



Core Java

Java

Duration: 1 Month



JAVA Introduction

- History
- Features



Java Basics & Introduction to Eclipse

- Post Install Configuration
- Writing a simple program
- compiling and executing
- Data types
- Variables and Arrays
- Using Eclipse
- Create packaged classes
- Eclipse shortcuts





Operators & Expressions

- Arithmetic Operators
- Boolean Operators
- Logical Operators
- Binary Operators



Control Statements

- Branching Statements
- Iterative Statements
- Break & Continue with enhancements
- While
- For
- Do..While
- Goto Statement
- Break and Continue Statement



Java Object Oriented Programming

- Basics of OOPs
- Fundamentals of class & object
- new keyword
- Reference variables
- Member methods of a class
- Constructors
- Finalize method
- Overloading member methods
- Overloading constructors
- Passing and returning objects with methods
- Access Control
- Static Methods
- Static Variables
- Static Block
- Using final keyword
- Unit Testing using Junit-5



Inheritance

- Basics of Inheritance
- Members accessibility in inheritance
- Using super keyword
- Multilevel Inheritance
- The sequence of execution of constructors in inheritance
- Method Overriding
- Dynamic Method Dispatch
- Abstract classes
- Preventing overriding
- Preventing inheritance



Exception Handling

- Fundamentals of Exceptions
- Types of exceptions
- Using try and catch keywords
- Multiple catches
- Nesting of try blocks
- Using throw keyword
- Using throws keyword
- Finally block
- Some predefined exceptions and their usage
- User defined exceptions



Interfaces

- Purpose of Interface
- Defining an interface
- Implementing interfaces
- Interface reference variables
- Interface with variables
- Extending interfaces



Multi Threaded programming

- ✓ Basics of threads
- ✓ Java threaded model
- ✓ Defining threads using Runnable interface
- ✓ Defining threads using Thread superclass
- ✓ Multiple threads
- ✓ Thread Priority values
- ✓ Thread Synchronization using synchronized methods
- ✓ Thread Synchronization using synchronized blocks



Predefined Libraries

- ✓ Using String class
- ✓ Using java.lang package
- ✓ Working with Data & Time
- ✓ Utility framework
- ✓ Collection framework
- ✓ I/O framework