

Java

Session 1: Getting Started with Java

- What is Java?
- How to Get Java
- A First Java Program
- Compiling and Interpreting Applications
- The JDK Directory Structure

Session 2: Language Fundamentals

- A Java Program
- If Statements
- Switch Statements
- Syntax Details

Session 3: Loops

- While Loop
- Do While Loop
- For Loop
- Differences between different loops
- Syntax Details

Session 4: DataTypes

- Primitive Data types
- Variables
- Expressions in Java
- Strings

Session 5: Arrays

- Definition of Arrays
- Importance of Arrays
- Single Dimensional Arrays
- Multi Dimensional Arrays
- Jagged Arrays

Session 6: Objects and Classes

- Defining a Class
- Creating an Object
- Instance Data and Class Data
- Methods

Session 7: OOPs Concepts

- Abstraction
- Encapsulation
- Inheritance
- Polymorphism

Session 8: Constructors

- Default Constructors
- Parameterized Constructors
- Static Constructors

Session 9: Abstraction and Encapsulation

- Access Modifiers
- Public
- Private
- Protected
- this Key word
- Encapsulation

Session 10: Inheritance

- Inheritance
- Inheritance in Java
- Simple Inheritance
- Multi Level Inheritance

Session 11: Inheritance

- Hierarchical Inheritance
- Abstract Classes
- Interfaces
- Multiple Inheritances

Session 12: OverLoading and OverRiding

- Method Overriding
- Constructor Overloading
- Operator Overloading
- Method OverRiding

Session 13: Polymorphism

- Static Polymorphism
- Dynamic Polymorphism
- Virtual Classes

Session 14: Packages

- Creating Package
- The import Statement
- Package scope

Session 15: Packages

- Pre-Defined Packages
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- User-Defined Packages

Session 16: Exceptions

- Errors
- Types of Errors
- Exceptions Overview
- Exception Unhandled

Session 17: Exception Handling

- Catching Exceptions
- Arithmetic Exception
- IndexOutOfRangeException Exception
- The finally Block

Session 18: Exception Handling

- Exception Methods
- Declaring Exceptions
- Defining and Throwing Exceptions
- Errors and Runtime Exceptions

Session 19: Input and Output Streams(java.io)

- Overview of Streams
- Bytes vs. Characters
- Converting Byte Streams to Character Streams

Session 20: Files

- File Object
- Binary Input and Output
- Print Writer Class
- Reading and Writing Objects

- Basic and Filtered Streams?

Session 21: Collections(java.util)

- Binary Input and Output
- Print Writer Class
- Reading and Writing Objects
- Basic and Filtered Streams?
- Tuning Hash Map and Hash Set
- Queue Implementation Classes Sorting with Comparable
- Sorting with Comparator
- Sorting Lists and Arrays
- Collections Utility Methods
- Tuning Array List

Session 22: Introduction to Threads

- Non-Threaded Applications
- Threaded Applications
- Creating Threads
- Thread States

Session 23: Threads

- Runnable Threads
- Coordinating Threads
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Session 24: Threads

- Runnable Interface
- Thread Groups
- Thread Priority

Session 25: Thread Synchronization

- Race Conditions
- Synchronized Methods

- Deadlocks

Session 26: Data Structures in Java

- Stacks
- Queues
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Session 27: Introduction to AWT(java.awt)

- GUI Programming in Java
- AWT Events and Layout Managers
- The Java Event Delegation Model

Session 28: AWT Events

- Action Events
- List Selection Events
- Mouse Events

Session 29: AWT Layouts

- Layout Managers
- Border Layout
- Flow Layout
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Session 30: Windows

- Displaying a Window
- Handling Events
- Arranging Components
- A Scrollable Component
- Menus

