

## Course Basic Java

Day	Subject	Topics To Be Covered
Day 1	Introduction To Java Introduction JDK ,JRE,JVM	Why Java Was Developed And Features Of Java Introduction Of Fundamentals Of Java Application Areas Of Java History Of Java Why Java Is Plateform Independent Platform Independency In Java Different Java Plateforms Difference Between JDK,JRE,JVM And What Is Use It In Pogramming Language
Day 2	Install And Setup Java Understanding Of Text Editors Install Code Editor Eclipse ,Visual Studio,Intellij	Java Version,JVMArchitecture Install And Setup Java On Windows Understanding Path Variable Why Set Up Path Install And Understand Code Editors To Write Java Programs ,Java Projects
Day 3	Install And Setup Spring Tool Suits Install And Setup Database Understanding Projet Structure In Eclipse Id And Sts Id Understand Of Naming Convention	Understanding Of All Database And Setup Myql Understand File Structure
Day 4	Identiiers,Keywords,Variables, Types Of Variables Literals,Data Types	Introduction To All Keywords Variables And Data Type With Implementation In Programming And How Much Memory Is Required In Data Type
Day 5	Operators And Logical Operators	Introduction To All Operators With Implemetation Programing
Day 6	Comments,And Condition Statements	Introduction And Syntax Of If And If-Else ,Nested If,If-Elseif, If-Elseif-Else With Particals Implementation
Day 7	Practice Of Conditional Statements	Logic Buliding Programing By Using Conditional Statements
Day 8	Switch Statements And Introduction Of All Type Casting	Implementation Of Switch Case With Progarms Conversion Of Data Type To Each Others
Day 9	Practice Of Type Casting Widening Type Casting Narrowing Type Casting	Programs By Using Of Type Casting

Day 10	Understand Of All 30 Type Types Conversions	Practice Of All Type Casting To Each Others In Progarming Language
Day 11	Practice Of Conditional Statements And Type Casting	Practice With Programming
Day 12	Functions Types Of Functions	Explain Functions
Day 13	Loops Statements Syntax ,Flow Chart	Intro Of For Loop ,While Loop,Do While,And Foreachloop ,Enhanced Loop ,And Cover All Loops Syntax With Flow Chart
Day 14	Practice	Difference Between All Loops Whose Loop We Need To Requiried With Practically Implemenation
Day 15	Programs How To Take Input From User	Basic Coding Question Using Loops And Condional Statements
Day 16	Practice Java Programs	Practice Coding

#### Course Core Java

Day	Subject	Topics To Be Covered
17	Oops And Why Oop Used Features Of Oops Class Object , Syntax	Understand Oops Concepts With Real Life Example
18	Constructors,This Keywords,Static Variables And Non- Static Variables	Programs Using Constructors What Is Constructors What Is Used It Types Of Constructore With Implementations
19	Inheritance Types Deconstructor Explain	Implementations With Coding What Is Inheritance How Can Be Implements Into Real Life Example And Project Also
20	There Are 5 Types Of Inheritance	Implementations With Coding Types Of Inheritance Implemenation
21	Variable Hiding Method Hiding Method Overriding Method Overloading	Implementations With Coding What Is Method Overriding And Overloading And How Can Be Implement This
22	Super Keywords,Final Keywords ,Finalize And It's Usages	Coding Implementations What Is Used Of These Keywords In Java Language
23	Constructor Chaining Upcasting And Downcasting	Coding Implementations What Is Constructors Chaining How Can We Implement It
24	Static And Dynamic	Coding Implementations

