Practice Test I

Review of attempt 2

Finish review

Started on	Monday, 11 November 2013, 08:43 AM
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Time taken	56 secs
Grade	**0** out of a maximum of 64 (**0**%)
Feedback	FAIL

Show **All** / Correct / In-correct

1. 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

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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

- a. DNS ✗

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.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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 ✓

Options A and C are correct.

There are no requirements related to B and D.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

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.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

7. You suggested 3-tier architecture to a company for its order processing system to increase scalability. This architecture will have a thin client for presentation logic, shared server in the middle to run business logic and a database server. Which of the following statements are true?

- a. Thin clients will make sure client application is faster hence increasing scalability ✓
- b. Shared server can maintain client requests in a queue and process one by one hence increasing scalability ✗
- c. Shared server can cache and share frequently requested objects, hence reduce the load on database server ✓
- d. Shared server can keep client specific data in stateful session beans ✗

Choice A and C are correct
Choice A is correct because fast application clients will reduce load on web server

Choice C is correct because caching frequently accessed data on shared server will reduce load on database server, hence improving scalability

Choice B is incorrect because because scalability cannot be at the cost of performance.

Choice D is incorrect because caching client specific data can increase the memory consumption significantly hence slowing down the whole system

Professional Java Server Programming, Second Edition, 2nd edition By Subrahmanyam Allamaraju (Publisher: Wrox Press Ltd)

Incorrect
Marks for this submission: 0/1.

Feedback to Author

8. It is a characteristic of being able to assign a different behavior or value in a subclass, to something that was declared in a parent class. What does this statement describe?

- a. Inheritance ✗
- b. Abstraction ✗
- c. Encapsulation ✗
- d. Polymorphism ✓

The statement describes Polymorphism. So, Option D is correct.

Polymorphism is a characteristic of being able to assign a different behavior or value in a subclass, to something that was declared in a parent class.

For example, a method can be declared in a parent class, but each subclass can have a different implementation of that method.

Inheritance is the ability of objects in Java to inherit properties and methods of other objects.

An abstraction denotes the essential characteristics of an object that distinguish it from all other kinds of object and thus provide crisply defined conceptual boundaries, relative to the perspective of the viewer."

Encapsulation (also information hiding) consists of separating the external aspects of an object which are accessible to other objects, from the internal implementation details of the object, which are hidden from other objects.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

9. In a recent survey,ABC company's website has been voted as most popular. Current application has lot of static content like images,javascripts, video and audio files and deployed on one web Server. After this survey, the userbase has increased and customer care started recieving complaints that web site is not available.

What would you recommend?

- a. Add another web server, application server and use a load balancer. ✗
- b. Add another web server and a load balancer ✓
- c. Increase the servlet thread pool of the current webserver, increase JVM settings,increase the RAM of the machine.Optimize EJB pool configuration ✗
- d. Replace the existing web server with a Java EE Server. ✗

Option B is correct.

As the application mostly contains static content there is no role of an application server. So, options A and D are incorrect.

Option C is incorrect. Static content is not typically served through servlets (not recommended though can be done), so increasing servlet thread pool will not solve the problem.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

10. Which of the following statements are true about Polymorphism Concept?

- a. Overloaded methods MUST change the argument list ✓
- b. Overloaded methods CAN change the return type ✓
- c. Overloaded methods CAN change the access modifier ✓
- d. A method can not be overloaded in the same class or in a subclass ✗

Option A, B and C are correct.

Option D is incorrect. Using Method Overloading, A method can be overloaded in the same class or in a subclass.

For more information, please refer :
http://docs.oracle.com/javase/tutorial/java/concepts/object.html

Incorrect
Marks for this submission: 0/1.

Feedback to Author

11. Which of the following are invalid statements?

- A. Writing all the data access logic in stored procedures can affect performance badly because database server may get bogged down with number of requests ✗
- B. Using dedicated business layer allows us to optimize object access (caching shared objects) and improve scalability ✗
- C. Separating business logic from presentation layer will always increase system performance ✓

Choice C is correct.

Choice C is correct as "always increase system performance", It's not always true, even if you separate business logic from presentation layer.
It depends on other factors like request/response throughput and session management etc., while designing layers.

Choice A is incorrect as multiple concurrent calls to stored procedures can affect database server performance

Choice B is incorrect as dedicated business layer can cache frequently accessed data, hence improving performance and scalability

Choice D is incorrect, “separation of concerns” is the right reason for separating presentation and business layers.

For Further Reference: "It Architectures And Middleware: Strategies For Building Large, Integrated Systems" by Chris Britton (Publisher: Addison-wesley Professional)

Incorrect
Marks for this submission: 0/1.

Feedback to Author

12. You have deployed a new application and you often find that CPU utilization is high. On bringing this to notice of your Lead Architect, he has suggested you to move static content from application server to web server.

What are the implications of this decision? Select two choices.

- a. This is not achievable as Java EE specifies that static content has to be part of WAR. ✗
- b. The application server is generally performing critical work. It is best to move static content serving off of the application server machine. ✓
- c. It is easier to implement a solution where static content resides on a web server and requires no configuration changes to implement. ✗
- d. This is inline with Separation of Concerns principle. ✓

Options B and D are correct.

Option A is an incorrect statement.

Option C is incorrect because it adds difficulty and resources to make this solution work.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

13. A system developed in Java Enterprise Technologies is required for members of a library to facilitate them search and add books which they would like to get issued. Members can search book, add to their kit, edit the kit and remove books if required. Once they are done they can print or email the final list to librarian. What is the best way to implement module to keep track of books for members?

- a. Stateless session bean ✗
- b. Stateful session bean ✓
- c. Message Driven Bean ✗
- d. Store all data in database and use Core Java ✗

Choice B is correct. Stateful session beans can maintain client state across multiple calls.

Choice A is incorrect because stateless session beans cannot maintain client state across method calls.

Choice C is incorrect because client needs synchronous response.

Choice D is incorrect because stateful session beans already provide same feature out of the box, custom code is not required.

Further Reference: The Java EE 5 Tutorial – Third Edition by Eric Jendrock (Publisher – Pearson Education)

Incorrect
Marks for this submission: 0/1.

