

# **Exam 70-300 study material**

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## **Free 70-300 Exam Preparation Questions**

**Exam 70-300**: Analyzing Requirements and Defining Microsoft .NET Solution Architectures

## **Case Study #B3, KiddiKite, Inc**

### **Background**

KiddiKite, Inc manufactures and sells kites on a whole sale basis to more than 5.000 customers. Currently, the company maintains a static Web site and receives customer orders by telephone. It obtains raw materials from two vendors.

The company contracts you to design and develop a solution by using the Microsoft .NET Framework that will enable customers to place orders over the internet. The solution will include a new customer Web site. Testing and deployment of the site must be complete in six months.

### **Existing IT Environment**

KiddiKite, Inc has a private VPN. Salespeople use VPN to access e-mail and file shares when they travel.

The company uses an accounting application to manage the customer billing process. The accounting application runs on a mainframe computer. This application accepts connections over TCP/IP and it uses its own binary communication protocol. It responds to requests slowly and supports a maximum of two concurrent TCP/IP connections. It cannot store information about shipping status.

The company will continue to use the accounting application

### **Interviews Users Sales manager**

Our salespeople need access to customer information and order history when they are in the office and when they travel in the field. They should access the application by downloading it on demand over the Web.

We categorize our customers by sales volume. We use three categories, in ascending order of volume, they are Bronze, Silver or Gold. Customer in higher categories pay lower prices. We currently store category pricing on paper. I want to store category pricing as part of the new solution. I want also the ability to change pricing every quarter. Each customer must be able to see only its own pricing information. Customers must not learn that different pricing categories exist.

### **Manufacturing Manager**

I want a solution that tracks my raw material inventory and helps me order raw materials

### **Shipping Manager**

We spend too much time handling customer telephone calls. Customers often telephone to learn the shipping status of their orders. Our staff needs to find each printed order and then report the shipping status to the customer

### **It Department IT**

#### **Manager**

I own this project and I will be working directly with you. Eventually, I want to locate all our business process on the Internet. However, our highest priority is to make our customers happy. Anything makes our salespeople more efficient will make our customers happier. One of our bigger customer requests is the ability to place orders at the end of the month. Currently, we cannot fulfill that request because we do not have enough staff to answer the telephones.

Customers also want better information about order status. They want to track the stages of their orders and monitor shipping status. They want to be notified by e-mail when an order ships. Currently customers do not receive any notification, because we do not have enough staff to telephone them when orders ship.

We invest a lot of money in building our brand. Whenever our customers have a request that involves our company, I want them to be able to go to the Web site of KiddiKite, Inc to complete the request.

Customers should not be redirected to another site with another company's branding for such requests.

Our competitors have very successful Web sites, so we must act quickly to ensure that our Web site offers all appropriate functionality. I manage a staff of four people. They all have experience with ASP, but no experience with ASP.NET. I want at least two of my staff to participate in the development project. My staff will maintain the new application after its initial deployment.

We will host the application ourselves. We are upgrading our network to handle the expected traffic. We want the Web site to be as easy as possible to administer. During peak loads, we must be able to monitor how many customers in each customer category are logged on to the site. I do not want to

modify our existing accounting application and I do not want to add any applications to the mainframe computer.

In four months our shipping partner will begin using an XML Web service to track shipments. We already have the documentation for the interfaces that our partner will support.

#### **Finance Department Chief**

#### **Financial Officer**

This project is critical to our business. However, we have only a limited amount of money to spend. We must ensure that the scope of the project will maximize the benefit to our customers

#### **Business Process**

Customers place orders for Kites once a month. After an order is placed, it cannot be changed. Each order is taken over telephone by a salesperson. The salesperson immediately enters the order into the accounting application by using a client computer. The order is then printed and delivered in the shipping department. The shipping department completes and ships the order from existing inventory. The order is marked as complete.

Many customers have standing orders. A standing order is a list of products that the customer expects to need each month. Currently, the sales department records standing orders on paper. Customers with standing orders sometimes override their standing order by placing a monthly order.

The accounting application does not store shipping information for an order. When an order is placed, the accounting application considers the order complete for billing purposes.

#### **Questions & Answers**

#### **Question: 1.**

You are creating the physical design for the customer category data model. For reporting purposes, you want to optimize access to customer category data. You define a Customer table and a Category table. What should you do next?

- A. Define three foreign key columns in the Category table, such that each column references a different parent row in the Customer table. Define indexes on the foreign key columns.
- B. Define three foreign key columns in the Customer table, such that each column references a different parent row in the Category table. Define indexes on the foreign key columns.
- C. Define a foreign key column in the Category table that references the parent row in the Customer table. Define an index on the foreign key column.
- D. Define a foreign key column in the Customer table that references the parent row in the Category table. Define an index on the foreign key column.

#### **Answer: D**

#### **Explanation:**

D: This solution is depicted below



#### **Question: 2**

While building your application with Visual Source Safe, the build process fails with file lock errors. Other problems emerge when referencing an assembly from a folder that is designated as your project's output folder. How can you solve these errors? (Select the best)

- A. Do not alter the Build Output Path
- B. Alter the Build Output Path
- C. Do not use Visual Source Safe
- D. Rebuild it

#### **Answer: A**

#### **Explanation:**

You might be tempted to alter the output paths of your projects in order to build to a single folder and then establish file references to that folder. Do not do this for the following reasons:

- It causes the build process to fail with file lock errors when a referenced assembly exceeds 64

KB in size. This problem is likely to be fixed in a future version of Visual Studio .NET.

