Day 9

Servlets

Core Java Applications are basically called as Desktop or Standalone Applications. (J2SE)

Adv Java Applications (J2EE)

1. Dynamic Web Applications
2. Enterprise Application
3. Web Services
4. Messages & Queues (JMS, MQ)
5. Enterprise JAVA Beans (EJB)

Diff between J2SE & J2EE Applications

1. Internal Folder Structure
2. Place where the java code gets executed
3. Place where it sends the output
4. We need a Server(Container) to execute J2EE Applications

Server & It’s Type

1. Server is an Application Software which provides a platform to execute J2EE Projects
2. Two types of Server - Web Server (Apache Tomcat), Application Server (Glassfish, JBoss, WebLogic etc.,)

Servlets

1. Servlets are Java classes without main method and executes in container only
2. Two types of Servlets – Generic Servlet & HttpServlet
3. Generic Servlet is protocol independent (It’s used for all protocols like FTP,SMTP,POP,HTTP etc.,)
4. HttpServlet is protocol Dependent (i.e It’s used only for http)

Servlet Life Cycle Methods

1. init() – This method gets called only once when the servlet is loaded to the container
2. service() – This method gets called every time the servlet is called
3. destroy() – This method gets called only once before destroying the servlet (while restarting the server or while un-deploying the application)

Buillding & Deploying the code/Project

1. Building is the process of converting your source code to object(byte) code and creating a archive using all your bytecode.
2. Deployment is the process of loading this archive to the server (Loading all the servlets with its url mapping and calling it’s init method)

Day 10

Deployment Descriptor (web.xml) – The content of this file gets read while starting the server.

If you have some error in your web.xml, the server will not start.

You can use either web.xml file or @WebServlet annotation to configure your servlet. (but not both)

When you are using some framework(Spring,Struts) web.xml file is compulsory.

XML (eXtensible Markup Language) – It is case and space sensitive.

XML is used to represent the data. Whereas HTML is used to display the data (View Part)

XML is platform/ Language/ Architecture Independent.

Every XML will have some namespace and XSD/DTD

XSD – XML Schema Definition, DTD – Document Type Description

Parser is the Software / Program which is used to read the data from XML

Session Management

1. http is a stateless protocol
2. 4 Types are urlRewriting, hidden form fields, cookies & HttpSession Object
3. Scope page, request, application, session

JSP (Java Server Pages)

1. You are adding html tags inside Java
2. You are adding java code inside html
3. Jsp tags starts with <% and ends with %>

Different types of JSP tags

1. Scriptlet tag <% %> - Used for multi line java code. The code place between this tag is added to the service method of the servlet.
2. Expression tag <%= %> - used for single line java code (expressions). Its an alternative for out.print() method, semi-colon is not allowed
3. Declaration tag <%! %> - used for declaring variables & constants. Multi line java code.
4. Action tags <jsp:action> </jsp:action>
5. Directive Tags <%@ %> - It’s compulsory for all JSP (page, include, taglib)

Implicit Objects in JSP

1. Out
2. Session
3. PageContext
4. Config
5. Application
6. Request
7. Response
8. Page
9. Exception

JSP Tag Libraries (JSTL –JSP Standard Tag Libraries)

Expression Language (EL) ${}

CRUD Operations

1. Using Servlets & HTML only (With Bean/Without Bean)
2. Using JSP & HTML (With Bean/Without Bean)
3. Using JSP & Servlet (With Bean/Without Bean)
4. Using JSTL in JSP (With Bean/Without Bean)
5. Using JPA (With Bean Only) – Very very simple & easy method

JPA (Java Persistence API)

1. It’s a specification
2. Various implementation of JPA are EclipseLink, Hibernate, IBatis etc.,

ORM – Object Relational Mapping Tool

OXM – Object XML Mapping