



Exam : 070-554

**Title : UPGRADE: MCSD Microsoft .NET Skills
to MCPD Enterprise Application
Developer by Using the Microsoft .NET
Framework: Part 2**

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QUESTION 1

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The access control to Web services is part of your responsibility. To this end you are currently exposing an existing class as an Extensible Markup Language (XML) Web service. You need to ensure that this Web service is accessible exclusively accessible to Web service clients within the Certkiller .com domain. To comply with this requirement you need to change the access modifiers on methods that must be exposed as Web methods.

What should you do?

- A. For each Web method, use the Internal or Friend Access modifier.
- B. For each Web method, use the Private Access modifier.
- C. For each Web method, use the Public Access modifier.
- D. For each Web method, use the Protected Access modifier.

Answer: C

Explanation: Since only Public methods can be exposed as Web methods, you should make use of the Public Access modifier for each Web method.

Incorrect answers:

A: You cannot use the Internal or Friend Access method, only Public Access method can be exposed as Web methods.

B: You cannot use the Private Access method, only Public Access method can be exposed as Web methods.

D: You cannot use the Protected Access method, only Public Access method can be exposed as Web methods.

QUESTION 2

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The following exhibit illustrates the class definition for a data processing Web service:

Exhibit:

```
[WebService(Namespace="urn:DataProcessingService")]
Public class DataProcessingService : Webservice
{
    [WebMethod(MessageName="ProcessDataSet")]
    Public void Process(DataSet dataset)
    {
    }
}
```

You have been instructed to apply an attribute to the Process method that will

result in an immediate return to the caller without invoking a SOAP response. You need to ensure that the attribute that you apply in your solution is Web Services-Interoperability (WS-I) compliant. You thus need to make use of a code segment.

What should you do?

- A. Use the [OneWay] code segment.
- B. Use the [WebMethod(BufferResponse=false)] code segment.
- C. Use the [WebMethod(BufferResponse=true)] code segment.
- D. Use the [SoapDocumentMethod(OneWay=true)] code segment.
- E. Use the [SoapRpcMethod(OneWay=true)] code segment.

Answer: D

Explanation: If you want the Web method to be WS-I compliant then you should apply the SoapDocumentMethod attribute to the Process method. Setting the attribute of the OneWay property to true indicates an immediate return to the caller without a response when it is invoked.

Incorrect answers:

A: You should not apply the OneWay attribute to the Process method. This attribute is used with .NET Remoting components when a method should immediately return to the caller without a return value.

B: You should not apply a second Web method. Only one WebMethod attribute can be applied to a Web method. Furthermore, the BufferResponse property of the WebMethod attribute does not determine if execution returns to the caller immediately when the associated method is invoked. It determines whether the entire response is placed in memory before it is sent to the caller. However, in this case no responses should be returned.

C: One does not apply a second Web method as suggested in this option.

E: RPC style is not WS-I compliant.

QUESTION 3

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Certkiller .com is a Publishing and distribution company and works in joint ventures with many book stores that carries it products.

The provision of stock on hand updates to third party companies (the book stores) forms part of your responsibilities at Certkiller .com. You are currently developing an Extensible Markup Language (XML) Web Service that provides stock on hand updates. To this end you created a Web method named GetStock that accesses the third party company's XML Web service to retrieve the required information.

Following are some factors that you need to keep in mind:

1. The third parties' XML Web Service updates it information regarding stocks once every hour.
2. Certkiller .com is charged for each call to the third party Web service.

It is thus essential that you limit the number of calls that the Certkiller .com Web service makes to the third party company's Web service:

1. Thus you apply the Webmethod attribute to the GetStock method.
2. You need to configure the attribute to limit the number of calls to the third party Web service.
3. You must ensure that no cookies are required.

What should you do?

- A. The CacheDuration property should be set to 3600
- B. The EnableSession property should be set to true.
- C. The MessageName property should be set to "ClientCache".
- D. The BufferResponse property should be set to false.

Answer: A

Explanation: This property specifies the number of seconds that a response from a Web method should be cached on a server. With this property set to 3600, you will limit the number of calls to the third party Web service by limiting the number of invocations of your GetStock Web method to once every hour.

Incorrect answers:

B: The EnableSession property indicates whether a session should be enabled to the Web method. Server-side session state, which includes the Application and Session objects, can use a lot a memory on the Web server. Session state requires the use of cookies as well. Thus you should not use this property.

C: The MessageName property distinguishes overloaded Web methods. In Web services Description Language (WSDL) documents, each Web method must be named uniquely and the MessageName property is involved in meeting this requirement. This is not what should happen in this scenario.

D: The BufferResponse property determines whether the entire response is placed in memory on the server before it is sent to the Web Service client. You should thus not set this property to false.

QUESTION 4

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The Extensible Markup Language (XML) Web service development forms part of your responsibilities at Certkiller .com. You are currently developing an Extensible Markup Language (XML) Web Service that contains four Web methods. Each of these four methods accepts a different number of parameters and each method is configured to make use of remote procedure call (RPC) SOAP formatting. You must ensure that each of these four Web methods is capable of being exposed as a Web method by the Web service.

What should you do?

- A. The SoapDocumentMethod attribute should be applied to each of the four methods.

Then set the RequestNamespace property of each attribute to a different value.

B. The WebService attribute should be applied to the Web service's class.

Then set the Namespace property of the attribute to "RPC".

C. The WebMethod attribute should be applied to each of the four web methods.

Then set the MessageName property of each attribute to a different value.

D. The SoapRpcService attribute should be applied to the Web service's class.

Then set the RoutingStyle property of the attribute to

SoapServiceRoutingStyleRequestElement.

Answer: C

Explanation: When you overload Web methods, you need to specify a distinct message name for each web method because Web Services Description Language (WSDL) does not support overloaded operations. You thus need to apply the WebMethod attribute to each of the four methods and set the MessageName property of each of these attributes to a different value.

Incorrect answers:

A: Because the Web methods must make use of RPC formatting, you should apply the SoapRpcMethod attribute to each of the four methods, you cannot apply both a SoapDocumentMethod attribute and a SoapRpcMethods attribute to the same method.

B: The Namespace attribute of the WebService attribute allows you to designate an XML namespace for the operations that are supported by the Web Service, not to ensure exposure.

D: Though it is possible to apply the SoapRpcService attribute to the class OR the SoapRpcMethod attribute to each method to support RPC formatting, it does not allow for overloaded methods to be exposed as Web methods. In this case the methods are already configured to make use of RPC formatting which actually indicates that one of the two attributes is already applied.

QUESTION 5

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The ASP.NET Web application development forms part of your responsibilities at Certkiller .com. You are currently developing an ASP.NET Web application that contains three Web services and eight Web pages. You further received instructions to deploy the application to a production server named Certkiller -SR03. You need to ensure that no human-readable code is stored on the Web server when you deploy the application.

What should you do?

A. The Web Application should be built in Visual Studio 2005.

Copy only the files in the bin folder to the production server using the XCOPY command.

B. The Web application should be copied to Certkiller -SR03 using the Visual Studio 2005 Copy Web Site tool.

Select the option to copy only the files required to run the application.

C. The Web application should be published to Certkiller -SR03 using the Visual Studio 2005 Publish Web Site tool.

Unselect the checkbox that enables the "allow the precompiled site to be updatable" option.

D. The Web application should be published to Certkiller -SR03 using the Visual Studio 2005 Publish Web Site tool.

Select the checkbox that enables the "allow the precompiled site to be updatable" option.

Answer: C

Explanation: Publishing the Web application to Certkiller -SR03 will allow Visual Studio 2005 to precompile the application. Further you should also unselect the option that allows the precompiled site to be updatable. This will indicate that files with extensions like .aspx and .asmx should be precompiled and unavailable in human-readable form.

Incorrect answers:

A: Making use of the XCOPY command will yield Web pages that will contain human readable code. By default, the assemblies in the bin folder correlate with declarative code in Web pages, which are not copied to the bin folder during compilation. This will require that you copy the Web pages as well.

B: You cannot precompile Web pages into assemblies using the Copy Web Site tool. Besides Web pages contains human readable code.

D: When you select the option to allow precompiled site to be updatable, then the Web pages will exist on the Web server and Web pages contains human readable code.

QUESTION 6

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Certkiller .com operates as a credit bureau.

The development of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently developing an Extensible Markup Language (XML) Web Service that will allow legitimate third parties to access credit scores, pull credit records, and update credit information for customers. You need to implement a Web method named ObtainCreditScore. ObtainCreditScore should accept a String parameter and return an integer. You need to make use of Remote Procedure Call (RPC) style for this Web method; you also need to make use of the Document style for all Web methods that will be implemented. To this end you need to make use of the appropriate code segment for the Web service.

What should you do?

A. [WebService(Namespace="urn: Certkiller ")]
[SoapRpcService]
public class CreditService


```
{  
[WebMethod]  
public int ObtainCreditScore(string customerIdentifier)  
{  
return 0;  
}  
}
```

```
B. [WebService(Namespace="urn: Certkiller ")]  
public class WebService  
{  
[SoapRpcMethod]  
public int ObtainCreditScore(string customerIdentifier)  
{  
return 0;  
}  
}
```

```
C. [WebService(Namespace="urn: Certkiller ")]  
public class CreditService  
{  
[WebMethod]  
[SoapRpcMethod]  
public int ObtainCreditScore(string customerIdentifier)  
{  
return 0;  
}  
}
```

```
D. [SoapRpcService]  
public class WebService  
{  
[WebMethod]  
[SoapRpcMethod]  
public int ObtainCreditScore(string customerIdentifier)  
{  
return 0;  
}  
}
```

Answer: C

Explanation: the WebMethod and SoapRpcMethod attributes should be added to the ObtainCreditScore Web method. The WebMethod attribute in essence makes the method accessible by Web service clients. And the SoapRpcMethods instructs the Web Services Description Language (WSDL) generator to set the style attribute to Rpc for the ObtainCreditScore operation element.

Incorrect answers:

A, B: You must not apply the SoapRpcService attribute to the class because it will

instruct the WSDL generator to set the style attribute to rpc instead of document style.
D: The WebMethod attribute and NOT the SoapRpcService attribute should be applied to the ObtainCreditScore method to make the method accessible to the Web service clients.

QUESTION 7

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The implementation of trace listeners forms part of your responsibilities at Certkiller .com. You are currently busy implementing a custom trace that logs errors and warnings in a Microsoft SQL Server 2005 database. The custom trace implementation must allow individual applications to determine whether errors or warnings should be logged at a given time. To this end you install the assembly that contains the trace listener in the global assembly cache (GAC) on an application server.

You need to enable all Web services on the application server to use the trace listener by default. You should ensure that your solution does not force Microsoft Windows Forms applications that run on the server to use the trace listener. What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. The trace listener should be added to the Web.config file for each Web service.
- B. The trace listener should be added to the global Web.config file.
- C. The trace listener should be added to the machine.config file.
- D. Specify trace switches for each Web service in the Web.config file.
- E. Specify trace switches in the machine.config file.

Answer: B, D

Explanation: The global Web.config file contains the configuration settings for all the Web applications on a computer. When the trace listener is added to the global Web.config file you will enable all Web services on the application server to use the trace listener by default. You should also specify trace switch settings in the Web.config file for each web service. This in turn will allow you to determine if errors or warnings are logged to the database on a per Web service basis.

Incorrect answers:

- A: You should not add the trace listeners to the Web.config file for each Web service. You should enable the trace listener setting by default which can be done by changing the global Web.config file.
- C: The trace listener should not be added to the machine.config file. It will cause the Windows Forms to inherit the settings by default because the machine.config file contains configuration settings for all applications on a computer.
- E: You should not specify trace switches in the machine.config file. Each Web service must define the switches to control whether errors or warnings are logged for that Web service.
-

QUESTION 8

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The deployment of Web services forms part of your responsibilities at Certkiller .com.

You are currently busy copying a Microsoft Extensible Markup Language (XML)

Web Service from a development server using the Copy Web Site tool. You then

discover that in the event of users navigating to

<http://www.Certkiller.zzz/LocationService.asmx>, they encounter an exception message in their browsers as follows:

Request format is unrecognized.

However, the message is not displayed when you test the Web service from a development server. When users navigate to this page, they should be able to view the automatically generated ASP.NET runtime Help page. You now need to ensure that users will be able to view the Help page without interfering with the deployment of other Web services on the production server.

What should you do?

A. You should add

```
<configuration>
<system.web>
<webServices>
<wsdlHelpGenerator href="#WSDL"/>
</webServices>
</system.web>
</configuration>
```

to the machine.config file on the Web server.

B. You should add

```
<configuration>
<system.web>
<webServices>
<wsdlHelpGenerator href="#WSDL"/>
</webServices>
</system.web>
</configuration>
```

to the Web.config file on the Web server.

C. You should add

```
<configuration>
<system.web>
<webServices>
<protocols>
<add name="Documentation"/>
</protocols>
</webServices>
</system.web>
</configuration>
```

to the Web.config file for the Web service.

D. You should add

```
<configuration>
<system.web>
<webServices>
<protocols>
<add name="Documentation"/>
</protocols>
</webServices>
</system.web>
</configuration>
```

to the machine.config file on the Web server.

Answer: C

Explanation: the Documentation protocol should be added to the collection of protocols supported by ASP.NET Web services. This will allow the ASP.NET runtime to display a Help page when navigating to a Web service in a Web browser. If the Documentation protocol is disabled in either the machine.config file or the Web.config file for a Web application, the exception message will be displayed. Because this problem occurs on the production Web server and not the development Web server, the machine.config file must be configured to disallow the Documentation protocol.

Incorrect answers:

A: You should not set the WSDL Help generator page by setting the href attribute of the HelpGenerator element. This element allows you to specify a custom Help page rather than the automatically generated one. Furthermore this is the wrong location to be adding this configuration.

B: You should not set the WSDL Help generator page by setting the href attribute of the HelpGenerator element. This element allows you to specify a custom Help page rather than the automatically generated one.

D: The Documentation protocol should not be added in the machine.config file. In such a case it will affect the other Web services that are running on the production web server, especially since the question requires you to disallow the Documentation protocol for all the other Web services.

QUESTION 9

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently developing an Extensible Markup Language (XML) Web Service that will be accessed by SOAP clients. To this end you need to specify the parameter formatting to result in a Web service that is Web Services Interoperability (WS-I) compliant.

What should you do?

- A. Make use of Remote Procedure Call (RPC)-literal formatting.
- B. Make use of Document-literal formatting.
- C. Make use of Remote Procedure Call (RPC)-encoded formatting.
- D. Make use of Document-encoded formatting.

Answer: B

Explanation: You need to make use of the document-literal Web method with wrapped parameter styles to comply with the WS-1 standard.

Incorrect answers:

A: RPC formatting always encapsulates parameters as elements within a single body element. The WS-1 standard does not support RPC formatting.

C: RPC formatting is not supported in the WS-1 standard, whether it is in literal or encoded form.

D: You should not make use of document-encoded formatting. This indicates that the parameter elements must explicitly specify their types and it does not comply with the WS-1 standard.

QUESTION 10

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently developing an Extensible Markup Language (XML) Web Service that will allow Certkiller .com to locate the delivery trucks that it provides to companies. The Web service clients will send a similar request to the one illustrated below:

Exhibit:

```
<soap:envelope>
<soap:body>
<GetLocation xmlns=urn:gov:DOT">
<mobilePhoneNumber>000-000-0000</mobilePhoneNumber>
</GetLocation>
</soap:body>
</soap:envelope>
```

To this end you need to configure the attribute to enable it to support the SOAP request.

What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. Set the Use property to SoapDocumentUse.Literal.
- B. Set the Use property to SoapDocumentUse.Encoded.
- C. Set the ParameterStyle property to SoapParameterStyle.Bare.
- D. Set the ParameterStyle property to SoapParameterStyle.Wrapped.

Answer: A, D

Explanation: SoapDocumentUse.Literal indicates that literal formatting should be used. Thus parameter elements do not have to explicitly specify their types because the elements will then be included in the definitions section of the WSDL document. SoapParameterStyle.Wrapped indicates that the parameter elements must exist within a single child element of the body element. This can be seen in the illustration that indicates that the mobilePhoneNumber parameter element does not explicitly define its type, and that it exists as a child element of an element that is named GetLocation, which in turn is a child of the body element.

Incorrect answers:

B: You should not set the Use property to SoapDocumentUse.Encoded as it indicates that parameter elements must explicitly specify their types.

C: You should not set the ParameterStyle property to SoapParameterStyle.Bare as it indicates that parameter may exist as immediate children of the body element in the SOAP request.

QUESTION 11

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently developing an Extensible Markup Language (XML) Web Service that will allow Certkiller .com to locate the delivery trucks that it provides to companies. The Web service clients will send a SOAP similar to the one illustrated below:

Exhibit:

```
<soap:envelope>
<soap:body>
<mobilePhoneNumber xmlns=urn:gov:DOT">000-000-0000</mobilePhoneNumber>
</soap:body>
</soap:envelope>
```

TO this end you create a Web method named GetLocation and apply the appropriate SoapDocumentMethod attribute to this method. Now you need to configure the attribute to enable it to support the SOAP request.

What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. Set the Use property to SoapDocumentUse.Literal.
- B. Set the Use property to SoapDocumentUse.Encoded.
- C. Set the ParameterStyle property to SoapParameterStyle.Bare.
- D. Set the ParameterStyle property to SoapParameterStyle.Wrapped.

Answer: A, C

Explanation: SoapDocumentUse.Literal indicates that literal formatting should be used. Thus parameter elements do not have to explicitly specify their types because the

elements will then be included in the definitions section of the WSDL document. SoapParameterStyle.Bare as it indicates that parameter may exist as immediate children of the body element in the SOAP request. This can be seen in the illustration that indicates that the mobilePhoneNumber parameter element does not explicitly define its type, and that it exists as a child element of the body element.

Incorrect answers:

B: You should not set the Use property to SoapDocumentUse.Encoded as it indicates that parameter elements must explicitly specify their types.

D: You should not set the ParameterStyle property to SoapParameterStyle.Wrapped indicates that the parameter elements must exist within a single child element of the body element..