Feedback to Author

14. Which of the following statements are true about JMS?

- a. JMS tightly couples message sender and receiver components ✗
- b. A Servlet can act as JMS client ✓
- c. JMS message queue retains the message until it is consumed or until the message expires ✓
- d. Under point to point messaging, each message has only one consumer ✓

Choices B, C and D are correct.

Choice A is incorrect because JMS is a loosely coupled technology in the sense that it does not require sender and receiver of the message to know about each other's API

Choice B is correct, any Java Enterprise edition component can act as JMS client

Choices C and D are correct as these are the basic characteristics of point to point messaging

Further Reference: The Java EE 5 Tutorial – Third Edition by Eric Jendrock (Publisher – Pearson Education)

Incorrect
Marks for this submission: 0/1.

Feedback to Author

15. Which of the following are disadvantages of ORM Frameworks?

- a. Usage of ORM Frameworks requires complex coding. ✗
- b. ORM Frameworks reduce development times ✗
- c. Manageability of application decreases ✗
- d. Requires specialized resources. ✓

Choice D is correct.

Option A is incorrect as the statement is wrong.

Option B is incorrect as it is in fact an advantage but not a disadvantage.

Option C is incorrect as the inverse is true.

Option D is correct as you require developers who are skilled in particular framework or accommodate for learning curve.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

16. Which of the following is NOT true about ORM Frameworks?

- a. Application can be isolated from the database and the only connection to it is using the ORM framework and a JDBC driver. ✗
- b. ORM Frameworks reduce development times ✗
- c. Manageability of application increases ✗
- d. It is faster than the direct JDBC access. ✓

Options A, B and C are incorrect as they are true statements about ORM frameworks.

Option D is correct as it is an incorrect statement. ORM induces additional layer in application which implies some performance loss over direct JDBC access.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

17. You are an architect of a web based project for a company that publishes Magazines. The company needs a system for its members to let them select and email articles, they like, to their friends. Sometimes the number of such requests can be large and hence performance is a concern. You decide to implement this feature using:

- a. Plain Java Servlets to keep the code light and use a faster processor to email at better rate ✗
- b. JMS because emails can be queued and processed asynchronously while users can continue using the site ✓
- c. Custom multithreaded program to send multiple emails in parallel ✗

Choice B is correct because JMS is best to process jobs that can be handled asynchronously while letting the users continue using the system

Choice A, C and D are incorrect because number of emails to send varies and implementing a synchronous system will always keep performance a concern

Further Reference: The Java EE 5 Tutorial – Third Edition by Eric Jendrock (Publisher – Pearson Education)

Incorrect
Marks for this submission: 0/1.

Feedback to Author

18. Which of the following is NOT an advantage of Java EE Web Services Programming Model?

- a. Supports resource injection removing the burden of creating and initializing common resources in a Java runtime environment. ✗
- b. Simplifies development/deployment of web services through annotations. ✗
- c. Supports both SOAP 1.1 and SOAP 1.2 ✗
- d. A JAX-WS client can access a web service that is not running on the Java platform, and vice versa. ✗
- e. None of the above. ✓

Option E is correct.

All the above are advantages of Java EE WebServices Programming Model.

Features of Java EE WebServices Programming Model :-

- JAX-WS introduces support for annotating Java classes with metadata to indicate that the Java class is a Web service. Using annotations within the Java class simplifies development of Web services.
- JAX-WS supports resource injection of Java EE 5 to shift the burden of creating and initializing common resources in a Java runtime environment.
- Supports both SOAP 1.1 and SOAP 1.2
- JAX-WS 2.0 supports the Web Services Interoperability (WS-I) Basic Profile Version 1.1.

The WS-I Basic Profile is a document that clarifies the SOAP 1.1 andWSDL 1.1 specifications to promote SOAP interoperability.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

19. What are two benefits of the new EJB 3.0 model? Select two choices.

- a. Session bean is a POJO managed by the EJB container. ✓
- b. Stateless session beans require a home interface only. ✗
- c. Callback methods can be defined either in the bean class itself or in a bean listener class. ✓
- d. All session beans and message driven beans need to have a business interface ✗

Options A and C are correct.

EJB 3.0 beans do not need to implement SessionBean or EntityBean interfaces and implement all the callback methods. Also, they do not need to provide home and component interfaces.

Option B is incorrect because stateless session beans do not require a home interface.

Option D is incorrect because message-driven beans do not have any client interface.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

20. Which of the following is true about EJB3.0? Select two choices.

- a. Elimination of lifecycle callback methods. ✗
- b. An interceptor facility for session beans and message-driven beans. ✓

Option A is incorrect as it is an incorrect statement.

EJB3.0 still provides callback methods but removes the requirement of the same.

Option C is incorrect. It infact reduces requirements for checked exceptions like CreateException and FinderException.

Option D is correct. EJB3.0 provides as query language for Java Persistence that is an extension to EJB QL, with addition of projection, explicit inner and outer join operations, bulk update and delete, subqueries, and group-by. Also supports dynamic query capability and native SQL queries.

Option B is correct. An interceptor is a method that intercepts a business method invocation or a lifecycle callback event.An interceptor method may be defined on the bean class or on an interceptor class associated with the bean. An interceptor class is a class (distinct from the bean class itself) whose methods are invoked in response to business method invocations and/or lifecycle events on the bean class.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

21. Which of the following are NOT true about 2-tier architecture models?
Select three choices.

- A. Clients may be validation intensive, consequently requiring powerful hardware ✗
- B. Any change to one tier typically affects both tiers ✓
- C. Represents a single point of failure ✓
- D. Each client makes a direct connection with the server ✗
- E. They are not very maintainable ✗
- F. They are easily extensible ✓

Choices B, C and F are correct as the corresponding statements are FALSE.

Statement B is incorrect because a change to one tier need not necessarily affect the other tier. For example, consider an Order Entry system where the users need to see transaction history for individual customers. A new screen can be developed to take data from the transaction tables and display it on the client. In this example, no changes are required on the server. Consider an alternate example where a stored procedure accessing data spread in multiple tables now queries a materialized view.

No changes would be required to clients that call the stored procedure, as long as all input and output remains the same. Although it may be true in many cases, Client/Server architectures do not always represent single points of failure. With single database servers, of course if the server fails, clients may not be able to connect to the database. However in multi-database applications, if parts of the client or server fail, other parts of the system may still be accessible. Hence, statement C is incorrect and hence incorrect choice.

