

ZYTRIX TRAINING

Build your skills for Brighter Future

**DIPLOMA IN JAVA FULL STACK
CERTIFICATION COURSE SYLLABUS**

| Module | Topics |
|---------------------|---|
| HTML5 | Web Application Basics, Introduction to HTML, Different Tags (Formatting Tags, Listing Tags,) img, span, pre, div, heading tags, Table Tags, Listing Tags, |
| | HTML Forms, Input elements, textare, select, etc., tags |
| | HTML5 introduction Dealing with HTML & CSS |
| | New features of HTML5, Validation |
| | HTML5 multimedia(audio,vedio) |
| | Canvas,SVG, Geolocations |
| CSS | Introduction, style attribute, |
| | Inline, internal and external css |
| | box model , Tables , Borders |
| | CSS3 concepts, Box model, examples other topics |
| Bootstrap(optional) | Introduction to Bootstrap, Grid system, different screen sizes, offset,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 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 |
| | Utilities 1. Background 2. Colors,3. Display,- none,- inline,- inline-block,- block,- grid,- flex,- inline-flex 4. Float,- float-start,- float-end, |
| | Bootstrap Typography, Navbars, button enhancements, 5. Position - position-static,- position-relative,- position-absolute,- position-fixed |

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| | <ul style="list-style-type: none"> - position-sticky, 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, |
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| Javascript | Introduction to Javascript, client side scripting, Control structures, String, Date and Time Objects, |
| | Javascript functions, FE, IIFE, Arrays, Closures, DOM Objects, Conditions / Decision making 1. What is decision making? |
| | Types of Conditions? |
| | 3. Examples for each one of them? |
| | Loops / Iterations 1. What is loops? Usage? |
| | 2. Types of loops? |
| | 3. Entry controlled vs exit controlled loops |
| | 4. Examples for each one of them |
| | DataStorage Techniques & DOM Manipulation |
| | 1. What are the types data storage? |
| | 2. Strings & Methods |
| | 3. Arrays & Methods |
| | 4. Objects & Methods |
| | 5. Array of Objects? |
| | 6. Realtime examples for each one them? |
| | DOM & Dom Manipulations 1. What is DOM & Dom Manipulation Methods? |
| 2. Types of DOM Manipulation Methods? | |
| - Dom Selectors,- getElementById(),- getElementsByTagName() | |
| - Attaching Event,- addEventListener(),- Detaching Event | |
| - removeEventListener(),- Manipulating Elements,- createElement() | |
| - setAttribute(),- removeAttribute(),- Adding Css using Javascript | |
| - appendChild(),- removeChild(),- replaceChild(),- Manipulating Attributes | |
| - Classlist,- addClass,- removeClass,- InnerHTML,- Document.write() vs innerHTML | |
| Functions. | |
| Forms & Events 1. What is forms and validations? | |
| 2. Events and Event handling,- Types of events,- Keyboard events,- keyup | |
| keydown,- keypress(deprecated),- Mouse events | |

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| | <p>click, dblclick, hover, mouseover, mousemove, mouseleave contextmenu</p> |
| | <p>Form events, submit, blur, focus, reset, change</p> |
| | <p>Page events, load, scroll, resize What is event Bubbling And Capturing? Event loop</p> |
| | <p>3. Types of form validations,- field validations,- form validation 4. Regular expressions, form validation using regex, form validation without regex</p> |
| | <p>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?</p> |
| | <p>3. What is exception handling? - try block - catch block - finally block - throw block - custom error messages</p> |
| | <p>OOJS 1. Object oriented Principles - Data abstraction - Data Encapsulation - ES5 - Object Literal - Object Constructor - Es6+ - Classical - Polymorphism - Operators Overloading - Function Overloading</p> |