	Binding	
25	Polymorphism Types Of Polymorphism	What Is Polymorphism What Is Used With Coding Implementations Features Of Polymorphism
26	Interface	What Is Used Of Interface With Implementations
27	Encapsulations	Implementations Of Encapsulations
28	Abstractions Abstract Keywords Abstract Methods And Classes	Cover Theoreticals And Practical Difference Between Interface And Abstraction
29	Practice Oops Concept And File Handling	Coding Practices Of Oops Practice Of File Handling With Coding
30	Introduction To Postman	1. Overview Of Postman 2. Creating Requests In Postman 3. Testing Api With Postman
31	Packages Types Of Packages Access Modifiers	Understanding Packages Understanding Access Modifier And What Is The Used It With Coding Programs
32	Nested Types	Static Nested Class Non-Static Nested Class Local Class Nested Interface
33	Multiple Inheritance	How Can Interface Support Multiple Inheritance With Coding Programs
34	Anonymous Class	Implementations Of Anonymous Classes
35	Practices	Practices Of Above Concepts
36	Arrays	Overview Of Arrays Definitions Of Arrays Advantages
37	Types Of Arrays	Implementation Of Arrays Types
38	Array Of Reference Type Operations Of Arrays Jagged Arrays	Implementations
39	Jumping Statements	Practice With Jumping Statements
40	String	What Is String String Class Creating String Object Operations On String
41	Practices	Coding Questions Of String
42-43	Types Of String	Describe About String Buffer And String Builder With Coding Implementations
44	Introduction To Database Management	1. Overview Of Dbms 2. Types Of Dbms (Relational, Nosql) 3. Sql Vs Nosql

	Systems (Dbms)	
45-46	Relational Databases And Sql	1. Basics Of Sql 2. Creating Tables And Inserting Data 3. Querying Data With Sql 4. Updating And Deleting Data
46-47	Explain All Querys In Mysql Database	Implementations
47-52	Practice Of Array And String Coding Questions	Solve Coding Questions Of Array String Logic Building Skills Improve
53	Overview Of Date And Time Api	With Coding Practice
54	Exceptions Handling	Explain Of Exceptions Handling And Types Of Exceptions Handling Understand Flow Chart Of Exceptions Handling
55	Java Exceptions Keywords	Explains Of Exceptions Keywords
56	Coding Practices On Exceptions Handling Types And Keywords	Implementations With Coding
57	Practices Of Checked Exceptions And Unchecked Exceptions	Coding Practice

#### Course Advance Java

Day	Subject	Topics To Be Covered
58	Multithreading Concept	Multitasking:Why Concurrent Executions Multiprocessing/Multithreading Main Thread Default Java Threads
59	Threads	Explain Threads And Used It Creating Child Threads And Understanding Context Switching Threads States Thread Group
60	Threads	Daemon Threads Inter-Thread Communications Deadlock
61	Threads	Thread Synchronizations :Methods And Blocks With Coding

		Implementations
62	Threads	Coding Implementations Of Threads
63	Collections Frameworks	Explain Of Collections Frameworks Explain Flow Chart Of Collections Frameworks
64	Collections Frameworks Arraylist Linkedlist	What Is Collections Core Interface Collections List Type Of List With Coding Implementations
65	Set Hash Set Tree Set Linked Hash Set	Types Of Sets And Difference Between In These Set
66	Coding With List And Set	Solve Complex Problem By Using Set And List
67	Practice Of Set	Implementations Of Set
68	Enumeration Enum	Explain Collections Enumeration And Enum Classs
69	Vector And Stack	Explain Vetor And Stack With Coding
70	Wrapper Class Serializations	What Is Use Of Wrapper Classes With Coding Implementations Explain Of Serializations With Coding Implementations
71	Deserialization	Explain Deserializations With Coding Implementations
72	Queue	Explain Queue With Coding Implementations
73	Deque	Explain Deque With Coding Questionss
74	Types Of Queue Priorityqueue Arraydeque	Implementation With Coding Quuestions
75	Map Types Of Map	Explain Of Map What Is Used Of Map And Features Of Map
76	Hashtable HashMap Identityhashmap Weakhashmap	Explain And Coding Implementations
77	Linkedhashmap Treemap	Explain And Coding Imlementations

#### Advance Java With Collections And Java8 Features

Day	Subject	Topics To Be Covered
78	Iterator List Iterator Foreach Loop	Accessing A Collections Via An Iterator Explain List Iterator With Coding Implementations Explain Foreachloop With List Implementations