2-tier architectures are not easily extensible. As the presentation and business logic is tightly coupled, Any changes or extensions to the existing code takes lot of time to implement on a 2-tier architecture model. Statement A correctly reflects what happens on a client in 2-tier applications.

Statement D explains how clients interact with the database and statement E clearly lists that 2-tier architectures are not easily maintainable because of constant software updates required on the clients. Hence, choices A, D and E are incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

22. You have been asked to analyze the Non-Functional requirements part of your new project initiation based on your previous projects experience.
What statements are true about Non-Functional requirements from the given options?

- A. Manageability is the ability to correct flaws in the system whereas maintainability is the ability to ensure the continued health of the system. ✗
- B. Maintainability is the ability to correct flaws in the system whereas manageability is the ability to ensure the continued health of the system. ✓
- C. Maintainability deals with ensuring that the system is always reliable and accessible whereas manageability deals with the ability to add functionality to the system. ✗
- D. They are both the same. ✗

Choice B is correct.

Maintainability (Cade 8) "is the ability to correct flaws in the existing system without impacting other components of

the system" and Manageability (Cade 9) "is the ability to manage the system to ensure the continued health of a system with respect to scalability, reliability, availability, performance and security." Hence, choice B is correct.

The definitions in choice A are in the reverse order and are incorrect in choice C.

Choice D is incorrect. Manage application components are not tightly coupled is related the application code components. When designing layered architecture, or within the each layer the components should be loosely coupled so that any modifications or extensions will be easy to handle part of future enhancements.

Hence, choices A, C and D are all incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

23. Mega Soft Inc company planning to release new product upgrades to attract more customers. The higher management decided to rollout these changes using the existing system resources (currently running on one web server) with minimal changes. The expected user base will be slightly increased, once it's live in production.
How do you handle this scenario in terms of providing high availability and performance?

- A. By implementing Vertical Scaling only ✓
- B. By Implementing Horizontal Scaling only ✗
- C. Existing system resources will handle the expected load ✗
- D. By implementing both Horizontal and Vertical Scaling ✗

Choice A is correct.
The problem statement from the requirement is that, "existing system resources with minimum changes" and "user base will be slightly increased" is the key to solve the problem. The scenario in the question describes the need for vertical scaling. (Vertical scaling is the process of adding extra RAM or faster CPUs etc to existing machines). This configuration will handle more load with better performance.

Choice B is incorrect. Based on the given scenario, implementing horizontal scaling will take lot of time as you need to add another machine and configure the web server instances and it comes with the additional cost as well when compared to vertical scaling. The changes should be minimum part of the requirement.

Choice C is incorrect. As the system is configured with only one web server and the additional configuration details are not mentioned. The existing setup may fail due to increase in load at some point of time and hence availability will get affected.

Choice D is incorrect. Implementing both is actually a good choice, but takes lot of time and additional cost incurred . The solution you are looking at should be with minimal changes to achieve the availability and performance of existing system.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

24. What statements are true about a three-tier system when compared to a two-tier system?
Select two choices.

- A. A three-tier system has thin clients whereas a two-tier system will always have thick clients. ✓
- B. A three-tier system is easier to manage than a two-tier system. ✗
- C. A three-tier system is easier to secure. ✗
- D. A three-tier system can be both vertically and horizontally scaled whereas a two-tier system can only be horizontally scaled. ✗
- E. A three-tier system is more extensible than a two-tier system. ✓

Choice A and E are the correct.

A three-tier system can be classified as a loosely coupled, highly scalable and extensible solution. A simple system (such as a one-tier system) is much easier to manage than a complex three-tier system (remember altering a tier comes under extensibility). Yes, Two-tier system will have thin/thick clients depending on where the business logic is implemented (Client layer Vs Data Layer)

Choice B and C are incorrect. A three-tier system will be harder to secure than a typical two-tier system because of the extra network calls etc. The two-tier system is easier to manage than a three-tier system due to less configuration changes part of server management.

Choice D is incorrect because a two-tier system can be scaled both horizontally and vertically. In two-tier system also you can have both horizontal (adding additional data bases to different machines) and veridical scaling (increasing

some CPU units part of existing setup).

Incorrect
Marks for this submission: 0/1.

Feedback to Author

25. You are the Project Manager for the new project and expected to gather requirements.
Which of the following is the most important item that should be considered when designing an application part of Functional and Non-Functional requirements?

- A. Scalability ✗
- B. Maintainability ✗
- C. Reliability ✗
- D. Meeting the needs of the customer ✓
- E. Performance ✗
- F. Ensuring the application is produced on time and within budget ✗

Choice D is correct.

The most important consideration when designing an application is that it meets the needs of the customer. Ensuring the application is produced on time and within budget is something that should be done but it is not the number one concern. The application does not have to be the best possible solution under the circumstances. As long as it meets the customer's needs, it is considered adequate.

- Performance - A measure of the system in terms of response time or number of transactions per unit time. Load Distribution (e.g. DNS Round Robin) and Load Balancing are two techniques that aid in higher performance. Other development and deployment related tasks such as Application Tuning, Server Tuning, and Database Tuning also help the system perform better.
- Scalability - The ability of a system to perform and behave in a satisfactory manner with increases in load.
- Reliability - The ability of a system to assure the integrity and consistency of the application and all its data as the load increases. <
- Availability - The ability of a system to assure that all services and resources are always accessible. This can be achieved through fault tolerance (the ability to prevent system failures in case of service(s) / component(s) failures, commonly implemented via redundancy) techniques such as Active and Passive Replication.
- Extensibility - The ability to easily add new functionality to the existing system. This can be achieved by using best practices and well-defined architecture and design techniques.
- Maintainability - Ability to easily correct flaws in the existing system.
- Security - The ability to protect a system and all its components and services against potential attacks. Security attacks generally try to compromise confidentiality and integrity of the system. Sometimes they also take the form of 'Denial of Service' (DoS) attacks that bring down a system by flooding it with messages. Security can be addressed by the use of technologies (firewalls, DMZ, data encryption, Digital Certificates and so on) and methodologies (good security policies and procedures.)
- Manageability - The ability to monitor and perform preventive maintenance on a system.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

26. Your have been contracted by a company to help them improve the performance of their sales application. You have suggested that the hardware on which the application is currently deployed (two web servers and a database server) be migrated to 3 web servers, an application server and a database server (all on different machines.) You assure them that all the software re-writes needed will be well worth it in the end.

