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CORE JAVA

- Introduction to Java
- Object Orient Features, Need of JAVA , Features of java
- Object oriented, architecture, Difference from C & C++
- Java environment ,Java Development kit(JDK)
- Application Programming ,Interface(API)
- Classes in JAVA ,Constructor, functions, finalize, arrays
- Inheritance, Inner classes, Super class, sub class
- Packages, importing packages, Public, private, methods and their scope
- Interface ,Defining interfaces,Extending interfaces,Implementing Interfaces
- Interface variable and its uses, Introduction to abstract window toolkit
- AWT Package,Components, Container, container layout manager ,Frame, Textfield ,Button
- Event Handling, Event Delegation Model ,Event Source ,Event Listener
- Event Trapping through inner class,Event trapping through same class
- AWT Components & their listeners , Checkboxes,Option button,Label,List,Choice,Text Area, Scroll bar
- AWT Components, Dialog Boxes,Menu Bars and Menus, Layout Managers, Flow Layout, Border, Layout ,Grid Layout ,Card Layout ,GridBag Layout
- Images , Creating,Displaying ,Paint Method ,Canvas
- Managing Input Output in Java ,Concept of streams,Stream Classes,Byte stream Classes
- Input stream Classes, Output stream Classes,Character stream Classes Reader stream Classes
- Writer stream Classes, Byte stream , Byte Array Input stream, Byte Array Output Stream, File Input, Stream ,File Output ,Stream, Subsequent Stream. ,Print Stream. , Pushback, Input Stream. ,Event trapping through outer class ,Linen umber Input stream
- File I/O ,File dialog box,File reader, Filewriter , Chararray reader, chararray writer ,Buffered reader, Buffered writer, Pushback reader
- Serialization ,Serializable, Object output,Object Input stream
- Managing Errors and Exceptions, Type of errors ,Exceptions, Exception Handling, Try- Catch,



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- Finally ,Throwing Exception ,Creating Exception & throwing
- Multithreaded programming, Thread Exception and priority ,Networking and java
- Applet and Java ,Database Programming in java , Database support in web
- Remote Method Invocation ,RMI and Callback ,Working with class loader ,Make Up Sessions

SERVLETS

Introduction to Servlets

- Server Side Programming Concept
- Life Cycle of Servlets
- Java Servlet Development Kit
- Webserver and Servlets
- Java web server and its Architecture
- A Simple Servlet
- Servlet Context,Servlet Request, Servlet Response
- Generic Servlet
- Servlet Input and Servlet Output Stream

Types of Servlet

- HTTP Servlet
- Get and Post Methods
- HTML Forms
- From Basics
- Server Side Includes
- Using JDBC in Servlet

Applet to Servlet Communication

- Servlets and Session Management
- Session Tracking
- Cookies

Java Server Pages



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- Java Server pages and Servlets
- Life Cycle of JSP
- Flowchart for developing JSP
- Directive Tag
- Structure of the Directive Tag
- Available Directive Tags
- Declaration Tag
- Structure of the Declaration Tag
- Scriptlet Tag
- Structure of the Scriptlet Tag
- Action Tag
- The usebean Action Tag
- The setProperty and getProperty Action Tags
- The include Action Tag
- The forward Action Tag
- The plugin Action Tag
- Implicit Variables
- A variable implicit variables
- Request
- Response
- PageContext
- Session
- Cookie
- Exception
- Advanced JavaServer Page Techniques
- Flowcharting for Developing a Custom Tag Library
- Writing a Custom JSP Tag Library
- Advantage and Disadvantage of Custom Tags
- Features of Custom Tags
- Types of Custom Tags
- Tag Handler Interfaces and Classes
- Tag Library Descriptor
- Taglib Directive
- Webligic's JSP Tag Library
- Form Validation

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- Compile the Program
- Deploy the program
- Registering your Custom Tag Handler in Web.xml
- Execute the program

Enterprise Java Beans

- Distributed Application & their architecture
- Single Tier architecture
- Two tier architecture
- Multi tier architecture
- Transaction process
- ACID properties of Transaction
- OLTP Vs OLAP
- Three tier Architecture
- Sockets, Corba, OLI/DCOM
- RPCs ,RMI, Message Queues
- Distributed Transaction Processing
- EJB Role's
- Component Transaction Monitor
- Overview of EJB's Software Architecture
- EJB Server
- EJB Container
- Enterprise Beans
- Enterprise Java Beans & Java Beans
- Types of Enterprise Java Beans
- Session Beans
- Entity Beans
- Writing down a Session Bean
- Type of Session Bean
- Stateful Session Bean
- Stateless Session Bean
- Home Interface
- Remote Interface
- Bean Class, Session Bean Interface



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- EJB Deployment Wizard
- Setting of properties in Properties File
- Setting of Properties in CMD Files
- Making a EJB Client
- High Level View of EJB conversion
- Finding the bean
- Getting accesss to bean
- Calling the bean's method
- Roles in EJB
- Enterprise Bean provide deployer
- Application Assembler
- EJB Server Provider
- EJB container Provider
- When to use Session Bean
- Constraints of Session Bean
- Session Bean Life Cycle
- Stateful Session Bean
- Deployment & Design
- Database Pooling
- Entity Bean
- When to use it
- Bean Manage Vs Container Managed
- Persistence
- Primary Keys
- Entity Bean Life Cycle
- Container Managed Persistence
- Bean Managed Persistence
- EJB Clients
- An EJB Bean as client to another
- Servlet Client
- JSP Client
- Enterprise Java Beans & Transactions
- Transaction & various Attribute
- Enterprise java Beans and Transaction
- Enterprise Java Beans and Authentication in
- Clients