QUESTION 12

You work as the Microsoft.NET developer at Certkiller .com. Certkiller .com operates as an agency that specializes in the placement of various breeds of pedigreed animals, servicing at least ten different countries on two continents. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently developing an Extensible Markup Language (XML) Web Service that will return biological images in SOAP messages. Due to the size of these messages, you decided to create a class named CompressionSoapExtension to compress the SOAP responses. You thus need to implement the ProcessMessage method to encrypt the SOAP responses.

What should you do?

- A. Encrypt the message if the Stage property of the Soapmessage parameter is set to SoapMessageStage.BeforeDeserialize.
- B. Encrypt the message if the Stage property of the Soapmessage parameter is set to SoapMessageStage.BeforeSerialize.
- C. Encrypt the message if the Stage property of the Soapmessage parameter is set to SoapMessageStage.AfterDeserialize.
- D. Encrypt the message if the Stage property of the Soapmessage parameter is set to SoapMessageStage.AfterSerialize.

Answer: D

Explanation: You should compress the message if the Stage property of the SoapMessage instance is set to SoapMessageStage.AfterSerialize. The Stage property represents the stage in serialization and deserialization process of a SOAP message. At this stage, the Web method has been invoked and the output parameter and return value have been fully serialized into an XML message. This will allow you to compress the message before it is sent back to the Web service client.

Incorrect answers:

A: If you set the Stage property of the SoapMessageStage.BeforeDeserialize, then the

input parameters to a Web method would not be deserialized into input parameters.

B: If you set the Stage property of the SoapMessageStage.BeforeSerialize, then the Web method will be invoked, but the output parameters and return value will not have been serialized into an XML message.

C: If you set the Stage property of the SoapMessageStage.AfterDeserialize, then the input parameters to the Web method will be serialized into input parameters, but the Web method would not yet have been invoked.

QUESTION 13

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Certkiller .com operates as a pharmaceutical company with many branch offices that are located worldwide. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You have just developed and deployed an Extensible Markup Language (XML) Web Service that will allow for the exchange of encrypted SOAP messages between the different Certkiller .com branch offices. The assembly that contains the Web service also contains a SOAP extension class named EncryptionExtension that encrypts the SOAP messages. Due to the size of some of the messages, you implemented a second SOAP extension class named CompressionExtension that compresses SOAP messages. This class exists in the SoapUtilities namespace in an assembly named SoapUtilities.dll

You must modify the Web.config file for the Web service to ensure that compression occurs after encryption.

What should you do? (Choose the correct configuration from the given options.)

A. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

Priority="0"

Group="0"/>

</soapExtensionTypes>

</webServices>

</system.web>

</configuration>

B. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

Priority="1"

Group="0"/>

</soapExtensionTypes>


```
</webServices>
</system.web>
</configuration>
C. <configuration>
  <system.web>
    <webServices>
      <soapExtensionTypes>
        <add type="SoapUtilities.CompressionExtension,SoapUtilities"
          Priority="1"
          Group="1"/>
      </soapExtensionTypes>
    </webServices>
  </system.web>
</configuration>
D. <configuration>
  <system.web>
    <webServices>
      <soapExtensionTypes>
        <add type="SoapUtilities.CompressionExtension,SoapUtilities"
          Priority="2"
          Group="0"/>
      </soapExtensionTypes>
    </webServices>
  </system.web>
</configuration>
```

Answer: C

Explanation: You can either apply a SoapExtension-derived attribute to a Web method or specify the SOAP extension in the Web.config file when configuring a Web service to use SOAP extensions. When specified in the Web.config file, the extension is executed for all Web methods defined for the Web service. The execution processing order of SOAP extensions are:

1. All SOAP extensions that are members of group 0 are executed.
2. All SOAP extensions that are specified declaratively as attributes are executed.
3. All SOAP extensions that are members of group 1 are executed.

Incorrect answers:

A, B, C: You should not set the group number to 0 as it will result in compression to occur before encryption.

QUESTION 14

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

Certkiller .com operates as a pharmaceutical company with many branch offices that are located worldwide.

The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You have just developed and deployed an Extensible Markup Language (XML) Web Service that will allow other companies to submit encrypted SOAP messages to Certkiller .com. The assembly that contains the Web service also contains a SOAP extension class named EncryptionExtension that decrypts the SOAP messages that represents the medical records. Due to the size of some of the messages, you implemented a second SOAP extension class named CompressionExtension that decompresses compressed SOAP messages. This class exists in the SoapUtilities namespace in an assembly named SoapUtilities.dll

You must modify the Web.config file for the Web service to ensure that decompression occurs before decryption.

What should you do? (Choose the correct configuration from the given options.)

A. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

Priority="0"

Group="1"/>

</soapExtensionTypes>

</webServices>

</system.web>

</configuration>

B. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

Priority="1"

Group="1"/>

</soapExtensionTypes>

</webServices>

</system.web>

</configuration>

C. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

Priority="1"

Group="0"/>

</soapExtensionTypes>

</webServices>

</system.web>

```
</configuration>
D. <configuration>
<system.web>
<webServices>
<soapExtensionTypes>
<add type="SoapUtilities.CompressionExtension,SoapUtilities"
Priority="2"
Group="1"/>
</soapExtensionTypes>
</webServices>
</system.web>
</configuration>
```

Answer: C

Explanation: You can either apply a SoapExtension-derived attribute to a Web method or specify the SOAP extension in the Web.config file when configuring a Web service to use SOAP extensions. When specified in the Web.config file, the extension is executed for all Web methods defined for the Web service. The execution processing order of SOAP extensions are:

1. All SOAP extensions that are members of group 0 are executed.
2. All SOAP extensions that are specified declaratively as attributes are executed.
3. All SOAP extensions that are members of group 1 are executed.

Incorrect answers:

A, B, C: You should not set the group number to 1 as it will result in decompression to occur after decryption.

QUESTION 15

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development of applications forms part of your responsibilities at Certkiller .com.

You are currently developing an application that monitors a network for changes.

The application itself consists of a Microsoft ASP.NET Web application and a Microsoft .NET Remoting server component. Both of these exist on the same server but run in different processes. Policies and rules for monitoring the network are stored in a Microsoft SQL Server 2005 database. The server component contains a class named Monitor. This class contains a method named GetChanges that returns a DataSet instance. Changes to the network are represented by DataSet. When initiated the Monitor class will retrieve all policies and rules from the database. You need to code the host application for the remote component to register the Monitor class for .NET Remoting. However, you do not want the remote component to query the database each time the GetChanges method is called. This means that you should configure a certain code segment.

What should you do?

A. TcpClientChannel channel = new TcpClientChannel[];
ChannelServices.RegisterChannel[channel,false];
Remoting configuration.RegisterWellKnownServiceType[typeof[Monitor],
"Monitor.rem",WellKnownObjectMode.SingleCall;
B. IpcServerChannel channel = new IpcServerChannel["MonitorHost"];
ChannelServices.RegisterChannel[channel, false];
RemotingConfiguration.RegisterWellKnownServiceType[typeof[Monitor],
"Monitor.rem",WellKnownObjectMode.Singleton];
C. IpcServerChannel channel = new IpcServerChannel["Monitor"];
ChannelServices.RegisterChannel[channel,false];
RemotingConfiguration.RegisterWellKnownServiceType[typeof[Monitor],
"Monitor.rem",WellKnownObjectMode.SingleCall;
D. TcpClientChannel channel = new TcpClientChannel[];
ChannelServices.RegisterChannel[channel, false];
RemotingConfiguration.RegisterWellKnownServiceType[typeof[Monitor],
"Monitor.rem",WellKnownObjectMode.Singleton];

Answer: B

Explanation: The IPC channel allows an application to communicate with a remote object in a different application domain running the same process or in a different process on the same computer.

You should also use the Monitor class as a singleton object by calling the RegisterWellKnownServiceType method of the RemotingConfiguration class and specifying WellKnownObjectMode.Singleton. Singleton objects has a lifespan that is determined by the .NET Remoting Lease Manager. When initiated, a Singleton object releases its memory until its lease expires. Thus the constructor will not be called with every remote method invocation. This is because the Monitor class queries the database in the constructor and the Singleton method ensures that the class does not query the database with every call to GetChanges.

Incorrect answers:

A: Though you can, you should not register a TcpClientChannel instance. IPC is preferred when using the same computer for intercommunication. If using TCP, you must register a TcpServerChannel instance. And then you would need to register a TcpClientChannel instance in the client application.

C: The Monitor class should not be registered as a single-call object. These objects have a lifetime of a single method call and thus their constructors are called with every method that is invoked, which in turn would cause each invocation to GetChanges to query the database.

D: IPC is preferred over TCP in this case and you should rather be making use of the singleton object.

QUESTION 16

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You are currently developing a Microsoft.NET Remoting component that will be accessed over the Certkiller .com local area network (LAN). To this end you create a console application named RemoteHost.exe to serve remote calls to the component. You added Remoting configuration settings in the app.config file of the console application's project. Now you need to configure the host application to use those configuration settings that has been added in the app.config file.

What should you do? (Choose the appropriate code segment.)

- A. `RemotingConfiguration.Configure["@bin\Release\app.config",false];`
- B. `RemotingConfiguration.Configure["app.config",false];`
- C. `RemotingConfiguration.Configure["@bin\Debug\RemoteHost.exe.config", false];`
- D. `RemotingConfiguration.Configure["RemoteHost.exe.config",false];`

Answer: D

Explanation: When passing the "RemoteHost.exe.config" to the configure method of the RemotingConfiguration class, then the app.config file is copied to the runtime directory and renamed to the executable file with ".config" affixed after you compile a console application.

Incorrect answers:

A: You should not pass "bin\Release\app.config" to the Configure method because this is a project file and not a runtime file.

B: You should not pass "app.config" to the Configure method because this is a project file and not a runtime file.

C: You should not pass "bin\Debug\RemoteHost.exe.config" to the configure method because the RemoteHost.exe.config file exists in the same folder as RemoteHost.exe. This means that you should only be passing the configuration file to the method.

QUESTION 17

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You are currently developing a Microsoft.NET Remoting component that will allow all Certkiller .com employees to send messages and receive messages to each other. To this end you implement the message functionality in an assembly named Messenger.dll. Messenger.dll contains the remotable types. You further implement a host application to host the remotable types and a client application that will provide the user interface.

The Messenger.dll assembly must be private to the application and thus you use both client and server configuration files to configure .NET Remoting. Keep in mind that you are not using any custom .NET Remoting extensions, i.e. custom formatters or custom channels. You thus need to configure the application so that you can use strongly-typed instances of the remotable types in the client application.

What should you do?

- A. You should install the Messenger.dll assembly as a private component into the COM+ catalog.
- B. You should install the Messenger.dll assembly into the global assembly cache (GAC).
- C. You should add a reference to the Messenger.dll assembly in the client application.
- D. You should add a reference to the Messenger.dll assembly in the remote host application.

Answer: C

Explanation: This option will allow you to access the types in a strongly-typed manner. Even when instances of these types will be proxy instances at run time, the instances will be marshaled between the client and remote host applications.

Incorrect answers:

A: This option will allow the other COM+ components in the same COM+ application to access the component. Furthermore it will also require the types defined in the Messenger.dll assembly to be hosted by the COM+ hosting process, and in this case the types are hosted by a custom remote host application.

B: The assembly should not be installed in the GAC because the GAC allows for the sharing of assemblies. One requirement is to have the Messenger.dll assembly private to the application.

D: The reference to the Messenger.dll assembly should not be added in the remote host assembly. This will make allowance for using strongly typed instances within the remote host application and not the client application.

QUESTION 18

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You have just completed developing and deploying a Microsoft.NET Remoting component to a server computer.

Microsoft Internet Information Services (IIS) 6.0 is hosting the component. The component runs in an application pool that is configured with the default identity. You received instruction to debug the remote component. You want to do so from your development computer.

What should you do?

- A. Ensure that you have administrative privileges on the server computer. Then attach the debugger to the generic service host process [scvhost.exe] on the server computer.
- B. Ensure that you have membership of only the Debugger Users group on the server computer. Then attach the debugger to the ASP.NET Worker Process [w3wp.exe] on the server computer.

- C. Ensure that you have administrative privileges on the server computer.
Then attach the debugger to the ASP.NET Worker Process [w3wp.exe] on the server computer.
- D. Ensure that you have administrative privileges on the server computer.
Then attach the debugger to the COM+ hosting process [dllhost.exe] on the server computer.

Answer: C

Explanation: You will need administrative privileges on the server computer since only users with administrative privileges can debug remote processes when the process runs under the Network Service account. Since the remote component is hosted by IIS, it means that it is hosted by the w3wp.exe process. And this process runs each application pool under the Network Service Account by default.

The w3wp.exe process is the ASP.NET process used to host ASP.NET Web applications, -Web services and .NET Remoting components that are hosted by IIS. Thus the debugger should be attached to the ASP.NET Worker Process [w3wp.exe] on the server computer.

Incorrect answers:

- A: The svchost.exe process is used to host Microsoft Windows services that are implemented in DLLs. This should not be attached to the debugger.
- B: Members of the debugger Users group on the server computer with non-administrative privileges can debug remote processes only if the processes do not run under the Network Service account. This is not the case in this question.
- D: You should not attach the debugger to the dllhost.exe process as this process is used to host COM+ server applications.

QUESTION 19

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You have just completed developing a Microsoft.NET Remoting component that will be used by applications within Certkiller .com. Microsoft Internet Information Services (IIS) 6.0 will be hosting the component. You need to specify a channel and formatter to use so that successful communication can take place between the applications and the remote component. What should you do?

- A. Make use of a Transmission Control Protocol (TCP) channel with a SOAP formatter.
- B. Make use of a Hypertext Transfer Protocol (HTTP) channel with a SOAP formatter.
- C. Make use of an Inter-process Communication (IPC) channel with a binary formatter.
- D. Make use of a Transmission Control Protocol (TCP) channel with a binary formatter.

Answer: B

Explanation: Because IIS is supported by the HTTP channel you should make use of an

HTTP channel with a SOAP formatter.

Incorrect answers:

A: Making use of a TCP channel with a SOAP formatter will not work since only a HTTP channel can support IIS.

C: Making use of an IPC channel with a binary formatter will not work since only a HTTP channel can support IIS.

D: Making use of a TCP channel with a binary formatter will not work since only a HTTP channel can support IIS.

QUESTION 20

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You are currently developing a Microsoft.NET Remoting component that will be used to accept connections over a binary inter-process communication (IPC) channel. You make use of a configuration file to configure the remote host application for .NET Remoting. The component works as expected when you test the component from a client application after you have done the configuration.

You then implement an event to notify client implications about any changes to the state of the component. The delegate that declares the event specifies an EventArgs-derived class named StateChangeEventArgs as its second parameter. This now results in a SecurityException instance being invoked when a client application attempts to attach a delegate to the event. This SecurityException instance is thrown with the following message:

Type System.DelegateSerializationHolder and the types derived from it (such as SystemDelegateSerializationHolder) are not permitted to be serialized at this security level.

You need to prevent this exception from being thrown.

What should you do?

A. Code access security to demand full trust permissions immediately before the configuration of the remote host application to accept remote connections should be used.

B. <serverProviders>

<Formatter ref="binary" typeFilterLevel="Full"/>

</serverProviders>

should be added to the channel element in the server configuration file.

C. The remote component should be hosted in Internet Information Services (IIS) 6.0 without changing the channel or the formatter.

Then configure a virtual directory to make use of integrated Windows authentication only.

D. The StateChangeEventArgs class should be derived from MarshalByRefObject. Then apply the Serializable attribute to the StateChangeEventArgs class.

Answer: B

Explanation: you need to configure the binary formatter for full serialization. .NET Remoting makes use of low serialization by default. This results in the fact that only basic common language runtime (CLR) types are deserialized. For the full deserialization of delegates you should configure the binary formatter by setting the typeFilterLevel attribute of the formatter element to Full.

Incorrect answers:

A: The remote host application should not be configured to demand full trust permissions as it will not allow the remote component to deserialize delegates.

C: The IIS should not host the remote component. IIS only supports HTTP channels and in this case you are using IPC.

D: The StateChangeEventArgs class should not be derived from MarshalByRefObject. Instances of marshal-by-reference types are not transmitted across application domains.

QUESTION 21

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development of client applications forms part of your responsibilities at Certkiller .com. You are currently developing a client application that will use Microsoft.NET Remoting to access functionality implemented by a remote component. This remote component is exposed through the HyperText Transfer Protocol (HTTP) channel. Furthermore the remote component will make use of the default formatter to serialize and deserialize data.

You now need to configure the client application in such a way so as to enable it to serialize data in a form that is expected by the remote component. You may not use custom channels and formatters.

What should you do? (Choose the correct configuration.)

- A. <configuration>
<system.runtime.remoting>
<application>
<channels>
<channel ref="soap">
<clientProviders>
<formatter ref="http"/>
</clientProviders>
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>
- B. <configuration>
<system.runtime.remoting>
<application>
<channels>

```
<channel ref="http">
<clientProviders>
<formatter ref="binary"/>
</clientProviders>
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>
C. <configuration>
<system.runtime.remoting>
<application>
<channels>
<channel ref="http">
<clientProviders>
<formatter ref="soap"/>
</clientProviders>
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>
D. <configuration>
<system.runtime.remoting>
<application>
<channels>
<channel ref="binary">
<clientProviders>
<formatter ref="http"/>
</clientProviders>
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>
```

Answer: C

Explanation: The channel element's ref attribute should be set to http, and the formatter element's ref attribute to soap, because the channel element specifies the channel through which the application will communicate with the remote component. The only available channels are HTTP, IPC and TCP. The formatter element specifies the serialization formatter responsible for the serialization and deserialization of data that passes through the channel. The only available formatters are SOAP and Binary. The HTTP channel used the SOAP formatter whereas the TCP and IPC channels use the binary formatter by default.

Incorrect answers:

A: The channel element ref cannot be set to SOAP because SOAP is not a channel. If you do this then you will need to implement a custom HTTP channel and specify Soap as its name. However, it is stated in the question that you may not make use of custom channels or custom formatters.

B: You should not set the formatter ref attribute to binary because the default formatter for HTTP channel is SOAP and in this case the remote component makes use of the default formatter for HTTP.