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| | <ul style="list-style-type: none"> - Inheritance - Types of inheritance - Js Supported Types |
| | <p>Example-,-Es5,- Prototypal Inheritance,- Es6+</p> <ul style="list-style-type: none"> - Classical Inheritance,Closures & Hoisting call(),apply() and bind() 1. Call(),apply() and bind() |
| Core Java | |
| Core Java | <ul style="list-style-type: none"> Object Oriented Programming using class and Object Introduction to java program Interface,abstract,static,final class Introduction to class and Object Inheritance and Constructors Programming using Java Interface and abstract Exception Handling introduction Exception Handling custom Assignment Collection introduction Collection Example on Set Collection Example on List Collection Example on Map Collection Examples Introduction to IDE Keywords and Identifiers Operators Control statements Methods Arrays Overriding and Overloading Polymorphism Encapsulation Multi threading Concept Multi threading Example1 |

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| | Multi threading Example2 |
| | String |
| | String Examples |
| | Wrapper class |
| | File handling |
| | Examples of File System |
| | Java 1.8 new Features |
| | Example Java 1.8 |
| | Assignment on Java 1.8 |
| | Example Java 1.8 |
| | JDBC |
| | Java connections |
| | Drivers |
| | Examples on JDBC |
| | Statements Examples |
| | PreparedStatement, CallableStatement Examples |
| | Adv Java(J2EE) |
| Servlet | Servlets Life Cycle,Building and Deploying Your First Servlet |
| | Deploying Servlet in Web Server,Handling GET/POST Method in Servlets,Handling Cookies in Servlets,Handling Sessions in Servlets,1. Practical visualization of Http Session objects and Session table 2. Session Tracking API 3. Session Tracking Programming 4. Cookies, URL Rewriting and Hidden Form Fields 5. ServletConfig Object 6. ServletContext Object 7. RequestDispatcher Object |
| | Filters 1. Why do we need filters? 2. Filter, FilterChain, FilterConfig interfaces,3. Programming examples 4. Application / Attribute Lifecycle Listeners,5. Why do we need Lifecycle Listeners?6. ServletContext and ServletContext Attribute Listeners 7. Session and Session Attribute Listeners,8. Programming examples |
| JSP | JSP Examples |
| | JSP Scripting Elements |
| | JSP Standard Actions |
| Spring Core/MVC(framework) - optional | Spring Inversion of Control - XML Configuration, Spring Dependency Injection-Overview, Setter Injection |
| | Injecting Literal values, Injecting values from Property files, Bean Scopes, Bean Lifecycles, Constructor Injection |
| | Setter Injection, Method Injection, Field Injection, Project/Handson |
| | Spring MVC Overview, Spring MVC Configuration |
| | Creating Controllers and Views |
| | Creating multiple controllers |

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| | Request Params and Request Mappings,Form Tags and data binding |
| | Form Tags and data binding |
| | Applying built in validation rules,Validating Number Ranges and Regular expressions |
| | Applying built in validation rules contd |
| | Validating Number Ranges and Regular expressions contd handling |
| Node Js and React JS(frame work) - optional | <p>Introduction to ReactJS</p> <p>Variables</p> <p>Data types</p> <p>Arrays :- How to create an empty array, How to create an array with values</p> <p>Creating an array using split, Accessing array items using index</p> <p>Modifying array element</p> |
| | <p>Methods to manipulate array, Array of arrays</p> <p>Conditionals 1. If ,2. If Else ,3. If Else if Else ,4. Switch ,5. Ternary Operators ,</p> |
| | <p>Loops If Else ,Scope If Else if Else ,Object Switch ,1. Foreach ,2. Map ,3. Filter ,4. Reduce ,</p> |
| | <p>5. Find ,6. Findindex ,7. Some ,8. Every ,Getting Started React</p> <p>What is React?</p> <p>Why React?</p> |
| | <p>JSX 1. JSX Element</p> <p>2. Commenting a JSX element</p> <p>3. Rendering a JSX Element</p> <p>4. Style and className in JSX</p> <p>5. Injecting data to a JSX Element</p> |
| | <p>Setting Up 1. Node</p> <p>2. Module</p> <p>3. Package</p> <p>4. Node Package Manager(NPM)</p> <p>5. Visual Studio Code</p> |