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- Bean Level Authentication
- Method Level Authentication Access
- Control List

Web Logic Server

- Introduction to BEA Weblogic Server
- Evolution of application Server
- Business of Application Servers
- Connection Management
- Transaction Management
- Component Instance Pooling
- Load Balancing and Fail-safe Mechanism
- Declarative and Programming Approaches
- Weblogic Server
- Weblogic Server Feature
- Useful Tools in WebLogic Server
- Understanding J2EE Concepts
- Java 2 Enterprise Edition
- J2EE Roles
- Component, Container and Connector
- Java Servlet API
- Java Server Pages(JSPs)
- JSP Tag Library
- Java Database Connectivity (JDBC) API
- Enterprise Java Beans (EJBs)
- Design Contracts
- Java Transaction API
- Java Message Services(JMS) API
- J2EE Connector Architecture(JCA)
- Enterprises Application Architectures
- Model I Architecture
- Model II Architecture
- Application Features
- Application Design



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Struts

- Struts Architecture and Overview
- Introduction to Struts
- MVC Overview
- What is Struts?
- Struts flow
- Components in Struts
- The Model
- The View
- The Controller
- struts-config.xml
- the <data-sources> element
- the <form-beans> element
- the <global-forwards> element
- the <action-mappings> element
- the role of web.xml for the application
- configuring Struts in web.xml
- web.xml content
- steps to configuring Struts in web.xml
- Struts development cycle
- Gathering requirements
- Defining screen requirements
- Data vs. FormBean
- define FormBean
- Determining the screen flow
- Defining the ActionMappings in struts-config.xml
- Developing the FormBean
- The reset () method
- Form validation using the validate () method

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- ActionError; Define message key
- Developing Action Class
- Action and Action Class
- The perform() method
- ActionForward
- ActionMapping class
- Perform() example
- Example perform() method
- Developing business logic – EJB
- Developing JSPs
- Configuring struts-config.xml and web.xml
- Build, pack and deploy
- Struts Deployment
- Struts binary distribution
- Directory structure of Struts application
- Build the application
- build.cmd
- Installing Tomcat
- Tomcat command line utility
- Start Tomcat
- Access Tomcat application
- Package, deploy and access
- Struts applications
- Custom JSP Tag Libraries
- JSP taglib directive
- Components of a tag library
- The JSP File
- The TLD File
- The Handler Class
- Tag Lib Handler life cycle
- Directory structure
- where custom tag libraries fit
- Struts TagLib
- Bean tags: <bean:message>
- <bean:define>

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- <bean:page>
- <bean:include>
- <bean:cookie>
- HTML tags
- <html:form>
- <html:submit>
- <html:text>; <html:link>
- <html:password>
- Logic tags; Functionality
- <logic:equal>
- <logic:iterate>
- Template tags
- Struts Techniques
- Architectural design – Action Class
- The new “MyAction” class;
- Architectural design – Form Bean
- New “MyBaseBean” Form Bean;
- Debugging techniques
- Database connection pool
- Internationalization techniques
- Error Handling
- Struts Error Handling
- Mechanisms; ActionError and ActionErrors
- Error handling from a form bean
- Error handling from an action;
- Formatting error messages
- Struts exception handling
- Advance Features
- BeanUtils package
- Digester package
- DynaActionForms
- Multi-application support
- Validators
- Declarative Exception Handling
- HTTP Redirection; Dealing with check boxes

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- Context sensitive form validation
- Database Programming and Struts
- Configuring and using a Struts Data Source
- Using a J2EE Data Source
- Transaction management from an action
- Sharing a connection with the model classes
- Pre-populating a form for editing data
- Paginated listing of large amounts of data
- Templates and Tiles
- Struts Templates
- Template tags - insert, get and put
- Struts 1.1 tiles support
- Inheritance in tiles definitions

XML

- Introduction to XML
- Introduction to Markup Language
- Type of Markup
- SGML, HTML, XML
- XSL
- Introduction to XML
- Use of XML
- Feature added from SGML and HTML to XML
- XML's Naming Convention
- XML Structure
- Attribute Markup
- Character Reference
- Entities
- CDATA Sections
- Processing Instruction
- More on Element and Attributes
- Introduction to DTDs
- Markup Declarations
- Element Declarations
- Attribute Declarations



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- Working with Valid Document and Entities
- Necessity of DTD
- DTDs and Validation
- Document Type Declarations
- Developing a DTD from XML Code
- Entities
- Working with Stylesheet and Links
- Style Sheets
- Names space
- Hyperlink
- Authoring XML Document
- XML document
- Authoring documents
- Using the XML Object Model
- XML object model
- Accessing nodes in a tree
- XMLDOM document objects
- Using XML Namespaces
- Namespaces
- Declaring Namespaces
- Authoring XML Schemas
- Using Data types with in XML Document
- Accessing Typed XML Values

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