What are the characteristics of your suggested architecture? Select three choices.

- a. Fat Clients ✗
- b. Thin Clients ✓
- c. Good separation of business logic ✓
- d. Good Scalability ✓
- e. Poor separation of business logic ✗
- f. Poor scalability ✗
- g. There is no difference in the separation of business logic ✗

Choices B, C and D are correct.

The system you have suggested they migrate to is a 3-tier system. The characteristics of a 3-tier system are thin clients, good separation of business logic and good scalability. This is due to the fact that each tier is separate from

the other (for example, it would be possible to change the data store without affecting the business logic).

Choice A is incorrect; the suggested system has thin clients, the business logic residing on the application server, in the middle tier.

Since there is a good separation of business logic, choices E and G are incorrect.

Choice F is incorrect as the 3-tier nature of the system makes it very scalable.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

27. Users of your new application are complaining that the new web front end does not perform the same as the thick client version they were using before. You are going to re-design the application to use JavaScript and AJAX to enhance the user experience. All the functionality and business logic in thick client will be coded into Java Script.

What are two drawbacks of this implementation? Select two choices.

- a. Portability to all browsers needs to be addressed. ✓
- b. Your code may be exposed. ✓
- c. Reduction of page refreshes to enhance user experience. ✗
- d. Simulating client state on the browser and reducing the number of views. ✗

Various browsers use their own JavaScript interpreter, and sometimes browser vendors may chose not to implement a bit of JavaScript. There are also differences in support among various versions of the same browser. So, the application needs to be tested for browser compatibility.So, Option A is correct.

When a user enters the url in the browser, JavaScript is also downloaded to his machine exposing the business logic.So, Option B is correct.

Option C is incorrect because using AJAX and JavaScript libraries will allow you to design a client that can mock state and minimize page refresh to simulate thick clients.

Option D is incorrect because simulating the client state is a way to address the thick client.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

28. Your new application requirements include dynamic front ends, personalized pages, personalized colors, and personalized fonts. Users should be able to access system and bring up their customized experience without having to save their preferences locally. This system will be used by all hotels in the chain and there is no interest to have to support each hotel individually. The front end solution should be easy to debug.

What is the solution for this new architecture?

- a. A thin user interface that is browser based and utilizes JSP's and CSS with user preferences saved locally in a cookie. ✗
- b. A thick client user interface utilizing AWT and user preferences saved locally in a cookie. ✗
- c. A thick client user interface utilizing Swing and user preferences saved locally in a cookie. ✗
- d. A thin browser based client utilizing JSF and CSS with user preferences persisted to database. ✓

Option D is correct.

Options A, B and C are incorrect because users want to use any machine and not have to save their preferences locally. Cookies save local information on a particular machine only.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

29. 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 choices.

- A. When interoperability with legacy JAX-RPC or non-WS-I compliant Web services is

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

30. Which of the following statements are true about JAX-WS web services in Java EE environment?

- A. Invoke the remotely deployed web service endpoints operation dynamically by synchronous communication only ✗
- B. Invoke the remotely deployed web service endpoints operation statically by synchronous communication only ✗
- C. Invoke the remotely deployed web service endpoints operation statically for both synchronous and asynchronous calls ✓
- D. Invoke the remotely deployed web service endpoints operation dynamically for both synchronous and asynchronous calls ✓

Choice C and D are correct.

JAX-WS specification provides support for web services that use the JAXB API for binding XML data to java objects mapping.
JAX-WS specification describes the support for message handlers that can process requests and responses using both synchronous and asynchronous calls

The new Dispatch API introduced in JAX-WS support a fully dynamic service invocations.

For more information, please refer:
http://docs.oracle.com/javaee/5/tutorial/doc/bnayk.html
http://jax-ws.java.net/nonav/2.1.1/docs/UsersGuide.html

Incorrect
Marks for this submission: 0/1.

Feedback to Author

31. 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

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

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

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

33. 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

34. 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.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

35. 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.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

36. 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

37. The current application accesses multiple databases for implementing its functionality. You have observed that the business objects are using vendor-specific database API calls for storage & retrieval.

Which of the following design patterns must have been used to avoid this situation?

- a. Transfer Object ✗
- b. Data Access Object ✓
- c. Domain Store ✗
- d. JDBC ✗

JDBC is a technology but not a design pattern. Option B is correct.

Transfer Object - The Transfer Object pattern provides the best techniques and strategies to exchange data across tiers (that is, across system boundaries) to reduce the network overhead by minimizing the number of calls to get data from another tier.

Data Access Object - Data Access Object enables loose coupling between the business and resource tiers. Data Access Object encapsulates all the data access logic to create, retrieve, delete, and update data from a persistent store. Data Access Object uses Transfer Object to send and receive data.

Domain Store - Domain Store provides a powerful mechanism to implement transparent persistence for your object model. It combines and links several other patterns including Data Access Objects.

Refer: http://www.corej2eepatterns.com/Patterns2ndEd/PatternRelationships.htm

Incorrect
Marks for this submission: 0/1.

Feedback to Author

38. An enterprise has multiple J2EE-based Credit card applications. The business is considering to sell some of the existing services such as credit card statements etc. (built for these applications). These services are built as EJBs, POJOs and WebServices.

Which of the following design patterns best fit this situation?

- a. Session Facade ✗
- b. Domain Store ✗
- c. Web Service Broker ✓
- d. Service To Worker. ✗

Option C is correct.

Using Web Service Broker pattern(and suitable products), you can manage(add services, security, configure clients etc..) all the exposed services of your enterprise.

Web Service Broker - Web Service Broker exposes and brokers one or more services in your application to external clients as a web service using XML and standard web protocols. A Web Service Broker can interact with Application Service and Session Facade. A Web Service Broker uses one or more Service Activators to perform asynchronous processing of a request.

Session Facade - Session Facade provides coarse-grained services to the clients by hiding the complexities of the business service interactions. A Session Facade might invoke several Application Service implementations or Business Objects. A Session Facade can also encapsulate a Value List Handler.

Domain Store - Domain Store provides a powerful mechanism to implement transparent persistence for your object model. It combines and links several other patterns including Data Access Objects.

