

Day wise Agenda for **JAVA FULL STACK 90 DAYS**

Full Stack Development

Weekend	Weekday	Topic	Sub Topic
Day 1	Day 1	Introduction To Fullstack Technologies	What is Fullstack- What are the Requirements to build End to End Web Application?- What are the Challenges in modern web development?

Core Java- Back End

Weekend	Weekday	Topic	Sub Topic
Day 1	Day 2	Java Introduction	Introduction To Java, Java History, Why Java , Features of java
Day 2	Day 3	Installation	platform dependent, platform independent,jdk, jre ,jvm, installation of JDK AND EDIT ++
	Day 4	Structure of java	Structure of java, Difference between print and println , Tokens
Day 3	Day 5	Tokens and datatypes	Datatypes and variables, Scope of Variable
	Day 6	Operators	Types of operators
Day 4	Day 7	Decision making statement	Dynamic Read, Decision Making statements(if, if-else, if-else ladder, switch)
	Day 8	Programming	Logical programs on decision making
Day 5	Day 9	looping statements	Do while, for loop, while loop, nested loop with examples,
	Day 10	Programming	Logical Program on loops
Day 6	Day 11	Programming	Logical Programs interview based
	Day 12	Programming	Pattern printing program
Day 7	Day 13	Methods	Methods (types of methods), method call flow
	Day 14	Constructor	Static (method, variable, initializer), Constructor, class and object

Core Java- Back End

Day 8	Day 15	OOPS	non-static , Encapsulation , data hiding,
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Day 8	Day 16	OOPS	inheritance (types of inheritance, diamond problem)
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Day 9	Day 17	OOPS	polymorphism (method overloading, method overriding)
	Day 18	OOPS	Abstraction, Interface

Day 10	Day 19	Object class	Introduction to object class (toString, equals, hashCode)
	Day 20	Array	Arrays with example

Day 11	Day 21	Array	logical programs on arrays
	Day 22	Arrays Cont.	multidimensional array, comparable and comparator interface

Day 12	Day 23	Strings	Strings, string buffer, String builder
	Day 24	String program	logical programs on string

Day 13	Day 25	Exception handling	Exception and its types
	Day 26	Exception handling	exception handling mechanism (try-catch), exception object propagation, Checked exception

Day 14	Day 27	Exception handling	unchecked exception, custom exception, throw vs throws keyword, finally block
	Day 28	Wrapper class, Collection	Wrapper class, collection introduction

Day 15	Day 29	Collection	List, ArrayList, LinkedList
	Day 30	Collection	iterator, listIterator, foreach

Day 16	Day 31	Collection	Set(HashSet, TreeSet) , queue, stack
	Day 32	Collection	Map interface

Day 17	Day 33	Programming	logical programming
	Day 34	Programming	logical programming

Day 18	Day 35	MySQL	SQL introduction, installation of workbench
	Day 36	MySQL Contd.	Data types, Steps to create table, constraints (null, not null, unique)

Day 19	Day 37	MySQL Contd.	Constraints (check, default, primary key, composite primary key, foreign key)
	Day 38	MySQL Contd.	on delete cascade, alter statements, DML statement

Day 20	Day 39	MySQL Contd.	sql built in function (row level, group function), where clause, having clause
	Day 40	MySQL Contd.	like operator, joins

Day 21	Day 41	Hibernate Contd.	3.1. Hibernate : 1. Hibernate Introduction3. Hibernate Architecture4. Hibernate Session5. Hibernate SessionFactory
	Day 42	Hibernate Contd.	Hibernate Configuration, Hibernate with Annotation, Hibernate CRUD

