Objective - Integration and Messaging - Test

Review of attempt 1

Finish review

Started on	Tuesday, 5 November 2013, 02:35 AM
Completed on	Tuesday, 5 November 2013, 03:10 AM
Time taken	34 mins 11 secs
Grade	**2** out of a maximum of 18 (**11**%)
Feedback	FAIL

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1. You have been asked to architect an enterprise business layer, in which you are expecting synchronous response. Which of the following statements are true about synchronous communication?

   - A. Good for transaction processing ✓
   - B. Suitable for one to one communication ✓
   - C. Network need not be available, messages can be queued ✗

   Choice A and B are correct.

   Synchronous Messaging - Good for transaction processing, Fail Safe communication and Coping with error scenarios.

   Asynchronous Messaging - Loose coupling between sender and receiver, Does not block sender, Network need not be available, messages can be queued and Least demanding on communication mechanism.

   Incorrect
   Marks for this submission: 0/1.

   Feedback to Author

2. Select the best option to connect to CORBA server using Java connectivity?

   - A. RMI-JRMP ✗
   - B. JAVA - JNI ✗
   - C. Java IDL ✓
   - D. RMI-IIOP ✗
   - E. HTTP tunneling ✗

   Choice C is correct.
   Java IDL is useful when you have a predominantly CORBA based application. It can access CORBA services for Java code. Java IDL enables distributed web-enabled Java applications to transparently invoke operations on remote network services using the industry standard Interface Definition Language (IDL).

   RMI-JRMP is used only when dealing with native Java clients. The question talks about CORBA clients but does not say anything about pure Java clients. Hence, choice A is incorrect.

   JNI is used to access native interfaces in Java. choice B is incorrect.

   RMI-IIOP is used to access EJB components in distributed environment and it will not be used to access CORBA services. choice D is incorrect.

   HTTP tunneling is a way to allow protocols to masquerading as other protocols and bypass firewall restrictions. Hence, choice E is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

3. You are designing a web service using SOAP format based on external vendor specifications. Your application wants to track all the success and failure invocations part of your SOAP web service call.
Which of the following are required part of your SOAP message construction?

- A. Envelope & Body & Fault element ✓
- B. Envelope & Body element ✗
- C. Body & Fault element Partially correct
- D. Fault & Header element ✗

Choice A is correct. The problem statement clearly specifies that keep track of all the invocations (means success and failure messages) need to be considered. SOAP message construction should have Envelope & Body and Fault element to satisfy the requirement.

Choice B, C and D are incorrect. The elements specified in these options will not handle all the cases specified in the requirement.

A SOAP(Simple Object Access Protocol) message is an ordinary XML document containing the following elements:

A required Envelope element that identifies the XML document as a SOAP message
An optional Header element that contains header information
A required Body element that contains call and response information
An optional Fault element that provides information about errors that occurred while processing the message

Incorrect
Marks for this submission: 0/1.

Feedback to Author

4. You would like to mention authentication information in your SOAP Message. Which is the appropriate part of SOAP Message where you can put this information?

- a. Envelope element ✗
- b. Header element ✓
- c. Body element ✗
- d. Fault element ✗

Option B is correct.

Applications can pass application-specific information like authentication, authorization using headers in SOAP messages.

Correct
Marks for this submission: 1/1.

Feedback to Author

5. Which two of the following statements correctly describe the Publish/Subscribe Messaging model and the Point-To-Point Messaging model respectively? Select two choices.

- a. Publish/Subscribe Messaging is a message queue system. ✗
- b. Publish/Subscribe Messaging = One sender and one receiver. ✗
- c. Point-To-Point Messaging = N senders and one receiver. ✗
- d. Publish/Subscribe Messaging = 1 sender and n receivers. ✓
- e. Point-To-Point Messaging = One sender and one receiver. ✓

Choices D and E are correct.

Publish/Subscribe messaging model is like someone publishing one message on a bulletin board and that message being read by/emailed to many subscribers. (One-to-many). So, choices A and B are incorrect.

Point-To-Point messaging model is a one-to-one relationship e.g. a message from one application to another. (From one point to one other point). So, choice C is incorrect.