The Service to Worker pattern, like the Dispatcher View pattern, describes a common combination of other patterns from the catalog. Both of these macro patterns describe the combination of a controller and dispatcher with views and helpers. While describing this common structure, they emphasize related but different usage of patterns.

Both of these patterns differ in division of labour among components(Controller, Dispatcher and View). In Dispatcher View content retrieval is done by View and in case of Service To worker content retrieval is done by controller.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

39. Julia Fractals Inc. is building a J2EE based application for Order Entry and management of their fractal software. Once the order is taken, it is submitted to a relational database. A provisioning system then queries data and makes appropriate calls to various subsystems using JMS on MQ Series.

What design pattern is JMS an example of here?

- a. Observer ✗
- b. Mediator ✗
- c. Adapter ✗
- d. Bridge ✓
- e. Visitor ✗

Choice D is correct.

Bridge (GOF 151) "Decouple an abstraction from its implementation so that the two can vary independently." In this case, JMS is the abstraction. The implementation could be MQ Series, TIBCO Rendezvous and Vitria Businessware. Hence, choice D is correct.

Observer (GOF 293) "Define a one-to-many dependency between objects so that when one object changes state, all its dependents are notified and updated automatically." Hence, choice A is incorrect.

Mediator (GOF 273) "Define an object that encapsulates how a set of objects interact. Mediator promotes loose coupling by keeping objects from referring to each other explicitly, and lets you vary their interaction independently." Hence, choice B is incorrect.

Adapter (GOF 139) "Convert the interface of a class into another interface clients expect. Adapter lets classes work together that couldn't otherwise because of incompatible interfaces." Hence, choice C is incorrect.

Visitor (GOF 331) "Represent an operation to be performed on the elements of an object structure. Visitor lets you define a new operation without changing the classes of the elements on which it operates." Hence, choice E is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

40. What design pattern best explains the use of the stub and the skeleton in CORBA based RPC applications?

- a. Factory Method ✗
- b. Singleton ✗
- c. Strategy ✗
- d. Proxy ✓
- e. Decorator ✗

Choice D is correct.

Proxy (GOF 207) "Provide a surrogate or placeholder for another object to control access to it." Hence, choice E is incorrect. The applicability section (GOF 208) defines 'remote proxy' as "A remote proxy provides a local representative for an object in a different address space." Using the stub and the skeleton, CORBA based applications provide local representatives for distributed objects. Hence, choice D is correct.

Factory Method (GOF 107)"Define an interface for creating an object, but let subclasses decide which class to instantiate. Factory method lets a class defer instantiation to subclasses." Hence, choice A is incorrect.

Singleton (GOF 127) "Ensure a class only has one instance, and provide a global point of access to it." Hence, choice B is incorrect. Strategy (GOF 315) "Define a family of algorithms, encapsulate each one and make them interchangeable. Strategy lets the algorithm vary independently from clients that use it." Hence, choice C is incorrect.

Decorator (GOF 175) "Attach additional responsibilities to an object dynamically. Decorators provide a flexible alternative to subclassing for extending functionality." Hence, choice E is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

41. Which of the statements below describe the Strategy design pattern and its benefits? Select two choices.

- a. The client code will contain if-then-else statements used to select the appropriate algorithm. ✗
- b. It offers an alternative to sub classing. ✓
- c. Easy to add new behavior without the need to edit any code. ✓
- d. Allows subclasses to override parts of an algorithm without the need to rewrite the whole algorithm. ✗
- e. Allows the developer to dynamically add extra functionality to an object. ✗

Choices B and C are the correct answers.

The Strategy design pattern allows you to change behavior without recompiling any client code. Basically you define a method in an abstract class;the variations of this behavior are then defined in other classes that inherit from the abstract class. The client can then use any of these classes without the need to recompile.

Choice A is incorrect because the whole algorithm could be changed without the client being aware; so there would be no conditional statement within the client code.

Choice D describes a benefit of using the Template Method pattern.

Choice E describes a benefit of the Decorator pattern.

Strategy - "Define a family of algorithms, encapsulates each one, and make them interchangeable. Strategy lets the

algorithm vary independently from clients that use it."

Incorrect
Marks for this submission: 0/1.

Feedback to Author

42. Which of the following statements describe the Observer pattern and the benefits of using it?

- a. Provides loose coupling between components ✓
- b. Should increase application performance ✗
- c. Based on point-to-point messaging ✗
- d. Allows messages to be queued ✗
- e. An object will appear to change its class when it's internal state changes ✗

Choice A is the correct answer.

The Observer pattern provides a way for an object to broadcast messages (one-to-many).

Observer - "Defines a one-to-many dependency between objects so that when one object changes state, all its dependents are notified and updated automatically."

Choice C is incorrect because the observer pattern has a one-to-many messaging relationship.

Choice B is incorrect because the Observer pattern will have no affect on the performance of an application.

Choice D describes the Command design pattern.

Choice E describes the State pattern.Command - "Encapsulates a request as an object, thereby letting you parameterize clients with different requests, queue or log requests, and supports undoable operations."

Strategy - "Define a family of algorithms, encapsulates each one, and make them interchangeable. Strategy lets the algorithm vary independently from clients that use it."

Incorrect
Marks for this submission: 0/1.

Feedback to Author

43. Which of the following are benefits of using Data Access Object pattern?

- a. You want to implement parent-child relationships efficiently when implementing business objects as entity beans. ✗
- b. Reduces layers in the application. Lesser coding. ✗
- c. Provides a uniform data access API for a persistent mechanism to various types of data sources, such as RDBMS, LDAP, OODB, XML repositories, flat files ✓
- d. You want to separate persistence from your object model. ✗

Option D is incorrect because it describes Domain Object.

Option A is incorrect because it describes Composite Entity.

Option C correctly describes benefit of DAO pattern.

Option B is incorrect as the DAO introduces a new layer in the application.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

44. Which of the following are benefits of using the Service Activator pattern?

- a. Improves reusability of business logic ✗
- b. Provides asynchronous processing for any business-tier component ✓
- c. Centralizes reusable business and workflow logic ✗
- d. You want to provide access to one or more services using XML and web protocols. ✗

Options A and C describe benefit of Application Service Design Pattern.