79	Comparator	Working With User Defined Objects Explain Comparators With Implementations
80	Comparable	Explain Comparable With Coding Implementations
81-82	Practices Of All Topics In Collections	With Coding Implementations
83	Java8	Explain Of Java8 Features
84	Practices Of Java8 Features	Difference Between Foreach Loop And Streamapi With Coding Programs
85	Streamapi	Implementation Of Streamapi
86	Lambda Expressions Method Reference	Coding Implementations
87	Functional Interface Static And Defaults Methods	Implementations
88	What Is I/O Why Need Streams Bytestream Character Stream Read Write Operations	Implementations Explain Read Write Operations With File
89	Jdbc Needs Of Jdbc	Jdbc Connectivity
90	Practice	Practice Of Jdbc
91	Practice Of Java8	Practice Of Above Topics In Coding Implementations
92	Practice Of Pattern Programs	Implementations
93	Interview Preparations And Practice	Coding

### Advance Java With Jsp And Servlet

Day 1	Jsp And Servlet Java Servlet Basic	Overview Of Jsp And Servlet Servlet Lifecycle: Initialization, Service, And Destruction Handling Http Methods (Get, Post, Etc.) Handling Http Request And Response Objects
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Day 2	<p>Java Servlet Jsp Elements.</p> <p>Jsp Static Elements. Jsp Expressions Elements.</p> <p>Jsp Scriptlets Elements</p>	<p>Understanding Servlet Configuration And Context Parameters</p>
Day 3	<p>Javaserer Pages (Jsp) Basics</p>	<p>Introduction To Jsp Technology Jsp Architecture And Life Cycle Jsp Scripting Elements: Declaration, Expression, And Scriptlet Jsp Directives: Page, Include, Etc.</p>
Day 4	<p>Life Cyle Of Jsp And Servlet</p>	<p>Understanding Life Cycle Of Jsp And Servlet</p>
Day 5	<p>Session Management Servlet Filter</p> <p>Servlet Listeners</p> <p>Session Tracking</p>	<p>Understanding Http Sessions And Cookies Httpsession Interface And Its Methods Url Rewriting For Session Tracking</p>
Day 6	<p>Request And Response Handling</p>	<p>Forwarding And Redirection Of Requests Sending Different Types Of Responses (Text, Html, Json, Etc.) Handling Request Parameters And Headers</p>
Day 7	<p>Database Connectivity And Jdbc</p>	<p>Connecting To Databases From Servlets Executing Sql Queries And Processing Results Using Connection Pooling For Performance Improvement</p>
Day 8	<p>Exception Handling In Jsp And</p>	<p>Handling Exceptions In Servlets</p>

	Servlets	And Jsp Error Pages And Exception Handling Mechanisms
Day 9	Security In Web Applications	- Authentication And Authorization In Servlets And Jsp Implementing User Login And Access Control
Day 10	Java Server Pages Standard Tag Library (Jstl)	Overview Of Jstl And Its Core Tags - Using Jstl For Iteration, Conditionals, And More

Course - Spring

Day 11	Introduction To Spring Framework. Why Spring, Java Frameworks. Spring Framework Architecture	Why Spring Is Used And What Is The Different Between Spring And Spring Boot
Day 12	Object Coupling Problem. Loose Coupling And Tight Coupling. Dependency Injection And Its Types. Maven And Gradle Bean Life Cycle.	With Practically Implementations
Day 13	Bean Scopes (Singleton And Prototype)	With Implementations Coding
Day 14	Spring Ioc Container	Understanding Of Ioc Container And Ways Of Injecting Dependencies
Day 15	Inject Collection Injecting Reference Type Constructor Injection	How To Inject Collection Type List,Set,Map Properties
Day 16	Life Cycle Method Of Spring Bean Implementing Bean Life Cycle Using Interface	Implementation With Project
Day16	Implementing Bean Life Cycle	Implementation With Project

	Using Annotation	
Day 16	Autowiring Using Xml Spring Mvc Why Mvc	Implementation
Day 16	Mvc Design Ptttern	Implementations With Project
Day17	Sending Data From Controller To View	Implementations
Day 18	Worked On Spring Mvc	Implementations With Project
Day 19	Handling Form And Handling Errors In Spring Mvc	Implementations
Day 20-25	Practice	Implementations With Spring Projects