Core Java- Back End

Day 22	Day 43	Hibernate Contd.	Hibernate Association Mapping : 1. One to One Mapping 2. One to ManyMapping 3. Many to OneMapping 4. Many to Many Mapping
	Day 44	JDBC	J2EE, JDBC, JDBC Introduction, JDBC Architecture, Database Overview, jdbc basics and example
Day 23	Day 45	JDBC	Resultset, Prepared Statement, Callable Statement
	Day 46	Spring	spring framework 3.2. Spring Framework 1. Spring Framework Introduction 2. Spring Basics 3. Inversion of Control 4. Dependency Injection 5. Beans Scope
Day 24	Day 47	Spring	Singleton Prototype Request Session Global-Session, Auto wiring
	Day 48	Spring MVC	Spring MVC Architecture, Spring Annotations, Spring MVC Basics , Spring MVC with Maven, creation of project
Day 25	Day 49	Spring MVC	Spring mvc first program with configuration, methods used in spring MVC
	Day 50	Springboot	Spring Boot Introduction Spring Boot Basics Why Spring Boot Spring Boot Features
Day 26	Day 51	Springboot	STS installation, creation of project, spring initializer
	Day 52	Springboot contd.	Deploy Spring Boot Applications on External Tomcat ServerSpring Boot – Common Application Properties (application.properties)Spring Boot, Hibernate with RESTFul Web ServiceSpring Boot, Spring Data with RESTFul Web Service
Day 27	Day 53	Springboot contd.	Rest api's and data jpa
	Day 54	Springboot contd.	Service, Controller, DAO, DTO layers
Day 28	Day 55	Springboot contd.	Spring Boot, Hibernate CRUD Application, Spring Boot, Spring Data JPA CRUD Application
	Day 56	Springboot contd.	Spring Boot, Hibernate, MySQL, Project Lombok CRUD Application

HTML (Front End)

Day 29	Day 57	Introduction to Web	Overview of Web And web application- Overview of Mobile and mobile applications- Web VS Mobile-Web Designer vs HTML Developer
	Day 58	Core Concept of html	Elements and Attributes (Tags, Introduction, Types (single tags/ empty tags/void tag/ self closing tag), paired tag, semantic tag, non semantic tag, Elements Introduction (types of elements) , attributes (types), predefined attributes, global attributes, style, id, class, element specific attributes, src, alt, type , custom /user defined attributes
Day 30	Day 59	important tags	Text tags (headings, paragraph, lists(ol,ul,dl), article , aside , Graphic tags(image, figure tag), Links(anchor, internal linking, external linking, hashbased navigation) multimedia tags (audio, video) maps, Layout tags (Div, Section, Header, Main, Nav, Footer)
	Day 60	Form	What is form and why should we create a form? Form tags and form attributes (form, form attributes, form methods, actions, enc-type, autocomplete, autofocus, novalidate, readonly, required)
Day 31	Day 61	Forms	Form Elements & form element attributes- Types 1. Input types 2. text 3. password 4. file 5. hidden 6. radio 7. checkbox 8. submit(Action Items) 9. reset(Action Items) 10. Textarea 11. Dropdown Box 12. select 13. option 14. Attributes of form elements 15. type 16. name 17. placeholder 18. value
	Day 62	HTML 5	2) HTML 5 Features with Examples- New structural elements <article> ,<header>,<footer>,<nav>,<section>,and<figure>- New from control calendar, date,time,email,url,search- New HTML5 API's- HTML Geolocation, HTML Drag And Drop, Web storage- New function for embedding audio(<audio>), video(<video>), graphics(<svg> and<canvas>)- Client-side data storage 3) HTML 5 validations Attributes"

CSS

Day 32	Day 63	Introduction & Selectors	What is CSSWhy Use CSS?How is CSS Used?Creating and Linking a CSS StyleSheetHow To Test A StylesheetSelectors: What is a selector?The Universal/Global SelectorThe Tag/Element SelectorThe ID SelectorThe Class SelectorThe Attribute SelectorThe Relationship SelectorPsuedo SelectorGroup SelectorSpecificity & When To Use SelectorsWhat are Properties? The CSS General Rule"
	Day 64	coloring & formatting, Fonts & text manipulation	Types of Colors-Coloring Text-Background colors/Images/URLs in CSSOther background Properties-Opacity / Transparency-Gradients
Day 33	Day 65	coloring & formatting, Fonts & text manipulation	Fonts & Text Manipulation:Introduction to types of unitsText ManipulationFont Size, Bolding & StyleFont Families Including external fonts W/Google FontsUsing External Fonts
	Day 66	Layout	IntroductionThe Box ModelPaddingBorderMarginChanging Content SizeCSS BordersMargin & PaddingFloat & Display Types

