24 days course outline for the Java training course.
Weekend batch, 4 hours per session (total 96 hours)

Day 1: Introduction to Java programming language

- History of Java
- Java Virtual Machine (JVM)
- Java Development Kit (JDK)
- Installing JDK and setting up the environment
- First Java program
- Packages
- Variables and data types
- Operators

Day 2: Java basics and Object-oriented programming in Java
- Control structures
- Arrays
- Strings
- Classes and objects
- Constructors
- Access modifiers

Day 3: Abstraction and encapsulation

- Inheritance
- Polymorphism
- Abstract classes
- Interfaces
- Encapsulation
- Accessors and mutators

Day 4: Exception handling

- Try-catch blocks
- Multiple catch blocks
- Throwing exceptions
- Custom exceptions

Day 5: File I/O in Java

- File handling
- FileReader and FileWriter
- BufferedReader and BufferedWriter
- Serialization and Deserialization

Day 6: Java Collections

- Introduction to collection framework
- List
- Set
- Map
- Comparable and Comparator
- Using arrow functions or lambda expressions
- Streams

Day 7: Introduction to Networking

- Introduction to networking concepts
- The OSI model
- TCP/IP protocol stack
- Sockets and ports
- TCP/IP protocol stack
- Application layer protocols
- Transport layer protocols
- Network layer protocols
- Data link layer protocols
- Physical layer protocols

Day 8: Sockets and ports and Introduction to Multithreading

- Socket programming in Java
- Working with IP addresses
- Working with ports
- Implementing a simple client-server application
- Introduction to threads
- Creating threads in Java

Day 9: Thread synchronization and Thread communication

- Thread synchronization
- Thread communication
- Synchronized methods
- Synchronized blocks
- Deadlocks
- Thread safe collections

Day 10: Introduction to Java IO

- Overview of Java IO
- InputStream and OutputStream
- FileReader and FileWriter
- BufferedReader and BufferedWriter
- ByteArrayInputStream and ByteArrayOutputStream
- DataInputStream and DataOutputStream
- ObjectInputStream and ObjectOutputStream
- SequenceInputStream

Day 11: Introduction to Java NIO

- Introduction to Java NIO
- Channels and Buffers
- Non-blocking IO
- FileChannel
- Introduction to selectors
- Registering channels with selectors
- Selection keys
- Multithreaded NIO

Day 12: Introduction to JDBC (Java Database Connectivity)

- Overview of JDBC architecture
- Connecting to a database
- Executing SQL statements
- Handling result sets

Day 13: Advanced JDBC concepts

- Prepared statements
- Callable statements
- Transactions
- Batch processing

Day 14: Introduction to RESTful web services

- Overview of web services
- REST architecture
- HTTP methods (GET, POST, PUT, DELETE)
- Understanding JSON
- RFC2616
- Making requests (GET, POST, PUT, DELETE)
- Understanding JWT
- Working with JWT authentication

Day 15: Introduction to the Spring framework

- Overview of Spring framework
- Spring IoC (Inversion of Control) container
- Dependency injection
- Bean scopes

Day 16: Spring AOP (Aspect-Oriented Programming) and

- Understanding AOP concepts
- Creating aspects
- Applying aspects to Spring beans
- Testing AOP

Day 17: Spring JDBC

- Configuring Spring JDBC
- Using JdbcTemplate
- Executing CRUD (create, read, update, delete) operations
- Working with named parameters

Day 18: Spring ORM (Object-Relational Mapping)

- Introduction to Spring ORM
- Configuring Spring ORM
- Working with Hibernate
- Mapping Java objects to database tables
- Introduction to JPA
- Configuring Spring Data JPA
- Creating and executing queries
- Working with relationships

Day 19: Introduction to Docker

- What is Docker?
- Docker architecture and components
- Installing Docker on different platforms
- Running a container

Day 20: Docker Compose and Container Orchestration

- Introduction to Docker Compose
- Creating multi-container applications with Docker Compose

Day 21: Introduction to Spring Boot

- Overview of Spring Boot
- Creating a Spring Boot project
- Spring Boot starter dependencies
- Spring Boot auto-configuration
- Building web applications with Spring Boot
- Using Spring MVC (Model-View-Controller)
- Spring Boot data access
- Testing Spring Boot web applications

Day 22: Spring Boot RESTful web services

- Building RESTful web services with Spring Boot
- Creating resource classes
- Handling HTTP requests and responses
- Testing the web services

Day 23: Spring Boot deployment and monitoring

- Deploying Spring Boot applications
- Monitoring Spring Boot applications
- Using Spring Boot Actuator
- Creating custom health checks

Day 24: Building Microservices with Spring Boot

- Introduction to Microservices architecture
- Advantages and disadvantages of Microservices
- Designing Microservices with Spring Boot
- Using Spring Cloud for Microservices

Please note that this is a reference document and the actual sequence of content delivered may vary.