Option D describes Web Service Broker Pattern.

Option B is the benefit of Service Activator Pattern - "Use a Service Activator to receive asynchronous client requests and messages. On receiving a message, the Service Activator locates and invokes the necessary business methods on the business service components to fulfill the request asynchronously."

Incorrect
Marks for this submission: 0/1.

Feedback to Author

45. In which of the following situations, would you use the Observer pattern? Select two choices.

- a. When you need to have objects notified of events but you don't know which objects would have such needs, or if you will need to add more objects to receive such notification, at a later date. ✓
- b. You want one object to monitor the state of another object but you don't want the object being monitored to need to send any messages regarding its state. ✗
- c. When the instances of your class can be use interchangeable and you want to reduce the number of instances created in order to improve performance. ✗
- d. You are building an online auction site to sell rare and collectable toys. You want customers to be notified of bids on items they are bidding for in as close to real time as possible. You would use the Observer pattern to notify the customer objects of changes in the auction object. ✓
- e. When you need to co-ordinate state changes between other objects by using one object. ✗

Choices A and D are correct.

The observer pattern is used to notify dependents of an object when that object changes state.

Choice E is a description of the Mediator pattern.

Choice C is incorrect because the Observer pattern does not reduce the number of instances you need to create.

Choice B is almost correct except the messages are sent when the object being monitored changes state.

Observer - (GOF 293): "Define a one-to-many dependency between objects so that when one object changes state, all its dependents are notifies and updated automatically."

Mediator - (GOF 273): "Define an object that encapsulates how a set of objects interact. Mediator promotes loose coupling by keeping objects from referring to each other explicitly, and it lets you vary their interaction independently."

Incorrect
Marks for this submission: 0/1.

Feedback to Author

46. You need to access a complex object in a recursive way, building the object from other objects. This is an example of which pattern?

- a. Abstract Factory ✗
- b. Factory Method ✗
- c. Builder ✗
- d. Composite ✓
- e. Recursive Builder ✗

Choice D is correct.

Normally, you would assume that you would need to use a creational pattern such as the Builder or Abstract Factory to do this. (Prototype could be applicable as well, if we are not building a family or an aggregate object, but simply prototyping existing objects). However, the important aspect is that you need to recursively build a composite object from other objects. This is an example of the Composite pattern.

There is no such pattern as the Recursive Builder. Therefore, choice E is incorrect.

Composite - (GOF 163): "Compose objects into tree structures to represent part-whole hierarchies. Composite lets clients treat individual objects and compositions of objects uniformly."

The other patterns were:

- Abstract Factory - (GOF 87): "Provide an interface for creating families of related or dependent objects without specifying their concrete classes."
- Factory Method - (GOF 107): "Define an interface for creating an object, but let subclasses decide, which class to instantiate. Factory Method lets a class defer instantiation to subclasses."

- Builder - (GOF 97): "Separate the construction of a complex object from its representation so that the same construction process can create different representations."

Incorrect
Marks for this submission: 0/1.

Feedback to Author

47. You are currently designing your own Desktop Publishing application, as you have not found any existing application that does exactly what you want. As part of the design, you are using a Controller to which you send all GUI requests. Not all objects can process the same commands.

For example, you cannot select the spell check tool when an image has the focus. To stop any possible errors, you would like to filter out some of the messages as they are passed from these objects to the Controller object. What pattern could you use?

a. Firewall ✗
b. Proxy ✓
c. Adapter ✗
d. Observer ✗
e. Chain of Responsibility ✗
f. Filter ✗

Choice B is correct.

Firewall and Filter are not design patterns. In this scenario, what you are essentially trying to do is filter all packets that do not meet a certain set of requirements. This behavior is just like a Proxy server dropping packets from certain IP address etc.

Proxy - (GOF 207): "Provide a surrogate or placeholder for another object to control access to it."

The other patterns:

Adapter - (GOF 139):"Convert the interface of a class into another interface clients expect. Adapter lets classes work together that couldn't otherwise because of incompatible interfaces."

Observer - (GOF 293):"Define a one-to-many dependency between objects so that when one object changes state, all its dependents are notified and updated automatically."

Chain of Responsibility - (GOF 223):"Avoid coupling the sender of a request to its receiver by giving more than one object a chance to handle the request. Chain the receiving objects and pass the request along the chain until an object handles it."

Incorrect
Marks for this submission: 0/1.

Feedback to Author

48. You are designing a complex set of classes that provides a secure framework for other programmers to use. The idea behind this framework is that it will allow other programmers to write secure programs without the usual complexities of writing secure applications.

What sort of design pattern is being used here?

a. Composite ✗
b. Facade ✓
c. Decorator ✗
d. Adapter ✗
e. Mediator ✗

Choice B is correct.

Facade - (GOF 185): "Provide a unified interface to a set of interfaces in a subsystem. Facade defines a higher-level interface that makes the subsystem easier to use."

The other patterns are described below:

- Adapter - (GOF 139): "Convert the interface of a class into another interface clients expect. Adapter lets classes work together that couldn't otherwise because of incompatible interfaces."
- Composite - (GOF 163): "Compose objects into tree structures to represent part-whole hierarchies. Composite lets clients treat individual objects and compositions of objects uniformly."
- Decorator - (GOF 175): "Attach additional responsibilities to an object dynamically. Decorators provide a flexible alternative to sub classing for extending functionality."

- Mediator - (GOF 273): "Define an object that encapsulates how a set of objects interact. Mediator promotes loose coupling by keeping objects from referring to each other explicitly, and it lets you vary their interaction independently."

Incorrect
Marks for this submission: 0/1.

Feedback to Author

49. ScreamWorks, a cinema multiplex, has a website from which you may download signed applets with the latest movie trailers, show timings and so on. The applet works on Java 1.3 or higher. The applet needs to write user preferences to a temporary file in the host machine (where it is being executed).

Is this scheme possible? Note that the client has defined a usePolicy and the java.policy has granted no permissions for the applet.

- a. No, applets,cannot be used here because even signed applets are untrusted if the necessary permissions are not granted. ✓
- b. Yes as the sandbox model does not apply to signed applets. ✗

Choice A is correct.

This question expects you to be familiar with the changes in the Java 2 Security model. In JDK1.2 and higher, all code local and remote can be subjected to a security policy.

