

Advance Java



JavaTM

About Course

It is a part of Java programming language. It is an advanced technology or advance version of Java specially designed to develop web-based, network-centric or enterprise applications. It includes the concepts like Servlet, JSP, JDBC, RMI, Socket programming, etc. It is a specialization in specific domain.

Most of the applications developed using advance Java uses tow-tier architecture i.e. Client and Server. All the applications that runs on Server can be considered as advance Java applications.

ADVANCE JAVA

CURRICULUM

① **JAVA EE(JAVA PLATFORM ENTERPRISE EDITION)**

Understanding the Concept of Java EE : JEE Specification

Java EE Architecture

Single Tier

Two Tier

Three Tier

N-Tier

Java EE Components

Web Components

Distributed(Business) Components

Java EE Containers& Servers

Web Container& Web Server(Apache Tomcat)

**EJB Container& Application Server(Weblogic,
Glassfish, Websphere)**

Java EE Services

JNDI Service

Java Transaction Service

JAAS

JMS

2 JAVA SERVLET

Servlet with Annotations

@WebServlet

@WebInitParam

@WebListener

@WebFilter

@MultipartConfig

Request Dispatching

Parameters & Attributes and their differences

ServletConfig and ServletContext

File Uploading and Downloading

Session Tracking & State Management

Cookie

Url Rewriting

Hidden Form Field

Session Object

Events & Listeners

Dependency Injection

Refreshing Servlet

Filters

3 JAVA SERVER PAGES (JSP) & JSTL

JSP Architecture

JSP Elements

Understanding JavaBeans
Custom Tags
Using tags of JSTL
Expression Language

4 PROJECT CLASSES

Front End Coding
FORM DESIGNING
HTML
CSS
JAVA SCRIPT
BOOTSTRAP
Back End Coding
DATABASE DESIGNING
Connecting forms to database
Writing Business Logic
Project Hosting

5 INTRODUCTION TO HTML

What is HTML
HTML Text Editors
HTML Building Blocks
HTML tags
HTML Attributes

HTML Elements
HTML Formatting
HTML Heading
HTML Paragraph
HTML Phrase Tags
HTML Anchor
HTML Image
HTML Table
HTML Lists
HTML Ordered List
HTML Unordered List
HTML Description List
HTML Form
HTML Form Input
HTML Form Attribute
HTML with CSS
HTML Classes
HTML Id
HTML Iframes
HTML JavaScript
HTML Comments
HTML File Path
HTML Head
HTML Layout
HTML Layout Techniques
HTML Responsive

- HTML Responsive
- HTML Computercode
- HTML Entities
- HTML Symbols
- HTML Charset
- HTML URL Encode

6 INTRODUCTION TO CSS

- What is CSS
- CSS Syntax
- CSS Selector
- How to Add CSS
- Inline CSS
- Internal CSS
- External CSS
- CSS Comments

7 BOOTSTRAP INTRODUCTION

- What is Bootstrap
- Bootstrap Example
- Bootstrap Container

8 JDBC INTRODUCTION

JDBC Driver

DB Connectivity Steps

Connectivity with Oracle

Connectivity with MySQL

Access without DSN

Driver Manager

Connection

Statement

ResultSet

Prepared Statement

ResultSetMetaData

DatabaseMetaData

Store image

Retrieve image

Store file

Retrieve file

CallableStatement

Transaction Management

Batch Processing

RowSet Interface

9 XML INTRODUCTION

What is XML

- XML Features
- HTML vs XML
- XML Example
- XML Technologies
- XML Attributes
- XML Comments
- XML Tree

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SPRING REST API

- Creating Rest
- Consuming Rest
- Calling on Client

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BUILDING CONTRACT-FIRST WEB SERVICES IN SPRING

- Introducing Spring-WS
- Defining Contract (First!)
- Handling messages with service endpoints
- Wiring it all together
- Consuming Spring-WS Web services

SPRING OBJECT/XML MAPPER

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SPRING BOOT

Project Creation

Boot Elements

Boot Services

Boot Annotation

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INTRODUCTION TO ORM

Need of ORM

Problems using JDBC Directly

ORM Implementation

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INTRODUCTION TO HIBERNATE

Hibernate Architecture

Hibernate configuration

Hibernate's Support for Other Technologies

Installing Hibernate

A "Hello world" stand alone application

A Servlet-Based Hibernate application

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CREATING PERSISTING CLASSES

- Mapping a basic Java Class
- Mapping a Class with Binary Data
- Mapping a Serializable Class
- Mapping a class with Data/ calendar attributes
- Mapping a Read-only class
- Mapping a class using Versioning /Timestamps

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MAPPING INHERITENCE WITH JAVA CLASSES

- Table-Per -class Hierarchy Mapping
- Table-Per -subclass Hierarchy Mapping
- Table-Per -concrete-subclass Hierarchy Mapping
- Persistence interfaces

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WORKING WITH COLLECTIONS

- Associations
- Lazy initialization
- Mapping Maps/Sorted Maps
- Mapping Sets/Sorted Sets
- Mapping lists
- Mapping Arrays
- Mapping a Bidirectional Association

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SCALAR QUERIES AND HIBERNATE QUERY LANGUAGE

Queries

Named Queries

SQL Queries

Hibernate Queries language

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HIBERNATE TRANSACTIONS AND LOCKING

Configuration

Database support

Using Transactions

The Transactions API

Transaction Example Using Oracle

Locking

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HIBERNATE CACHING

How caching improves performance

First level lache

Second level cache



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DESIGN PATTERN

Why Design Patterns...?

Front Controller

Composite View

Factory Pattern

Singleton Pattern

DAO Pattern

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JAVA MAIL API

Email System and Protocols

Sending & Receiving Mails

Handling Attachments

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INTRODUCTION TO DISTRIBUTED PROGRAMMING

RMI

Web Services

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INTRODUCTION TO RESTFULL SERVICES

@PathParam

@Path



@FormParam

@QueryParam

@DefaultValue


OVERVIEW OF JPA FRAMEWORK



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