

Objective - Applicability of Java EE Technology - Test**Review of attempt 1**

LIVE CHAT

Ask for a Call Back

Finish review

Started on	Wednesday, 6 November 2013, 01:35 AM
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Time taken	34 mins 8 secs
Grade	11.33 out of a maximum of 18 (63%)
Feedback	PASS

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- You are appointed as an architect to migrate a desktop Power Builder application onto J2EE Technology. The presentation has complex UI screens and business logic is tightly coupled with presentation components. In addition, application handles lot of transactions and need to persist the data. What would you choose to re-write in J2EE platform?
 - ☐ A. JSP,Servlet,DAO ✗
 - ☐ B. JSP,EJB3.0 & JPA ✗
 - ☒ C. JSF,EJB3.0&JPA ✓
 - ☐ D. JSF,EJB3.0, &DAO ✗
 - ☐ E. You would never replace PHP scripts with a J2EE technology ✗

Explanation :

Correct answer is option C.

The problem statement clearly specifies that application has complex UI, business logic and it handles lot of transactions and persist the data. Part of UI design, JSF is the best choice. To handle business logic, EJB3.0 has easy way to annotate the services to implement business logic and configure the transaction attributes, if required to configure at service level. For persistence, JPA is the right choice.

Option A is incorrect. The serve let is designed to handle request/responses based on the user actions. The business logic should not be part of the servlet and it should handle only the request/response processing and create the appropriate views part of presentation. There is no provision for handling business logic in the given options.

Option B is incorrect. JSP, invoking EJB services clearly violates the concept of separation of concerns between the presentation and business tier component design. This creates tight coupling between the code components and makes maintainability and extensibility difficult for future enhancements.

Option D is incorrect. This option is partially correct, as JSF handles rich UI components design and EJB3.0 technology enables rapid and simplified development of distributed, transactional, secure and portable applications based on Java technology. The problem in context, did not specify how the current system is handling the backend operations using stored procedures or plain sql statements. The power builder technology in nature, is tightly coupled with sql statements for each window and is difficult to extract sql statements to reuse it part of DAO implementation.

For more information please refer :

<http://docs.oracle.com/javaee/5/tutorial/doc/bnaph.html><http://docs.oracle.com/javaee/5/tutorial/doc/bnblr.html>

Correct

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You need to interface your J2EE application with LDAP, which J2EE technology should you use?

- ☐ a. DNS ✗
- ☐ b. JAF ✗
- ☐ c. Java Naming ✗
- ☒ d. JNDI ✓
- ☐ e. JNS ✗

Choice D is the correct answer.

Java Naming and Directory Interface - JNDI - provides a unified interface to different naming and directory services such as Active Directory and LDAP.

Java Activation Framework - JAF - is used to discover information about some data (behavior etc) and then instantiate the appropriate JavaBean.

JNS and Java Naming are not J2EE technologies.

Correct

Marks for this submission: 1/1.

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3. Which of the following is FALSE for RESTful WebServices?

- ☐ a. You can access WebServices through Browser. ✗
- ☐ b. JAX-WS provides support for development of RESTful WebServices. ✗
- ☐ c. These WebServices can be consumed with help of AJAX ✗
- ☒ d. WebService Interface can be defined through a standard vocabulary. ✓

Option D is correct.

Unlike SOAP-based web services, which have a standard vocabulary to describe the web service interface through WSDL, RESTful web services currently have no such grammar. For a service consumer to understand the context and content of the data that must be sent to and received from the service, both the service consumer and service producer must have an out-of-band agreement.

RESTful web services can be built by JAX-WS standards as any other web service. These web services can be consumed by Browser or any AJAX code.

Correct

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4. On invoking a Web Service, you have received response XML. You need to process this XML document to update the details in the database.

Which of the following would you use? The parsing logic must be portable across Java EE Servers.

- ☒ a. JAXP ✓
- ☐ b. JAXR ✗
- ☐ c. UDDI ✗
- ☐ d. JSSE ✗

Option A is correct.

JAXP is an API for XML processing.

Option B is incorrect. JAXR is an API for accessing XML registries.

Option C is incorrect. UDDI is a platform-independent, XML-based registry for businesses worldwide to be listed on the Internet.

Option D is incorrect. JSSE is a security related API.

Correct

Marks for this submission: 1/1.