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| | <p>6. Browser 7. Visual Studio Extensions 8. Create React App Your first React App 1. React Boilerplate 2. Styles in JSX 3. Injecting data to JSX elements</p> |
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| | <p>States 1. What is State? 2. How to set a state 3. Resetting a state using a JavaScript method Conditional Rendering</p> |
| | <p>Props 1. Props in Functional Component 2. What is props? 3. Props object</p> |
| | <p>4. Destructuring props 5. propTypes 6. defaultProps</p> |
| | <p>2. Getting multiple input data from form</p> |
| | <p>3. Get data from different input field types</p> |
| | <p>4. Form Validation</p> |
| | <p>5. What is validation?</p> |
| | <p>6. What is the purpose of validation</p> |
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| <p>Hibernate/JPA(framework) - optional</p> | <p>Hibernate Overview,Hibernate and JDBC,Hibernate Development Process Overview,Creating Hibernate Configuration file</p> |
| | <p>Hibernate Annotations Project/Handson,Creating and saving objects,Primary Keys</p> |
| | <p>Hibernate Annotations contd</p> |
| | <p>Reading objects with Hibernate,Querying Objects with Hibernate,Updating Objects with Hibernate,Deleting objects with Hibernate,Project/Handson,Introducing HQL and Query Object,JPA</p> |

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| | Select and Pagination in HQL,Named Queries,Introduction to criteria API,Understanding Restrictions,Projection and Query by Example,Hibernate |
| | Mappings Overview,Project/Handson |
| | Integration with Spring |
| | Integration with Spring contd |
| Modular assessment | |
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| spring boot(frame work) - optional | Spring Maven ProjectSB Project WizardSpring InitializrSpring Boot CLISpring Boot ExampleSB AnnotationsSpring Boot DMSpring Boot PropertiesSpring Boot StartersSpring Boot Actuator |
| | Spring Boot Database |
| | Spring boot MVC |
| | spring boot for rest & security |
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| Maven(frame work) - optional | Maven - Overview Maven - Environment Setup Maven - POM Maven - Build Life Cycle Maven - Build Profiles Maven - Repositories Maven - Plug-ins Maven - Creating Project Maven - Build & Test Project |
| | Maven - External Dependencies Maven - Project Documents Maven - Project Templates Maven - Snapshots Maven - Build Automation Maven - Manage Dependencies Maven - Deployment Automation Maven - Web Application Maven - Eclipse IDE |
| GIT | |
| | Baisc Info about git |

SQL

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| 1. Introduction to RDBMS |
| Overview of Relational Database Management System (RDBMS) |
| The Relational Model |
| Principles of Database Design |
| Introduction to MySQL |

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| MySQL Data Types |
| Creating Databases Using MySQL |
| 2. Basic MySQL Syntax |
| Understanding Basic MySQL Syntax |
| Basic SQL Commands - SELECT |
| Basic SQL Commands - INSERT |
| Basic SQL Commands - UPDATE |
| Basic SQL Commands - DELETE |
| 3. Querying Data with SELECT Statement |
| The SELECT List |
| SELECT List Wildcard (*) |
| The FROM Clause |
| How to Constrain the Result Set |
| DISTINCT and NOT DISTINCT |
| Filtering Results with the WHERE Clause |
| 4. Advanced Querying Techniques |
| Other Boolean Operators (BETWEEN, LIKE, IN, IS, IS NOT) |
| Shaping Results with ORDER BY and GROUP BY |
| Set Functions |
| Boolean Operators (AND, OR) |
| Aggregate Functions |
| Set Function and Qualifiers |
| GROUP BY |
| Qualifiers |
| HAVING Clause |
| 5. Modifying Data in MySQL |
| ALTER TABLE |
| MySQL Transactions |
| 6. Working with JOINS |
| Matching Different Data Tables with JOINS |
| Table Aliases |
| INNER JOIN |
| OUTER JOINS |
| LEFT OUTER JOIN |
| RIGHT OUTER JOIN |
| FULL OUTER JOIN |
| SELF JOIN |
| Natural Join |
| CROSS JOIN |
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2 REAL TIME PROJECTS