You can encounter another problem when you reference an assembly from a folder that is designated as your project's output folder. In this event, Visual Studio .NET cannot take a local copy of the assembly because the source and destination folders for the copy operation are the same. If you subsequently remove the reference from your project, Visual Studio .NET deletes the "local" working copy. Because the local folder is the same as the assembly's original folder, the original assembly is deleted.

**Question: 3**

You are using Visual Source Safe to update the assembly version information for multiple assemblies. How will you centralize the version information and enable a single file checkout and update? (Select all that apply)

- A. Place the AssemblyVersion attribute in a single source file, for example AssemblyVersionInfo.cs or AssemblyVersionInfo.vb.
- B. Share the file across any projects that need to share the same version number within VSS.
- C. Do not use Visual Source Safe
- D. Configure a build script

**Answer: A, B**

**Explanation:**

To update the assembly version information for multiple assemblies, the build script or build coordinator must check out and update multiple AssemblyInfo files. To centralize the version information and enable a single file checkout and update, consider the following approach:

- 1 Place the AssemblyVersion attribute in a single source file, for example AssemblyVersionInfo.cs or AssemblyVersionInfo.vb.
- 2 Share the file across any projects that need to share the same version number within VSS.

**Question: 4**

You are planning the deployment of the new application. You need to decide how to migrate customer data on the shortest possible time. What should you do?

- A. Load the customer data into the new application from Active Directory
- B. Create a Data Transformation Services package to load the customer data into the new application from the mainframe computer
- C. Create an interface to the accounting application. Always access customer data from the accounting application
- D. Create a Data Transformation Services package to load the customer data into the new application from the customer category data

**Answer: B**

**Explanation:**

Customer data may have to be expanded to include new field, such as shipping status. The existing customer data on the mainframe should not be modified otherwise there would be a need to make modifications to the Accounting Application on the mainframe.

**Question: 5**

You are designing the solution concept for the salespeople's application. What should you use? (Select the best)

- A. Web application
- B. Thin clients
- C. Thick client
- D. Smart clients

**Answer: D**

**Explanation:**

Smart clients are characterized by their reliance on Windows Forms for their client-side implementation (optionally downloaded on demand over the Web), combined with back-end Web services for their server-side implementation. Since good Web services are inherently stateless and leave all of the UI and

state management duties to the client, there's no hybrid layer that generates UI and manages state as required in typical Web applications.

**Question: 6**

You are validating your physical design. You need to ensure that the design maps to the categorization requirements for customer pricing. Which member should you include in the design?

- A. A GetPrice method of a Product class with no parameters
- B. A Price property of a Product class
- C. A Price property of a Customer class
- D. A GetPrice method of a Product class with a single Customer Object parameter

**Answer: D**

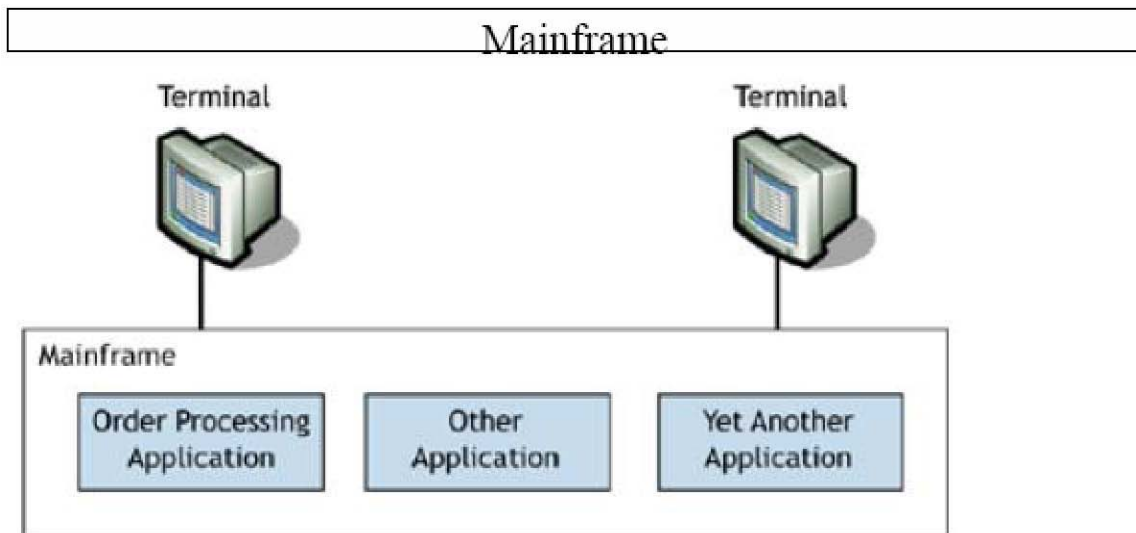
**Explanation:**

By passing the Customer Object as a parameter to the GetPrice method of a product class, we can assign a different price based on the customer type.

