the Amazon cloud**

3: Installing Software in your Amazon Instance

- **Implementing a Web server in an Amazon Linux/Windows Instance**
- **Configure the firewall to access a Web server**

4: Security in Public Cloud

- **Security issues in Public Cloud**
- **Securing the Access : Creating a RSA Public/Private Key for VMs**
- **Creating a software firewall**
- **Configuring firewall rules**
- **Securing the access with an Elastic IPs**

5: Alternate access

- **Using EC2 Command Line APIs [from Windows/Linux machines]**

6: AWS-IAM

- **Creating Groups and Defining access policy**
- **Creating Users**
- **Login to AWS account using new users**

Linux

1: Overview to Linux & Unix based operating systems

- Unix, Linux, Debian
- Virtualization, software, diff b/w reg and virt
- OS Architecture
- Windows VS Linux
- Gnome and shell
- Types of shell
- FS Hierarchy

2: Working with Basic Linux Commands

- Access a shell prompt and issue commands with correct syntax Listing and navigating
- Log in and switch users in multiuser targets
- Archive, compress, unpack, and uncompress files using tar, star, gzip, and bzip2
- Create and edit text files
- Create, delete, copy, and move files and directories
- Create hard and soft links
- Locate, read, and use system documentation including man, info, and files in /usr/share/doc
- Access remote systems using SSH
- List, set, and change standard ugo/rwx permissions
- Create and configure set-GID directories for collaboration

3: System Configuration

- Use input-output redirection
- Use grep and regular expressions to analyze text
- Identify CPU/memory intensive processes and kill processes
- Manage tuning profiles
- Locate and interpret system log files
- Securely transfer files between systems