CSS

Day 34	Day 67	Flexbox	IntroductionFlexbox ComponentsCreating a Flex ContainerFlex Direction & WrapContent Alignment Flex Item OrderShrink, Grow & BasisThe 'Flex' PropertyItem Alignment
	Day 68	Grid	Grid vs FlexboxIntroductionDifferencesCreating a Grid Template Columns & RowsJustify & Align GridRow & Column GapsColumn & Row LinesGrid Area

Project 1 - Individual project on HTML & CSS

Presentation Session-1 / Practical Case Study Analysis by students

Project 2 - Individual Project on HTML, CSS

Javascript- Front End

Day 35	Day 69	Introduction to Javascript	1) What is Javascript? Use of javascript?2) Trend of Javascript?3) Types of Implementing Javascript?- Inline- Internal- External4) What are the Datatypes? Example for each one of them?5) Variables & Constants?6) What is Hoisting?7) Alert, Prompt and Confirm Modals"
	Day 70	Operators	1. Operators- What is Operators ?- Types of Operators- Examples for each one of them2. Decision Making- What is decision making ?- Different types?- Examples for each one of them3. Loops- What is loops? - Usage?- Types of loops?- Entry controlled vs exit controlled loops- Examples for each one of them
Day 36	Day 71	DataStorage Techniques & DOM Manipulation	1) What are the types of data storage? 3) Strings & Methods 4) Mutable and Immutable Strings/Objects
	Day 72	DataStorage Techniques & DOM Manipulation	1) Arrays & Methods 2) Objects & Methods
Day 37	Day 73	DataStorage Techniques & DOM Manipulation	1) Array of Objects?2) Object configuration and properties
	Day 74	DOM & Dom Manipulations	1) What is DOM & Dom Manipulation Methods?2) Types of DOM Manipulation Methods?- Dom Selectors- getElementById()-getElementsByClassName()- getElementByTagName()- querySelector()- querySelectorAll()Adding Css using Javascript- document.getElementById('idvalue').style.property = 'value';- Classlist- addClass- removeClass- InnerHTML- Document.write() vs innerHTML"
Day 38	Day 75	DOM	Attaching Event- addEventListener()- Detaching Event- removeEventListener()- Manipulating Elements- createElement() - appendChild()- removeChild()- replaceChild()Adding Css using Javascript- document.createElement('idvalue').style.property = 'value';- Classlist- addClass- removeClass- InnerHTML- Document.write() vs innerHTML- Manipulating Attributes- setAttribute()- removeAttribute()
	Day 76	Functions	What are Functions in JavaScript?When and where to use Functions?6 Ways of declaring Functions
Day 39	Day 77	Functions	Arrow Functions Advantages and DisadvantagesImmediate Invoke FunctionDeclare Function as Class/Expressionset Timout and setIntervalGenerator FunctionsReusable FunctionsFunction Advantages and Disadvantages
	Day 78	Forms & Events	1) What is forms and validations?2) Events and Event handling- Types of events- Keyboard events- keyup- keydown- keypress(deprecated)- Mouse events- click- dblclick- hover- mouseover- mousemove, mouseleave contextmenu Form events submit blur focus reset change Page events load scroll resize
Day 40	Day 79	Forms & Events	Types of form validations - field validations - form validation - Regular expressions - form validation using regex - form validation without regex

Presentation Session-2 / Practical Case Study Analysis by students

GIT

Day 40	Day 80	GIT	Fast introduction to GIT commands, Simple Rebase Example, Setup for rebasing conflict, Abort a Rebase, Rebase Conflict and Resolution, Pull with Rebase (GitHub)
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React