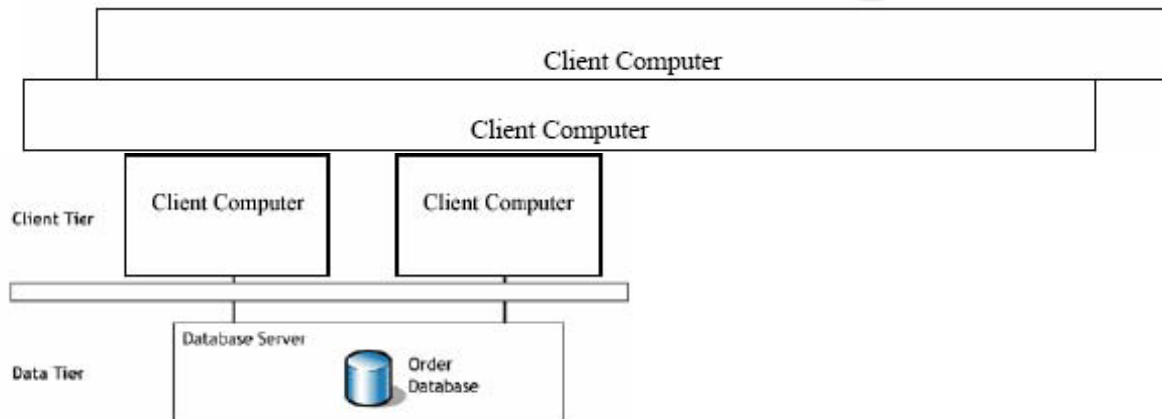
**Question: 7**

You are verifying the design for the new application used by the salespeople. The design must be able to handle the user's state. Select the best design.

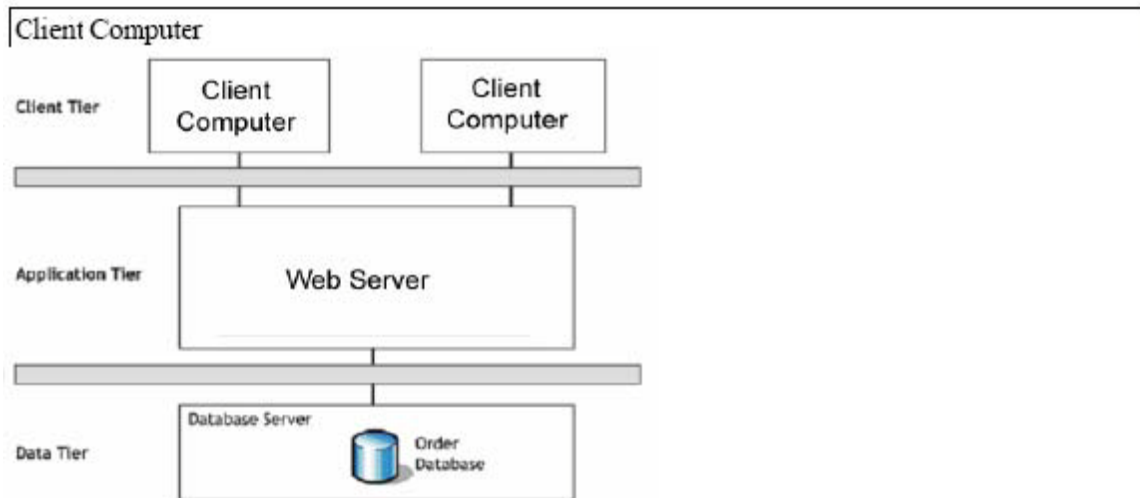
A.



B.

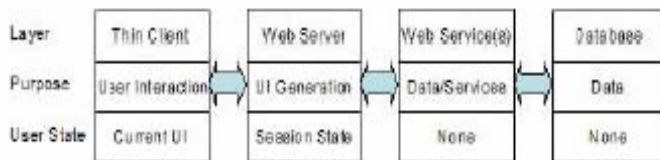


C.



**Answer: C**  
**Explanation:**

Mainframe



This is a typical Web application architecture

**Question: 8**

You need to select the best design pattern to be able to ensure that the creation and initialization of an object is abstract. This indirection should enable the client to focus on its discrete role in the application without concerning itself with the details of how the new object is created. The client should remain unchanged. What should you do? (Select the best)

- A. Factory
- B. Façade
- C. Singleton
- D. Observer

**Answer: A**

**Explanation:**

The factory completely abstracts the creation and initialization of the object or product from the client. This indirection enables the client to focus on its discrete role in the application without concerning itself with the details of how the product is created. Thus, as the product implementation changes over time, the client remains unchanged.

**Question: 9**

You need to create a physical design that meets the monitoring requirements of KiddiKite, INC. What should you do?

- A. Create and use a new event log to record each customer logon event
- B. Use the built-in ASP.NET performance counters to monitor application load
- C. Use the Trace class to record each customer logon event
- D. Create and use new NumberOfItems performance counters to monitor active customer sessions

**Answer: D**

**Explanation:**

The requirement stated by the IT Manager can be fulfilled using this solution. Performance Monitor is suited for this.

**Question: 10**

You need to design an additional component to allow customers to track their shipping status through the company's website. You have these requirements:

- The component must use HTTP channel
- You need to provide a secure path for data
- Your solution must be able to support SOAP
- Must work well with firewalls
- Fast performance What should you use? (Select the best)
- A web application
- An XML service
- A DCOM object
- .Net Remoting

**Answer: D**

**Explanation:**

.Net Remoting fits all the above requirements.

**Question: 11**

You are writing the technical specification for your solution. When a customer uses the new Website to place an order, the new Web application must submit the order data to the accounting application. You need to specify how the data will be submitted. Which technology should you use?