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5. An existing J2EE Application has following features: Uses a custom made MVC framework using Servlet as controller, JSP as view. JSP has a lot of scriptlet code. It also uses stateless session bean as a facade calling entity beans. You have been asked to migrate this application to a Java EE server.

Which of the following technologies would you choose? Select two choices.

- ☒ a. JSF ✓
- ☐ b. JCA ✗
- ☒ c. Java EE Entities ✓
- ☐ d. JMS ✗

Options A and C are correct.

There are no requirements related to B and D.

Correct

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6. An existing J2EE application is hosted on 4 WebServers and 3 Application Servers. Due to increase in the no. of users, it has been planned to increase the count to 5 Web Servers and 4 Application Servers.

Which of the following is negatively impacted?

- ☐ a. Availability ✗
- ☐ b. Performance ✗
- ☒ c. Manageability ✓
- ☐ d. Maintainability ✗

Since the no. of servers have increased, the effort of System Admin/Operators also increases. So manageability is negatively impacted.

Option C is correct. Performance & Availability increase.

So, Options A and B are incorrect. This change virtually has no effect on Maintainability.

Correct

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7. You have been recruited by MegaSoft Inc. to help on a new sales project. Your role within the project team is as the lead architect. Given the requirements set out below, what type of transaction management should you use? MegaSoft Inc. is launching worldwide sports betting site. The unique feature of this betting site is that all bets are spread across multiple sporting events with huge potential prizes.

For example, a user may bet \$25 on Manchester United beating Real Madrid 4-0, Brazil winning the world cup, and Australia winning the cricket world cup. If a user gets three or more bets correct and one wrong then they will take home a 50% cut of the original stake.

- ☐ a. Container Managed Transactions ✗
- ☐ b. Bean Managed Transactions ✓

Choice B is the correct answer.

The above scenario describes a betting web site. The key to the question is the complex logic behind each bet. You will need a fine level of control over the transactions.

Bean managed transactions will give you more control than container managed transactions.

Incorrect

Marks for this submission: 0/1.

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8. Which J2EE technology would you use to replace Perl/PHP scripts in the solution described below?

MegaSoft Inc. has a web-based legacy business-to-business sales system. The solution consists of Perl and PHP scripts (presentation and business logic) and a MSSQL database. Customers logon to the site, browse for the latest products and prices, and place orders with MegaSoft.

- ☐ a. Applets ✗
- ☐ b. JSP ✗
- ☐ c. JSP/Servlets ✗
- ☐ d. JSP/Servlets and EJBs ✓
- ☐ e. You would never replace PHP scripts with a J2EE technology ✗

Choice D is the correct answer.

When migrating a Perl/PHP-based solution to a J2EE solution, you need to consider the requirements of the original solution as opposed to taking the route of replacing like with like, e.g. replacing ASP with JSP. It may be the case that a solution using PHP and PERL technologies to handle presentation and business logic (and in some cases transaction management), could be better separated in J2EE with presentation logic being handled by JSP and Servlets and business logic by EJBs.

If transactions are involved in almost all cases, this is enough justification for using a separate application server and Enterprise JavaBeans. Therefore choice D is the correct answer.

Correct

Marks for this submission: 1/1.

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9. What Java EE feature provides SOA based implementations in business tier?

- ☐ A. Stateless session beans can be exposed as Web Services in the Java EE model through annotations. ✓
- ☐ B. Stateful Session Beans can be exposed as Web Services in the Java EE model through annotations. ✗
- ☐ C. Entity Beans can be exposed as Web Services in Java EE model through annotations. ✗
- ☐ D. Message Driven beans can be exposed as Web Services in Java EE model through annotations. ✗

Correct answer is A.

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Based on the following options, Stateless session beans can be exposed as Web Services in the Java EE environment through annotations.

Option B is incorrect. Stateful Session Beans cannot be exposed as Web Services in the Java EE model through annotations. There is no support to expose the stateful session bean as a web service.

Option C is incorrect. Entity Beans cannot be exposed as Web Services in Java EE model through annotations. The Entity Beans are replaced with JPA in Java EE. The Java Persistence API provides an object/relational mapping facility to Java developers for managing relational data in Java applications. Java Persistence consists of three areas: The Java Persistence API, the query language and object/relational mapping metadata.

