# What is inside a HTTP response?

A. A result code and Header fields

B. A request code and response code

C. Body and ACK flag

D. Body and Header fields

E. Both A and D is true

F. All of above

Answer: E. Both A and D is true

# What HTTP method should be used to update partial resources on the server?

A. PATCH

B. POST

C. GET

D. DELETE

Answer: A. PATCH

# What is the role of a servlet container in the context of a Java web application?

A. Managing database transactions

B. Hosting and executing servlets

C. Serving static content

D. Handling client-side scripting

Answer: B. Hosting and executing servlets

Which attribute makes an input field unalterable but still submit its value when the form is submitted?

A. readonly

B. disabled

C. locked

D. unchangeable

Answer: A. readonly

# In a standard Java web application, where is the deployment descriptor (web.xml) typically located?

A. /WEB-INF

B. /META-INF

C. /WEB-INF/classes

D. Root directory

Answer: A. /WEB-INF

# What is the primary function of a web server in the client-server architecture?

A. Generating HTML code

B. Processing and responding to client requests

C. Managing client-side scripts

D. Storing user session data

Answer: B. Processing and responding to client requests

# What is the syntax for defining an initialization parameter of a servlet in a deployment descriptor?

A. <servlet>

<servlet-name>name</servlet-name>

<servlet-class>class</servlet-class>

<init-param>

<param-name>name</param-name>

<param-value>value</param-value>

</init-param>

</servlet>

B. <servlet>

<servlet>name</servlet>

<class>class</class>

<init-param>

<param-name>name</param-name>

<param-value>value</param-value>

</init-param>

</servlet>

C. <servlet>

<servlet-name>name</servlet-name>

<servlet-class>class</servlet-class>

<initialized-param>

<param-name>name</param-name>

<param-value>value</param-value>

</initialized-param>

</servlet>

D. <servlet>

<servlet-name>name</servlet-name>

<servlet-class>class</servlet-class>

<initialized-param>

<name>name</name>

<value>value</value>

</initialized-param>

</servlet>

Answer: A. <servlet>

<servlet-name>name</servlet-name>

<servlet-class>class</servlet-class>

<init-param>

<param-name>name</param-name>

<param-value>value</param-value>

</init-param>

</servlet>

# JavaScript clients of SignalR application call public methods on hubs via the invoke method of the HubConnection. The invoke method accepts the name of the hub method and any arguments defined in the hub method.

Support that you already have defined the following code:

```javascript

var connection = new signalR.HubConnectionBuilder()

.withUrl("/chatHub")

.create();

connection.start();

```

Which of the following codes you can call "invoke" method?

A. try {

await connection.invoke("SendMessage", user, message);

} catch (err) {

console.error(err);

}

B. try {

await connection.invoke(user, message, "SendMessage");

} catch (err) {

console.error(err);

}

C. None of the mentioned

D. All of the mentioned

Answer: A. try {

await connection.invoke("SendMessage", user, message);

} catch (err) {

console.error(err);

}

# Which interface must a servlet implement in order to handle HTTP requests and responses?

A. ServletInterface

B. HttpServlet

C. WebServlet

D. HttpRequestResponseHandler

Answer: B. HttpServlet

# Which of the following is the correct order of servlet life cycle phase methods?

A. init(), service(), destroy()

B. initialize(), service(), destroy()

C. init(), execute(), destroy()

D. init(), service(), delete()

Answer: A. init(), service(), destroy()

# What is the purpose of query parameters in an HTTP request URL?

A. To store sensitive information

B. To define the type of HTTP method to be used

C. To pass data to the server as key-value pairs

D. To enable encryption for the request

Answer: C. To pass data to the server as key-value pairs

# Which of the following is a correct syntax of the method that is used to get the initialized parameter in ServletContext or ServletConfig?

A. String getInitializedParameter(String name)

B. String getInitParameter(String name)

C. String getContextParameter(String name)

D. String getCoolParameter(String name)

Answer: B. String getInitParameter(String name)

# Which of the following is a correct syntax of the method that is used to get the initialized parameter in ServletContext or ServletConfig?

A. String getInitializedParameter(String name)

B. String getInitParameter(String name)

C. String getContextParameter(String name)

D. String getCoolParameter(String name)

Answer: B. String getInitParameter(String name)

# How can you define a servlet mapping without using web.xml?

A. By using annotations like @WebServlet(urlPatterns = {"/example"}) in the servlet.

B. By configuring servlet mapping in a separate properties file.

C. By defining servlet mappings in the servlet class using the setMapping() method.

D. Servlet mapping without web.xml is not supported.

E. None of the others.

Answer: A. By using annotations like @WebServlet(urlPatterns = {"/example"}) in the servlet.