By default, remote code will be constrained to the old Sandbox model. However, if a policy file is created with grant privileges, an applet will be restricted to the grants whether or not it is signed. Hence, choice A is correct.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

50. Consider the following scenario: An applet executing in a single thread (no new threads are created) attempts to use excessive amounts of memory by declaring huge arrays and populating them with random data.

Which of the following statement is correct?

- a. The security manager only allocates a certain amount of memory so it is not possible for an applet to use excessive amounts of memory. ✗
- b. The security manager will effectively starve the applet when it starts to use excessive amounts of memory. ✗
- c. The security manager will kill the applet when it starts to use excessive amounts of memory. ✗
- d. The security manager only monitors CPU usage so it is possible for the applet to use an excessive amount of memory. ✗
- e. The applet will execute without intervention from the security manager. ✓

Choice E is the correct answer.

The security manager does not monitor the memory, CPU or network bandwidth usage of an applet (It is assumed that the operating system will guard against an applet using an excessive amount of resources.). When an applet runs out of memory a java.lang.OutOfMemoryError will be thrown.

Choice A is inappropriate, if not completely incorrect. Generally, operating systems will allocate a certain amount of memory for processes to use but this is not fixed (an applet can ask for more and if available the O/S may assign it). The reason choice A is incorrect is that it is possible for applets to use excessive amounts of memory.

Choices B, C and D are incorrect because the security manager does not monitor an applet's CPU, memory or network bandwidth usage.

For more information please see: http://java.sun.com/sfaq/

Incorrect
Marks for this submission: 0/1.

Feedback to Author

51. Given the following architectural system specification, how would you secure it?

Company web server -5 Office machines -2 Development servers. The company web server needs to serve pages to remote users and office machines need access to the internet.

- a. Place a firewall around all machines. ✗
- b. Place the web server behind an outer firewall and all other office machines and development servers behind an inner firewall. ✓
- c. Put the web server in front of an outer firewall, the office machines behind the outer firewall and the development servers behind an inner firewall. ✗
- d. Put the web server and development servers behind an outer firewall and all other office machines behind an inner firewall. ✗
- e. Put a firewall around the development servers. ✗

Choice B is the correct answer.

Given the above architectural system specification you should secure it by creating a DMZ that contains the company web server.

You should put machines that provide services to Internet clients in the DMZ and the office machines and development servers behind an inner firewall.

You would then configure a proxy server in the DMZ to forward the requests from the office machines to the Internet.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

52. The company you work for (Company A) needs to communicate with a new potential partner (Company B). They need to send you some more information regarding their North American sales figures but they do not have a key to encrypt the data. A competitor (Company X) desperately wants to see these figures and you are sure that they are sniffing all traffic between Company A and B.

Given this scenario, which of the following statements are true? Select two choices.

- a. You should use asymmetric cryptography to send the message. ✓
- b. You should use symmetric cryptography to send the message. ✗
- c. It is not possible to securely send the message because you must first send the key to be used to sign the message with. ✗
- d. The message must be sent over HTTPS. ✗
- e. The message can be sent over HTTP. ✓

Choices A and E are the correct answers.

It is not possible to use symmetric cryptography to send this message because this would first require sending the key that is used to both encrypt and decrypt. Company X would see this and be able to read the message. With asymmetric cryptography there is a separate key for encrypting (public) and decrypting (private). This allows company A to send out its public key, company B can then encrypt the message with the public key (it doesn't matter that company X may have the public key because you cannot decrypt with this key).

Choice E is correct because the message that has already been encrypted can be sent over HTTP (no extra encryption is required).

For more information please see: http://java.sun.com/sfaq/

Incorrect
Marks for this submission: 0/1.

Feedback to Author

53. Which of the following attacks may be prevented using JSF Validation mechanism?

- a. Denial of Service ✗
- b. Man-in-the-Middle Attacks ✗
- c. Cross-site scripting ✓
- d. Phishing. ✗

Option C is correct.

Input parameters can be validated for expected input (String, integer, date etc.) through JSF validation thus filtering unwanted input inserted through cross-site scripting.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

A hacker is running a program to send a large number of HTTP requests to your website? Which of the following best

54. describes the situation?

- a. Denial of Service ✓
- b. Man-in-the-Middle Attacks ✗
- c. Cross-site scripting ✗
- d. Phishing. ✗

Option A is correct.

This is an example of Denial of Service. A Denial-of-Service attack (also DoS attack) is an attack on a computer system or network that causes a loss of service to users. Usually it is realized through consuming all of the bandwidth available to the victim network or by overloading the computational resources of the victim system. It can be prevented by using Service Request Queue technique - limiting the number of concurrent requests one application can get while queuing all excess requests.

A Man-in-the-Middle (MitM) attack is a technique where an attack intercepts another user's session, inspects its contents and tries to modify its data or otherwise use it for malicious purposes. Measures to prevent these attacks are to use encryption of sensitive data and prevent the data being read. Some examples are using SSL, avoiding Frames/IFrames, avoid URL rewriting (SessionId is exposed).

Cross Site Scripting (XSS) is a type of computer security exploit where information from one context, where it is not trusted, can be inserted into another context, where it actually is trusted. From the trusted context, attacks can be launched. Cross site scripting (also known as XSS) occurs when a web application gathers malicious data from a user. The data is usually gathered in the form of a hyperlink which contains malicious content within it. The user will most likely click on this link from another website, instant message, or simply just reading a web board or email message. Usually the attacker will encode the malicious portion of the link to the site in HEX (or other encoding methods) so the request is less suspicious looking to the user when clicked on. After the data is collected by the web application, it creates an output page for the user containing the malicious data that was originally sent to it, but in a manner to make it appear as valid content from the website.

Some of the measures to prevent it : encode the data on the generated pages, escape user input (special characters,tags), validate user input(maximum length) using Frameworks like Struts Validator, users disable javascript, avoid using Frames/IFrames.

Phishing is an attempt to criminally and fraudulently acquire sensitive information, such as usernames, passwords and credit card details, by masquerading as a trustworthy entity in an electronic communication. Phishing is a social engineering technique to fool users.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

55. Which of the following annotations can be used for securing web applications? Select two choices.

- a. @DeclareRoles ✓
- b. @RunAs ✓
- c. @PermitAll ✗
- d. @DenyAll ✗

Options A and B are correct.

