

Java

UNIT:1

- ✓ Installing Java SDK and setting CLASSPATH AND PATH variables
- ✓ Introduction to programming environment – Eclipse IDE
- ✓ Shortcuts
- ✓ Java Perspective
- ✓ Debug Perspective
- ✓ Project and Directory structures
- ✓ How to use Help
- ✓ Running your first java program in Java and Debug perspectives

UNIT:2

- ✓ Java Language Features
- ✓ Java Types
- ✓ Java Operators
- ✓ Classification of Java keywords
- ✓ Java Statements classification
- ✓ Control structures
- ✓ Understanding Java file structure
- ✓ Understanding Java class structure

UNIT:3

OOPS Part 1

- ✓ Writing Java classes – defining variables, methods and constructors
- ✓ UML representation of Java classes
- ✓ Comprehensive understanding of main method – why main is static?
- ✓ Object Oriented Programming with Java
- ✓ Different ways of creating objects
- ✓ Introduction to mutating members and their significance
- ✓ Object VS Class relationship
- ✓ Introduction to JVM architecture and memory management in Java

UNIT: 4

OOPS Part 2

- ✓ Introduction to Overloading and implementation in Java
- ✓ Overloading and static modifier
- ✓ Introduction to Constructor overloading
- ✓ Constructors and static modifier
- ✓ Java modifiers
- ✓ Java Inheritance support and need for inheritance in programming
- ✓ Abstract classes in Java

UNIT:5

OOPS Part 3

- ✓ Overriding importance and need for overriding
- ✓ Overriding and static modifier
- ✓ Overloading VS Overriding
- ✓ OOAD principles
- ✓ Introduction to Java Interfaces
- ✓ Static VS Dynamic Polymorphism – with real time scenarios
- ✓ Polymorphism how is it realized in Java
- ✓ Introduction to Java packages

UNIT:6

- ✓ Introduction to java.lang package
- ✓ Object
- ✓ Class
- ✓ Runtime
- ✓ Math
- ✓ String, StringBuffer and StringBuilder
- ✓ Wrapper classes
- ✓ Design patterns

UNIT: 7

- ✓ Exception Handling – Best practices
- ✓ VM trace
- ✓ Debugging
- ✓ Logging
- ✓ UNIT:8
- ✓ Multithreading

- ✓ Using java.lang. Thread for creating threads
- ✓ Using java.lang. Runnable for creating threads
- ✓ java.lang Thread VS java.lang. Runnable
- ✓ Threads classification
- ✓ Life cycle
- ✓ Mutex and Semaphores – avoiding deadlocks

UNIT:9

- ✓ Java IO
- ✓ Byte streams
- ✓ Character streams
- ✓ Buffered Streams and Design patterns
- ✓ Serialization and Externalization

UNIT:10

- ✓ Introduction to java.util package
- ✓ Date and Calendar classes
- ✓ Properties class
- ✓ System class
- ✓ Logging support in Java
- ✓ Scanners, Formatters and Console
- ✓ Enumerators in Java
- ✓ Collections framework - List, Set, Map implementations
- ✓ Java Generics and Type safe operations