For more detailed explanations:

- Publish Subscribe Messaging: Generally Pub/Sub is used when a one to many broadcast of messages is required. 'Producers' sends messages to many clients via virtual channels called 'Topics.' 'Consumers' receive messages by subscribing to topics. Consumers receive a copy of all messages in the topic they have subscribed to. The Publish Subscribe Architecture is generally a push-based model. Consumers may optionally establish 'durable' subscriptions that allow them to collect messages after periods of inactivity.
- Point-to-Point Messaging: Point-to-point: The point to point messaging model allows both 'send and receive' and 'send and forget' messages, via virtual channels called 'queues.' The p2p model typically uses a 'pull' or 'polling' model. In this model, clients generally request messages from queues.

Correct
Marks for this submission: 1/1.

Feedback to Author

6. You have been asked to provide the detailed analysis about the synchronous Vs asynchronous message calls needed part of the new project requirement. Finally decided that asynchronous message call is required part of the requirement. What are true about asynchronous messaging?

Select four choices.

- A. Less coupling between the sender and receiver. ✓
- B. Provides an instant response. ✗
- C. Does not block the sender. ✓
- D. Good for transaction processing. ✗
- E. Demand on communication mechanism is less. ✓
- F. Network does not have to be immediately available. ✓

Choices A, C, E and F are correct.

The main difference between asynchronous messaging and synchronous messaging is that synchronous provides an instant response. This means that when using asynchronous messaging, clients do not have to wait for responses, they send messages and then carry on with what they were doing. This reduces the coupling between the sender and receiver and means that the network does not have to be immediately available. Demand on communication mechanism is less for asynchronous call.

Choices B and D are incorrect because they describe synchronous messaging.

Although choice E is correct, it is not a benefit of synchronous messaging.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

7. Company ABC has a legacy application that can be accessed via CORBA. The company wants to integrate new Java-based development with the existing legacy services. Currently, no new services are planned. If the legacy application were primarily to be used as a CORBA server, which of the following connectivity option would you recommend?

- a. RMI-JRMP ✗
- b. RMI with JNI ✗
- c. Java IDL ✓
- d. RMI-IIOP ✗
- e. HTTP tunneling ✗

Choice C is correct.

The important concept here is that the existing legacy system supports a CORBA interface and no new services are being currently planned. If Java code is primarily going to access CORBA services, the recommended connectivity

tool is Java IDL. Java IDL gives Java code CORBA capability. Hence, choice C is correct.

RMI-JRMP should be used when dealing with distributed applications, all written primarily in Java. Hence, choice A is incorrect. The question does not specify anything about the legacy code's JNI capability. However, it specifically mentions about CORBA compatibility. Hence, choice B is incorrect.

RMI-IIOP is the protocol used with EJB. The legacy system is coded with a CORBA interface and the question mentions that no new coding is anticipated. Therefore, EJBs are not a good choice for this problem. Hence, choice D is incorrect.

When you wish to communicate with a system whose firewall does not permit requests of a certain protocol, the requests are sometimes masqueraded as HTTP requests. This concept is called HTTP tunneling. Hence, choice E is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

8. MegaDreamDating Inc. is expanding from one office to five throughout the US. As part of this expansion they wish to upgrade their 'Dream date match' application, which matches requirements an ideal partner will have with registered users. Currently the 'Dream date match' is a standalone application (no network code), written on C++. It is likely that the requirements for this application may be extended yet again.

How should you extend this application so that it can be deployed in all the five offices?

- a. As there is no built in network code, a complete rewrite will be required. ✗
- b. There is no need to extend the application, instead run five separate versions (one in each office). ✗
- c. Extend the application by integrating CORBA (create a CORBA server at head office) then use Java IDL at the regional offices to connect to the CORBA server. ✗
- d. Use JNI and RMI. Create a RMI server at head office and then create a client for use at the regional offices. ✓
- e. Use JNI and applets as in choice D but applets will connect to the JNI code at the head office. ✗

Choice D is the correct answer.

Making the application available at all five regional offices will involve adding network code. But before this can be done, the C++ application needs to be able to talk to the network code. The most appropriate way of doing this is through the use of JNI. The new business logic can be added to the existing application and then made available to the other offices via RMI.

Choice C is incorrect because it isn't appropriate to make the solution available via the use of CORBA and then connect Java clients by Java IDL. (You should choose one or the other, do not mix the two unnecessarily.)

Choice E is incorrect because the question states that the application requirements may be extended, so although technically it would be possible to create a custom Java server that used JNI and allowed the applets to connect to it, the code would not be very extensible or maintainable.

Choice A is incorrect because we can use JNI.

Choice B is incorrect because it makes sense to synchronize the data.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

9. Application architect instructed that you need to read multiple xml documents at one time with a single thread and need to add application specific additions. What would you choose from the given options?