D: The channel element ref cannot be set to binary since binary is not a channel. If you do this then you will need to implement a custom HTTP channel and you may not make use of a custom channel or formatter. Furthermore, HTTP is not a formatter and if you do this then again it will require a custom SOAP formatter.

QUESTION 22

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The implementation of asynchronous calls and remoting events form part of your responsibilities at Certkiller .com. You have created a Microsoft.NET Remoting component that will import data into a database. The Microsoft.NET Remoting component seems to work but you had complaints regarding sluggish client-side performance. To this end you need to apply the OneWay attribute to methods in the component so as to improve the client-side performance.

What should you do?

- A. Apply the OneWay attribute to methods that do not have only output parameters.
- B. Apply the OneWay attribute to methods that do not have input parameters.
- C. Apply the OneWay attribute to methods that do not have return values.
- D. Apply the OneWay attribute to methods that are not overloaded.

Answer: C

Explanation: Remote methods marked with the OneWay attribute does not send responses back to the client and as such cannot have return values, reference parameters, or output parameters. Thus to improve client-side performance you should apply the OneWay attribute to the methods that has no return values.

Incorrect answers:

A: Remote methods that are marked with the OneWay attribute cannot have return values, reference- or output parameters. Thus you should not apply the attribute to methods that has only output parameters.

B: Since Remote methods marked with the OneWay attribute do not send responses back to clients, you should not apply the attribute to methods that do not have input parameters.

D: You should not apply the attribute to methods that are not overloaded. There are no additional restrictions on overloaded methods, but because Remote methods marked with

the OneWay attribute do not send responses back to the client, they cannot have return values, reference- or output parameters.

QUESTION 23

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You have just completed the development of a Microsoft.NET Remoting component. You now need to call a remote method asynchronously and obtain an IAsyncResult instance as a result. You thus need to perform additional processing while the asynchronous operation is taking place.

What should you do?

- A. You should create a loop and poll on the IAsyncResult.IsCompleted property.
- B. You should create a loop and poll on the IAsyncResult.CompleteSynchronously property.
- C. You should call the WaitAny method of the WaitHandle class, passing to it a WaitHandle array that contains the IAsyncResult.AsyncWaitHandle object.
- D. You should call the WaitAll method of the WaitHandle class, passing to it a WaitHandle array that contains the IAsyncResult.AsyncWaitHandle object.

Answer: A

Explanation: A loop and poll on the IAsyncResult.IsCompleted property will indicate whether the asynchronous operation has completed. This will allow you to perform additional processing during the asynchronous operation.

Incorrect answers:

B: The .CompleteSynchronous property will determine whether an asynchronous operation was actually completed synchronously. If you poll this property, you will be creating an infinite loop for operations that do not complete synchronously.

C: You should not call the WaitAny method of the WaitHandle class because it will block the current thread until at least one asynchronous operation reaches completion. Blocking should not be implemented in this case because you need to perform additional processing while the asynchronous operation is taking place.

D: You should not call the WaitAll method of the WaitHandle class because it blocks the current thread until all asynchronous operations are completed.

QUESTION 24

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of client applications forms part of your responsibilities at Certkiller .com. You are busy developing a Microsoft Windows Form application that will access a Microsoft.NET Remoting component. In the

event of a user clicking the Print button on a form, the application must call a remote method asynchronously to print a batch of invoices. The application you are developing must allow users the ability to perform other tasks while the invoices are being printed. Once all of the invoices have been printed, the application must interrupt the user by displaying a message box, notifying the user of the status of the invoice printing.

You thus need to implement the functionality to meet all these requirements.

What should you do?

- A. A callback should be implemented.
- B. A semaphore should be implemented.
- C. Blocking should be implemented.
- D. Polling should be implemented.

Answer: A

Explanation: A callback will allow you to configure a method that can be executed on another thread when the asynchronous operation completes. This will prevent you from having to block the current thread until the asynchronous operation completes, thus allowing the users to ability to perform other tasks with the application.

Incorrect answers:

B: A semaphore will allow you to implement access control to a shared resource and in this case there is no mention of limiting and exercising any access control.

C: Blocking will halt the current thread until an asynchronous operation is completed and would thus prevent users from performing other tasks while the asynchronous operation is taking place.

D: Polling is used when the application itself must perform additional processing until an asynchronous operation is completed. But in this case the users will be performing the additional tasks and not the application itself.

QUESTION 25

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You are busy developing a Microsoft.NET Remoting component that will allow messages to be sent between client applications. To this end you are creating an event named MessageReceived.

Message Received is configured to accept two parameters:

1. An Object instance that represents the object that raised the event.
2. A MessageReceivedEventArgs instance that will contain the data about the message that was sent.

You need to enable the client applications to receive details about a message that was sent. You thus need to code the MessageReceivedEventArgs class accordingly.

What should you do?

- A. The MessageReceivedEventArgs class must be derived from the ServicedComponent.
- B. The MessageReceivedEventArgs class must be derived from the MarshalByRefObject.
- C. You should apply the Serializable attribute to the MessageReceivedEventArgs class.
- D. You should apply the NonSerializable attribute to each of the MessageReceivedEventArgs class members.

Answer: C

Explanation: When you apply the Serializable attribute to the MessageReceivedEventArgs class, it will configure the marshal-by-value type. This type can be created on a remote server, serialized, and then transported across the remote boundaries to a remote client.

Incorrect answers:

- A: The MessageReceivedEventArgs class should not be derived from the ServicedComponent as ServicedComponent derives from MarshalByRefObject and as such are executed at the server only.
- B: The MessageReceivedEventArgs class should not be derived from the MarshalByRefObject as this will configure the class as a marshal by reference type. And these types are executed at the server only.
- D: The NonSerializable attribute should not be applied to each member of the MessageReceivedEventArgs class as this will prevent the message details from being serialized.

QUESTION 26

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of client applications forms part of your responsibilities at Certkiller .com. You are busy developing a client application that will access a Microsoft.NET Remoting messenger application. The messenger application will allow messages to be sent between client applications. A remote class named RemoteMessenger exposes a remote event named MessageReceived. This event will be raised in the event of a client application calling the SendMessage method of the RemoteMessenger class.

A client event sink class named MessengerEventSink handles the remote MessageReceived event in an event handler named OnMessageReceived. In the OnMessage Received handler, the MessengerEventSink class raises its own MessageReceived event.

You are required to allow the client application to be notified as well as log messages when messages are sent through the messenger application. You should take care to not modify the RemoteMessenger class or the MessengerEventSink class.

What should you do?

- A. A delegate instance that represents the OnMessageReceived event handler to the

MessageReceived event of the RemoteMessenger class should be attached.

B. A delegate instance that represents the OnMessageReceived event handler to the MessageReceived event of the MessengerEventSink class should be attached.

C. A delegate instance that represents a method in the client application to the MessageReceived event of the MessengerEventSink class should be attached.

D. A delegate instance that represents a method in the client application to the MessageReceived event of the RemoteMessenger class should be attached.

Answer: C

Explanation: The delegate instance that is attached to an event that gets raised in a remote class must also be called remotely. However, the direction of the remote call to raise events is from the remote server to the remote client. For this to happen, both the remote server and the remote client must know about the class that contains the method. This can be done by creating client event sink classes. In this case the client event sink class is the MessengerEventSink class. The only purpose of a client event sink class is to allow it to be marshaled from the server to the client to result in the event getting raised at the client. Due to the client event sink class handling the remote event by raising its own MessageReceived event you should handle the client event sink's MessageReceived event. This will allow you to log messages when the event is raised. And by not coupling the MessengerEventSink class' event handler to a specific implementation you will allow client applications to handle the remote event through client-specific implementations.

Incorrect answers:

A: When you attach a delegate instance that represents the OnMessageReceived event handler to the MessageReceived event of the RemoteMessenger class then the event handler will be coupled to a specific implementation and in addition you would then need to modify the MessengerEventSink class which will result in you not complying with the requirements.

B: When you attach a delegate instance that represents the OnMessageReceived event handler to the MessageReceived event of the MessengerEventSink class then the event handler will be coupled to a specific implementation and then it would also require you to modify the MessengerEventSink class which will result in you not complying with the requirements.

D: When you attach a delegate instance that represents a method in the client application to the MessageReceived event of the RemoteMessenger class the event that gets raised at the server and its invocation is not automatically marshaled to the client application. It is client event sink classes that allow you to marshal event invocations from a remote server to a remote client.

QUESTION 27

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently generating a proxy making use of Microsoft Visual Studio 2005 for a Web Services

Enhancements (WSE) 3.0-enabled Extensible Markup Language (XML) Web Service in a client application. Unfortunately you did not have the WSE framework installed on your computer at that stage. You thus need to add the custom code to the proxy. At present your application references the following assemblies:

1. System
2. System Configuration
3. System Data System Deployment
4. System Drawing
5. System Web Services
6. System Windows Forms
7. SystemXml

At this stage you install the WSE 3.0 framework on your computer, and in addition you also added the reference to the required WSE 3.0 assemblies to your application. Now you need to make changes to your project to enable you to dynamically apply WSE 3.0 policies to all outgoing SOAP requests. You must ensure that you do not remove any of the custom code that has already been written. What should you do?

- A. Regenerate the proxy using Visual Studio 2005.
- B. Add a reference to the System.EnterpriseServices assembly.
- C. Modify the proxy class to derive from WebServicesClientProtocol.
- D. Remove the reference to the System.Web.Services assembly.

Answer: C

Explanation: If you modify the proxy class to derive from WebServicesClientProtocol, then all SOAP requests can adhere to the policies without removing any of the custom code that is already written. This class derived from SoapHttpClientProtocol, which is used to send SOAP messages to a Web service. However, this class also includes a method named SetPolicy which allows for the dynamic application of WSE 3.0 policy to a Web service proxy. Once you apply a policy to a proxy, all subsequent SOAP requests will adhere to that policy.

Incorrect answers:

A: A regeneration of the proxy using Visual Studio 2005 will overwrite the custom code that is written in the proxy.

B: A reference added to the System.EnterpriseServices assembly will not work. This assembly contains types that are used with COM+ and does not provide you with the ability to apply WSE 3.0 policies.

D: A reference removed from the System.Web.Services assembly is not the solution. the WebServicesClientProtocol class derives from SoapHttpClientProtocol, which is defined in the System.Web.Services assembly.

QUESTION 28

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently implementing two SOAP extension classes named EncryptionExtension and CompressionExtension respectively. These two classes encrypt and compress outgoing SOAP messages, and exist in the SoapUtilities namespace in an assembly named SoapUtilities.dll.

You are required to modify the Web.config file for an Extensible Markup Language (XML) Web Service

To ensure that encryption will occur prior to compression for the SOAP messages that are returned from that service.

What should you do? (Choose the correct configuration.)

A. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.EncryptionExtension,SoapUtilities"

priority="1"

group="1"/>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

priority="2"

group="0"/>

</soapExtensionTypes>

</webServices>

</system.web>

</configuration>

B. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.EncryptionExtension,SoapUtilities"

priority="2"

group="0"/>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

priority="1"

group="0"/>

</soapExtensionTypes>

</webServices>

</system.web>

</configuration>

C. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.EncryptionExtension,SoapUtilities"

priority="1"

```
group="1"/>
<add type="SoapUtilities.CompressionExtension,SoapUtilities"
priority="1"
group="0"/>
</soapExtensionTypes>
</webServices>
</system.web>
</configuration>
D. <configuration>
<system.web>
<webServices>
<soapExtensionTypes>
<add type="SoapUtilities.EncryptionExtension,SoapUtilities"
priority="1"
group="0"/>
<add type="SoapUtilities.CompressionExtension,SoapUtilities"
priority="2"
group="1"/>
</soapExtensionTypes>
</webServices>
</system.web>
</configuration>
```

Answer: D

Explanation: Soap extensions that are defined in the Web.config file are processed as follows:

(1) All SOAP extensions that are members of group 0 are executed

(2) All SOAP extensions that are members of group 1 are executed.

Furthermore, within each group, a SOAP extension that has higher priority (i.e. a number closer to zero) is executed before those with lower priority. This means that you have two choices to make sure that encryption takes place prior to compression:

(1) Make the EncryptionExtension class a member of a lower group than that of the CompressionExtension class.

(2) Give the EncryptionExtension class a higher priority than that of the CompressionExtension class.

Thus you need to assign the EncryptionExtension class the group 0 membership and the CompressionExtension class the group 1 membership, i.e. option D.

Incorrect answers:

A: EncryptionExtension class should not have higher group membership than the CompressionExtension class. This will result in compression occurring before encryption.

B: EncryptionExtension class should not have a lower priority number than the CompressionExtension class, it will result in Compression before Encryption.

C: In this option the Priorities assigned to both these classes are the same. This is incorrect.

QUESTION 29

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently installing the Microsoft Web Services Enhancements (WSE) 3.0 framework on your development computer. At present the WSE configuration settings are not enabled on your computer.

You are required to modify the Web.config file for an ASP.NET application to enable it to support WSE configuration settings.

What should you do? (Choose the correct configuration.)

A. <configuration>

<appSettings>

<add

key="microsoft.web.services3" value="Microsoft.Web.Services3.Configuration.WebServicesConfiguration, Microsoft.Web.Services3, Version = 3.0.0.0, Culture=neutral,

PublicKeyToken=31bf3856ad364e35/>

</appSettings>

</configuration>

B. <configuration>

<appSettings>

<add key="wse" value="Microsoft.web.services3"/>

</appSettings>

<microsoft.web.services3>

</microsoft.web.services3>

</configuration>

C. <configuration>

<configSections>

<section

name="microsoft.web.services3" type="Microsoft.Web.Services3.Configuration.WebServicesConfiguration, Microsoft.Web.Services3, Version=3.0.0.0, Culture=neutral,

PublicKeyToken=31bf3856ad364e35"/>

</configSections>

<microsoft.web.services3>

</microsoft.web.services3>

</configuration>

D. <configuration>

<appSettings>

<add key="

microsoft.web.services3" value="Microsoft.Web.Services3.Configuration.WebServicesConfiguration, Microsoft.Web.Services3, Version=3.0.0.0, Culture=neutral,

PublicKeyToken=31bf3856ad364e35

</appSettings>

<microsoft.web.services3>

```
</microsoft.web.services3>  
</configuration>
```

Answer: C

Explanation: You need to specify the configuration settings handler in the Web.config file. This will enable ASP.NET to interpret settings that it does not understand by default.

Incorrect answers:

A, B, D: You should not specify the configuration settings section handler in the appSettings element because this element is used to specify application-specific configuration information.

QUESTION 30

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The implementation of policies for Web applications forms part of your responsibilities. You deployed a Microsoft Web Services Enhancements (WSE) 3.0-enabled Web service application to a production server. Each Web service that is implemented in the application has a Policy attribute applied. This attribute specifies the name of a policy in a policy file. The production server has the Microsoft.NET Framework 2.0 installed, but not Microsoft Visual Studio 2005. You are required to modify the Web service on the production server to use a different set of policies than those that were used during the development. What should you do?

- A. Create a new policy file on the server manually.
Specify the policies to be used in this policy file.
Execute the policies at run time by creating the appropriate SOAP extension.
Specify the SOAP extension in the Web.config file.
- B. The names of all the policies in the existing policy file must be changed.
Modify the policies so that it is applicable in the production environment.
- C. Create a new policy file on the server manually.
Configure the Web.config file to use this policy file.
Specify the policies to be used in this policy file.
- D. The names of all the policies in the existing policy file must be changed.
Execute the policies at run time by creating the appropriate SOAP extension.
Specify the SOAP extension in the Web.config file.

Answer: C

Explanation: A policy file that contains all the applicable policies for the production environment must be created manually and to configure these policies you need to specify this policy file in the Microsoft.web.services3 section of the Web.config file.

Incorrect answers:

A: Soap extensions should not be created to execute policies. The policies must be

executed prior to SOAP extensions because the policies will determine which SOAP extensions get executed.

B: The names of the policies should not be changed. In this case each policy attribute that is applied to a Web service specifies the name of a policy, thus if you change the names of the policies in the policy file, the policies will cease being applicable to the Web Services.

D: Soap extensions should not be created to execute policies. The policies must be executed prior to SOAP extensions because the policies will determine which SOAP extensions get executed.

QUESTION 31

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Client applications forms part of your responsibilities at Certkiller .com. You are currently developing a client application that will retrieve data from two Extensible Markup Language (XML) Web Services.

1. The one Web service requires the use of username/password authentication.
2. The other Web service requires the use of Kerberos authentication.

You make use of the Web Services Enhancements (WSE) 3.0 proxy generation tool (wsseidl3.exe) to generate the proxies to the two Web services that requires the different authentications. To this end you create a policy file that specifies the authentication requirements. Now you need to ensure that the requirements are enforced when you call each of the Web services.

What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. Call the SetPolicy method on each proxy.
- B. Apply a policy attribute to the class that contains the proxy instance.
- C. Pass the policy file name to this method.
- D. Pass the name of the policy to use this method.
- E. Pass the name of this policy to this attribute.

Answer: A, D

Explanation: You should call the SetPolicy method on each proxy, passing to it the name of the policy to use. wsseidl3.exe generated Web service classes are derived from WebServicesClientProtocol. This base class defines a SetPolicy method that enables you to programmatically set the policy for the proxy.

Incorrect answers:

B: You should not apply the policy attribute to the class that contains the proxy instance.

C: The policy file name should not be specified as a parameter to the SetPolicy method.

One specifies the name of a policy, not the file that contains the policy.

E: Policy attributes should be applied to either Web Service classes or Web Service proxy classes.

QUESTION 32

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Client applications forms part of your responsibilities at Certkiller .com. You are currently developing a Microsoft Windows Forms client application that will retrieve data from an Extensible Markup Language (XML) Web Service. This XML Web Services requires Kerberos authentication. To this end you use the Web Services Enhancements (WSE) 3.0 proxy generation tool (wsewsdl3.exe) to generate a proxy to the Web service. You then create a policy file named policies.config. Policies.config specifies the authentication requirements..

You now need to specify the policy file in the app.config file
What should you do? (Choose the correct configuration.)