- A. Transactional serviced component
- B. .NET Remoting object
- C. Queued component
- D. XML Web service

**Answer: C Explanation:**

Our chosen solution shall be queued components implemented with .Net Remoting. Our solution must use a maximum of two concurrent TCP/IP connections.

**Question: 12**

Your application needs to use pessimistic locking in ADO.NET. What should you do? (Select the best)

- A. Use ADO
- B. Use OLEDB
- C. ADO transactions
- D. Use stored procedures

**Answer: D**

**Explanation:**

Although there is no direct support for pessimistic locking in ADO.NET, a client can achieve the same effect by using ADO.NET transactions or implementing the required functionality in a stored procedure.

**Question: 13**

You need to fine tune the performance of your application, since it uses view state. Your application depends on it. Since each object must be serialized and then deserialized upon post back you notice that

performance is lacking. What should you do? (Select all that apply)

- A. Disable ViewState completely.
- B. Use the optimized ViewState serializers.
- C. Use the fewest number of objects
- D. Turn off ViewState on a per-control basis
- E. Turn off ViewState per-page basis
- F. Turn off ViewState per-application basis

**Answer: B, C, D, E, F**

**Explanation:**

ViewState performance may be increased by:

- Disabling ViewState completely if not in use
- Using the optimized ViewState serializers.
- Using the fewest number of objects
- Turning off ViewState on a per-control basis
- Turning off ViewState per-page basis
- Turning off ViewState per-application basis

**Question: 14**

You need to ensure that your viewstate is not tampered with. What should you do?

(Select all that apply)

- A. <%@Page EnableViewStateMAC=true %>
- B. <machineKey validation="SSL" />
- C. <machineKey validation="Kerberos" />
- D. <machineKey validation="MD5" />
- E. <machineKey validation="SHA1"

```
validationKey="F3690E7A3143C185AB1089616A8B4D81FD55DD7A69EEAA3B3
2A6AE813ECEECD28DEA66A23BEE42193729BD48595EBAFE2C2E765BE77E00
6330BC3B1392D7C73F"/>
```

**Answer: A, D, E**

**Explanation:**

A hashcode will not secure the actual data within the ViewState field, but it will greatly reduce the likelihood of someone tampering with ViewState to try to spoof your application, that is, posting back values that your application would normally prevent a user from inputting. The validation key is a string of 20 to 64 random, cryptographically-strong bytes, represented as 40 to 128 hexadecimal characters. Longer is more secure, so a 128-character key is recommended for machines that support it.

**Question: 15**

You need to allow your application to main session state with these requirements:

- Process independent.
- Support for server farm configurations.
- Cookie independent. What should you use? (Select the best)
- ASP Session
- ASP.net Session
- Cookies
- Stored procedures

**Answer: B**

**Explanation:**

ASP.net sessions are:

- Process independent. ASP.NET session state is able to run in a separate process from the ASP.NET host process. If session state is in a separate process, the ASP.NET process can come and go while the session state process remains available. Of course, you can still use session state in process similar to classic ASP, too.
- Support for server farm configurations. By moving to an out-of-process model, ASP.NET also

solves the server farm problem. The new out-of-process model allows all servers in the farm to share a session state process. You can implement this by changing the ASP.NET configuration to point to a common server.

Cookie independent. Although solutions to the problem of cookieless state management do exist for classic ASP, they're not trivial to implement. ASP.NET, on the other hand, reduces the complexities of cookieless session state to a simple configuration setting.

**Question: 16**

You need a type of session management where performance is important but you cannot guarantee which server a user will request an application from. You need high performance when reading the state information and high reliability. What should you do? (Select the best)

- A. In process
- B. Out of process
- C. SQL Server
- D. Cookieless.

**Answer: B**

**Explanation:**

In process. In process will perform best because the session state memory is kept within the ASP.NET process. For Web applications hosted on a single server, applications in which the user is guaranteed to be re-directed to the correct server, or when session state data is not critical (in the sense that it can be re-constructed or re-populated), this is the mode to choose.

Out of process. This mode is best used when performance is important but you can't guarantee which server a user will request an application from. With out-of-process mode, you get the performance of reading from memory and the reliability of a separate process that manages the state for all servers.

SQL Server. This mode is best used when the reliability of the data is fundamental to the stability of the application, as the database can be clustered for failure scenarios. The performance isn't as fast as out of process, but the tradeoff is the higher level of reliability.

**Question: 17**

You need to ensure that queries return correct information. What must you do to make sure that the information being stored is valid? (Select 2 answers)

- A. Client side checking
- B. Server-side checks
- C. Client scripting
- D. Server side scripting

**Answer: A, B**

**Explanation:**

Client-side checks can ensure that invalid data is not posted to a database. These checks can be coded in many ways, including in scripts, in the user interface controls, as part of an executable program, or as part of a Web page. For example, if a field on a Web page denotes a monetary value, validation controls on the page can ensure that the information in that field is the proper data type and format.

Server-side checks, which are executed by the DBMS engine, can be implemented with field data types, default values, and constraints. These checks can also ensure that invalid data is not stored in the database.

