

VERSION

25

CRASH COURSE

SR. CODE

EAPL/CRASH/CRTC02

COURSE CODE

EACCJ

SUB CATEGORY

SOFTWARE DEVELOPMENT



TOTAL DURATION

45
HOURS



THEORY TAKEN

13
HOURS



PRACTICAL TAKEN

32
HOURS

CONCEPTS
ELYSIUM
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CORE JAVA &
CONCEPTS

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ACADEMY**

**CORE JAVA &
CONCEPTS**

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CORE JAVA &
CONCEPTS

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COURSE DESCRIPTION



Java is essential to have a solid grasp of Core Java. Core Java, as its name indicates, focuses on the essentials of the Java language and leaves away the numerous libraries that are part of the established Java ecosystem.

COURSE GOALS



This can be accessed by anyone with an internet connection from any corner of the world. This includes creating simple to complex applications. It enables the use of computer language by web developers to provide dynamic, changeable content and services.

FUTURE SCOPE



For all game development, smart device development, online development, big data processing, Internet of Things apps, cloud-based applications, and other uses, Java is the way to go. When you learn how to create websites, applications, and visual designs, you can accomplish so much more with Java. Never before has JAVA's future in web development been more certain. Java has a stronghold on the market, and many IT companies support it. The future of web development is Java.

01

CHAPTER

BASICS OF JAVA

- O1. Basics: Internal path setting
- O2. Environment Setup:
 - a. ·Download Links
 - b. Method and Installation of Java on Windows



01
HRS



01
HRS

02

CHAPTER

DECLARATION OF JAVA

- O1. Data Types
- O2. Variables, Constraints, and Literals
 - a. Variable declaration
 - b. Initialization of Variable
 - c. Naming convention
 - d. Types of variables
 - e. Memory allocation of variables
- O3. Operators



01
HRS



02
HRS

03

CHAPTER

CONTROL STATEMENTS

- O1. Decision-Making Statements
 - a. IF-ELSE
 - b. Switch



01
HRS



03
HRS

O2. Looping Statements

- a. For loop
- b. While loop
- c. Do-while loop

O3. Jumping Statements

- a. Break
- b. Continue

04

CHAPTER

METHODS

- O1. Methods in Java
- O2. Use of method
- O3. Method declaration
- O4. Method signature
- O5. Types of methods
- O6. Calling of method
- O7. Java main method
- O8. Return type



30
mins



2.5
HRS

05

CHAPTER

OOPS & CONCEPTS

- O1. Class
- O2. Objects
- O3. Constructor
 - a. Types of Constructor



03
HRS



08
HRS

b·Constructor Overloading

c· Copy Constructor

O4. Encapsulation

a·Definition

b·Data Hiding

c· Getter and setter method

d·The Naming convention for the Getter and Setter methods

O5. Inheritance

a·Definition

b·Is-A-Relationship

c· Types of Inheritance

d·Aggregation and Composition

O6. Polymorphism

a· Definition

b·Types of polymorphism

c· Method Overloading

d·Method overriding

O7. Super and this Keyword

a. Definition

b·Super class Methods and Constructor

O8. Abstraction

a. Abstract class

b·Abstract method

O9. Interface

a. Nested interface, rules, and example programs

06

CHAPTER

KEYWORDS

O1. Keywords & Modifiers

- a. Access modifier and a non-access modifier
- b. Types of access modifiers
- c. Types of non-access modifiers

O2. Static Keyword

- a. Static variable
- b. Static methods
- c. The distinctions between a static variable and an instance variable

O3. Final Keyword

- a. Final variable
- b. Final methods
- c. Final class

O4. Inner Class

- a. Definition
- b. Types

O5. This Keyword



30
mins



02
HRS

07

CHAPTER

EXCEPTION HANDLING

O1. Explanation

O2. Try, Catch, Finally

O3. Throw, Throws in Exception Handling

O4. Throw vs. Throws

O5. Final vs. Finally vs. Finalize



30
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1.5
HRS

08

CHAPTER

INPUT-OUTPUT STREAM

O1. I/O Stream

- a. Character Stream
- b. Byte Stream

O2. File Class

O3. Serialization



30
mins



30
mins

09

CHAPTER

ARRAY AND STRINGS

O1. Array

- a. Definition
- b. Types of Array
- c. Array Programs

O2. String, String Buffer, String Builder

- a. Definition
- b. Immutable String
- c. String Comparison
- d. String Concatenation
- e. Substring
- f. String Buffer Class
- g. String Builder Class
- h. toString() method



30
mins



30
mins

10

CHAPTER

COLLECTIONS FRAMEWORK

- O1. Definition
- O2. Collections
- O3. List types, set types.
- O4. Comparable and Comparator Interface
- O5. Generic
- O6. Lambda Expressions
 - a. Introduction to Lambda Expression
 - b. Parameters in Lambda Expression
- O7. Date and Time API
 - a. Java time Classes
 - b. Data Formatter
 - c. Calendar and Time Zone



30
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03
HRS

11

CHAPTER

THREAD

- O1. Multithreading
- O2. Multithreading life cycle
- O3. Thread scheduler
- O4. Calling method
- O5. Joining a thread
- O6. Naming a thread
- O7. Thread priority
- O8. Daemon thread
- O9. Thread pool



30
mins



1.5
HRS

- 10. Thread Group
- 11. Shutdown hook
- 12. Java Synchronization
- 13. Deadlock
- 14. Inter-thread Communication
- 15. Interrupting Thread

12

CHAPTER

CHAPTER 12

- O1. Java Networking
 - a.Socket Programs



30
mins



01
HRS

13

CHAPTER

JDBC

- O1. JDBC Drivers
- O2. Connecting steps to Database
- O3. Oracle Connectivity
- O4. Connectivity with MySQL
- O5. Connectivity with Access without DSN
- O6. Driver Manager
- O7. Types of JDBC statements
- O8. Database Metadata, Resultset Metadata
- O9. ResultSet, types of ResultSet



01
HRS



4.5
HRS

- 10. Storing images, Retrieving image
- 11. Storing files, Retrieving files, Stored procedures, and functions
- 12. Transaction Management
- 13. Batch Processing

14

CHAPTER

SQL

O1. Data Query Language

- a. What is DQL?
- b. Purpose of DQL
- c. Select

O2. Data Manipulation Language

- a. What is DML?
- b. Purpose of DML
- c. Insert data
- d. Update data
- e. Delete Data
- f. Lock data

O3. Data Control Language

- a. What is DCL?
- b. Purpose of DCL
- c. Grant data
- d. Revoke data

O4. Transaction Control Language

- a. What is TCL?
- b. Purpose of TCL
- c. COMMIT
- d. ROLLBACK
- e. SAVEPOINT

O5. Inserting data

- a. Hands on INSERT data



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- b. SELECT
- c. Hands on SELECT query
- d. Multi inserts
- e. Hands on Multi inserts
- f. NOT NULL
- g. Hands on NOT NULL
- h. DEFAULT Values
- i. Hands on DEFAULT Values
- j. AUTO INCREMENT
- k. Hands on AUTO INCREMENT

O6. Basic Operators

- a. ORDER BY
- b. ALIASES
- c. UNIONS
- d. CONSTRAINTS
- e. VIEWS

O7. Primary Key

- a. What is primary key?
- b. Creating a primary key
- c. Dropping a primary key

O8. Foreign key

- a. What is foreign key?
- b. Creating a foreign key
- c. Dropping a foreign key

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