Options C and D can be used for EJB.

@PermitAll - Indicates that the given method or all business methods of the given EJB are accessible by everyone.

@DenyAll - Indicates that the given method in the EJB cannot be accessed by anyone.

@RolesAllowed - Indicates that the given method or all business methods in the EJB can be accessed by users associated with the list of roles.

@DeclareRoles - Defines roles for security checking. To be used by EJBContext.isCallerInRole, HttpServletRequest.isUserInRole, and WebServiceContext.isUserInRole.

@RunAs - Specifies the run-as role for the given components.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

56. Which of the following can be configured in the EJB deployment descriptor? Select two choices.

- a. Configuration of the datasource accessed by code. ✗

Options B and C are correct.

Options A and D are Java EE Server specific.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

57. ABC Company is designing a new Web-based application. They are considering using JSF. Which of the following are advantages of using JSF? Select two choices.

- a. Increases development time ✗
- b. It offers a clean separation between behavior and presentation. ✓
- c. It can map HTTP requests to component-specific event handling methods. ✓
- d. It compresses data transfer between web server & browser. ✗

Options B and C are features of JSF.

Option A is incorrect as usage of Standard Frameworks reduces development time as they provide most of the common features such as validations, data conversions.

Option D is incorrect, as JSF does not provide a compression feature.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

58. Which of the following are features of Expression Language?
Select three choices.

- A. It reduces readability of JSP as it has very complex notation. ✗
- B. Dynamically write data, such as user input into forms, to JavaBeans components ✓
- C. Dynamically read application data stored in JavaBeans components, various data structures, and implicit objects ✓
- D. Invoke arbitrary static and public methods ✓
- E. No value expression references data, No method expression invokes a method ✗

Option B, C and D are correct.
Tag Libraries would help in modularize the logic and creates better maintability. As EL would help in improving the reusability and also in passing parameters to any custom tag libraries.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

59. You are developing an MVC Framework with servlet as the controller and JSP as the view. You want this application to be integrated to monitoring tools like Tivoli, so that whenever an interfacing system is down (database, EJB Services, JMS providers), you would like to invoke the monitoring tool through a proprietary API to alert application maintainence team. The user should be able to see the message.

Where would you put this logic?

- a. Servlet ✓
- b. JSP ✗
- c. Servlet Filter ✗
- d. JSTL ✗

Since servlet is acting as the controller (centralized logic), it is appropriate to put this logic in it.

JSP & JSTL are for the View. Servlet Filters must be used for any pre & post-processing of requests. So, Option A is correct.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

60. You have been asked to write a Servlet by extending HttpServlet Servlet and provide implementation for service method to handle the request processing logic. During this process, you are finalizing a servlet.
Choose the options which describes about finalization?

- A. Persist HttpSession Data ✗
- B. Track response times for individual requests ✗
- C. Keep track of long-running threads and ensure proper shutdown. ✓
- D. Indicate WebContainer to take back the current servlet instance to instance pool ✗

Option C is correct. It can be achieved by the following steps (Java EE Tutorial)

- Keep track of how many threads are currently running the service method.
- Provide a clean shutdown by having the destroy method notify long-running threads of the shutdown and wait for them to complete.
- Have the long-running methods poll periodically to check for shutdown and if necessary, stop working, clean up, and return.

Option D is incorrect as it is not possible as container manages instance pool.

Options A and B are incorrect as HtttpSessionData and response times are per-request whereas destroy method is called only during servlet finalization. When a servlet container determines that a servlet should be removed from service (for example, when a container wants to reclaim memory resources or when it is being shut down), the container calls the destroy method of the Servlet interface. In this method, you release any resources the servlet is using and save any persistent state.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

61. What are the benefits of JSF application in Java EE environment?
Select three choices?

- A. JSF provides drop components onto a page by adding component tags ✓
- B. JSF provides UI reusable and extensible components ✓
- C. JSF does not provide save and restore UI state beyond the life of server requests ✗
- D. JSF provides Bind UI components on a page to server-side data ✓

Option A, B and D are correct.

JSF provides well-defined programming model and tag libraries significantly ease the burden of building and maintaining web applications with server-side UIs. With minimal effort, you can

Drop components onto a page by adding component tags
Wire component-generated events to server-side application code
Bind UI components on a page to server-side data
Construct a UI with reusable and extensible components
Save and restore UI state beyond the life of server requests
Option C is incorrect. JSF provides save and restore UI state beyond the life of server requests.

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

Incorrect
Marks for this submission: 0/1.

Feedback to Author

62. Which of the following features are provided by JSF? Select two choices.

- a. SSL support ✗
- b. UI components ✓
- c. Server-side validation ✓
- d. Client side validation ✗

Options B and C are correct.

JavaServer Faces technology provides a set of UI component classes and associated behavioral interfaces that specify all the UI component functionality, such as holding component state, maintaining a reference to objects, and driving event handling and rendering for a set of standard components. It also provides a mechanism for validating the local data of editable components (such as text fields). But this validation is only server-side. It does not provide any features for client-side validation (JavaScript) like Struts.
So, option D is incorrect.

SSL (Secure Sockets Layer) is the standard security technology for establishing an encrypted link between a web server and a browser. JSF does not provide any such security features. So, option A is incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

63. You are designing a web application where the employee can login and submit his weekly labour claims. This application shows labour details for current month and provides features to retrieve earlier claims and submit new claims. Employees use this system once in a week.

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

- a. JSP ✓
- b. MDB ✗
- c. JCA ✗
- d. EL ✓

Options A and D are correct.

There is no requirement for asynchronous messaging so option B is incorrect.

There is no requirement for JCA, so option C is also incorrect.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

64. ABC Company has decided to build a web application where every employee can update his professional information (Work experience, projects etc). Colleagues can search for a person using email address or first and last name. It is a medium-size company and usage is fairly low.

Which of the following technologies would be useful? Select two choices.

- a. JMS ✗
- b. Pojo's implementing DAO pattern ✓
- c. JSF ✓
- d. Stateless Session Beans ✗

Option A is incorrect as there are no requirements for asynchronous actions.

Option D is incorrect as there are no requirements for scalability or transactions.

Options B and C are correct.

Incorrect
Marks for this submission: 0/1.

Feedback to Author

Finish review