**Question: 18**

You need to redirect HTTP Error 404 pages to the company's search page. What should you do? (Select the best)

- A. `<customErrors mode="On" defaultRedirect="customError.aspx"> <error statusCode="404" redirect="custom404.aspx"/> </customErrors>`
- B. `<customErrors mode="On" Redirect="customError.aspx"> <error statusCode="404" redirect="custom404.aspx"/> </customErrors>`
- C. `<customErrors defaultRedirect="customError.aspx"> <error statusCode="404" redirect="custom404.aspx"/> </customErrors>`

D. <customErrors mode="On" defaultRedirect="customError.aspx"/>

**Answer: A**

**Explanation:**

This option provides a special case for the custom error page depending upon the HTTP status code. For example, we may want a custom error page if the request attempts to access a page that doesn't exist (HTTP 404).

**Question: 19**

When a customer places an order you need to notify the company's staff to dispatch the goods. How should you do this?

- A. Implement stored procedures that will send a notification email
- B. Implement triggers that will send a notification email
- C. Use CDONTS to notify staff of such events
- D. Use event delegates

**Answer: B**

**Explanation:**

Triggers are sets of programmatic statements that are explicitly defined for a particular table. When a specific action (such as an insert, update, or delete) occurs in that table, the trigger causes the statements to automatically run. For example, a trigger can verify data in other tables or perform an automatic update to a different table.

**Question: 20**

You are assigning components to tiers. What should you do? (Select all that apply)

- A. Go through each component in the application and assign it to a tier
- B. User interface components may be mapped to the Web tier,
- C. Business components are mapped mapped to the application tier.
- D. Be aware of the technical, legal, and business constraints that will be imposed on the solution

**Answer: A, B, C, D**

**Explanation:**

Application architects must meet with the system architects to create a deployment plan that describes which tier each of the application's components will be deployed to. Key to the success of this meeting is that both parties are starting from a set of high-quality requirements that are precisely specified down to a testable level. For example, a requirement stated as "The application must be scalable" is not specific enough to be testable. A more testable requirement would be: "The application must support 50 concurrent users with two second response time at launch and must scale up to 500 concurrent users with three second response time." This requirement is also phrased in a way that both system and application architects can understand. In addition starting from specific requirements, both parties must be intimately aware of the technical, legal, and business constraints that will be imposed on the solution.

**Question: 21**

You are deciding on the deployment strategy for the application which will be used by the salespeople. Your strategy must move the presentation components to the client tier so that rich user interfaces is provided to the user. What should you do? (Select the best)

- A. Simple Web application
- B. Complex Web application
- C. Extended enterprise application
- D. Smart client application

**Answer: D**

**Explanation:**

The smart client configuration deploys the user interface components onto the client tier instead of the Web tier. The primary motivation for moving the presentation components to the client tier is that rich user interfaces demand a high degree of interactivity with the user. Mainstream Web technology does not support these rich user interface requirements.

**Question: 22**

You are responsible to propose a load balancing strategy. The strategy must account for the different

processing capabilities of each server. You will assign a performance weight to each server, and a scheduling sequence. (Select the best)

- A. Round robin
- B. Weighted round robin
- C. Least-connection
- D. Load based

**Answer: B**

**Explanation:**

Weighted round robin accounts for the different processing capabilities of each server. Administrators manually assign a performance weight to each server, and a scheduling sequence is automatically generated according to the server weight. Requests are then directed to the different servers according to a round-robin scheduling sequence.

**Question: 23**

When deciding on a scalable infrastructure tier what must you consider? (Select all that apply)

- A. maximum amount of load capacity for any given application
- B. limitations on the number of CPUs that applications can use
- C. complexity of managing and monitoring
- D. the number of peripherals that any one server can use

**Answer: A, B, C, D**

**Explanation:**

When designing your scalable infrastructure tier, consider the following forces:

- Individual servers have a maximum amount of load capacity for any given application. For example, if a single server provides Web pages as part of a Web-based application and the user or transaction load increases beyond the limitation of the server, the application will either fall below performance expectations or, in the worst case, become unavailable.
- Individual servers have maximum physical performance limitations, including limitations to the bus speed, the amount of memory, the number of processors, and the number of peripherals that any one server can use. For example, if the server is capable of housing only four processors, you cannot add a fifth processor to enhance performance.
- Certain applications have limitations on the number of CPUs that they can use.
- Servers, as individual entities, are single points of failure within a solution. If only one server is responsible for delivering the functionality of a component within an application, its failure results in an application failure.
- Adding servers can increase the complexity of managing and monitoring the server hardware and its associated software.

**Question: 25**

What are potential liabilities for the load balancing cluster pattern that you have chosen? (Select all that apply)

- A. Development complexity
- B. Cost
- C. Does not account for network failure
- D. Human resource requirements

**Answer: A, C**

**Explanation:**

- Development complexity. A load-balanced solution can be difficult to develop if the solution must maintain state for individual transactions or users.
- Does not account for network failure. If a server or network failure occurs during a client session, a new logon may be required to reauthenticate the client and to reestablish session state.

**Question: 25**

What constitutes your team development environment? (Select all that apply)

- A. A build server on which an automated build script is used to generate daily builds

- B. A backup server to maintain VSS database backups
- C. Computers running Microsoft SQL Server™ for development and test databases
- D. Web servers for development and test Web services
- E. A Microsoft® Visual SourceSafe™ (VSS) server to maintain the source code control database or databases
- F. Developer workstations

**Answer: A, B, C, D, E, F**

**Explanation:**

- Developer workstations
- A Microsoft® Visual SourceSafe™ (VSS) server to maintain the source code control database or databases
- A backup server to maintain VSS database backups
- Computers running Microsoft SQL Server™ for development and test databases
- Web servers for development and test Web services
- A build server on which an automated build script is used to generate daily builds.