- A. StAX ✓
- B. DOM ✗
- C. SAAJ ✗
- D. SAX ✗

Option A is correct.

StAX provides a standard, bidirectional pull parser interface for streaming XML processing, offering a simpler

programming model than SAX and more efficient memory management than DOM.

StAX enables developers to parse and modify XML streams as events, and to extend XML information models to allow application-specific additions.

Pull clients can read multiple documents at one time with a single thread.

A StAX pull parser can filter XML documents such that elements unnecessary to the client can be ignored, and it can support XML views of non-XML data.

Below is an excerpt from Java EE tutorial.

Streaming refers to a programming model in which XML infosets are transmitted and parsed serially at application runtime.Stream-based parsers can start generating output immediately, and infoset elements can be discarded and garbage collected immediately after they are used.Streaming models for XML processing are particularly useful when your application has strict memory limitations, as with a cell phone running J2ME, or when your application needs to simultaneously process several requests, as with an application server. Streaming pull parsing refers to a programming model in which a client application calls methods on an XML parsing library when it needs to interact with an XML infoset; that is, the client only gets (pulls) XML data when it explicitly asks for it. Streaming push parsing refers to a programming model in which an XML parser sends (pushes) XML data to the client as the parser encounters elements in an XML infoset; that is, the parser sends the data whether or not the client is ready to use it at that time.
Choice B is incorrect. The DOM model involves creating in-memory objects representing an entire document tree and the complete infoset state for an XML document. It won't handle the multiple documents at one time.
Choice C is incorrect. SAAJ - SOAP with Attachments API for Java - contains APIs for creating and populating SOAP messages which might or might not contain attachments. It also contains APIs for sending point to point, non-provider-based, request and response SOAP messages.
Choice D is incorrect. SAX parser is used to validate the XML documents based on the supplied DTD or XSDs.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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10. James Inc is the leading seller of different book magazines. They have more then 100 branches worldwide. They have a web based data tracking system for daily sales and that will be updated by admin staff from all the branches. To avoid manual updates, company decided to automate the data entry process to a common database. Any updates to the common system should instantly send a response to know the status.
Select the best choice to implement automated data entry system and to get the instant response?

- A. Data entry system will be implemented as a Stateless Session bean and instance response will be done using JMS ✗
- B. Data entry system will be implemented as a JMS solution and instance response will be done using Stateless Session bean ✓
- C. Data entry system and instance response will be implemented using JMS ✗
- D. Data entry system and instance response will be implemented using Stateless Session Bean ✗

Choice B is correct.
The problem statement clearly specifies that the updates from all branches should be automated (means there should be a process which should be implemented as JMS to listen to the messages and process it). Other part is that, the system should send instance response once updates are done (means process should be implemented as Stateless Session Bean to get instant responses synchronously)

Choice A is incorrect. The solution proposed is reverse of choice B.

Choice C is incorrect. Both solutions should not be implemented using JMS. As instant response is not possible with JMS implementation.

Choice D is incorrect. For data entry system, the updates should be processed asynchronously and hence JMS is the best choice. Instance response can be done using Stateless Session Bean.

For more information, please refer:
http://docs.oracle.com/javaee/5/tutorial/doc/bncdr.html
http://docs.oracle.com/javaee/5/tutorial/doc/bnboc.html

Incorrect
Marks for this submission: 0/1.

Feedback to Author

11.

You are designing an online shopping application to make it easier for customers to order products from your company. The aim is that the majority of customers buying over the telephone will start using the web instead. When customers purchases goods online they will use credit cards and will require an instant response as to whether the sale has been approved or not. (Note that the credit card validation is carried out by another very powerful system.)

What type of messaging should be used?

- a. Synchronous messaging ✓
- b. Asynchronous messaging ✗
- c. You shouldn't be using messaging at all as its not transactional. ✗
- d. You could use messaging because it is transactional however it is not advised, as the system would never perform well enough for an instant response. ✗

Choice A is correct.

Synchronous messaging provides an instant response and is therefore the right answer. It is always arguable as to whether messaging should be used if you require an instant response but if you do decide to use messaging then you should always use synchronous messaging when needing an instant response.

Choice B is incorrect because asynchronous messaging does not provide an instant response. You can make messaging transactional by creating your own transactions in your code. Hence, choice C is incorrect.