- A. <configuration>
<appSettings>
<add key="microsoft.web.services3"value="policies.config"/>
</appSettings>
</configuration>
- B. <configuration>
<appSettings>
<add key="wse3"value="policies.config"/>
</appSettings>
</configuration>
- C. <configuration>
<microsoft.web.services3>
<policy filename="policies.config"/>
</microsoft.web.services3>
</configuration>
- D. <configuration>
<system.web>
<webServices>
<soapExtensionTypes>
<add type="policies.config"/>
</soapExtensionTypes>
</webServices>
</system.web>
</configuration>

Answer: C

Explanation:

A microsoft.web.services3 element should be added to the Web.config file and you should apply the policy element to that element. You should also specify the policies.config file as the value of the filename attribute of the policy element. This will

result in the WSE runtime to load the policies that are defined in the policies.config file.

Incorrect answers:

A: The policy file name should not be specified in the appSettings element because the WSE runtime does not use this element.

B: The policy file name should not be specified in the appSettings element. Even though you use this element to specify application-specific configuration information, the WSE runtime does not use this element.

D: The policies.config should not be specified as a SOAP extension type. The WSE runtime does not process the soapExtensionTypes element to load policy files.

QUESTION 33

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Certkiller .com operates as an Internet Auctioneer. The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com.

You have been instructed to develop an OrderProcessor class that is responsible for charging a customer's credit card, notifying the shipping department of the particular product that must be shipped, as well as updating the product inventory database. A COM+ application will be hosting the OrderProcessor class. To this end you need to create the class definition.

What should you do? (Choose the appropriate code segment.)

- A. `public class OrderProccesor : WebService`
`{ }`
- B. `public class OrderProccesor : ServicedComponent`
`{ }`
- C. `public class OrderProccesor : MarshalByRefObject`
`{ }`
- D. `public class OrderProccesor : MarshalByValueComponent`
`{ }`

Answer: B

Explanation: It is stated in the question that a COM+ application is hosting the class and thus the class must derive either directly or indirectly from the ServicedComponent. The ServicedComponent provides the database for all classes that need to make use of COM+ services. The OrderProcessor class should be derived from ServicedComponent.

Incorrect answers:

A: The OrderProcessor class should not be derived from WebService. This class provides a base class for Microsoft ASP.Net Web services which allows you to access Session and application instances directly.

C: The OrderProcessor class should not be derived from MarshalByRefObject because those types are those that cannot be serialized across an application domain and whose methods must execute remotely. ServicedComponent derives directly from MarshalByRefObject.

D: The OrderProcessor class should not be derived from the MarshalByValueComponent. This class represents marshal-by-value types that can be serialized across an application and whose methods can execute locally.

QUESTION 34

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com. The exhibit below illustrates the currently existing class definition:

Exhibit:

```
public class PropertyManager : ServicesComponent
{
    public void MoveInNewCustomer(Customer customer, Unit unit)
    {
    }
}
```

Client applications call the MoveInNewCustomer method to move a new customer into a unit. You have been instructed to ensure that this process occurs within the context of a transaction. If a transaction does not already exist when this method is called, a transaction should be created. Exclusively in the event of an exception being thrown you want the transaction to abort.

To this end you need to modify the class to meet these requirements.

What should you do? (Choose the correct code segment.)

A. [Transaction(TransactionOption.RequiresNew)]

```
public class PropertyManager : ServicedComponent
{
    public void MoveInNewCustomer(Customer customer, Unit unit)
    {
    }
}
```

B. [Transaction(TransactionOption.Required)]

```
public class PropertyManager : ServicedComponent
{
    [Autocomplete]
    public void MoveInNewCustomer(Customer customer, Unit unit)
    {
    }
}
```

C. [Transaction(TransactionOption.Supported)]

```
public class PropertyManager : ServicesComponent
{
    public void MoveInNewCustomer(Customer customer, Unit unit)
    {
    }
}
```

```
}  
D. [Transaction(TransactionOption.RequiresNew)]  
public class PropertyManager : ServicedComponent  
{  
    public void MoveInNewCustomer(Customer customer, Unit unit)  
    {  
    }  
}
```

Answer: B

Explanation: You should apply the Transaction attribute to the class and set its parameter to TransactionOption.Required. This will indicate that the method must execute in the context of a COM+ transaction. If the caller of the method is executing within a transaction, then this transaction is used. If not then a new transaction is created. The AutoComplete attribute should also be applied to this method as it will indicate that the method transaction should commit automatically if the method executes and returns without an exception being thrown. If an exception is thrown, the transaction should abort automatically regardless of the applied AutoComplete attribute.

Incorrect answers:

A: The Transaction attribute parameter should not be set to TransactionOption.RequiresNew as this will indicate that the method must execute within the context of a new COM+ transaction.

C: The Transaction attribute parameter should not be set to TransactionOption.Supported as this will indicate that the method must execute only within the caller's transaction. If the caller is not executing within a transaction, then the method will not execute within the context of a transaction.

D: The Transaction attribute parameter should not be set to TransactionOption.RequiresNew as this will indicate that the method must execute within the context of a new COM+ transaction.

QUESTION 35

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You implemented a strong-named managed assembly that makes use of Enterprise Services. The assembly is not registered for use within a COM+ context. And no RunInstaller attributes have been applied to any of the classes in the assembly. You have been instructed to register the assembly with COM+ to accommodate the COM clients.

What should you do?

A. Install the assembly into the COM+ catalog by running the Regsvcs.exe utility. Then install the assembly into the global assembly cache (GAC) by running the Gacutil.exe utility.

B. Install the assembly into the global assembly cache (GAC) by running the GacUtil.exe utility.

Then install the assembly into the COM+ catalog by running the Regsvcs.exe utility.

C. Install the assembly into the COM+ catalog by running the Regsvcs.exe utility.

Then install the assembly's configuration in the registry by running the InstallUtil.exe utility.

D. Install the assembly into the global assembly cache (GAC) by running the GacUtil.exe utility.

Then install the assembly's configuration in the registry by running the InstallUtil.exe utility.

Answer: B

Explanation: Managed assemblies that are hosted by COM+ applications must be installed in the GAC before COM+ clients can use them. Then you should run the Regsvcs.exe utility as this utility will allow you to install a managed assembly into the COM+ catalog.

Incorrect answers:

A: The Regsvcs.exe utility should not be run prior to running the Gacutil.exe utility because you cannot register assemblies with COM+ for use by COM clients if they do not already exist in the GAC.

C: The Regsvcs.exe utility should not be run before the InstallUtil.exe utility. You first need to install the assembly into the GAC before running GacUtil.exe.

D: The InstallUtil.exe utility should not be run after you have run the GacUtil.exe utility. The InstallUtil.exe utility executes custom installers that are defined in an assembly. And custom installers are classes that derive from Installer and that have the RunInstaller attribute applied already.

QUESTION 36

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You have developed a serviced component that will be used by both managed and unmanaged applications within Certkiller .com. A remote computer will be hosting this serviced component. The serviced component will be accessible through DCOM. The computers that host the client applications have the .NET Framework 2.0 installed. You have received instruction to allow both managed and unmanaged client applications to reference the serviced component.

What should you do?

A. Copy the serviced component to each client computer that must access the serviced component using the XCOPY tool.

A reference to each client computer should be added to the serviced component's assembly.

B. Run the TypeLibrary Importer (Tlbimp.exe) tool against the serviced component

assembly.

Copy the output file to the runtime directory of each client application.

A reference should be added to the output of each client application.

C. A proxy for the COM+ application that hosts the component should be exported into a Microsoft Windows Installer (MSI) package using the Component Services tool.

Execute the package on the computers that contain the client applications.

A reference to the generated assembly should be added to each client application.

D. The RunInstaller attribute should be added to each class in the serviced component assembly.

Run the Installer tool (InstallUtil.exe) on each client computer that must assess the serviced component.

A reference to the serviced component's assembly should be added to each client application.

Answer: C

Explanation: A proxy for the COM+ application that hosts the component should be exported into an MSI package. Then you should execute the proxy component into the COM+ catalog on the client computers. This also installs the GAC. Then a reference to this assembly should be added to each client application. This can be done since all the computers have the .NET Framework installed.

Incorrect answers:

A: XCOPY should not be used to copy the serviced component to each client computer as it will not register the component in the COM+ catalog.

B: The Tlbimp.exe generates a managed assembly from a type library, but then unmanaged client applications cannot directly access components in managed assemblies.

D: The Services component's assembly is a managed assembly, therefore you should not add a reference to the serviced component's assembly to each client application. If then you will deny unmanaged client applications from directly referencing it. Also you should not add the RunInstaller attribute to each class in the serviced component's assembly. This attribute will indicate that the Installer tool must execute for the associated class when the assembly is installed, however, then you should apply the RunInstaller attribute to Installer-derived classes.

QUESTION 37

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You have received instruction to create an instance of the PropertyManager class from a client application. Following are the circumstances that you need to keep in mind in your attempts to accomplish the task at hand:

1. A class named PropertyManager exists in an assembly named PropertyManagement.dll.
2. The class and component are registered with COM+ services.

3. The COM+ application that hosts this class is configured as a server application. What should you do? (Choose the correct code segment.)

- A. `PropertyManager propertyManager = (PropertyManager)Activator.GetObject(typeof(PropertyManager), "COM+");`
- B. `PropertyManager propertyManager = (PropertyManager)AppDomain.CurrentDomain.CreateInstanceFrom("PropertyManagement.dll", "PropertyManager");`
- C. `PropertyManager propertyManager = new PropertyManager();`
- D. `PropertyManager propertyManager = (PropertyManager)Activator.CreateInstanceFrom("PropertyManagement.dll", "PropertyManagement.PropertyManager");`

Answer: C

Explanation: An instance of the PropertyManager class should be created by calling its constructor. Then the Enterprise Services infrastructure will return a proxy instance that your application uses to make calls across application domain boundaries.

Incorrect answers:

A: The GetObject method of the Activator class should not be used to create an instance of the PropertyManager class. This method will require that the remote object be accessible at a specific URL and COM+ services do not allow objects to be accessed by URL's.

B: Although possible to call the CreateInstanceFrom method of the AppDomain class, you should not cast this instance to PropertyManager. It will return an instance of ObjectHandle and to obtain the real object you will need to call the Unwrap method of the ObjectHandle instance.

D: Even though it is possible to call the CreateInstanceFrom method of the Activator class, you should not cast this instance to PropertyManager. It will return an instance of ObjectHandle and to obtain the real object you will need to call the Unwrap method of the ObjectHandle instance.

QUESTION 38

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You have received instruction to develop an order fulfillment application. This order fulfillment application must send multiple messages to the queue in the case of it receiving an order. After the application sends the messages to the queue, it must update an inventory database accordingly. In the event of an error occurring for one of the messages while it is busy updating the database, the application must automatically remove all messages that were sent for the current order. In the event of the database update being successful, another application on the same computer must read and process the messages. Only these two applications must be allowed to access the messages.

Now you need to create the message queue manually.

What should you do?

- A. A non-transactional public queue must be created.
- B. A transactional public queue must be created.
- C. A non-transactional private queue must be created.
- D. A transactional private queue must be created.

Answer: D

Explanation: Creating a transactional private queue will allow messages to be rolled back in the event of an error occurring during the database update. In this way, the messages that are sent in the context of the same transaction are either committed or rolled back as a single unit.

Incorrect answers:

- A: Since public queues are available to other computers as well, you should not create a non-transactional public queue because only the local computer should have the queue available in this case.
- B: This will not fulfill the requirement of these two applications being on the same computer since a public queue will result in availability to other computers as well.
- C: A non-transactional private queue will prevent multiple messages from being committed or rolled back as a single unit.

QUESTION 39

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You are currently creating a message queue programmatically. This message queue will be accessed by two applications. Each message represents an instance of a public class named OrderInfo. The OrderInfo class does not derive from ServicedComponent, and it does not implement any interfaces.

You need to ensure that the state of the class is preserved when a message is sent to and received from the message queue. This state of the class would include the values of private members. The message receiving application understands only the basic .NET Framework classes, and the OrderInfo class. To this end you need to specify the formatter that will be used to serialize and deserialize messages.

What should you do?

- A. You need to specify and instance of the custom formatter class.
- B. You need to specify and instance of the ActiveXMessageFormatter.
- C. You need to specify and instance of the BinaryMessageFormatter class.
- D. You need to specify and instance of the XmlMessageFormatter class.

Answer: C

Explanation: The BinaryMessageFormatter class can be used to serialize and deserialize

all members of a class, including private members.

Incorrect answers:

A: The custom formatter class should only be used if none of the default formatter classes are acceptable. In this case the receiving application understands only the basic .NET Framework classes and the OrderInfo class. The OrderInfo class cannot be used as the custom formatter because it does not implement the IMessageFormatter interface which is a requirement when implementing custom formatters.

B: The ActiveXMessageFormatter is used to serialize COM and COM+ components. In this case, the class that the message represents does not derive from ServiceComponents and only managed classes derived from ServiceComponents are also COM+ components.

D: An XmlMessageFormatter class cannot be used to serialize and deserialize private members of a class.

QUESTION 40

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

After receiving the instruction, you complied and have just created a private message queue on an application server. You have configured the message queue in such a way that whenever a message arrives in the queue, you will need to simultaneously run two executables to process the message. To this end you need to create a rule or more rules and triggers to ensure that these two executables run simultaneously when a message arrives in the queue.

What should you do?

- A. Create two rules and two triggers. Then apply each rule to only one trigger.
- B. Create a rule and two triggers. Then apply the rule to each trigger.
- C. Create one rule and one trigger. Then apply the rule to the trigger.
- D. Create two rules and one trigger. Then apply both rules to the trigger.

Answer: A

Explanation: A trigger can execute whenever you peek at or retrieve a message from a specific message queue. It is possible that a trigger can contain more than one rule or even no rules; however, in a situation where you want the two executables to run simultaneously, you should specify the conditions that should be met to execute the rule's action. By creating a trigger for each rule you will be allowing the two executables to be invoked simultaneously when the triggers are executed.

Incorrect answers:

B: You should not create only one rule. You need to keep in mind that you must run two executables simultaneously and thus need to create a rule for each executable since a rule can execute at most one executable.

C: You should not create only one trigger, even though it is possible that a trigger may contain more than one rule, the trigger executes the action associated with each rule

within a specified sequence. This means that the two executables will be triggered to run but not simultaneously.

D: this option will is possible, but will not allow both executables to run simultaneously.

QUESTION 41

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as a financial institution.

You have been asked to make a recommendation in terms of the technological design to meet the Certkiller .com requirements. The plan is to develop a component for Certkiller .com. And this component is to provide the business logic for the management of customer accounts. The component should meet certain technical requirements to serve the Certkiller .com needs. Following is a list of these requirements:

1. Instantiated classes must be reused by multiple threads.
2. Method calls must be rolled back in the event of a failure occurring.
3. Only certain users must have the ability to call certain methods.

In your recommendation you should mention the appropriate technology that will meet these technological requirements.

What should you do?

- A. Recommend the use of Microsoft .NET Enterprise Services.
- B. Recommend the use of Message Queuing.
- C. Recommend the use of Extensible Markup Language (XML) Web services.
- D. Recommend the use of Microsoft .NET Remoting.

Answer: A

Explanation: Microsoft .NET Enterprise Services will allow you to build applications and components that make use of COM+ services. It further allows you to develop components able of supporting transactions, just-in-time (JIT) activation. Object pooling, as well as role-based security. One of the requirements that should be met includes a roll-back method call in the event of failure. Object pooling will allow you to reuse class instances. And role-based security allows you to restrict method calls to specific users.

Incorrect answers:

B: Message Queuing will not work under these circumstances since though it will allow you to support component-to-component communication through messages; it does not support role-based security to restrict method calls to certain users.

C: You should not recommend the use of Extensible Markup Language (XML) Web services because although it allows one to support communication across different platforms by means of using open Internet Protocols. However, it does not support object pooling to reuse class instances. And this is one of the requirements that should be met.

D: .NET Remoting allows you to support communication across application domain

boundaries by means of using remote method invocations; it does not provide transaction support to roll back in case of failure.

QUESTION 42

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as the local municipal traffic authority in Miami.

You have been instructed to develop an enterprise application for Certkiller .com. Following is a list of all the requirements that you should keep in mind when you develop the application:

1. In the event of a driver exceeding the speed limit by more than 10 and less than 20 kilometers per hour (KPH) - the corresponding fine should be \$100 with an additional amount of \$10 for each KPH over the limit.
2. In the event of a driver exceeding the speed limit by 20 or more KPH, the corresponding fine should be \$250 with an additional \$25 for each KPH over the limit.

To this end you write the following pseudo-code to address the requirements:

DECLARE speedLimit INTEGER

DECLARE speed INTEGER

DECLARE fine INTEGER

Now you need to complete the pseudo-code.

What should you do? (Choose the correct code segment.)

- A. IF speed > 10 THEN
fine = 100 + 10 * (speed - speed limit)
IF speed > 20 THEN
fine = 250 + 25 * (speed - speed limit)
- B. IF speed > 20 THEN
fine = 250 + 25 * (speed - speed limit)
IF speed > 10 THEN
fine = 100 + 10 * (speed - speed limit)
- C. IF speed - speed limit > 20 THEN
fine = 250 + 25 * (speed - speed limit)
ELSE IF speed - speed limit > 10 THEN
fine = 100 + 10 * (speed - speed limit)
- D. IF speed > 10 THEN
fine = 100 + 10 * (speed - speed limit)
ELSE IF speed > 20 THEN
fine = 250 + 25 * (speed - speed limit)

Answer: C

Explanation: You should make use of
IF speed - speed limit > 20 THEN

$\text{fine} = 250 + 25 * (\text{speed} - \text{speed limit})$

ELSE IF speed - speed limit > 10 THEN

$\text{fine} = 100 + 10 * (\text{speed} - \text{speed limit})$

as the code segment. As this is written the code first determines whether the speed exceeds the speed limit by 20 or more KPH. If so, then the fine will be set at \$250 + \$25 times the number of KPH exceeding the limit.

If not, the code will determine whether the speed exceeds the limit by more than 10 KPH, if so the fine is set to \$100 + \$10 time the number of KPH exceeding the limit.