Day 41	Day 81	React Introduction	What is React? React Project Setup/React Boilerplate Variables and Datatypes Node, Module, Package, Node Package Manager(NPM) Create React App
	Day 82	React Basics	Virtual DOM? Loops, Operator and Conditions? Array and String Methods
Day 42	Day 83	JSX	1. What is JSX Element 2. Commenting a JSX element 3. Rendering a JSX Element 4. Style and className in JSX 5. Injecting data to a JSX Element
	Day 84	Components	Big picture of components JavaScript function vs Class Creating React Component Class Component Functional Component How to create Reusable Components

React

Day 43	Day 85	Props	Props in Functional Component What is props? Props object Destructuring props propTypes defaultProps How to share data between components using Props
	Day 86	State	What is State in React How to set state in Functional Component How to set state in Class Component How to reset the State in class/functional
Day 44	Day 87	Navigation	What is React Router ? BroswerRouter Route Switch NavLink Nested Routing Redirect Prompt
	Day 88	Forms	Form input fields Form Data Binding Form Validations Styling Forms
Day 45	Day 89	API Request	Async Request in React - Axios/Fetch How to do HTTP/API request? GET, POST, PUT and Delete using Axios and Fetch
	Day 90	LifeCycle Hooks	Functional component Lifecycle hooks Class component Lifecycle hooks Refs and useContext

Practical Case Study Analysis by students

Presentation Session-5 / Practical Case Study Analysis by students

Value Added Course

Topic	Module	Syllabus	Duration
Core Java- Back End	Map	Set(Hash Set,Tree Set)- Map(HashMap, TreeMap, Hashtable)-Collection Framework Advance Concepts--- Comparable Interface	4
	Thread	Thread 1. Concept, Lifecycle 2. Extends Thread 3. Implement Runnable Interface 4. Thread Priorities5. Thread Methods	4
	Multithreading	1. Data inconsistency 2. Deadlock	2
	Thread Synchronization	Thread Synchronization 1. Synchronization2. Object Locking 3. Inter Thread Communication	2
Programming	logical programming	1. factorial 2.sum of digits 3.number of digits 4.sum of even digits 5.count number of digits 6. reverse a number 7. pallindrome 8.factors of the number 9.prime or not 10.swap two numbers with temp 11. swap two numbers without temp 12.fibonacci series 13. armstrong number 14.strong number 15. perfect 16. happy number 17.sunny number 18. xylum and phloem 19. leap year or not 20. check whether character is uppercase or lowercase or number or special character"	6
	Pattern printing	Twenty possible pattern printing program	6
Array	Array based programs	1.WAJP to copy all the elements of one array to another array 2.WAJP to find the frequency of each element in the array 3.WAJP to print duplicate elements of an array 4.WAJP print the array in reverse 5.WAJP sum of even numbers in given array 6.count the number of odd numbers from an array 7.largest element an array8.smallest element an array 9. linear search algorithm 10. binary search algorithm 11. bubble sort 12.sort the elements in ascending order 13.sort the elements in descending order 14.second largest number from an array 15.third largest number from an array 16. to initialize an array of integers with 10 elements 17. print all the elements of an array 18. find the sum of elements in an integer array 19. average of elements in an array 20. check if an array contains a certain value	8
String	String based questions	1. reverse of a string. 2. String is palindrome or not 3. count the number of special characters in string 4. repeated characters in string 5. WAP to display number of lowercase, uppercase, special symbols, spaces, digits in a string 6. convert string uppercase to lowercase and vice versa 7. count the total number of vowels and consonants in a string 8. java program to remove all the white spaces from a string 9.java program to replace the spaces of a string with a specific character 10. java program to separate the individual characters from a string	6