## **Case Study #B4, SouthEastern Bay Traders**

### **Background**

SouthEastern Bay Traders operates retail stores in 16 countries worldwide. The company sells a wide variety of furniture, dining and kitchen goods, bath end bedding accessories and other specialty items for the home. Products are delivered to retail stores from regional distribution centers.

The company plans to offer its products in an online store, which will also be serviced by the regional distribution centers. The company contracts you to design and implement a Microsoft NET solution architecture for the online store.

The new online services will be made available in three cities in a pilot implementation. If the pilot is successful, the company will deploy the online store worldwide over the next 13 months. The worldwide deployment must be completed without any additional development effort.

### **Existing IT Environment**

The existing corporate network includes both Microsoft Windows NT Server 4.0 computers and Windows 2000 Server computers in a single domain. Employees use desktop computers that run Windows XP Professional and Microsoft Office XP. The human resources department has its own intranet, which uses Internet Information Services (IIS) and Microsoft SQL Server 2000.

Product inventory functions are currently performed by a mainframe computer. Users connect to the mainframe computer by using terminal emulation software on their desktop computers. The regional distribution centers are connected to the main office by a dedicated T1 frame relay link. Every night, the distribution centers update the inventory data on the mainframe computer.

### **Interviews IT Department IT Manager**

I manage a staff of 50 trained technicians who are located around the world. We employ two technicians at the main office in each country where we do business. The technicians spend most of their time troubleshooting computers that stop responding. We want a replacement for the terminal emulation software that we currently use. The new software should still permit us to use the mainframe computer to print reports. It should also provide secure access to the mainframe computer from the Internet. The development and deployment of the mainframe solutions should occur during the pilot implementation of the online store.

Our suppliers have Active Directory accounts and our application must support multiple browser types, including Netscape Navigator and all versions of Internet Explorer.

### **Lead Developer**

Five developers work on my staff. They are responsible for maintaining an inventory management application on the mainframe computer. They also maintain the human resources intranet. They are proficient in Microsoft Visual Basic Scripting Edition (VBScript) and ASP. They have developed some functions in ASP which could be reused. They can also use several mainframe development languages.

### **Finance Department Chief**

### **Financial Officer**

We want to be able to update product information more frequently. Currently, updating the product information from our vendors is a time-consuming process. Replacing this process is essential if we want to remain competitive in the marketplace. We will continue to perform inventory reporting from the mainframe computer.

### **Business**

#### **Stakeholders**

#### **Business Manager**

As a global company, we have some unique challenges. We must be able to present our online store in a way that is appropriate to each locale in which it is viewed. In particular, we need to display currencies and calendars in the format that is most familiar in each locale.

Currently, we use an international company to perform credit card verification for our retail stores. We want to use the same company's XML Web Service to perform verification for our new online store. One key goal is to protect the confidentiality of credit card information during online transactions.

#### **Marketing manager**

Currently, we analyze customer spending by examining paper reports that are generated each month by the mainframe computer. These reports provide limited data and we cannot perform any additional analysis of the data. Our online store will require us to analyze data that relates to virtual shopping carts. Analyses must be performed several times each month in a variety of ways, such as by customers, by promotion, by geographical location and by time period.

#### **Users Inventory Manager**

The terminal emulation software is slow and difficult to use. It often causes our computers to stop responding. In addition, we need to remember several different user names and passwords to access our desktop computers and to use the mainframe computer. This requirement is difficult and frustrating. In addition, any out of stock products must be backordered. Backordering status must be logged.

We also must allow our vendors to access our inventory information securely through the Internet. They should not be able to view our other vendors.

#### **Business Process**

SouthEastern Bay Traders obtains products from 15 different vendors. Once a month, a magnetic tape is sent by each of the vendors to the main office of SouthEastern Bay Traders. These tapes are used to update the product data in the mainframe computer. The tapes include data relating to new products and discontinued products. They also include pricing changes for existing products. Each tape provides product names and descriptions in several different languages. Each vendor uses a different format for the data on tape.

## **Questions & Answers**

### **Question: 1.**

You are establishing a new development environment for the online store application. You are using source code control (SCC) software. You plan to use Visual Source Safe. What are the requirements for the VSS server? (Select all that apply)

- A. VSS version 6.0c
- B. Appropriate backup software
- C. Must host the build server as well
- D. Must use Microsoft Windows OS

### **Answer: A, B**

#### **Explanation:**

This question is asking about the software required on the VSS server and not the installation requirements of VSS. The following software is required on the VSS server:

- VSS version 6.0c. This ships with Visual Studio .NET Enterprise Architect and Enterprise Developer versions. It is also available via MSDN on CD/DVD or as a subscriber download.

- Appropriate backup software. The VSS database must be backed up on a regular basis, due to its critical role in the team development process. Use your current backup software and procedures to backup the VSS database.

**Question: 2**

You are creating the data model for a table named Product. This table will contain data relating to products sold by SouthEastern Bay Traders. Each product can belong to more than one category. Categories include furniture, bedding, bath accessories and kitchen goods. Which entity or entities should you model?