Incorrect answer:

A: If you make use of

IF speed > 10 THEN

$\text{fine} = 100 + 10 * (\text{speed} - \text{speed limit})$

IF speed > 20 THEN

$\text{fine} = 250 + 25 * (\text{speed} - \text{speed limit})$

it will determine whether the speed is greater than 10KPH or whether it is 20 KPH or more instead of calculating the difference between the speed and the speed limit.

B: If you make use of

IF speed > 20 THEN

$\text{fine} = 250 + 25 * (\text{speed} - \text{speed limit})$

IF speed > 10 THEN

$\text{fine} = 100 + 10 * (\text{speed} - \text{speed limit})$

it will a fine to be set to \$100 + \$10 for each KPH over the limit even if the driver's speed exceeds 20 KPH or more.

D: If you make use of

IF speed > 10 THEN

$\text{fine} = 100 + 10 * (\text{speed} - \text{speed limit})$

ELSE IF speed > 20 THEN

$\text{fine} = 250 + 25 * (\text{speed} - \text{speed limit})$

it will determine whether the speed is greater than 10 KPH or whether 20 KPH or more, instead of calculating the difference between the speed and the speed limit.

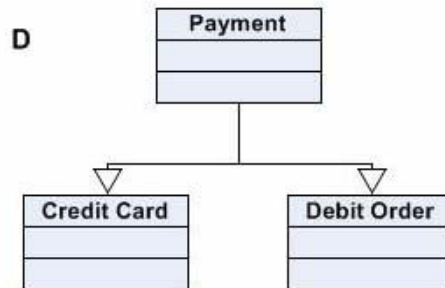
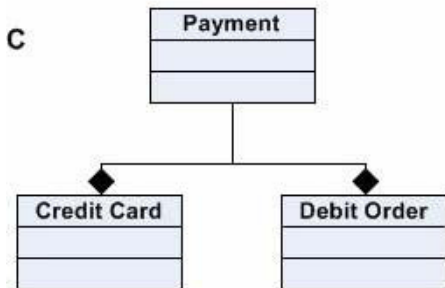
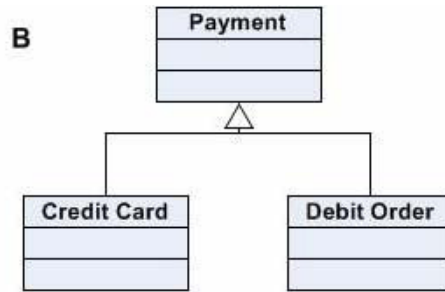
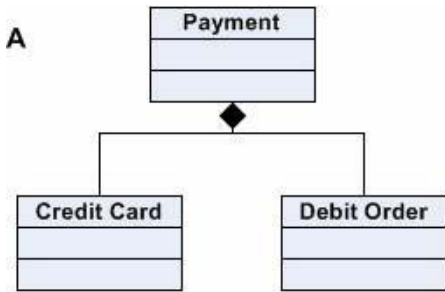
QUESTION 43

HOTSPOT

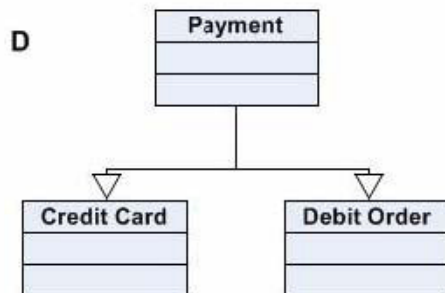
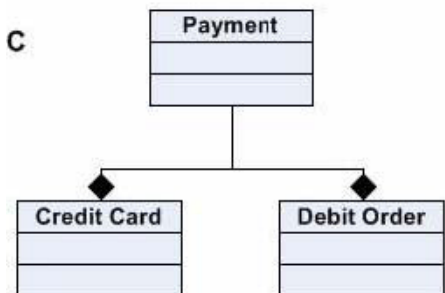
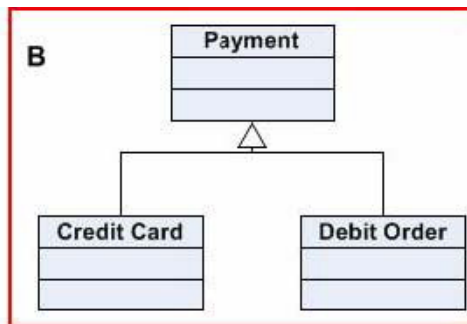
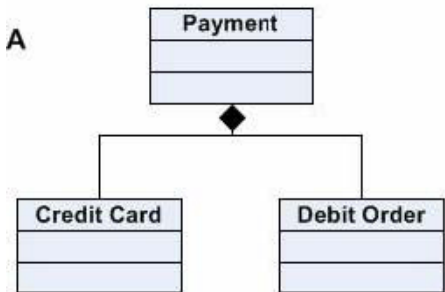
You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .COM operates as an insurance company.

You are currently developing an enterprise application that is destined to allow the Certkiller .com customer to pay their premiums for the insurance services rendered to them. The Certkiller .com customers have a choice in payment options: credit card or debit order. In your development of this application you took a decision to model the requirements on a class diagram. You now need to choose the appropriate class diagram.

What should you do? (To answer, click on the correct class diagram.)



Answer:



Explanation:

The particular diagram models generalization. Taking into account the requirements, a customer may pay his/her premiums via credit card or debit order. This means that the payment class can be specialized through Credit Card and Debit Order classes. In a class diagram that models generalization, the triangle points to the general element.

Incorrect answers:

A: This particular diagram models composition and indicates that a payment of premiums has a credit card and a debit order, which is not the case.

C: This particular diagram models composition and indicates that a credit card and a debit order has a payment, which is not the case.

D: This particular diagram also models generalization, however, it is depicted in the wrong direction. This will indicate that a payment of premiums is both by credit card and debit order, which is not correct. The payment of premiums is either one of the two, but not both.

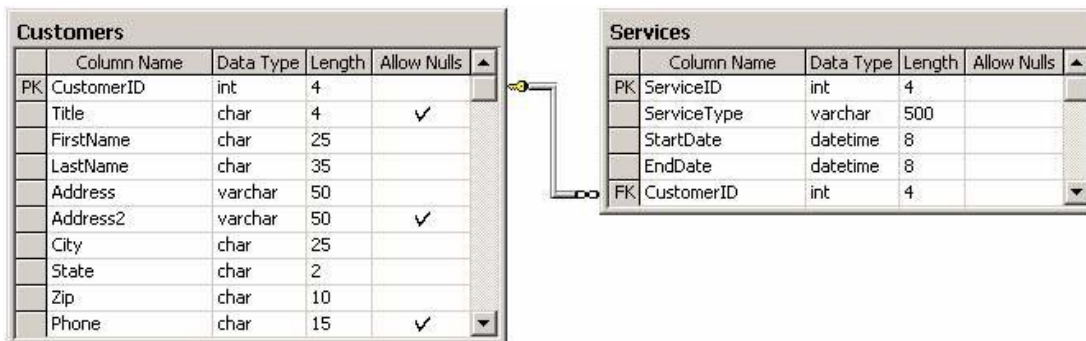
QUESTION 44

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as an Internet Service Provider (ISP).

You are currently developing an enterprise application for Certkiller .com.

Certkiller .com currently offers its customers three services: Web site hosting, Internet connectivity and voice over Internet Protocol (VoIP). The choice of purchasing one or more of these services is up to each customer. Furthermore, multiple customers can purchase the same services. In the event of a customer purchasing a service, a service commencement date, as well as service termination data is set for that customer. The exhibit below illustrates the logical database design for the application.

Exhibit:



You now need to normalize the database.

What should you do?

A. Move all columns from the Services table to the Customers table except the CustomerID column.

Change the primary key on the Customers table to include the ServiceID column.

Delete the Services table.

B. Move all columns from the Customers table to the Services table except the CustomerID column.

Change the primary key on the Services table to include the CustomerID column.

Delete the Customers table.

C. Add a table named CustomerServices.

Add a Foreign Key to the CustomerServices table that references the CustomerID column of the Customer table.

Add a Foreign Key to the CustomerServices table that references the ServiceID column

in the Services table.

D. Add a table named ServiceType and add two columns named ServiceTypeID and Description respectively.

Add a foreign key to the Services table that references the ServiceTypeID column of the ServiceType table.

Remove the ServiceType column from the Services table.

Answer: D

Explanation: When you normalize a database, you in essence separate the data into multiple tables to reduce duplicate data. In this case, the Services table contains data related to customer services which includes the service commencement date, the service termination data as well as the service type. Say 2000 customer purchase a service named VoIP, it will result in the VoIP value being duplicated in 2000 rows. Thus to eliminate this duplication of data, you should create a third table named ServiceType to store the service type information. Then you should add a foreign key to the Services table that references the primary key in the ServiceType table.

Incorrect answers:

A, B: Combining columns into one table will result in de-normalizing.

C: Adding an extra table with two foreign keys that references the appropriate columns in other tables should only be done in many-to-many relationships. An intersection table joins two entities that are involved in many-to-many relationships. In this scenario there is a one-to-many relationship between customers and purchased services, a many-to-many relationship between customers and service types, thus you should rather add a ServiceType table that can be used as the intersection table between customers and service types.

QUESTION 45

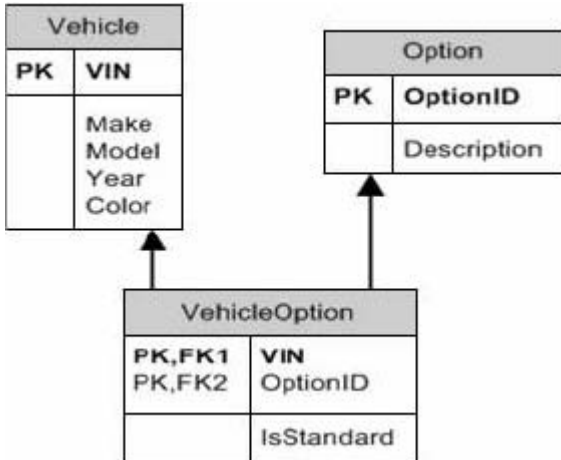
You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as a vehicle tracking organization in the vehicle insurance industry.

You are currently developing a vehicle inventory management solution for Certkiller .com. Following are the existing facts:

1. A vehicle is identified by its vehicle identification number (VIN).
2. A vehicle has one or more options.
3. Different vehicles may have the same options.
4. Each option can be standard or nonstandard.

The exhibit below illustrates the logical database design.

Exhibit:



You have been tasked to assess the Certkiller .com design in terms of data integrity. What conclusion can you draw?

- A. The design is correct.
- B. The design is incorrect. Option table should have a foreign key that references the VIN column in the Vehicle table.
- C. The design is incorrect. VehicleOption table should not have the OptionID column.
- D. The design is incorrect. Vehicle table should have a foreign key that references the OptionID column in the Option table.

Answer: A

Explanation: The Vehicle table has a primary key named VIN. This indicates that a VIN uniquely identifies a row in the Vehicle table.

An Option table contains rows that represent the possible options for all vehicles.

A VehicleOption table contains rows that identify options for particular vehicles. This is a necessary table since there is a many-to-many relationship that exists between vehicles and options.

Thus this design is correct in terms of data integrity.

Incorrect answers:

B: The Option table should not have a foreign key that references the VIN column in the Vehicle table. This would only be required in a case of a many-to-one relationship between vehicles and options.

C: The VehicleOption table should not be removed from the VehicleOption table as this will result in a disconnection in the relationship between vehicles and options.

D: The Vehicle table should not have a foreign key that references the OptionID column in the Option table as this would only be required in a case where there is a one-to-many relationship between vehicles and options.

QUESTION 46

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com

operates as a cosmetics company.

You are currently busy developing an enterprise application for Certkiller .com. This application must be able to support the ability to access chemical data. This chemical data are stored in five relational databases. The chemical makeup of each product is represented as a business entity. The business logic determines how the chemical makeup can be used in combinations to create new products.

You need to evaluate the design in terms of the best performance that it can offer. Following are the physical design aspects that you should take into account in your evaluation:

1. One assembly for all business entities.
 2. One assembly to contain business logic.
 3. An assembly per type of database.
- What conclusion can you draw?

- A. This design will result in the best performance.
- B. This design will not yield the best performance.
You should create one assembly for each type of business entity.
- C. This design will not yield the best performance.
You should create an assembly for each type of chemical makeup combination.
- D. This design will not yield the best performance.
You should create one assembly for all databases.

Answer: A

Explanation: The fewer the assemblies the better the performance when it comes to a Microsoft ASP.NET Web application. When the common language runtime (CLR) loads an assembly, it performs certain functions. These functions are necessary and will definitely affect performance when a large number of assemblies are loaded. In this design, only one assembly is used to contain the business entities and only one assembly is used to contain the business logic. Due to a data access component having to correspond to a single data store, an assembly exists for each type of database; however, only one data access assembly will be loaded to access a particular database.

Incorrect answers:

- B: You should not create an assembly for each type of chemical makeup combination. This will require the application to load multiple assemblies when different entities are combined. The loading of multiple assemblies degrades performance. It is mentioned in the question that the chemical makeup of each product is represented as an entity.
- C: You should not create an assembly for each type of chemical makeup combination. This will require the application to load multiple assemblies when different entities are combined. The loading of multiple assemblies degrades performance. It is mentioned in the question that the chemical makeup of each product is represented as an entity.
- D: You should not create one assembly for all the databases. A data access component should correspond to only one single data store. In this case the data store is a database and because only one assembly will be loaded to access a particular database, multiple data access assemblies will not cause performance to degrade.

QUESTION 47

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .Com operates as a telecommunications company.

You are currently busy implementing a solution for Certkiller .com that will, when completed, consist of five Microsoft Windows Forms applications, two Microsoft ASP.NET Web applications, and twenty Extensible Markup Language (XML) Web services. The Web services will be used by the Windows Forms applications as well as the Web applications to access business functionality.

1. The Web services:

All the Web services have similar configuration requirements.

However, only five of the Web services will make use of Simple Object Access Protocol (SOAP) header authentication.

1. The two Microsoft ASP.NET Web applications:

Both of these applications have different configuration requirements.

However, both of them require integrated Windows authentication.

1. The five Microsoft Windows Forms applications:

All these applications makes use of integrated Windows authentication.

The Web applications and the Web services are destined to be hosted on a server that will be running Microsoft Internet Information Services (IIS) 6.0. Following is the design of the Microsoft Visual Studio 2005 project structure:

1. One project for each Windows Forms application.

2. One project for each Web application.

3. One project for each XML Web service.

You have been instructed to evaluate the design for maintainability and thus you need to draw a conclusion regarding the maintainability for the design.

What conclusion can you draw?

A. The design is easily maintainable.

B. The design is difficult to maintain.

Both Web applications should be placed in a single project.

C. The design is difficult to maintain.

All Web services should be placed in a single project.

D. The design is difficult to maintain.

All Windows Forms applications should be placed in a single project.

Answer: C

Explanation: Maintainability will be improved if all Web services are places in a single project as it will then allow you to make changes to the configuration in one place and have it reflected by all the Web services. Thus the conclusion should be the design is not maintainable - all Web services should be placed in a single project.

Incorrect answers:

A: This is incorrect since there are still some measures that can be taken to improve

maintainability.

B: Placing both Web applications in a single project is impractical. These two Web applications have different configuration requirements and that means that they need to be in separate projects.

D: Placing all Windows Forms applications in a single project is impractical since Windows Forms applications require an entry point, and only one point can exist per application.

QUESTION 48

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as an information bureau for the supply of information to financial institutions such as banks.

You are currently busy implementing a solution for Certkiller .com that will, when completed, consist of three Microsoft ASP.NET Web applications. These applications will allow the Certkiller .com customer banks to manage credit-, investment- and current accounts. All three applications are destined to be hosted on a server that is configured with Microsoft Internet Information Services (IIS) 6.0.

Included in the Physical design is the following IIS directory structure:

1. Default Web Site (D:\Inet\wwwroot)
2. Credit Portal (D:\FinanceWeb\Credit)
3. Investment Portal (D:\FinanceWeb\Investment)
4. Current Portal (D:\FinanceWeb\Current)

In your solution you are required to display the application on pages. And images need to be reused across all three applications. To this end you need to select the best location to store these images to ensure that it can be used across all three applications.

What should you do?

- A. Use D:\FinanceWeb to store the images.
- B. Use D:\Images to store the images.
- C. Use D:\InetWeb\wwwroot\Images to store the images.
- D. Use D:\FinanceWeb\Images to store the images.

Answer: C

Explanation: The D:\Inet\wwwroot\Images is the only location amongst the available options that represents a subdirectory of the IIS virtual root directory. This will allow each of the three Web applications the ability to reference the images by means of a URL.

Incorrect answers:

A: D:\FinanceWeb does not correspond to the IIS virtual root directory and as such will not allow the web applications to reference the images using a URL.

B: There is no IIS virtual directory that corresponds to any part of D:\Images and this option will thus not allow the Web applications to reference the images.

D: There is no IIS virtual directory that corresponds to any part of D:\FinanceWeb\Images and as such this option will now allow the three Web applications to reference the images.

QUESTION 49

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com.

You are currently developing a Microsoft ASP.NET Web application that makes use of a data access component to access data in a Microsoft SQL Server 2005 database. This data access component makes use of Microsoft .NET Remoting to enable access over Transmission Control Protocol (TCP) port 9001. You must develop the Microsoft ASP.NET application to enable users to access data in the database via the Web application only. The following table illustrates the logical and physical design aspects that you should take into account when deciding whether the design meets with the security requirement:

Logical Design Aspects:	Physical Design Aspects:
<ul style="list-style-type: none">• The user interface is implemented in a Microsoft ASP.NET Web application.• Data is stored in a Microsoft SQL Server 2005 database.• A data access component accesses data in the database.• The Web application connects to the data access component over an inter-process communication (IPC) channel.	<ul style="list-style-type: none">• Host the Web application on a Web server on the perimeter network.• Deploy the data access component to the web server.• Place the database server on the intranet.• Allow only Hypertext Transfer Protocol (HTTP) traffic to the Web server.

What conclusion can you draw?

A. The design meets the security requirement.

B. The design does not meet the security requirement.

The data access component should be deployed to an application server on the intranet.