Value Added Course

Topic	Module	Syllabus	Duration
My SQL	My SQL Contd.	17. SQL In 18. SQL Between 19. SQL Null Values 20. SQL TOP 21. SQL LIMIT"	6
	My SQL Contd.	22. SQL Stored Procedures 23. Java Application Using JDBC Connectivity 24. Handling SQL Exceptions	
	My SQL Contd.	31. DB Connectivity Steps 32. Store Image in SQL 33. Read Image in SQL 34. SQL Queries using SQLYog	
Servlet	JDBC	35. JDBC CRUD Application	14
	Servelet	2.2 Servlet 2.2.1 Servlet Basics 2.2.2 Need of Server Side Programming 2.2.3 Servlet LifeCycle 1 Init()	
	Servelet Contd.	2.2.4 Servlet Hello World Application, 2.2.5 Web.xml Structure	
	Servelet Contd.	2.2.6 Servlet Directives- include(), forward(), sendRedirective() 2.2.7 HttpServletRequest, HttpServletResponse in Servlet 2.2.8 Servlet and JDBC Integration	
	Servelet Contd.	2.2.9 Servlet, HTML 5, MySQL, Tomcat using Real Time Login Application	
	JSP	2.3 JSP 2.3.1 JSP Basics 2.3.2 Creating dynamic Web content with JSP 2.3.3 Scriptlet 2.3.4 Declaration	
	JSP	2.3.5 Servlet, JSP, MySQL, Tomcat Login Application	
CSS- Front End	Animation & Transitions, Media Queries		2
	The Transitions Property Transform property Creating Animations w/Keyframes Adding an Animation Animation Properties Media Queries in css-Introductions-properties		
Bootstrap- Front End	Introduction to BootStrap	1)What is Bootstrap 2)History of Bootstrap 3)Versions of Bootstrap 4)Popularity of Bootstrap 5) Bootstrap Documentation- Installing Bootstrap Locally- Install or adding Bootstrap via Cdn link- Adding Javascript cdn link	2
	Layout & Components	1) BreakPoints- Extra small- Small- Medium- Large- Extra large- Extra extra large 2) Containers- container- fluid- container 3) Columns- column- row 4) Gutter- Horizontal gutter- Vertical gutter- Row column gutter- No gutter 5) Margins 6) Padding 7) Components in Bootstrap"	2
	Utilities	1)Background 2) Colors 3) Display- none- inline- inline-block- block- grid- flex- inline-flex 4) Float- float-start- float-end 5) Position- position-static- position-relative- position-absolute- position-fixed- position-sticky	2
	Flex	1) Direction- flex-column - flex-column-reverse- flex-row- flex-row-reverse 2) justify-content- justify-content-start- justify-content-end- justify-content-center- justify-content-between- justify-content-around- justify-content-evenly 3) align-items- align-items-start- align-items-end- align-items-center- align-items-baseline- align-items-stretch 4) flex-fill 5) flex grow & shrink	2
	Grid	1) Grid options- Extra small (xs)- Small (sm)- Medium (md)- Large (lg)- Extra large (xl)- Extra extra large (xxl) 2) Containers and rows 3) Columns 4) Responsive Breakpoints	4
Javascript- Front End	Error Handling	1) What are the types of errors in JS?- syntax errors- type errors- assignment errors- reference errors- others 2) How to handle the errors? 3) What is exception handling?- try block- catch block- finally block- throw block- custom error messages	
	OOJS	1) Object oriented Principles- Data abstraction- Data Encapsulation - ES5- Object Literal- Object Constructor- Es6+- Classical- Polymorphism- Operators Overloading- Function Overloading- Inheritance- Types of inheritance- Js Supported TypesExample-- Es5- Prototypal Inheritance- Es6+- Classical Inheritance	
	OOJS	"Getter and SetterSpread and Rest Operators"	

Value Added Course

Topic	Module	Syllabus	Duration
Javascript- Front End	OOJS	Closures Race Condition	14
	JSON	Call Backs, Async Await and PromisesCall, Apply and Bind	
	ES6 Concepts	Strict ModeModule Export and importBlock ScopingTemplate literals	
	Asynchronous JavaScript & Es6+ Features	JSON StructureJSON Parse and StringifyES5 vs ES6	
	HTML 5 Features	2. HTML5 Canvas 3. HTML5 Web API's 4. HTML5 Geo Tags, Drag and Drop	
	HTML 5 Features	1. Web Storage – Local vs Session 2. Overview of PWA 3. Web Service Workers 4. Browser Tools – Chrome, Firefox and Edge	

Git

React