



# CORE JAVA COURSE CONTENT

## UNIT 1: INTRODUCTION

- THE BEGINNING OF JAVA
- THE FAMILY HISTORY OF JAVA
- JAVA AS A SUCCESSOR TO C++
- WHAT IS THE JAVA TECHNOLOGY?
- THE JAVA VIRTUAL MACHINE
- 1.6 WORKING OF JIT (JUST IN TIME) COMPILER
- FEATURES OF JAVA

## UNIT 2: JAVA LANGUAGE FUNDAMENTAL

- JAVA TOKENS
- PRIMITIVE DATA TYPES
- EACH DATA TYPE WITH DETAILED EXAMPLE
- A SIMPLE PROGRAM IN JAVA
- VARIABLES, DECLARATIONS, AND ASSIGNMENTS
- PATH SETTINGS
- TOOLS OF JDK
- OPERATORS
- KEYWORDS
- COMMAND LINE ARGUMENT
- ARRAY

## UNIT 3: OOPS CONCEPTS

- CLASSES AND OBJECT
- METHOD AND INSTANCE VARIABLE
- POLYMORPHISM, STATIC VS DYNAMIC BINDING
- INSTANCE VARIABLE HIDING
- LEARNING ABOUT STATIC
- ABSTRACT CLASSES AND INTERFACES
- ACCESS SPECIFIER IN JAVA
- CREATING AND USING PACKAGES
- THE STATIC IMPORT STATEMENT

## UNIT 4: EXCEPTION HANDLING



- FUNDAMENTAL OF EXCEPTION HANDLING
- CHECKED AND UNCHECKED EXCEPTION
- CHECKED VS. UNCHECKED EXCEPTIONS
- HANDLING EXCEPTION
- TRY, CATCH AND FINALLY
- USING THROW AND THROWS

#### **UNIT 5: MULTI-THREADING**

- THE JAVA THREAD MODAL
- THREAD PRIORITIES
- CREATING THREAD
- STARTING THE THREAD
- BASIC CONTROL OF THREADS
- MULTITHREADING AND CONTEXT SWITCHING
- INTER-THREAD COMMUNICATION

#### **UNIT 6: FILE HANDLING (I/O STREAMS)**

- I/O FUNDAMENTALS
- FILE HANDLING
- STREAMS
- A FILE INPUT EXAMPLE IS
- FILE OUTPUT EXAMPLE
- CHARACTER STREAMS
- API OVERVIEW
- BINARY STREAMS
- CLASSES HIERARCHY IN BINARY STREAMS

#### **UNIT 7: COLLECTION FRAMEWORK**

- INTRODUCTION
- WHAT IS A COLLECTIONS FRAMEWORK?
- BENEFITS OF THE JAVA COLLECTIONS FRAMEWORK
- IN SHORT COLLECTIONS API
- COLLECTION APIS HIERARCHY
- ITERATION INSIDE COLLECTION
- ENHANCED FOR LOOP
- WORKING WITH MAP BASED COLLECTION
- USE OF COMPARATOR
- THE COLLECTION ALGORITHM
- LEGACY CLASSES AND INTERFACES
- IMPLEMENTATIONS ☑
- CUSTOM IMPLEMENTATION
- DIFFERENT PACKAGES USED IN LIST, SET, and MAP INTERFACES



- HOW THE COLLECTIONS FRAMEWORK INTEROPERATES WITH OLDER APIS

#### **UNIT 8: NETWORKING**

- SOCKETS
- SECURE SOCKETS CUSTOM SOCKETS
- UDP DATAGRAMS
- MULTICAST SOCKETS
- URL CLASSES
- READING DATA FROM THE SERVER
- WRITING DATA – CONFIGURING THE CONNECTION
- READING THE HEADER – TELNET APPLICATION
- JAVA MESSAGING SERVICES

#### **UNIT 9: APPLLET AND SWING**

- APPLLET BASICS
- APPLLET LIFE CYCLE
- SIMPLE APPLLET DESIGNING
- INTRODUCTION TO SWING
- LAYOUT SETTING

#### **UNIT 10: EVENT HANDLING**

- WHAT IS AN EVENT?
- DELEGATION MODEL
- A LISTENER EXAMPLE
- THE EVENTHANDLER CLASS
- LISTENERS SUPPORTED BY SWING COMPONENTS
- LISTENERS THAT ALL SWING COMPONENTS SUPPORT
- OTHER LISTENERS THAT SWING COMPONENTS SUPPORT
- HOW TO WRITE AN ACTION LISTENER

#### **UNIT 11: JDBC (JAVA DATABASE CONNECTIVITY)**

- ROLE OF JDBC
- JDBC ARCHITECTURE
- ESTABLISHING A CONNECTION
- MAKING THE CONNECTION
- JDBC-ODBC BRIDGE DRIVER
- RESULTSET AND METADATA