C. The design does not meet the security requirement.

The data access component should be deployed to the database server on the intranet.

D. The design does not meet the security requirement.

The data access component should be deployed to an application server on the perimeter network.

Answer: A

Explanation: It is mentioned in the question that the Web server is placed in the perimeter network and that only HTTP traffic is allowed to the Web server. This means that users can only send HTTP requests to the Web server. Even though the data access component does exist on the Web server, it will still require access through an IPC channel and IPC supports communication on the same computer only. Thus the design currently meets the security requirement.

Incorrect answers:

B: There is no need to deploy the data access component to application server on the intranet. The Web application connects to the data access component over IPC and IPC supports communication on the same computer only.

C: There is no need to deploy the data access component to database server on the intranet. The Web application connects to the data access component over IPC and IPC supports communication on the same computer only.

D: There is no need to deploy the data access component to application server on the perimeter network. The Web application connects to the data access component over IPC and IPC supports communication on the same computer only.

QUESTION 50

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as a financial institution.

You are currently developing an enterprise application for Certkiller .com.

Following are the aspects that should be taken into account in your design:

1. A Microsoft Windows Forms application that will allow all Certkiller .com employees to open accounts for customers.
2. A Microsoft ASP.NET Web application that will allow customers to open their own accounts.
3. A component named AccountOpenerProcess that manages the flow throughout both applications.

You thus need to decide on the appropriate layer in the design in which to implement these components.

What should you do?

A. The Windows Forms, the Web application as well as the AccountOpenerProcess component must be placed in the business layer.

B. The Windows Forms, the Web application as well as the AccountOpenerProcess component must be placed in the presentation layer.

C. The Windows Forms and the Web application must be placed in the presentation layer.

The AccountOpenerProcess component must be placed in the data layer.

D. The Windows Forms and the Web application must be placed in the presentation layer.

The AccountOpenerProcess component must be placed in the business layer.

Answer: B

Explanation: According to Microsoft best practices, the presentation layer should include the user interface components and user process components. The user interface components provide the interface with which users interact directly. This is what the Windows Forms application and the Web application is in this scenario. The user process

components aid the flow of the application. If you separate the user process components from the user interface components, then you allow the workflow to be reused by multiple user interfaces. Due to the AccountOpenerProcess component aiding the flow throughout the application, you should place this component in the presentation layer as well.

Incorrect answers:

A: None of these components should be placed in the business layer. The business layer should include the business workflows, business entities, business components and service interfaces.

C: This option is only partly correct. You should instead also be placing the AccountOpenerProcess component in the Presentation layer and not in the data layer.

D: This is only partly correct since the AccountOpenerProcess component should also be placed in the presentation layer.

QUESTION 51

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. You are currently developing a Microsoft Windows service that will form part of an enterprise solution for Certkiller .com. The service must be able to (1) Monitor a File Transfer Protocol (FTP) directory for incoming files, and (2) Extract data from the files and import them into a database.

Following are the requirements that should be met by this service:

1. It must run using a least privileged account.
2. It must be capable of processing 300 files per minute.
3. It must be able to recover from failures that cause it to stop functioning.

You thus need to identify the factor that is most important during the design of the application.

What should you do?

- A. You should identify factors pertaining to Maintainability.
- B. You should identify factors pertaining to Performance.
- C. You should identify factors pertaining to Security.
- D. You should identify factors pertaining to Usability.

Answer: B

Explanation: Performance should be identified as the most important factor under these circumstances. One of the requirements states that the service must be able to process 300 files per minute. This means that the service should perform at a rate of file files per second. This is this important and you need to decide how to design and implement the service to achieve this performance goal.

Incorrect answers:

A: Maintainability is easily attainable by configuring Windows services to automatically restart after it stops. Thus this is not a factor to take into consideration under these

circumstances.

C: Security can easily be configured in a Windows service to run as a dedicated account for file and database purposes after it is implemented.

D: Usability should not be the factor to take into consideration in this scenario. Windows services typically do not provide a user interface.

QUESTION 52

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as a Geographic Positioning System service provider. You are currently developing a geographical mapping application. You must create a struct named Waypoint that models a waypoint. This waypoint is to consist of a set of latitude and longitude coordinates. In the event of a user passing a street address to the struct, it must perform a location lookup and set its coordinates appropriately.

To this end you need to define the Waypoint struct. You need to ensure that your application requires the least amount of code to set the coordinates from a street address.

What should you do? (Choose the correct code segment.)

A. public struct Waypoint

```
{  
    public double Latitude;  
    public double Longitude;  
    public Waypoint FromAddress(String address)  
    {  
        Waypoint waypoint = new Waypoint();  
        // Set the Latitude and Longitude fields based on the address.  
        return waypoint  
    }  
}
```

B. public struct Waypoint

```
{  
    public double Latitude;  
    public double Longitude;  
    public Waypoint(String address)  
    {  
        //Set the Latitude and Longitude fields based on the address.  
    }  
}
```

C. public struct Waypoint

```
{  
    public double Latitude;  
    public double Longitude;  
}
```

```
public String address
{
    set
    {
        //Set the Latitude and Longitude fields based on the address.
    }
}
D. public struct Waypoint
{
    public double Latitude;
    public double Longitude;
    public void SetAddress(String address)
    {
        //Set the Latitude and Longitude fields based on the address.
    }
}
```

Answer: B

Explanation: When the Waypoint struct is defined with a non-default constructor, it allows calling code to initialize the Latitude and Longitude fields of the Waypoint struct when it is instantiated. This solution only uses one code statement.

Incorrect answers:

A: You should not add a non-static method to return a Waypoint instance. As such it would require applications to first initialize the Waypoint struct by calling its constructor and only then can applications call methods on the structs. Furthermore this solution will require two code statements.

C: You should not add a non-static method to set the Latitude and Longitude fields of the Waypoint instance. This will require the application to first initialize the Waypoint struct by calling its constructor and only then will the application be able to call methods on the struct. Besides this solution will require two code statements.

D: You should not add a property to set the Longitude and Latitude fields of the Waypoint instance. This will require the application to first initialize the Waypoint struct by calling its constructor and only then will the application be able to call methods on the struct. Besides this solution will require two code statements.

QUESTION 53

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as the Emergency unit of the Traffic Department. You are currently busy implementing a Microsoft .NET Remoting component. This component will be used in the traffic control environment. The component will allow the traffic department to guide all traffic officers on duty to the available

alternative routes during emergencies. As such the component must meet the following requirements:

1. A specific instance of the component must be allowed to control access to the navigational system on one traffic officer's vehicle.
 2. The component must be instantiated only once while the traffic officer's navigational system is being controlled.
 3. The component must be hosted on a server that is separate from the application.
- To this end the design suggests making use of single-call activation over Transmission Control Protocol (TCP). You are now required to decide whether or not the design meets the requirements.
What conclusion can you draw?

- A. The design meets the requirements.
- B. The design is inadequate; it should make use of client activation.
- C. The design is inadequate; it should make use of Singleton activation.
- D. The design is inadequate; it should make use of inter-process communication (IPC).

Answer: B

Explanation: The requirements clearly indicate that the component should be stateful, being stateful means that the component can be instantiated once, and maintain its state throughout its lifetime. With client activation, the client maintains state for a remote object; also the object gets instantiated once for each client. Thus the design is inadequate and should also make use of client activation.

Incorrect answers:

- A: There are definitely some inadequacies and you will need client activation to meet the stated requirements.
- C: Singleton activation is when a single instance of an object is provided to multiple clients. This is not what is required in this scenario since you only need to use one object per client.
- D: IPC supports communication between different processes running on the same computer only. This is not the case in this scenario; instead the application needs to communicate with the component on a different computer.

QUESTION 54

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. You are currently developing a business logic component that is used in a line-of-business (LOB) application. The business logic component calls a Web method named SeeCustomer in an Extensible Markup Language (XML) Web service. The SeeCustomer Web method throws an exception of a type SoapExtension in the event of the specified customer being non-existent. Now, when this exception is thrown, you must call a Web method named NewCustomer. To this end you need to implement the appropriate exception handling mechanism to meet

this requirement.
What should you do?

- A. Do nothing and leave the exception.
- B. First catch the exception and do not re-throw it.
- C. First catch the exception, then log it, and then re-throw it.
- D. First catch the exception, then wrap the exception, and then throw the wrapped exception.

Answer: B

Explanation: When an exception is caught, you prevent it from propagating up the call stack. This will then allow you to call the NewCustomer Web method. Thus you should catch the exception and not re-throw it.

Incorrect answers:

- A: Not doing anything about the exception will allow the exception to propagate up the call stack and prevent you from calling the NewCustomer Web method.
- C: Re-throwing the exception will result in the exception propagating up the call stack and will not afford you the opportunity to call the NewCustomer Web method.
- D: A Wrapped exception being thrown would result in a new exception up the call stack and will also prevent you from calling the NewCustomer Web method.

QUESTION 55

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as a service provider in the security industry.

You are currently developing a video surveillance application for Certkiller .com. You need to implement a class named Visuals. Visuals will be destined to control access to a video camera. A method named StartRecording must start a recording session of the camera if one is not already started. In the event of a recording session having started already when the method is called, you must interrupt the execution of the application. To this end you now need to define the Visuals class.

What should you do? (Choose the correct code segment.)

```
A. public class Visuals
{
    private bool _recording = false;
    public event EventHandler Recording;
    public void StartRecording()
    {
        if(_recording == true && Recording != null)
        {
            Recording(this, EventArgs.Empty);
        }
    }
}
```

```
// Start recording
_recording = true
}
}
B. public delegate void RecordingStarted(String message);
public class Visuals
{
private bool _recording = false;
public RecordingStarted Recording;
public void StartRecording()
{
if (_recording == true)
{
Recording("A recording session is in progress.");
}
}
// Start recording
_recording = true;
}
}
C. public class Visuals
{
private bool _recording = false;
public void StartRecording()
{
if (_recording == true)
{
throw new InvalidOperationException("A recording session is in progress.");
}
}
// Start recording
_recording = true;
}
}
D. public class Visuals
{
private bool _recording = false;
public void StartRecording()
{
if (_recording == true)
{
MessageBox.Show("A recording session is in progress.");
}
}
// Start recording
_recording = true;
}
}
```

Answer: C

Explanation: If the method is called when there is already a recording session in progress then you should throw an exception. This will allow you to interrupt the normal flow of an application.

Incorrect answers:

A: Raising an event will result in the application to subscribe to the event to receive notification regarding the status of recording sessions. Thus it will not interrupt the execution of the application.

B: Invoking a delegate is not the solution since it will result in the application to require associating with a method with the delegate to receive notification regarding recording session status and as such would not interrupt the execution of the application.

D: Displaying a message box does not interrupt the execution of an application; it would instead result in an interruption to the user.

QUESTION 56

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as an umbrella company for several recording houses in the music industry.

You are currently developing an enterprise application for Certkiller .com. you need to design the database schema for this application and following are the facts regarding record labels/recording house, albums, songs, and artists; pertaining to the company that you need to take into account in your design:

1. A label has one or more albums.
2. A label has one or more artists.
3. An artist records zero or more albums.
 1. An artist records one or more songs.
 2. An artist belongs to one label.
 1. An album is recorded by one or more artists.
 2. An album has one or more songs.
 3. An album is owned by one label.
4. A song is recorded by one or more artists.
5. A song exists on one or more albums.

You need to normalize the database. To this end you need to decide on the amount of tables to use in the database.

What should you do?

- A. You require 2 tables.
- B. You require 4 tables.
- C. You require 5 tables.
- D. You require 7 tables.

Answer: D

Explanation: There are four main entities: namely Label, Artist, Album, Song. This means that you need to create four tables to correspond to these entities. However, you also need to take into account the many-to-many relationships that has to be reflected in the database. The existing many-to-many relationships include relationships between: artists and albums, albums and songs, and artists and songs. Thus you need an additional three tables. Seven tables is thus the minimum number of tables required for normalization.

Incorrect answers:

A: With two tables only, the database would not be normalized.

B: With only 4 tables the database would not be normalized.

C: With only 5 tables the database would not be normalized.

QUESTION 57

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. You are currently developing an Extensible Markup Language (XML) Web service that when completed will allow client applications the ability to download movie clips. One of the requirements that should be met is that all Web service clients must be able to use the Web service. You should also keep in mind that you should optimize the message transfer for some of the movie clips since fifty percent of the movie clips are quite large.

To this end you decide to make use of Microsoft Visual Studio 2005 and Web Services Enhancements (WSE) 3.0 to develop the Web service. Now you need to modify the Web.config file to meet the requirements.

What should you do? (Choose the correct configuration.)

A. <configuration>
<microsoft.web.services3>
<mtom serverMode="optional"/>
</microsoft.web.services3>
</configuration>

B. <configuration>
<microsoft.web.services3>
<mtom serverMode="always"/>
</microsoft.web.services3>
</configuration>

C. <configuration>
<microsoft.web.services3>
<mtom clientMode="on"/>
</microsoft.web.services3>
</configuration>

D. <configuration>
<microsoft.web.services3>

```
<mtom serverMode="never"/>  
</microsoft.web.services3>  
</configuration>
```

Answer: A

Explanation: WSE 3.0 allows one to make use of Message Transmission Optimization Mechanism (MTOM) to encode and transmit large amounts of binary data. MTOM allows one to transmit binary messages in binary form without the need to encode them in a text format. It is necessary that the client application support MTOM to be able to use it. You also set MTOM in a Web service by setting the serverMode attribute of the mtom element. This attribute supports three values: optional, never and always. However, if MTOM is used in this way, the message transfer is not optimized.

Incorrect answers:

B: The serverMode attribute should be set to optional, for if set to always, you need the Web service client to support MTOM and not all Web service clients supports MTOM.

C: The serverMode attribute should be set to optional, for if set to on, the attribute will determine whether MTOM is supported by the Web service client and in this scenario you are configuring the Web service.

D: The serverMode attribute should be set to optional, for if set to never, this attribute will indicate that MTOM should not be enabled for incoming Simple Object Access Protocol (SOAP) requests.

QUESTION 58

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates as a medical technological company that manufactures electronic scanning equipment for medical use.

You are currently developing a Microsoft Windows Forms application. This application is destined to allow doctors to perform computed Axial Tomography (CAT) scans on patients. When a CAT scan is carried out, it takes over 1,000 two-dimensional scans that are combined to create a three-dimensional image. It takes no more than two seconds to make a two-dimensional scan, however it also takes approximately 20 seconds to combine each image.

The Microsoft Windows Forms application that you are developing must allow doctors to take the two-dimensional scans without requiring the patients to wait for a long time. You thus need to choose the appropriate component to meet this requirement.

What should you do? (Choose the correct component.)

- A. Process
- B. Timer
- C. BackgroundWorker
- D. ImageList

Answer: C

Explanation: The BackgroundWorker component will allow one to implement asynchronous processing. In this particular case you can implement two-dimensional scanning and use BackgroundWorker component to combine the scans.

Incorrect answers:

A: The Process component allows one to execute a process. This is not what will reduce the waiting time for the patients.

B: The Timer component allows a Windows Forms application to respond to timed events. You rather need to make use of BackgroundWorker component to reduce the waiting time for patients.

D: The ImageList component allows one to manage a collection of images that can be used with the TreeView, ListView, and ToolStrip controls, not to reduce waiting time.

QUESTION 59

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks.

You are currently developing a Microsoft Windows Forms monitoring application for Certkiller .com. This application is destined to read data in a Microsoft SQL Server 2005 database and display it graphically on a form. All Certkiller .com users need to be able to:

1. choose the refresh rate for displaying data
2. choose an interval in multiples of one second

To this end you need to reuse a component to meet these requirements without requiring excessive coding.

What should you do?

A. You need to encapsulate a BackgroundWorker instance in a custom class by wrapping the BackgroundWorker component.

B. You need to encapsulate a Timer instance in a custom class by wrapping the Timer component.

C. You need to derive a class from BackgroundWorker by extending the BackgroundWorker component.

D. You need to derive a class from System.Windows.Forms.Timer by extending the Timer component.

Answer: D

Explanation: The Timer component needs to be extended in the System.Windows.Forms.Timer class. The Timer component raises a Tick event at intervals specified in the Interval property. If you derive a class from Timer, you in essence allow client applications to set the interval property to multiples of one second.

Incorrect answers:

A: The BackgroundWorker component allows for asynchronous code execution. It is stated pertinently in the question that no excessive coding must be allowed.

B: Wrapping the Timer component is not the solution. It will require you to write code that exposes the functionality of the Timer component.

C: You should not extend the BackgroundWorker component as this component allows one to execute code asynchronously in a background thread and automatically notify the foreground thread when the asynchronous operation completes. However, this involves extra coding that is required.

QUESTION 60

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates in the security and surveillance environment. You are currently developing a video surveillance application for Certkiller .com. While executing your duties, you examine a third party component that implements a Camera class. This class allows you to connect to a physical camera and record video or capture images. The following exhibit illustrates the Camera class definition:

Exhibit:

```
public class Camera
{
    public virtual void CaptureImage()
    {
        //Capture a still image
    }
    public virtual void StartRecording()
    {
        //Start a recording session
    }
    public virtual void StopRecording()
    {
        //Stop a recording session
    }
}
```

You now need to define the custom class to achieve the following goals:

1. reuse the Camera class to implement a custom class
2. allow the application to capture still images
3. prevent the application from being able to use your class to start and stop a recording session

What should you go? (Choose the correct code segment.)

A. public class StillImageCamera : Camera
{


```
public override void CaptureImage()
{
    base.CaptureImage();
}
}
B. public class StillImageCamera : Camera
{
    public override sealed void StartRecording()
    {
        base.StartRecording();
    }
    public override sealed void StopRecording()
    {
        base.StopRecording();
    }
}
C. public class StillImageCamera
{
    private readonly Camera _camera = new Camera();
    public virtual void CaptureImage()
    {
        _camera.CaptureImage();
    }
}
D. public class StillImageCamera : Camera
{
    public new void CaptureImage()
    {
        base.CaptureImage();
    }
}
```

Answer: C

Explanation: To allow yourself to be able to control access to the functionality exposed by the Camera class, you should wrap the Camera class by encapsulating it within another class. When you implement only the method that captures still images, you can prevent the application from making use of your class to start or stop a recording session.