#### Course- Spring Boot

Day26	Introduction To Spring Boot  Your First Spring Boot Application  Creating An Executable Jar And Directory Structure Inspection Dependency Management And Inheritance With Boot-Starter Parent	Implementations With Coding
Day27	Using @Springbootapplication Annotation  Customizing The Spring Boot Application Running With Fluent Builder Api	Implementations With Projects
Day 28	Applicationstartingevent Applicationenvironmentpreparedevent Applicationpreparedevent Applicationstartedevent Applicationreadyevent Applicationfailedevent	Implementations With Projects
Day 29	Command-Line Runners / Application Runners  Spring Boot Application Exit  Exitcodegenerator Exitcodeexceptionresolver Springapplication.Exit()	Implementations With Projects
Day 30	Application Properties	Implementations With

	A. Properties File B. Yaml File	Projects
Day 31	Configuration Properties In Spring Boot  Spring Boot Profiles	Implementations With Projects
Day 32	Spring Web Mvc Application Flow In Spring Boot	War Packing And Deployment Embedded Servlet Container Support Registering Filters And Servlets In Spring Boot Application Customizing The Embedded Servlet Containers Programmatic Customization
Day 33	Creating Your Own Auto-Configurations	Conditional Annotations Creating Starter Dependencies
Day 34	Spring Boot Actuator Endpoints	Implementations
Day 35-45	Spring Boot Annotations Spring Boot Runners Jpa Spring Data Jpa Introduction Crud Repository And Jpa Repository FindBy Methods In Jpa Custom Queries In Jpa	Implementations With Projects
Day 45-55	Web Application Development Using Spring Boot Spring Boot Actuators, Spring Cloud Concept, Spring Security Spring Boot Actuators Spring Cloud Concept Spring Security Aop	Implementations

Course - Hibernate

Day 56	Introduction To Hibernate Overview Of Orm And Hibernate Advantages And Features Of Hibernate Setting Up Hibernate In A Java	Overview Of Hibernate Benefits And Features
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	Project	
Day 57-60	Configuration And Mapping	<p>Configuration Of Hibernate Properties And Settings</p> <p>Mapping Java Classes To Database Tables Using Annotations Or Xml Files</p> <p>Understanding Different Types Of Mappings (One-To-One, One-To-Many, Many-To-One, Many-To-Many)</p>
Day 61-63	Session And Transaction Management	<p>Understanding Hibernate Session And Sessionfactory</p> <p>Crud Operations With Hibernate Transaction Management And Transaction Isolation Levels</p>
Day 64	Querying With Hibernate	<p>Hibernate Query Language (Hql) And Its Syntax</p> <p>Criteria Api For Dynamic Queries</p> <p>Native Sql Queries And Their Usage</p>
Day 65	Caching	<p>First-Level And Second-Level Caching In Hibernate</p> <p>Configuring And Managing Caching</p>
Day 66	Lazy Loading And Eager Loading	<p>Understanding Lazy And Eager Loading In Hibernate</p> <p>Fetch Strategies And Their Impact On Performance</p>
Day67	Hibernate Annotations And Xml Configuration	<p>Working With Annotations For Entity Mapping</p> <p>Understanding The Equivalent</p>

		Xml-Based Configuration
Day 68	Integration With Spring (Optional)	Integrating Hibernate With The Spring Framework Utilizing Spring's Transaction Management With Hibernate
Day 68-70	Practice	Practices With Projects

Course- Microservices

Day 71	Introduction To Microservices Microservices Architecture Service Register & Api Gateway	Overview Of Microservices
Day 72	Admin Server & Client Interservice Communication External Api Communication Distributed Logging	Implementations Of Microservices With Projects
Day 73	Monolithic Vs. Microservices Architecture	Comparison Of Traditional Monolithic Architecture With Microservices  Benefits And Drawbacks Of Each Approach
Day 74	Benefits And Drawbacks Of Each Approach	Service Boundaries And Responsibilities Communication Patterns (Synchronous Vs. Asynchronous) Data Management And Databases In A Microservices Context
Day 75	Building Microservices	Technologies And Frameworks Commonly Used For Microservices Containerization And

		Container Orchestration (E.G., Docker, Kubernetes)
Day76-77	Microservices And Cloud Computing	Microservices In The Cloud (E.G., Aws, Azure, Gcp)
Day 78-80	Understanding Of Cloud Architecture Practice Of Microservices	With Implementations
Day 80-90	Interview Preparation  Solve Complicated Programming	Practices With Coding With Interview Preparations