Option D is incorrect. In Java EE5, Message Driven beans can not be exposed as Web Services in Java EE model through annotations. A message-driven bean is an enterprise bean that allows Java EE applications to process messages asynchronously. It normally acts as a JMS message listener, which is similar to an event listener except that it receives JMS messages instead of events. The messages can be sent by any Java EE component (an application client, another enterprise bean, or a web component) or by a JMS application or system that does not use Java EE technology. Message-driven beans can process JMS messages or other kinds of messages.

Correct

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10. Your company has acquired ABC Company and will be building infrastructure for the merged entity. Now, You have a variety of mainframe applications, client server applications, and standalone programs that need to be integrated.

Which of the following will provide a unified platform for scalable, secure SOA development?

- ☐ a. JAXB ✗
- ☐ b. JAXR ✗
- ☒ c. Enterprise Service Bus ✓
- ☐ d. Simple Object Access Protocol ✗
- ☒ e. REST ✗

Option C is correct.

Options A, B, D and E are incorrect because they do not satisfy the requirements.

Enterprise Service Bus is a set of infrastructure capabilities implemented by middleware technology that enable an SOA. The ESB supports service, message, and event-based interactions in a heterogeneous environment, with appropriate service levels and manageability.

Incorrect

Marks for this submission: 0/1.

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11. An existing J2EE 1.3 application provides online stock quotes to the users. The web page refreshes every 60 seconds to show the latest stock prices. Customer is planning to add some minor features to this site and requested you for tips to improve the current features with minimal costs.

Which of the following would you recommend?

- ☐ a. Recode the application using JSF, EJB and Entities. This will improve the overall performance of the application and also improves maintainability ✗
- ☒ b. Replace the auto-refresh functionality with AJAX code. ✓
- ☐ c. Recode the application using JSF, EJB and Web Services. ✗
- ☐ d. Use frames and put the auto-refresh part in a different frame. ✗

Options A and C are costlier choices and may require the customer to buy a new server(supporting Java EE) as well.

Option D could be a choice but frames increases vulnerability for cross scripting threats.

Option B is correct. Replacing current auto-refresh functionality not only improves user experience but also has minimal effects on existing architecture.

Correct

Marks for this submission: 1/1.

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12. ABC Bank provides facility to transfer amounts from one account to another through its internet banking application. It also provides facilities for its consumer clients to upload payments in one-go through a file upload facility. File upload is a very resource-intensive operation which may take 3-10 minutes. Currently on submitting the file it displays an alert message and processes the request. Often the browser times out.

What would be your suggestion to improve this situation at minimal cost?

- ☐ a. Remove the file upload feature from Internet Banking application ✗
- ☐ b. Limit the no. of payments in upload files to minimum so that the overall request does not take more than 1 minute. Encourage customer to break the files and upload multiple times. ✗
- ☒ c. Use AJAX to display progress bar displaying the % complete figures. ✓
- ☐ d. Use JSF to reduce the processing times. ✗

Option C is the correct choice.

Option D is incorrect as JSF cannot reduce processing times.

Option B is not advisable as it may mean that the customer has to upload tens of files which would lead to user dissatisfaction.

Option A may lead to loss of business or providing an alternative solution which could be costlier. It is very easy to implement such requirements using Ajax and also improves usability of the website.

Incorrect

Marks for this submission: 0/1.

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13. Your online simulator exam application V2.0 is currently running with single Apache Web Server. The technologies used are JSPs and Servlets. You are asked to upgrade to newer version V3.0 to support high volume of traffic and load.

Choose the best architecture from the given options?

- ☐ A. Add one additional web server, Introduce EJB centric design and use JPA ✗
- ☐ B. Just remove data access logic and use JPA to improve scalability ✗
- ☐ C. Add one more web server and keep the architecture as is ✗
- ☒ D. Introduce EJB centric design and use JPA, load balancing mechanism, clustered application server for running business logic and web server for presentation ✓

Choice D is correct.

The current architecture is based on web-centric and may not support high traffic (scalability). The new version will be designed as 3 or N-Tier architecture by creating presentation, business, integration and data tiers. Business logic will be implemented using EJBs and Cluster Application Server to improve scalability.

Correct

Marks for this submission: 1/1.