Incorrect answers:

A, B, D: To derive a class from the Camera class as suggested in these options is not the solution. This will result in a solution that will allow the application to access all functionality exposed by the Camera class through polymorphism.

QUESTION 61

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named

Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates in the Inland Revenue services department. You are currently developing an income tax preparation application. This application should calculate income tax on the following basis:

Income	Tax
Up to \$7,500	10%
Over \$7,500 and up to \$30,000	\$750 + 15% of the amount over \$7,500
Over \$30,000 and up to \$72,000	\$4,200 + 25% of the amount over \$30,000
Over \$72,000	\$15,000 + 28% of the amount over \$72,000

To this end you create two Double variables. These are named income and tax respectively. What is now required is to choose an appropriate decision flow structure to implement the business rules.

What should you do? (Choose the appropriate code segment.)

```
A. if (income <7500)
{
tax = 0.10*income;
}
else if (income <=30000)
{
tax = 0.15*(income - 7500) + 750;
}
else if (income <=72000)
{
tax = 0.25*(income - 30000) + 4200;
}
else
{
tax = 0.28*(income - 72000) + 15000;
}

B. if (income <=7500)
{
tax = 0.10*income;
if (income <= 30000)
{
tax = 0.15*(income - 7500 + 750;
if (income <= 72000)
{
tax = 0.25*(income - 30000) + 4200;
}
}
else
{
tax = 0.28*(income - 72000) + 15000;
}
```

```
}  
}  
C. switch ((int)income)  
{  
case 7500:  
{  
tax = 0.10*income;  
break;  
}  
case 30000:  
{  
tax = 0.15*(income - 7400) + 750;  
break;  
}  
case 72000:  
{  
tax = 0.25*(income - 30000) + 4200;  
break;  
}  
default:  
{  
tax = 0.28*(income - 72000) + 15000;  
break;  
}  
}  
D. if (income <= 7500)  
{  
tax = 0.10*income;  
}  
if (income <= 30000)  
{  
tax = 0.15*(income - 7500) + 750;  
}  
if (income <= 72000)  
{  
tax = 0.25*(income - 30000) + 42000;  
}  
if (income > 72000)  
{  
tax = 0.28*(income - 72000) + 15000;  
}  
}
```

Answer: A

Explanation: When you make use of if-else statements then you control execution based on a single expression. In this case, if the income of an individual is less than or equal to

\$7,500, the tax variable is set to 10% of the value of the income variable. Execution then leaves the entire if-else block. If not, then the code will determine whether the income is less than or equal to \$ 30,000. If so, then the tax variable is set to \$750 + 15% of the income over \$7,500 etc.

Incorrect answers:

B: You should not make use of nested if-statements because it will result in income less than \$7,500 to be taxed as 25%.

C: You should not make use of switch-case statements because each statement can be used to test a single value, but not a range of values. This will then result in income of less than \$ 7,500 to be taxed at 28%.

D: You should not make use of if statements as it will cause income of less than \$7,500 to be taxed at 25%.

QUESTION 62

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates as a financial institution.

You are currently developing a Microsoft Windows Forms application for Certkiller .com that is meant to allow bank tellers to manage account transactions for the Certkiller .com customers. In the United States of America is it government policy that all transactions to the value of \$10 000 or greater must be reported.

Certkiller .com need to comply with this policy. This policy also states that the government should be informed as to who made the large transaction.

The logical design suggests that in the event of a teller managing a transaction for a customer that is \$ 10,000 or greater in value logging of the following information should occur:

1. Date and time
2. Customer account number
3. Transaction amount
4. Transaction type

When subjected to government audit, Certkiller .com needs to have peace of mind that they are in compliance with the government policies. Thus you now need to decide whether or not the design meets the requirements for compliance.

What conclusion can you draw?

- A. The design is adequate. It meets all the requirements for compliance.
- B. The design is inadequate. You should not log the Certkiller .com customer's account number.
- C. The design is inadequate. You should not log the transaction amount.
- D. The design is inadequate. You should also log the name of the Certkiller .com teller managing the account.

Answer: A

Explanation: The design logs enough information to allow the government to determine which customer made the large transaction as well as the type of transaction that was made. They can even identify the customer through the account number. Thus the design meets the requirements.

Incorrect answers:

B: You will need the account number because it will allow the government to identify who made the transaction.

C: The transaction amount has to be logged because it will provide the proof that an amount of \$ 10,000 or more has been made.

D: The requirements do not indicate that the need to know which Certkiller .com teller managed the transaction for the customer has to be logged.

QUESTION 63

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates as a financial institution.

You are currently developing a Microsoft Windows Forms application for Certkiller .com that is meant to allow bank tellers to manage account transactions for the Certkiller .com customers. In the United States of America is it government policy that all transactions to the value of \$10 000 or greater must be reported.

Certkiller .com need to comply with this policy. This policy also states that the government should be informed as to who made the large transaction.

When subjected to government audit, Certkiller .com need to be able to easily search for transactions by account number, amount, or date. It is anticipated that 100,000 transactions per day will take place.

The logical design suggests that logging of the transactions should occur to an Extensible Markup Language (XML) file. You need to decide whether the design is feasible whilst ensuring that it is also scalable.

What conclusion can you draw?

- A. The design is feasible.
- B. The design is not feasible. Make use of an event log instead of an XML file.
- C. The design is not feasible. Make use of a database instead of an XML file.
- D. The design is not feasible. Make use of a binary file instead of an XML file.

Answer: C

Explanation: A database would be more suited to the scenario since you need to make provision for scalability by allowing multiple instances of the Windows Forms application to log transaction data at the same time.

Incorrect answers:

A: The design is clearly not feasible since you also need to make provision for scalability which is currently no provision has been made.

B: An event log would not allow you to search the event log by account number or

amount.

D: A binary file will not suffice since it will only allow one application to write to a file at a time.

QUESTION 64

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates in the security and surveillance environment. You are currently developing a Microsoft Windows Forms security monitoring system. The application is destined to connect to fifty cameras to record as well as play video. A class named Camera interacts with a physical camera. You make use of the semaphore class to create a resource pool of five camera instances. The business is of such a nature that no more than three Camera instances will be in use at a time. To this end you implement a custom trace listener to send trace messages to a database. In the event of a fourth Camera instance is obtained from the resource pool, you will require to log a message that will read something like: Only one Camera instance remains in the resource pool. You now need to choose the most appropriate trace level for this message. What should you do?

- A. You should select the Verbose level.
- B. You should select the Error level.
- C. You should select the Warning level.
- D. You should select the Informational level.

Answer: C

Explanation: This type of message would be considered a warning message because it indicates that something out of the ordinary might happen if a problem is not addresses. In this case, a fourth Camera instance is not anticipated and if a fourth Camera instance is obtained from the resource pool, there would only be one Camera instance remaining. If the fifth Camera instance is obtained there would be none remaining.

Incorrect answers:

- A: Verbose level is chosen for messages that do not provide a high level of technical information. It is usually used in messages pertaining to control flows, component state changes, etc.
- B: Error level messages are not appropriate in this scenario. This message does not indicate that something exceptional has happened.
- D: Informational level messages simply provide information that indicates what is happening; not exceptional instances.

QUESTION 65

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named

Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks.

A developer names Clive Wilson is currently writing the following code for an Extensible Markup Language (XML) Web service:

```
01 TraceSwitch generalSwitch = new TraceSwitch("General", "General Switch");  
02 Trace.WriteLineIf(generalSwitch.TraceError, "Cannot access mainframe computer");  
03 Trace.WriteLineIf(generalSwitch.TraceInfo, "Creating a new data file");
```

(Please note: The line numbers are for reference purposes only.)

Unfortunately the Web service is experiencing problems in production. To this end you decide that both the error message and the informational message need to be written to a Microsoft SQL Server 2005 database. Thus a custom trace listener is configured in the Web.config file to write the trace information to the database.

Clive Wilson then sets the trace level to 1 (Error).

You need to make a decision as to whether the solution is correct or not.

What conclusion can you draw?

- A. The solution is correct.
- B. The solution is incorrect because Clive Wilson should set the trace level to 3(Info).
- C. The solution is incorrect because Clive Wilson should delete the code at line 02 and include the informational message with the error message.
- D. The solution is incorrect because Clive Wilson should delete the code at line 03 and include the informational message with the error message.

Answer: B

Explanation: This solution is incorrect since Clive Wilson should rather set the trace level to 3. This trace level only indicates that only error, warning, and informational messages should be logged. Trace level ranges from 1 through 4 and the higher the trace level, the more types of messages it can log.

Incorrect answers:

- A: There is definitely something wrong with the solution and thus this option is incorrect.
- C: Clive Wilson should not delete the code at line 02 and include the error message with the informational message. It is possible to write both messages if the trace level is set to 3.
- D: Clive Wilson should not delete the code at line 03 and include the error message with the informational message. It is possible to write both messages if the trace level is set to 3.

QUESTION 66

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com is in the business of retailing music videos online.

Your team is currently busy developing a Microsoft ASP.NET Web application that is destined to allow users to purchase music videos online. A Microsoft SQL Server 2005 database is currently used to store the music video data. The Certkiller .com

management wants the application to allow the users to search for music videos by title, artist, and genre. To this end you perform a code review for a page and then discovered the following SQL statement stored in a String variable:

```
SELECT * FROM Musicvideo WHERE Artist=@Artist
```

The code makes use of a query string value to create a SqlParameter instance that represents the @Artist parameter. The code then executes the query and displays the results in a GridView control. Now you need to make a decision as to whether the application is vulnerable to a SQL injection attack.

What conclusion can you draw?

- A. The application is not vulnerable to a SQL injection attack.
- B. The application is vulnerable to a SQL injection attack. The SQL statement should be replaced with a table-direct call.
- C. The application is vulnerable to a SQL injection attack. The SQL statement should be replaced with a stored procedure call.
- D. The application is vulnerable to a SQL injection attack. The SQL statement should be replaced with a function call.

Answer: A

Explanation: SQL injection attacks can occur when an application constructs SQL queries dynamically. In this case this risk is negated by the use of parameterized queries.

Incorrect answers:

B: Replacing the SQL statement with a table-direct call is superfluous since the application makes use of parameterized queries.

C: Replacing the SQL statement with a stored procedure call is superfluous since the application makes use of parameterized queries.

D: Replacing the SQL statement with a function call is superfluous since the application makes use of parameterized queries.

QUESTION 67

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the Inland Revenue services department.

You are currently performing a code review for an income tax filing application. In the code review you examine the following code:

```
while (true)
{
    TaxForm form = taxForm.Instance;
    if (form == null)
        break;
    Schedule schedule = form.Schedule;
    if (schedule == null)
        break;
```

```
Worksheet worksheet = schedule.Worksheet;  
if (worksheet == null)  
break;  
worksheet.Clear();  
break;  
}
```

The code is meant to clear a worksheet. Now you need to check whether the code has any problems with its semantics.

What conclusion can you draw?

- A. The code has no problems.
- B. The code has problems as you need to pass the value false to the while expression.
- C. The code has problems as execution will occur in an infinite loop.
- D. The code review failed as the Clear method of the Worksheet class will never get called.

Answer: A

Explanation: A while true loop will prevent the need to make use of nested if statements. Thus this code does not have any problems. You simply need to ensure that you always break out of the loop after all conditions inside the loop have been tested.

Incorrect answers:

B: This is incorrect the condition would always fail and execution would never enter the loop.

C: There will not be an infinite loop because execution will break after the last break statement.

D: This is incorrect since as long as each if statement inside the while true loop fails, execution will reach the end of the loop and the Clear method will get called.

QUESTION 68

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the security and surveillance environment. You are currently developing a video surveillance application for Certkiller .com. You perform a code review of the following class:

```
public class Camera  
{  
public Camera GetInstance()  
{  
return _null;  
}  
}
```

This class is supposed to make use of the Singleton design pattern to control access to a physical video camera. You need to modify the Camera class.

What should you do? (Choose the correct code segment.)

```
A. public class Camera
{
private static volatile Camera _instance;
public static Camera Instance
{
get
{
if (_instance == null)
{
lock(_instance)
{
if (_instance == null)
{
_instance = newCamera();
}
}
}
return _instance;
}
}
}
```

```
B. public class Camera
{
private Camera _instance;
public Camera Instance
{
get
{
if (_instance == null)
{
lock(_instance)
{
if (_instance == null)
{
_instance = newCamera();
}
}
}
return _instance;
}
}
}
```

```
C. public class Camera
{
```

```
public static Camera Instance
{
    get
    {
        Camera instance = new Camera();
        return instance;
    }
}
D. public class Camera
{
    private Camera _instance;
    public Camera GetInstance()
    {
        _instance = new Camera();
        return _instance;
    }
}
```

Answer: A

Explanation: you need to define a static class member that returns a single instance of the class because the Singleton design pattern allows one instance of a class to be provided to multiple threads. The method must ensure that it creates an instance if there is not already an instance in existence and return the already existent instance if one does exist.

Incorrect answers:

B: This is incorrect you should be defining a static class member that returns a single instance of the class with the Singleton design pattern.

C: You should not implement a static property to always create a new instance of the class. You should rather return a single instance with the Singleton design pattern.

D: you should not be implementing a class member to return a non-static instance of the class. You need to return a static instance of the class with the Singleton design pattern.

QUESTION 69

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the Credit Card Services department of a financial institution.

You and your team are currently developing an Extensible Markup Language (XML) Web service. When completed this Web service will allow merchants to verify and charge a customer's credit card. A Web method named Verify accepts a String parameter that represents the customer's credit card number. Verify's main function will be to ensure that a credit card number is valid. Verify will be

configured to throw an exception in the event of the card number being invalid.

Following is the unit strategy testing as it will be implemented:

1. Use the automatically generated Microsoft ASP.NET Web page to test the Verify Web method.
2. Ensure that no exception is thrown when you pass a valid credit card number to the Web method.

What conclusion can you draw?

- A. The unit testing strategy is correct.
- B. The unit testing strategy is incorrect since you need to perform unit testing from a merchant's client application.
- C. The unit testing strategy is incorrect, since you need to ensure that an exception is thrown when an invalid credit card number is passed to the Web method.
- D. The unit testing strategy is incorrect since you only need to ensure that an exception is thrown when an invalid credit card number is passed to the Web method.

Answer: C

Explanation: This strategy is inadequate. When performing unit testing you essentially ensure that a method behaves in the way it is expected to behave. In this case the Verify Web method must throw an exception when an invalid credit card number is passed. You need to:

Call the Web method and pass a valid credit card number. Ensure that no exception is thrown.

Call the Web method. Ensure that the exception is thrown.

to complete the test and the test will only pass if these two conditions pass.

Incorrect answers:

A: This option is incorrect since not all the conditions will be met.

B: This option is suggesting integration testing.

D: You also need to ensure that verification succeeds when a valid credit card number is passed to the Web method. An exception should not be thrown in the event of validation success.

QUESTION 70

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications.

Certkiller .com operates in the international retail environment.

You are currently developing an order fulfillment solution for Certkiller .com. In this solution, the Certkiller .com customer's order is represented by the Order class. The Order class has a property named Status. It is possible to set Status to one of the following enumeration members:

1. Created - the order has been created.
2. BackOrdered - the order has been placed on backorder.
3. Scheduled - the order is scheduled for delivery.

- 4. Cancelled - the order has been cancelled.
- 5. Shipped - the order has been shipped.
- 6. Delivered - the order has been delivered.

Certkiller .com works in joint ventures with courier companies world-wide due to the nature of the business. A method named Ship is implemented to invoke a Web method of an Extensible Markup Language (XML) Web service at these courier companies. The courier companies are then responsible for the delivery of the order. When the Ship method is called, the Status property is set to Shipped. You are required to unit test the Ship method to ensure that the test passes. What should you do?

- A. Carry out the unit test by calling the Ship method.
Then verify that the Status property is not changed to BackOrdered.
- B. Carry out the unit test by calling the Ship method.
Then verify that the Status property is not changed to Scheduled.
- C. Carry out the unit test by calling the Ship method.
Then verify that the Status property is changed to Ship prior to the delivery of the order.
- D. Carry out the unit test by calling the Ship method.
Then verify that the Status property is changed to Delivered after delivery of the order.

Answer: C

Explanation: During a unit test on a method, you should test the logical outcome of the method call. In this case you need to call the Ship method and verify the Status property is changed to Shipped.

Incorrect answers:

- A: You should not verify that the Status is not changed to BackOrdered as this will not indicate that the Ship method is working as it should. This option will allow the unit test to pass even if the Ship method set the Status to Cancelled, Created, Scheduled or Delivered.
- B: You should not verify that the Status is not changed to Scheduled as this will not indicate that the Ship method is working as it should. This option will allow the unit test to pass even if the Ship method set the Status to Cancelled, Created, BackOrdered or Delivered.
- D: In this scenario you are unit testing the Ship method, this means that you should only ensure that the Status property is set to Shipped.

QUESTION 71

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the international retail environment. Certkiller .com works in joint ventures with courier companies world-wide due to the nature of the business. These courier companies are responsible for the delivery of the order. A method named Ship is implemented to invoke a Web method of an

Extensible Markup Language (XML) Web service at these courier companies. You are currently developing an order fulfillment solution for Certkiller .com. In this solution, the Certkiller .com customer's order is represented by the Order class. The Order class in turn has a Web method named Ship. The Ship method is designed as follows:

1. It accepts a DateTime instance that represents the earliest date that an order should be shipped.
 2. It throws an exception if it is passed a data that is earlier than the current date.
 3. It allows multiple threads to call it at the same time.
 4. It invokes the Web method of the Web service asynchronously.
- You are required to unit test and conclude that the previous design aspects are implemented correctly. To this end you need to perform an additional unit test so as to ensure that the Ship method will be functional under all production scenarios. What should you do?

- A. You should perform the Performance unit test.
- B. You should perform the Concurrency unit test.
- C. You should perform the Expected Exception unit test.
- D. You should perform the Boundary Condition unit test.

Answer: D

Explanation: A Boundary Condition test will allow you to evaluate whether the code responds in the proper fashion when out-of-bounds input values are entered. This will allow you to ensure that code fails gracefully if out-of-bounds input values are used at run time.