Choice D is arguable too, but it is not the most appropriate answer because the question suggests that the system the messages will be sent to is very powerful and will be able to cope with the volume of traffic. Therefore, choice D would be incorrect as it suggests that the system will not perform well enough for an instant response.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

12. Select the technology suitable for moving the state of an object and it's behavior?

- A. RMI ✓
- B. RPC ✗
- C. CORBA ✗
- D. JNI ✗

Choice A is the correct answer. RMI - Remote method invocation moves state and object's behavior.

Choice B is incorrect. RPC - Remote Procedure Call is used part of the web service call and there won't be any state

or object behavior maintained.

Choice C is incorrect. CORBA - Common Object Request Broker Architecture - Moves only state of an object.

Choice D is incorrect. JNI - Java Native Interface - Applications that use the JNI can incorporate native code written in programming languages such as C and C++, as well as code written in the Java programming language.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

13. You are working for a financial system where you need to get data from various external systems. The external systems are legacy and running on mainframe and AS/400.
Which of the following defines a standard architecture for connecting the legacy systems?

- A. J2SE ✗
- B. Java Web Start ✗
- C. JDBC ✗
- D. JMS ✗
- E. JCA ✓

Choice E is correct.

The following is taken from:
http://java.sun.com/j2ee/connector/

The J2EE Connector architecture provides a Java solution to the problem of connectivity between the many application servers and EISs already in existence. By using the J2EE Connector architecture, EIS vendors no longer need to customize their product for each application server. Application server vendors who conform to the J2EE Connector architecture do not need to add custom code whenever they want to add connectivity to a new EIS." Hence, choice E is correct.

J2SE is a platform that provides "the compiler, tools, runtimes and APIs for developing, deploying and running applets and applications in the Java programming language." Hence, choice A is incorrect.

The following is taken from:
http://java.sun.com/products/javawebstart/

"Java TM Web Start -- a technology for simplifying deployment of Java applications-- gives you the power to launch full-featured applications with a single click from your Web browser. You can now download and launch applications, such as a complete spreadsheet program or an Internet chat client, without going through complicated installation procedures." Hence, choice B is incorrect.

The following is taken from:
http://java.sun.com/products/jdbc/

"JDBCTM technology is an API that lets you access virtually any tabular data source from the Java TM programming language. It provides cross-DBMS connectivity to a wide range of SQL databases, and now, with the new JDBC API, it also provides access to other tabular data sources, such as spreadsheets or flat files. The JDBC API allows developers to take advantage of the Java platform's "Write Once, Run Anywhere TM" capabilities for industrial strength, cross-platform applications that require access to enterprise data. With a JDBC technology-enabled driver, a developer can easily connect all corporate data even in a heterogeneous environment." Hence, choice C is incorrect.

The following is taken from:
http://java.sun.com/products/jms/

"The JMS API improves programmer productivity by defining a common set of messaging concepts and programming strategies that will be supported by all JMS technology-compliant messaging systems." While you may be able to communicate with EIS systems using JMS (if the EIS supports JMS), it is not a standardized architecture for connecting to heterogeneous EIS applications. Hence, choice D is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

14. You are the lead architect for a project that will require you interfacing with existing CORBA systems. You are planning to use Java IDL to integrate with these other systems. Which of the following statements about Java IDL are

true? Select two choices.

- a. Allows Java to use CORBA. ✓
- b. Should be used when most of your new Java applications will be entirely Java based. ✗
- c. Should be used if you have already been using CORBA for a while and wish to carry on with some CORBA systems. ✓
- d. Java IDL has nothing to do with CORBA. To communicate with CORBA you will need to use JNI (Java native interface) and J2C (Java 2 CORBA). ✗
- e. Same as D expect you won't need to use JNI. ✗
- f. Java IDL should be used when servicing messaging requests from CORBA clients. ✗

Choices A and C are correct.

The following is taken from: http://java.sun.com/j2se/1.3/docs/guide/idl/index.html

Java IDL adds CORBA (Common Object Request Broker Architecture) capability to the Java platform, providing standards-based interoperability and connectivity.

Java IDL enables distributed Web-enabled Java applications to transparently invoke operations on remote network services using the industry standard IDL (Object Management Group Interface Definition Language) and IIOP (Internet Inter-ORB Protocol) defined by the Object Management Group. Runtime components include Java ORB for distributed computing using IIOP communication.

Choice B is incorrect because you should use RMI-IIOP instead of Java IDL.

Choices D and E are not true as Java IDL adds CORBA capability to the Java platform.

Choice F is incorrect because Java IDL should not be used when servicing requests from CORBA clients and the reference to messaging is a red herring.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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15. You are implementing a Web Service and would like pass on errors/exceptions back to the client. Which is the appropriate part of the SOAP message where you can put this information?

