

JAVA FSD

1. CORE JAVA

1.1. Introduction To Java

1.2. Java History

1.3. Why Java

1.4. JVM

1.5. Class, Objects, Data Types

1.6. Variables

1.7. Type Casting

1.8. Object Oriented Programming Concepts

1. Abstraction

2. Encapsulation

3. Polymorphism

4. Inheritance

1.9. Java Coding Standards

1.10. Package – Creating package, naming package

1.11. Java Keywords

1.12. Access Specifiers – Public, Private, Protected, Default

1.13. Static Concept – Block, Variable, Method, Class

1.14. Scanner Class

1.15. Control Statement – If, If...else, Nested if...else and SwitchCase

1.16. Flow Statement- for, while, do While

1.17. Constructor- Default, Parameterized

1.18. Inheritance



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#7-35 1st Floor, Road No 1, Madhurapuri Colony,
Dilsukhnagar, Hyderabad - 500060

AN ISO 9001-2015 Certified

+91-99 6606 1444
99 1226 1444

maruthi.technologies3@gmail.com
info@maruthitechnologies.in



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- 1.19. Extends, super and this keyword
- 1.20. Method Overloading, Method Overriding
- 1.21. Interface
- 1.22. Abstract Class
- 1.23. Garbage Collection
- 1.24. Marker Interface
- 1.25. Serialization
- 1.26. Transient
- 1.27. Exception Handling
- 1.28. Exception Handling- try, catch, throw, throws, finally
- 1.29. String Concept

- String Basics

- String Methods

- 1.30. String Buffer

- 1.31. String Builder

- 1.32. Custom Immutable Class

- 1.33. Collection Framework

- Collection Basics

- Iterator Interface

- Methods of Collection Interface

1. List

A] Array List

B] Linked List

C] Vector



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2. Set

A] Hash Set

B] Tree Set

3. Map

A] Hash Map

B] Tree Map

C] Hashtable

1.34. File Handling Concept

1. File Handling Basics

2. Create Folder

3. Create File- .txt. .pdf, .xlsx, .docs, etc

4. Write File

5. Read File

6. Delete File

1.35. Thread

1. Concept, Lifecycle

2. Extends Thread

3. Implement Runnable Interface

4. Thread Priorities

5. Thread Methods

1.36. Multithreading

1.37. Thread Synchronization

1. Synchronization

2. Object Locking



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3. Inter Thread Communication

JUnit-5

- What are test and test case
- What is unit testing
- Why we need unit testing
- How to do unit testing by manual Problem with manual unit testing
- Introduction about Junit
- Advantage of Junit
- Unit test cases using Junit
- What is a test suit
- Why do we to need test suit
- Test suit using Junit
- What is mocking
- Why we need mocking
- Junit examples with mocking

Advanced Java

- Building Database Applications with JDBC
- Create Java Web Applications using Servlets

Spring Core

- More Java Configuration
- Annotation and Component Scanning
- Spring Container
- Introducing Aspect-oriented Programming
- JDBC Simplification with JdbcTemplate
- Transaction Management with Spring
- Testing a Spring-based Application

Spring Boot

- Spring Boot Feature Introduction
- Introduction to Spring Boot Starters
- Spring Boot A Closer Look



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- Web Applications with Spring Boot
 - RESful Application with Spring Boot
- Actuators, Metrics and Health Indicators
- Spring Boot Spring Data JPA
 - CrudRepository methods for DB operations
 - Custom findByXXX method syntax

Hibernate

- Hibernate API
- Object Life cycle in Hibernate
- CRUD operations using Session methods.
- Primary key Generators Hibernate Query Language (HQL)
- Joins in HibernateCriteria APICriteria with projections

Microservice

- Monolith Architecture Introduction
- Monolith Architecture
- Monolith Application Deployment Process
- Micro Services Advantages & Dis-Advantages
- Micro services Development
- API 1
- API 2
- API 3
- API 4
- Interservice API communication
- Feign Client
- Service Registry case study (Netflix Eureka)
- Gateway API (Zuul proxy)
- Hystrix (Circuit Breaker)
- Hystrix Dashboard
- Distributed Logging
- Sleuth Logging
- Zipkin Server
- Cloud Config Server Introduction & Implementation



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Web Programming

- HTML 5
 - Difference between HTML5 and HTML 4
 - Schematic elements
 - List of Browsers that support HTML5

Doctype

Including external page links in a page using anchor tags and their properties

- Working with row and column data using table tags Hiding and unhiding elements using display
- Image tag, p tag, ul and ol tags, li, nobr, hr, br, etc.
- Layouts, forms, buttons
- Input fields (textbox, radio button, checkbox, dropdown, text area, etc.)
- Media tags (audio and video tags)
- Storing user preferences using Local storage.
- Cookies
- Web worker

CSS-3

- Difference between CSS2 and CSS3
- Adding borders, font, pseudo-classes
- Positioning elements (absolute, relative, fixed, and static)
- Image spriting
- Box model (margins, padding)
- Floating elements (float left, right etc.)
- Including external resources
- Absolute and Relative Paths
- Including external resources like CSS, images, etc
- Adding borders and backgrounds
- Flex
- Grid
- SASS Vs LESS



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Javascript

- JavaScript (ES6-ES13)
- variables
- var, let, and const
- functions
 - arrow functions
 - Arrays
- map(),reduce(),filter()
- JSON
- DOM Manipulations
- Callbacks
- Events Handling

Typescript

- What is TypeScript?
- Benefits of TypeScript:
- Setup the Environment
- First TypeScript Example
- Data Types and Variables
- Difference between let and var
- De-structuring & Spread
- Array De-structuring
- Object De-structuring
- Mixed De-structuring
- Property renaming
- Default Values
- Spreads
- Working with Classes and Objects
- Writing and Using Classes
- Constructor method



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- Inheritance of classes
- Static Properties
- Abstract class
- Working with Interfaces
- Interface Declaration and Initialization with an object
- Duck Typing
- Interface Implementation by class
- Interface having Optional Property
- Class extending another class and also implementing an Interface
 - Excess Property Check
- Generics
- Modules and Namespaces

Angular

- Angular
- Modules and Components
 - Data Binding in Angular
 - Directives in Angular js
 - Dependency Injection in Angular
 - Routing
 - Forms
 - Reactive Forms
 - Pipes
 - HTTP Requests Authentication
 - Angular Modules



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info@maruthitechnologies.in



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PHP

- PHP Introduction & installation
- Variables, datatypes, operators, control statements and functions in PHP
- PHP form creation(login & registration)
- How to use python business logics in PHP development with some demo



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