- A. A Product entity that contains attributes for two Category names and descriptions
- B. A Product entity that contains attributes for each Category names and descriptions
- C. A Product entity and a Category entity that are related by a ProductID attribute
- D. A Product entity and a Category entity that are related by a ProductName attribute
- E. A Product entity and a Product entity that are related by a ProductID attribute and a CategoryID attribute
- F. A Product entity and a Category entity that are related by a ProductID attribute and a CategoryID attribute
- G. A Product entity, a Category entity and a ProductCategory entity that are related by a ProductID attribute and a CategoryID attribute.

**Answer: G**

**Explanation:**

There is a Many-to-Many relationship between Product and Category but some Relational DBMS (including SQL Server) are not able to model Many-to-Many relations. This would require an additional ProductCategory entity.

**Question: 3**

You need to establish a build server. What software is required on the build server?

(Select all that apply)

- A. Visual Studio .NET
- B. Visual SourceSafe 6.0c (client)
- C. IIS
- D. Message Queuing.

**Answer: A, B**

**Explanation:**

IIS and Message queuing is optional.

**Question: 4**

The online store application needs to be localized. You plan to use the localization support in the Microsoft .NET Framework. Which localization feature or features are feasible? (Choose all that apply)

- A. Support multiple character sets (MBCS)
- B. Support right-to-left mirroring of Web pages
- C. Automatically translate text for different cultures
- D. Automatically convert currency values for different cultures
- E. Support localized resources for different cultures
- F. Support tool tips translation of Web pages
- G. Automatically detect different cultures
- H. Automatically format currency for different cultures

**Answer: E, G, H**

**Explanation:**

Currency formatting and localized resources are supported.

**Question: 5**

You need to streamline the development process with Visual studio .net to meet these requirements:

- Capture architecture and implementation rules and apply them as "active" guidance while developers are building the application.
- Help architects provide developers with relevant Help topics on a "just-in-time" basis What should you use?

- Enterprise templates
- Solutions
- VSS
- Inherit from a base class that meets the above.

**Answer: A**

**Explanation:**

Enterprise Templates provide architects with three capabilities they can use to help developers be more successful building applications with the .NET Framework:

- Capture architecture and implementation rules and apply them as "active" guidance while developers are building the application. Architects can use these rules to filter out options that are not relevant to the project at hand. These rules can provide immediate reminders when developers add items, references, interfaces, class members, or property values to inappropriate parts of the application, helping them avoid common problems.
- Help architects provide developers with relevant Help topics on a "just-in-time" basis to reduce the need to read mountains of documentation before they can begin to write code.

**Question: 6**

What can Enterprise Templates offer? (Select all that apply)

- A. Automatic updates of source codes
- B. Source code management
- C. Source code synchronization
- D. Provides developers with a familiar design experience
- E. Provide application infrastructure that is common and consistent across projects, in areas such as security
- F. Better error handling
- G. A template for error handling
- H. Provides application instrumentation.

**Answer: D, E, G, H**

**Explanation:**

Enterprise Templates helps to package an architect supplied framework of existing code and components in a way that integrates it into Visual Studio .NET, providing developers with a familiar design experience. Architects can use this capability to provide application infrastructure that should be common and consistent across projects, in areas such as security, error handling, and application instrumentation.

**Question: 7**

Towards the end of the development cycle, you notice frequent corruption of the VSS database. What may be the causes? (Select 3 answers)

- A. Network problems
- B. Unreliable remote connection
- C. Running out of disk space.
- D. Improper installation of VSS

**Answer: A, B, C**

**Explanation:**

There are a number of reasons why you may experience database corruption. The most common reasons include:

- General network problems, such as using an unreliable remote connection and dropping the connection mid-way through a file check in.
- Running out of disk space.

**Question: 8**

You are creating the logical design for the online store application. You are retrieving a use casenamed "Customer places an order item in the virtual shopping cart that is out of stock". Whichobject or objects should you include to support the use case? (Choose all that apply)

- A. Transaction object
- B. Virtual shopping cart object
- C. Order item object
- D. Customer object
- E. Logging object
- F. Backordering object

**Answer: D, E, F**

**Explanation:**

The use case clearly specifies nouns (objects) that should be included to support the use case. The manager wants out of stock items to be logged and backordered.

**Question: 9**

The company's inventory management application runs on a mainframe computer. You are creating the functional specification for a new Web application that will provide access to this application. What should you propose to enable access to the mainframe computer?

- A. Microsoft Host Integration Server.
- B. Microsoft Commerce Server 2000
- C. Microsoft SQL 2000
- D. Microsoft Biztalk.

**Answer: A**

**Explanation:**

- a. Host Integration Server provides ActiveX-enabled 3270 and 5250 clients.
- b. Host Integration Server provides Single User Log-On which streamline and reduces management burden by automatically and simultaneously authenticating a user on both the Windows NT domain and on the host system.
- c. Host Integration Server provides low-cost tunneled connectivity through the Internet for client-to-server and network-to-network VPN features.
- d. Host Integration Server 2000 has a Host Print Service which provides server-based 3270 and 5250 print emulation, allowing mainframe and AS/400 applications to print to a LAN printer supported by Windows 2000 and Windows NT Servers.

**Question: 10**

After the online store is implemented, vendors will use data files instead of tape to deliver product update data. However, each vendor uses a different file format. Input files need to be processed to produce output files in a standard format. Output files will be submitted to the mainframe computer. You need to recommend Microsoft Biz Talk Server for file processing. How can you justify it?