# During which method call are the JSP's form data and cookies available?

A. \_jspInit()

B. \_jspService()

C. \_jspDestroy()

D. \_jspDoStart()

Answer: B. \_jspService()

# Which of the following represents the XML equivalent of this statement <%@ include file="connect.jsp"%>

Select the one correct statement

A. <jsp:include file=" connect.jsp"/>

B. <jsp:include page=" connect.jsp"/>

C. <jsp:directive.include file=" connect.jsp"/>

D. There is no XML equivalent of include directive.

Answer: C. <jsp:directive.include file=" connect.jsp"/>

# What is the role of the <%@ page %> directive in JSP?

A. To include external JavaScript files.

B. To import Java packages and set page attributes.

C. To define the layout of the web page.

D. To include external CSS stylesheets.

Answer: B. To import Java packages and set page attributes.

# Which implicit object provides access to HTTP headers and cookies in a Java Servlet?

A. request

B. response

C. session

D. application

Answer: A. request

# Which attribute marks a JSP page as an error page?

A. isErrorPage="true"

B. errorPage="true"

C. error="true"

D. isError="true"

Answer: A. isErrorPage="true"

# What best describes a characteristic of a Type 4 (Thin Driver) JDBC driver?

A. It uses a pure Java driver to communicate with the database.

B. It relies on a native library provided by the database vendor.

C. It translates JDBC calls into the database-specific protocol and communicates with the database server over a network.

D. It bridges JDBC calls to ODBC, which is then translated to the database-specific protocol.

Answer: C. It translates JDBC calls into the database-specific protocol and communicates with the database server over a network.

# How does DBMS deal with concurrent multi-user?

A. Connection pool is provided by DBMS server and application server

B. Using 1 connection sharing by multi user

C. Eliminate connection leaks in database applications

D. Always manage database tasks with transaction

Answer: D. Always manage database tasks with transaction

# In a Java web application, which of the following statements is used to execute an SQL query against a database?

A. executeUpdate()

B. executeQuery()

C. executeStatement()

D. executeSQL()

Answer: B. executeQuery()

# How do you manage database transaction with JDBC driver?

A. Explicit transaction management by invoke con.beginTrans()

B. Turn off auto-commit mode from DBSM for implicit transaction

C. It is automatically managed by DBMS

D. Invoke con.commit() or con.rollback()

Answer: B. Turn off auto-commit mode from DBSM for implicit transaction

# You are tasked with improving the performance of a JSP MVC application, which currently experiences slow page loading times. Propose a strategy for optimizing the application, considering MVC principles.

A. Increase the server's hardware capacity to handle more concurrent requests

B. Implement caching mechanisms within the View to store rendered pages.

C. Optimize database queries within the Model to reduce data retrieval times.

D. Minimize the use of MVC architecture and revert to a monolithic design for performance.

Answer: C. Optimize database queries within the Model to reduce data retrieval times.

# In MVC2 architecture, what is the primary role of the JSP page?

A. Handling user input

B. Executing business logic

C. Rendering the user interface

D. Managing database connections

Answer: C. Rendering the user interface

# Which layer in a multi-tier architecture is responsible for implementing business rules and logic?

A. Presentation layer

B. Data access layer

C. Business logic layer

D. Data storage layer

Answer: C. Business logic layer

# Evaluate the implications of storing large amounts of data in a user's session object

A. It ensures faster access to data due to client-side storage.

B. It can lead to increased memory usage on the server and potential scalability issues.

C. It has no impact on server performance since session data is maintained client-side.

D. It is a recommended practice for enhancing security.

Answer: B. It can lead to increased memory usage on the server and potential scalability issues.

# Which is NOT a method of session tracking in Java web applications?

A. Cookies

B. SSL certificates

C. URL rewriting

D. Hidden fields

Answer: B. SSL certificates

# What is URL rewriting in the context of web applications?

A. A technique for obfuscating URLs to prevent unauthorized access

B. A method of redirecting users to different web pages

C. A mechanism for appending session information to URLs

D. A process of compressing URLs to improve website performance

Answer: C. A mechanism for appending session information to URLs

# What method is used to store an attribute in the ServletContext object?

A. setContextAttribute()

B. addAttribute()

C. setAttribute()

D. addContextAttribute()

Answer: C. setAttribute()

# Which EL operator is used to access properties or attributes of objects?

A. . (dot)

B. + (plus)

C. \* (asterisk)

D. : (colon)

Answer: A. . (dot)

# Which of the following EL expressions correctly accesses the "name" property of a JavaBean named "user" stored in the session scope?

A. ${sessionScope.user.name}

B. ${user.name}

C. ${session.user.name}

D. ${requestScope.user.name}

Answer: A. ${sessionScope.user.name}

# In EL, assuming employeeNames is a list in Java, how can you check if it contains the name "John"?

A. ${'John' in employeeNames}

B. ${employeeNames.contains('John')}

C. ${employeeNames.indexOf('John') ne -1}

D. ${fn:contains(employeeNames, 'John')}

Answer: A. ${'John' in employeeNames}

# Which EL expression is used to access elements of a collection by index?

A. ${collection[index]}

B. ${collection.get(index)}

C. ${collection.element(index)}

D. ${collection[getIndex()]}

Answer: A. ${collection[index]}

# In Java web development, what is the primary role of a ServletContextListener?

A. Handling HTTP requests and generating responses.

B. Managing sessions and cookies for clients.

C. Observing changes in the lifecycle of the ServletContext.

D. Interacting with databases to perform CRUD operations.

Answer: C. Observing changes in the lifecycle of the ServletContext.

