



Java Course Content

Core Java Course Content

Introduction:

- Introduction to java platform, javac, java, data types, source file, comments, setup.

Flow Control

- Conditional constructs
- Different types of if condition

Looping constructs

1. While
 2. Do-while
 3. For
 4. For-each
- break, continue
 - Switch statement

Object Oriented Programming

- Introduction to Object Oriented Programming
- Introduction to Classes and Objects
- Instance & Static variables
- Constructor
- Methods
- Instance & Static methods
- Static & Instance blocks

Packages

- Package creation
- Importing packages
- Importing Class



Inheritance:

- Extending classes
- Constructor calling chain
- The “super” keyword
- Method overriding
- Method hiding
- Final Class and Method

Abstract classes and Interfaces

- Abstract methods
- Abstract classes
- Interfaces
- Implementing interfaces
- Abstract class vs. Interfaces

Inner classes

- Non-static inner class
- Static inner class
- Local inner class
- Anonymous inner class

Exception Handling

- Introduction to exceptions
- Effects of exception
- Exception Handling framework
- Exception class Hierarchy
- Custom exception class
- Assertions

Memory Management

- Different types of memory used in Java



- Garbage Collection
- Memory Leaks

Collections Framework

- Introduction to collections
- Core Collection Interfaces
- List interface and its implementations
- Set interface and its implementations
- Queue interface and its implementations
- Map interface and its implementations

Java I/O Stream

- I/O Streams Introduction
- Types of Streams
- Stream class Hierarchy
- Buffered Streams
- Working File Streams

Serialization

- Introduction to serialization
- Serialization process
- Deserialization process

Threads

- Introduction to threads
- Thread states and priorities
- Thread class
- Runnable interface
- Thread Group
- Synchronization
- Inter thread communication



Generics, Enums, AutoBoxing

Internationalization., Locale, Formatting text and dates

Logging

- Introduction to logging
- Loggers
- Handlers
- Formatters
- Configuration

JDBC API

- Understanding the design of JDBC API
- Obtaining JDBC Drivers
- Establish connection with DB Servers
- Execute SQL Queries using Statement and Prepared Statement
- Fetch the data
- Reading the records using result set object
- Adding and Updating the records

J2EE Advance Java Course Content

The aim of the Java EE platform is to provide developers with a powerful set of APIs while shortening development time, reducing application complexity, and improving application performance. Using Java EE we can develop web, distributed multitier applications.

Web application development

- Introduction to web application development
 - Purpose of web application development
 - Various elements of web applications
 - Setting up Tomcat web server and Eclipse WTP
-
- Developing dynamic web applications using Servlet's
 - Overview of Servlet2.5 & 3 API's



- Handling a client's request using Servlet
 - Configuring servlet's using xml and annotations
 - Web Container
 - Servlet Life Cycle
 - Http Protocol
-
- Http Request Format
 - Http Response Format
 - Coordinating servlets
 - Scope objects(Sharing data)

Servlet Filters

- Filter basics
- Creating a filter
- Understanding the applications of filters

Servlet Listeners

- Listener's basics
- Creating a listener & registering
- Understanding the applications of listeners

Session Tracking

- JSP (JavaServerPages)
- JSP Elements
- Directives
- Declarations
- Scriptlets
- Expressions
- JSP Actions
- Comments
- Implicit objects
- Expression Language (EL)



- JSTL(JSP Standard Tag Libraray)
- Core Tags
- Formatting tags
- SQL tags
- XML tags
- JSTL Function
- Creating Custom JSP Tag Libraries: The Basic
- Java-based tags
- Components of a tag library
- Basic tags
- Tags that use body content
- Tags that optionally use body content
- JSP-based tags (tag files)
- Components of a tag library
- Basic tags
- Tags that use attributes
- Tags that use body content

XML Processing API's

- XML syntax and namespaces
- Describing XML with schema
- Java APIs for XML Parsing and Transformation
- JAXP, SAX, and DOM

Java API for XML Binding(JAXB)

- The need for Data Binding
- Mapping schema types for Java
- Java-to-xml mapping using annotation's
- Marshalling and Unmarshalling with JAXB
- Working with JAXB Object models

Java Persistence API (JPA)

- Entity class and O/R mappings
- Persistent fields and properties

Entity relationship mappings

- One-One



- One-Many
- Many-One
- Many-Many

Inheritance mappings

- Annotations and XML descriptors for defining mappings

Entity Operations

- The EntityManager interface
- Entity instance life cycle
- Entity listeners and call-back methods

Java Persistence Query Language (JPQL)

Understanding Other Data binding Frameworks in Java

- XMLBeans

MITAJA CORPORATION