- A. It can transform various file formats into one specific file format
- B. It has Data and transformation services and the application integration features
- C. It integrates well with Microsoft SQL 2000
- D. It integrates well with Microsoft Biz Talk Server

**Answer: B**

**Explanation:**

Microsoft Biz Talk Server is able to support for various document types. It has Data and transformation services and the application integration features in BizTalk Server can provide businesses with the tools they need to achieve a unified view of data and applications both within the organization and business partners.

**Question: 11**

The data store you are accessing has a different authentication mechanism than the rest of your application and you have very limited change control over the accounts that can log on to the other system. Which type of account should you use to access Data Access Components?

- A. Service Accounts
- B. Administrator Accounts
- C. Guest Accounts
- D. Impersonate Caller

**Answer: A**

**Explanation:**

Use service accounts when:

- You connect to the underlying data source from an environment in which impersonation of the initial caller is unavailable (for example, Microsoft BizTalk ® Server).
- You have very limited change control over the accounts that can log on to the other system, for example, when logging on to a relational database management system, which is strictly managed by the database administrator.
- The data store you are accessing has a different authentication mechanism than the rest of your application, for example, when you are logging on to a Web service across the Internet.

**Question: 12**

What services must your solution offer? (Select all that apply)

- A. User services
- B. Business services
- C. Data services
- D. System services

**Answer: A, B, C, D**

**Explanation:**

The services that a solution typically provides are:

- User services. User services are units of application logic that provide the user interface in an application. The user services of an application manage the interaction between the application and its users. To design efficient user services, you need a thorough understanding of the users of the application, the tasks that they will perform, and the typical interactions they will have with the application to perform their activities.
- Business services. Business services are units of application logic that enforce business rules in the correct sequence. A business service hides the logic of implementing business rules and transforming data from the user services, other business services, and data services.
- Data services. Data services are units of application logic that provide the lowest visible level of detail for manipulating data. You use data services to implement business schema on the data store being used by the application. Data services are used to manage all kinds of data—static, structured, and dynamic. You use data services in all scenarios in which a user or business service needs to access or work with data.
- System services. System services are the units of application logic that provide functionality outside the business logic. Common system services include:

**Question: 13**

You want to reuse the functions in ASP that the company has developed earlier. How can you ensure performance is maximized when compiling? (Select the best)

- A. Use early binding
- B. Use late binding
- C. Disable ASPCompat
- D. Turn On Option Strict and Explicit

**Answer: A**

**Explanation:**

Visual Basic 6 does a lot of work under the hood to support casting of objects, and many programmers aren't even aware of it. In Visual Basic 7, this is an area that out of which you can squeeze a lot of performance. When you compile, use *early binding*. This tells the compiler to insert a Type Coercion is only done when explicitly mentioned. This has two major effects:

- Strange errors become easier to track down.
- Unneeded coercions are eliminated, leading to substantial performance improvements.

**Question: 14**

What strategies should you use to distribute your components into separate assemblies? (Select all that apply)

- A. Create a separate assembly for each component type
- B. Avoid deploying one assembly into multiple locations
- C. Avoid deploying one assembly into a single location
- D. Consider having more than one assembly per component type
- E. Split into more than one assembly when the size is too large

**Answer: A, B, D**

**Explanation:**

Many factors affect how you distribute your components into separate assemblies. The following recommendations will help you make the appropriate choices for your application size, team composition and distribution, and management processes:

- Create a separate assembly for each component type. Using separate assemblies for data access components, business components, service interfaces, business entities, and so on gives you basic flexibility for deployment and maintenance of the application.
- Avoid deploying one assembly into multiple locations. Deploying the same components in multiple places increases the complexity of your deployment and management processes, so carefully consider whether you can consolidate all deployments into one physical tier, or whether you should use more than one assembly for a particular component type.
- Consider having more than one assembly per component type. Not all components of the same type follow the same development and maintenance cycles. For example, you may have multiple service agent components abstracting service calls for multiple business partners. In this case, it may be better to create one assembly per business partner to simplify versioning. Consider the following factors when deciding whether to use more than one assembly per component type:.

**Question: 15**

You realize data access is rather slow. You want to remove any optional commands. The code is shown below:

```
public DataSet SelectSqlSrvRows(DataSet dataset,string connection,string query){ SqlConnection conn = new SqlConnection(connection); SqlDataAdapter adapter = new SqlDataAdapter(); adapter.SelectCommand = new SqlCommand(query, conn); adapter.MissingSchemaAction = MissingSchemaAction.AddWithKey; adapter.Fill(dataset); return dataset; }
```

How can you optimize this data access code? (Select the best)

- A. Do not set MissingSchemaAction.Add with key
- B. Use a stored procedure to replace the code
- C. Use a trigger to replace the code
- D. Use OLEDB classes

**Answer: A**

**Explanation:**

When filling a dataset with the data adapter, it is best not to get primary key information if you do not have to.

**Question: 16**

You need to optimize data access. Which strategy should you use? (Select the best)

- A. Pick data reader over data set when you can
- B. Use more triggers
- C. Perform more data validation
- D. Use more constraints on data defined in the database

**Answer: A**

**Explanation:**

Use a data reader whenever when you don't need to keep the data lying around. This allows a fast read of the data, which can be cached if the user desires.

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