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14. You are architecting a new web based labor claim management application. Currently the users have a Java Swing-based application running on their local PCs, and you want to implement the new web-based solution with a GUI that is similar to their desktop application. Once the users have filled in their hours then you must send the details to central labor system through a Web service (instant response is needed for support team).

Which of the following technologies would be required for building this application using Java EE environment? (Choose the best option.)

- ☐ A. Servlet, JAX-WS ✗
- ☐ B. JSP, Servlets ✗

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Choice D is correct. The problem statement clearly states that the new web based application should support rich UI components part of the requirement. Rich UI components can be build using JSF framework UI components part of UI design components. Java EE5 provides the annotation based web service call using the regular POJO model.

Choice A is incorrect. This combination is partially correct. Using JAX-WS web service can be designed to get the instance response as JAX-WS supports both synchronous and asynchronous calls. Using regular Servlet, it's very difficult to design the rich UI components. Servlet is designed to handle the request/responses based on the user actions.

Choice B is incorrect. Rich UI components are difficult to implement using the regular JSP tags. There are no rich UI components available using the regular JSP tags. If user really wants to develop custom components, then need to write lot of code to achieve the functionality.

Choice C is incorrect. This combination is partially correct. Using Servlet you can call the web service, but building rich UI using JSP and Servlet is difficult, as the developer need to write lot of code to create custom rich components. DAO, separates a data resource's client interface from its data access mechanisms is not part of the requirement.

Incorrect

Marks for this submission: 0/1.

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15. Which of the following statements are not true about JAXB implementation in Java EE environment?
Select three choices from the given options.

- ☐ A. Client, Web and EJB containers support JAXB ✗
- ☐ B. Only EJB container supports JAXB ✓
- ☐ C. Only Web and Client containers supports JAXB ✓
- ☒ D. Only Web and EJB containers supports JAXB ✓

Choice B, C and D are correct.

JAXB - Java Architecture for XML Binding(JAXB) provides a way to bind XML schema to java representation. JAXB can be used independently or in combination with JAX-WS, where it provides a standard data binding for web service messages. All Java EE application client, web and EJB containers support the JAXB APIs.

Choice A is true about the JAXB implementation in Java EE environment.

For more information, please refer :

<http://docs.oracle.com/javaee/5/tutorial/doc/bnazf.html>

Partially correct

Marks for this submission: 0.33/1.

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16. Your company is responsible for storing the credit history of citizens of ABC country. The government proposes that all financial institutions before lending must ensure that the candidate has a minimum credit score.

Which of the following would you choose to build this service?

- ☐ a. Build the service as a EJB ✗
- ☒ b. Build the service as a web service ✓
- ☐ c. Build the service as an IIOP Object. ✗
- ☐ d. Implement it as a JMS based service. ✗

Option B is correct.

Web services offers superior level of interoperability compared to rest of the options. Your new service may be accessed by various different applications/platforms. So, option B is correct.

Correct

Marks for this submission: 1/1.

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17. ABC company has a very old web application that was built on Servlets, JSP and a simple proprietary MVC framework which they must use. This application is mostly used for reporting purposes and retrieves data from DB2 through JDBC. They are planning to enhance the functionality of the application and also deploy on a Java EE application server. They approached you for suggestions to improve the application code.

Which of the following would not be a valid recommendation (best-fit)?

- ☐ a. Refactor the common scriptlet code into tag libraries wherever possible ✗
- ☒ b. Create a common look & feel using templates, CSS files. ✗
- ☐ c. Use Entities ✓
- ☐ d. Use Expression Language ✗

Option C is correct.

There is no need for converting existing DAO objects into entities as most of the operations are read-only.

Incorrect

Marks for this submission: 0/1.

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18. ABC Company has decided to migrate existing J2EE application built using servlets, JSP, JMS, session & entity Beans to Java EE. They have approached you for recommendations.

Which of the following are valid recommendations? Select two choices.

- ☐ a. Replace entity beans with JPA entity classes ✓
- ☒ b. Use the new JMS API ✓
- ☒ c. Replace session Beans with web services ✗
- ☐ d. Use JCA ✗

Options C and D are improper as there is no explicit requirement.

Java EE replaces Entity Beans with Entities and also provides a new JMS API which can be used for both Topics & Queues. So, options A and B are correct.

Incorrect

Marks for this submission: 0/1.

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