- a. Envelope element ✗
- b. Header element ✗
- c. Body element ✗
- d. Fault element ✓

Option D is correct.

The SOAP Fault element is used to carry error and/or status information within a SOAP message. If present, the SOAP Fault element MUST appear as a body entry and MUST NOT appear more than once within a Body element.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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16. What are the possible scenarios where you will choose a dynamic dispatch invocation using JAX-WS part of your web service design from the following options?
Select three options.

- A. When interoperability with legacy JAX-RPC or non-WS-I compliant Web services is required ✓
- B. To invoke a Web service with xml/http binding and not traditional SOAP binding ✓
- C. To invoke a Web service by using a data binding other than JAXB ✓
- D. To invoke a Web service by using a data binding technology JAXB ✗

Option A, B and C are correct.

Choice D is incorrect because for dynamic dispatch invocation, there is no need of data binding using JAXB technology.

For more information, please refer:
http://jax-ws.java.net/nonav/2.1.1/docs/UsersGuide.html

Incorrect
Marks for this submission: 0/1.

Feedback to Author

17. You have given the following requirements part of two different projects.

1. Validate the credit card info using credit card number and get instant response
2. Item component can send a message to the Order component when the inventory level for an item goes below a certain level so that the orders can be stopped.

Which of the following statements are true?

- A. For instant response use Stateless Session Bean, To stop the orders for an item based on inventory level use Message Driven Bean ✓
- B. For instant response don't use Stateless Session Bean, To stop the orders for an item based on inventory level use Message Driven Bean ✗
- C. For instant response don't use Stateless Session Bean, To stop the orders for an item based on inventory level use Entity Bean ✗
- D. For instant response use Message Driven Bean, To stop the orders for an item based on inventory level use Stateless Session Bean ✗
- E. Stateless Session Beans cannot send synchronous messages. ✗

Choice A is the correct answer. In Java EE platform, the instant response can be handled using stateless session bean. Message Driven Bean can be used to stop the orders for an item based on inventory level.

Choice B, C and D are incorrect.

For more information, please refer:
http://docs.oracle.com/javaee/5/tutorial/doc/bncdr.html

Incorrect
Marks for this submission: 0/1.

Feedback to Author

18. You are working for a investment banking sector where you need to send trade and/or static data to various systems inside and outside the bank. The outside systems are legacy and running on mainframe. You identified that JCA provides a uniform programming model to connect to a legacy system and can be managed by Application servers. Which of the following are benefits of using JCA over a custom solution?
Select two choices.

- A. System contracts defined between application server and the EIS resource adapter provides connection pooling. ✓
- B. The JCA coupling interface is strictly defined through Common Client Interface. ✓
- C. System contracts and container-component contracts are exposed for the application component. ✗
- D. An application server can use a transaction manager to manage transactions across a single resource manager. ✗
- E. With JCA, portability is achieved with any language and interoperability is not limited to a specific target. ✗

Options A and B are correct.

Option C is incorrect because these contracts are hidden for the application component.

Option D is incorrect because with a transaction management contract the transaction manager can manage transaction across multiple resources managers.

Option E is incorrect because JCA is not truly portable. It is a Java solution and interoperability is limited to a specific target. The Java Connector architecture enables Java EE components to interact with enterprise information systems

(EISs) and EISs to interact with Java EE components.

Connector architecture simplifies the integration of diverse EISs. Each EIS requires only one implementation of the Connector architecture. A resource adapter is a Java EE component that implements the Connector architecture for a specific EIS. A resource adapter is analogous to a JDBC driver. The resource adapter mediates communication between the Java EE server and the EIS by means of contracts.

- The application contract defines the API through which a Java EE component such as an enterprise bean accesses the EIS. Components use the Connector architecture Common Client Interface (CCI) API to access data from an EIS.
- The system contracts link the resource adapter to important services that are managed by the Java EE server.
- The resource adapter itself and its system contracts are transparent to the Java EE component. The life-cycle management contract that allows an application server to manage the life cycle of a resource adapter. The work management contract ensures that resource adapters use threads in the proper, recommended manner. The connection management contract supports connection pooling, a technique that enhances application performance and scalability.

The transaction management contract between the transaction manager and an EIS supports transactional access to EIS resource managers. The security management contract provides mechanisms for authentication, authorization, and secure communication between a J2EE server and an EIS to protect the information in the EIS.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

Finish review