# Which of the following events is typically handled by a ServletContextListener?

A. Session creation

B. Request handling

C. Context initialization

D. Form submission

E. None of the others

Answer: C. Context initialization

# What is the purpose of a Session Listener in a Java web application?

A. To listen for changes in session attributes

B. To listen for changes in application context parameters

C. To listen for changes in request parameters

D. To listen for changes in session lifecycle events

Answer: D. To listen for changes in session lifecycle events

# Which of the following correct code to get information in the following "<context-param>" tag in the web.xml file?

```xml

<web-app>

<context-param>

<param-name>studentName</param-name>

<param-value>abcJhr</param-value>

</context-param>

</web-app>

```

A. request.getParameter("studentName");

B. ServletContext sc = getServletContext();

String serverName = sc.getInitParameter("studentName");

C. ServletConfig sc = getServletConfig();

String serverName = sc.getInitParameter("studentName");

D. response.getParameter("studentName");

Answer: B. ServletContext sc = getServletContext();

String serverName = sc.getInitParameter("studentName");

# Which JSTL core tag is used to output a value onto the JSP page?

A. <c:out>

B. <c:display>

C. <c:print>

D. <c:value>

Answer: A. <c:out>

# What is the purpose of the <c:catch> tag in JSTL?

A. It catches exceptions thrown during the execution of its body content.

B. It handles errors thrown by JSP expressions.

C. It catches HTTP errors and redirects to an error page.

D. It encapsulates code to be executed asynchronously.

Answer: A. It catches exceptions thrown during the execution of its body content.

# How are <fmt:parseDate> and <fmt:formatDate> different?

A. <fmt:parseDate> turns a date into text, and <fmt:formatDate> turns text into a date

B. <fmt:parseDate> turns text into a date, and <fmt:formatDate> turns a date into text.

C. They do the same thing.

D. <fmt:parseDate> is for calculations, and <fmt:formatDate> is for showing dates.

Answer: B. <fmt:parseDate> turns text into a date, and <fmt:formatDate> turns a date into text.

# In JSTL, what is the purpose of the <fmt:bundle> tag?

A. To include external JavaScript files

B. To define localization bundles

C. To format numbers

D. To handle user sessions

Answer: B. To define localization bundles

# When developing a custom tag, what must you define in the Tag Library Descriptor (TLD) file?

A. The CSS styles for the custom tag

B. The Java class that implements the tag and its associated attributes.

C. The HTML output of the tag

D. The database connection details used by the tag

Answer: B. The Java class that implements the tag and its associated attributes.

# Which attribute of the <jsp:directive.tag> element is used to specify the Java class that implements a Simple Tag Handler?

A. tagclass

B. class

C. handler

D. implementation

Answer: A. tagclass

# Which attribute of the <tag> element is used to specify the name of the custom tag?

A. name

B. class

C. body-content

D. description

Answer: A. name

# What is the purpose of a filter initialization parameter in the web.xml file?

A. To define the URL pattern to which the filter is applied

B. To specify the order in which filters are executed

C. To provide configuration options specific to the filter

D. To set session attributes

Answer: C. To provide configuration options specific to the filter

# Which method is called by a filter to intercept an incoming HTTP request?

A. doFilter()

B. init()

C. service()

D. filterRequest()

Answer: A. doFilter()

In a web application's filter lifecycle, the init() method is typically called only once when the filter is first instantiated. This happens when the web container loads and initializes the filter as part of the application startup process.

The correct answer is:

B. Only once when the filter is first instantiated

The other options are incorrect because:

A. Every time a request is made - This is when the doFilter() method is called, not init()

C. Only when the application server is restarted - While this might cause filters to be reinstantiated, it's not specifically when init() is called

D. After the doFilter() method is executed - The init() method is called before any doFilter() calls, not after

The filter lifecycle typically follows this sequence:

1. init() - Called once when the filter is instantiated

2. doFilter() - Called for each request that matches the filter mapping

3. destroy() - Called once when the filter is being taken out of service

Filter mapping in a Java web application is used to specify which URL patterns or servlets the filter should intercept.

The correct answer is:

C. To specify which URL patterns or servlets the filter should intercept.

Filter mapping in web.xml or through annotations (@WebFilter) defines when a filter should be applied by specifying:

- URL patterns the filter should process (like "/admin/\*" or "\*.jsp")

- Servlet names the filter should intercept

- Dispatcher types (REQUEST, FORWARD, INCLUDE, ERROR)

The other options are incorrect:

A. To create a visual representation of the application's data flow - This is not related to filter mapping

B. To define the order in which filters are applied - While filter ordering is important, it's typically handled through filter-mapping order in web.xml or @Order annotations, not by the filter mapping itself

D. To map filter attributes to HTML elements - Filter mapping doesn't relate to HTML elements