Incorrect answers:

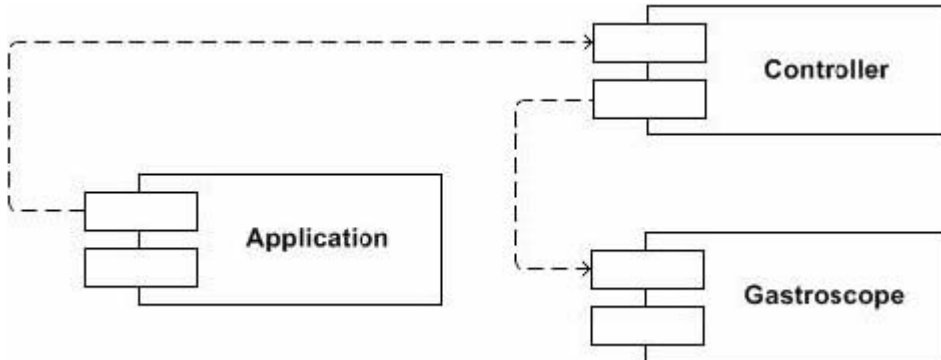
- A: A Performance test will allow you to measure the speed at which the method executes. Nothing in this question suggests the need to a performance test.
- B: A Concurrency test is the type of test that has already been performed to ensure that multiple threads can call the method at the same time. This is not the appropriate solution since this test has been run already in this scenario.
- C: An Expected Exception test has already been run in this scenario to ensure that an exception is thrown when a date earlier than the current date is passed to the Ship method.

QUESTION 72

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates as a medical technological company that manufactures electronic scanning equipment for medical use. You are currently planning the performance of integration testing on a Microsoft Windows Forms application. This application is designed to allow doctors to perform internal gastro scopes. This application makes use of a controller to

operate the scanning device that is inserted into the patient via the oral cavity. The exhibit below illustrates a component diagram of the application.

Exhibit:



You now need to determine the component dependencies based on this design. What should you conclude?

- A. The application depends on the controller and the gastro scope.
- B. The application depends on the controller, and the controller depends on the gastro scope.
- C. The gastro scope depends on the controller, and the controller depends on the application.
- D. The gastro scope depends on the controller and the application.

Answer: B

Explanation: According to the diagram the direction of the arrow shows the dependency relationship. In this case the arrow is drawn from the Application component to the Controller component. This means that the application depends on the controller. And the other arrow is drawn from the Controller component to the Gastro Scope component which in turn means that the controller is dependent on the gastro scope.

Incorrect answers:

- A: This option would see the arrow drawn from the Application component to the Controller and Gastro Scope components.
- C: This option would see the one arrow drawn from the Gastro Scope component to the Controller component and another arrow from the Controller component to the Application component.
- D: This option would see the arrow drawn from the Gastro Scope component to the Controller and Application components.

QUESTION 73

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. You and the development team is currently busy developing an enterprise resource planning solution for Certkiller .com. The logical design for this application consists of a Microsoft ASP.NET Web application, a Microsoft .NET Remoting component,

and a Microsoft Windows service. The Microsoft Windows service hosts the .NET Remoting component which is a marshal-by-reference component. The purpose of this component is to read and update the performance counters. The Web application is designed to access the component via Transmission Control Protocol (TCP) channel. The Web application is hosted on a Web server and the .NET Remoting component is hosted on an application server.

A Developer named Mia Hamm has been instructed to perform the integration testing of the component. Following is the step-by step procedure that Mia Hamm followed during the integration testing:

1. Mia Hamm adds the component to an ASP.NET Web application project.
2. Mia Hamm does not configure Remoting in the Web application.
3. Mia Hamm accesses the Web application and invokes methods on the component.
4. The method calls fail.

You need to make a decision as to whether the test results can be considered valid. What conclusion can you draw?

- A. The test results are valid.
- B. The test results are invalid. Mia Hamm needs to make use of the inter-process communication (IPC) channel.
- C. The test results are invalid. Mia Hamm should configure Remoting in the Web application.
- D. The test results are invalid. Mia Hamm should not add the component to the Web application.

Answer: C

Explanation: These test results cannot be valid if .NET Remoting, marshal-by-reference components are executing at the server. If one does not configure .NET Remoting in an application that accesses a marshal-by-reference component, then the component will execute at the client. In this case the client is the Web application. This will then mean that performance counters will be updated on the Web server. To ensure valid results Mia Hamm must configure .NET Remoting in the Web application.

Incorrect answers:

- A: The test results will not be valid since Mia Hamm still needs to configure .NET Remoting in the web application.
- B: IPC supports communication between different processes on the same computer. In this scenario the Web application and the remote component are hosted on different computers.
- D: Although adding the component is not a requirement, it does make provision for the developer to enforce compile-time type checking. Removing the component from the project will not affect the results of the test.

QUESTION 74

DRAG DROP

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named

Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates as an airline company.

Another Certkiller .com tester named Rory Allen discovered a bug in the flight scheduling component. At present the component's code is checked into source control. You need to apply the appropriate actions to fix and deploy the bug. What should you do? To answer, select the appropriate actions and place them in the correct order in the work area.

Actions

Reproduce the bug in the production environment.

Reproduce the bug in the development environment.

Fix the bug.

Check the fix into source control.

Check out the necessary code from source control.

Deploy the fix to the production environment.

Deploy the fix to the test environment.

Work Area

Place first action here.

Place second action here.

Place third action here.

Place fourth action here.

Place fifth action here.

Place sixth action here.

Place seventh action here

Answer:

Actions

Reproduce the bug in the production environment.

Work Area

Reproduce the bug in the development environment.

Check out the necessary code from source control.

Fix the bug.

Check the fix into source control.

Deploy the fix to the test environment.

Deploy the fix to the production environment.

Place seventh action here

Explanation:

- 1: The first action that you should take is to reproduce the bug in the development environment. - This will allow you to check if the bug exists only in production. If this is so, then it might require only a configuration change to resolve the bug. However, if the bug is also present in development, it might require a code change to resolve the bug.
- 2: Next step: -check out the necessary code from source control - this will allow you to keep a history of the component's change. If the component is fixed incorrectly, it will allow you to revert back to the previous version.
- 3: Next step: - fix the bug - this step includes performing unit testing to ensure that the fix is correct.
- 4: Next step: - check the fix into source control - this will ensure that the deployed component matches the latest version that is in source control.
- 5: Next step: - deploy the fix to the test environment - this step will allow the tester to ensure that the bug has been fixed. An integration test should be performed against the component if the fix results in a change in the interface.
- 6: Next step: - deploy the fix to the production environment - at this stage the component should be tested successfully and the fixed version is available in the development and testing environments.

Incorrect answer:

You should not reproduce the bug in the production environment. This should be done in the development department to determine whether a code change is needed or not.

QUESTION 75

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates as a retailer.

You are currently developing a sales management application. You are making use of Microsoft ASP.NET Web and the application will be hosted on a Production Web server that runs Microsoft Internet Information Services (IIS) 6.0. Another Certkiller .com tester named Rory Allen discovered a bug and reported as follows:

If 25 users access the application simultaneously, an error page is displayed.

At present this is unacceptable since Certkiller .com requirements state that the application should support up to 50 concurrent users. You are thus required to address the issue. To this end you need to reproduce and isolate the bug.

What should your first step be?

- A. Create a test that simulates 25 users accessing the application simultaneously. Deploy a Debug build to your computer and run the test to debug the application using your development computer.
- B. Deploy a debug build of the application to reproduction and attach the Debugger to the IIS worker process. Instruct 25 users to access the application simultaneously.
- C. Deploy a Release build of the application to a staging environment and attach the Debugger to the IIS worker process. Instruct 25 users to access the application simultaneously.

D. Load 25 browser instances on your development computer to access the application. Use your development computer to debug the application.

Answer: A

Explanation :

A simulation test will simulate the production use while keeping the application in isolation. This type of test is also known as the load test. You should use a development computer to debug the application while the test is running.

Incorrect answers:

B: Instructing 25 users to access the application will make it difficult to control the user environment while debugging is taking place. This is an impractical solution.

C: This is an impractical solution to carry out since you will not be able to control the user environment when 25 users are accessing the application. You should rather debug the application while a load test is running. And you should debug the production application only if you are unable to reproduce the bug while debugging a load test.

D: If you load 25 browser instances to access the application, you will find it a very impractical solution as it is difficult to manage. A better solution would be to debug the application while a load test is running.

QUESTION 76

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You completed the development of a Microsoft ASP.NET Web application using Microsoft Visual Studio 2005 Team Edition for Software Developers. You then deploy the Microsoft ASP.NET Web application to a production server. Then you discover that the central processing unit (CPU) usage on the Web server sometimes reaches 100%. You then assume that the Web application can be the cause of the sudden increase of CPU usage, but you have no idea of where in the application the problem can be.

You now need to identify the reason why this performance spike occurs.

What should you do?

- A. You should create a Web test that consists of unit tests and run the application.
- B. You should create a Web test that consists of a load test and run the application.
- C. You should create a Performance test in Visual Studio and sample the application.
- D. You should create a Performance test in Visual Studio and instrument the application.

Answer: C

Explanation: Sampling periodically interrupts the application to collect performance data. This is extremely helpful in cases where you are unsure of where in an application there might be a bottleneck.

Incorrect answers:

A: You should not create a Web test to test a Web application's performance. You know that the application performs, what you need to do is to locate the performance bottleneck.

B: A Web test consisting of a load test will allow you to test whether the application performs as expected when a certain number of users are accessing the application. In this case it is known that the application does perform, what is not known is where the performance bottleneck exists.

D: Instrumentation presupposes the location of the performance bottleneck is known and in this case you are unsure of where in the application the performance bottleneck is occurring.

QUESTION 77

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. Certkiller .com operates as a credit bureau.

You are currently developing an Extensible Markup Language (XML) Web service that is destined to allow companies to retrieve credit reports from Certkiller .com. You created a Performance Session in Microsoft Visual Studio 2005 Team Edition for Software Developers. Following are the measurements you obtained from a Web method named ObtainCreditReport:

1. When the Web method is called once:
execution time for the method is measured to be 8,340.211 milliseconds
memory consumption is measured to be 10,200 Kilobytes (K).
 1. When the Web method is called twice:
total execution time for the method is measured to be 33,360.844 milliseconds
memory consumption is measured to be 10.296K.
 1. When the Web method is called thrice:
total execution time for the method is measured to be 133,443.376 milliseconds
memory consumption is measured to be 10,264 K.
- You need to analyze the performance trends.
What conclusion can you draw?

- A. There is a memory leak.
- B. There is a linear increase in memory consumption.
- C. There is an exponential increase in execution time.
- D. The Execution time stays constant.

Answer: C

Explanation: The results clearly indicate the each time the method is called; the execution time is increased by a factor of four. Thus your conclusion should be that the execution time increases exponentially.

Incorrect answers:

A: If there is a memory leak, memory consumption must increase each time the method is

called. However, in this scenario the memory consumption increases as well as decreases.

B: There is no linear increase in memory consumption as the memory consumption increases as well as decreases.

D: In the event of execution time staying constant, then the total execution time will need to increase linearly. Thus the total execution time for calling the method twice should be 16,680.422 and calling the method a third time should result in total execution time to be 25,020.633, which it isn't.

QUESTION 78

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. There is a Microsoft .NET Remoting component that configured to allow a total of five applications to access data in a C-tree database. All aspects seems to be functional however, you have discovered that whenever it happens that an application accesses data, the other four applications are blocked from accessing the data. To this end you monitor the Contention Rate / Sec performance counter in the .NET CLR LocksAndThreads category and measure it to be 50. You now need to analyze this result.

What conclusion can you draw?

- A. Excessive processor time is consumed.
- B. Excessive memory is consumed.
- C. There is a synchronization problem.
- D. There is a platform invocation problem.

Answer: C

Explanation: It is highly likely that the .NET Remoting component allows only one thread to access the database at a time. The Contention Rate / Sec performance counter measures the rate at which the threads are blocked from acquiring a lock.

Incorrect answers:

- A: You cannot use performance counters in the .NET CLR LocksAndThreads category to assume that excessive processor time is being consumed.
- B: You cannot use performance counters in the .NET CLR LocksAndThreads category to assume that excessive memory is being consumed.
- D: You cannot use performance counters in the .NET CLR LocksAndThreads category to monitor platform invocation issues.

QUESTION 79

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications.

Certkiller .com operates as a company specializing in providing environmental and social impact assessments for civil engineering companies.

Certkiller .com currently offers an Extensible Markup Language (XML) Web service which allows civil engineering companies the ability to submit environmental impact results and the liability and indemnity coverage of projects to a government agency that deals with infrastructure and engineering. A Web method named AddEnvironmentalImpactTestResult is design to accept a String parameter that represents a specific geographical area (GEO); usually identified by means of its coordinates; and a Boolean parameter that indicates that the test was passed. The AddEnvironmentalImpactTestResult method then executes the following query: INSERT INTO EnvironmentalImpactResult (GEO, Passed) VALUES ('{0}', {1}) The {0} and {1} format placeholders are replaced with the values for the String and Boolean parameters, respectively. The results are stored in a SQL database.

An operations engineer named Rory Allen is responsible for the monitoring of the database. In carrying out his duties, Clive Wilson compares several liability and indemnity coverage records in the database with the paper results. However, Rory Allen found that there are some inconsistencies in the results. It thus appears that there were some unauthorized changes to data objects in the database. You suspect that an attack is the cause for these unauthorized changes.

What type of attack would result in these inconsistencies?

- A. Buffer overrun
- B. Cross-site scripting
- C. SQL injection
- D. Denial-of-service

Answer: C

Explanation: A SQL injection attack occurs when a malicious user injects SQL Statements into clauses that build SQL queries. In this case the queries are constructed dynamically. Thus it is possible that an attacker could modify the liability and indemnity coverage by calling the AddEnvironmentalImpactTestResult Web method. It is further possible that the attacker can be a developer for one of the civil engineering companies who are authorized to call the AddEnvironmentalImpactTestResult Web method.

Incorrect answers:

A: A buffer overrun attack usually occurs in unmanaged code when an attacker can overflow the buffer in an attempt to execute malicious code. This is not what is happening in this scenario.

B: A cross-site scripting attack occurs when a Web application writes input data to the browser without encoding it. In this case a Web service and not a Web application is being attacked.

D: A denial-of-service attack occurs when an attacker attempts to overload a server with an excessive amount of requests, akin to flooding the server. This is not the case here.

QUESTION 80

You work as the Enterprise application developer at Certkiller .com. The

Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You are currently busy developing an enterprise solution for Certkiller .com. The Certkiller .com network contains two Web servers named Certkiller -WS01 and Certkiller -WS02, as well as a database server named Certkiller -DB01 which you intend to use in the deployment of the solution. The solution will consist of a Microsoft ASP.NET Web application, an Extensible Markup Language (XML) Web service, a Microsoft .NET Remoting component, and a Microsoft SQL Server 2005 database.

The Web application and the XML Web service use the inter-process communication (IPC) channel for connectivity to the .NET Remoting component which accesses data in the database.

Following is the deployment design:

1. Deploy the Microsoft ASP.NET Web application to Certkiller -WS01
2. Deploy the Extensible Markup Language (XML) Web service to Certkiller -W02
3. Deploy the database to Certkiller -DB01

Now you need to make a decision as to where the data access component should be deployed.

What should you do?

- A. Identify Certkiller -WS01 AND Certkiller -DB01.
- B. Identify Certkiller -WS02 AND Certkiller -DB01.
- C. Identify either Certkiller -WS01 OR Certkiller -WS02.
- D. Identify both Certkiller -WS01 AND Certkiller -WS02.

Answer: D

Explanation: IPC is being used for connectivity purposes by the Web application and the Web service. This means that communication can occur between different application domains or processes on the same computer only. However, in this scenario the Web application is deployed to CERTKILLER-WS01 and the Web service is deployed to CERTKILLER-WS02, thus you should deploy the Microsoft .NET Remoting component to Certkiller -WS01 and Certkiller -WS02.

Incorrect answers:

- A: There is no need to deploy the Microsoft .NET Remoting component to Certkiller -DB01. The component will be able to access data from the Microsoft SQL Server 2005 database over the network.
- B: There is no need to deploy the Microsoft .NET Remoting component to Certkiller -DB01. The component will be able to access data from the Microsoft SQL Server 2005 database over the network.
- C: The Microsoft .NET Remoting component should not be deployed to either Certkiller -WS01 OR Certkiller -WS02. Rather you need to deploy it to both servers since both the Web service and the Web application must be allowed to connect to it via IPC channel.

QUESTION 81

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You are currently developing an enterprise customer relationship management (CRM) application for Certkiller .com. Upon completion this application will allow customers to submit invoices to their respective clients. The exhibit below illustrates the application flow diagram of the invoice submission process. A factor that should be kept in mind is that the process is subject to future alterations.

Exhibit:



You have been instructed to create a component to manage the invoice submission process.

What should you do?

- A. Make use of a Business workflow component.
- B. Make use of a User process component.
- C. Make use of a Service interface component.
- D. Make use of a Service agent component.

Answer: A

Explanation: A business workflow component manages business activities or workflows. With the implementation of a sequence of activities in a business workflow, you decouple the application flow logic from the business logic. And then it allows for the easy management of change in the sequence of activities in the future.

Incorrect answers:

B: A User process component will allow you to manage user or screen flow throughout an application. But in this scenario the activities clearly indicates a business workflow, not a user workflow.

C: Service interfaces expose an application's business logic to external systems and this is not what is required in this scenario.

D: A service agent hides the complexity of the process involved in calling multiple services to access external functionality. This is not what is required in this scenario.

QUESTION 82

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You are currently developing an enterprise solution that consists of a Microsoft ASP.NET Web application and a Microsoft .NET Remoting component. The Web application connects to the .NET Remoting component via inter-process

communication (IPC) channel. A Web server named Certkiller -WS01 will be used for the deployment of the enterprise solution. The following exhibit illustrates the production Web.config file configuration:

Exhibit:

```
<configuration>
<system.web>
<customErrors mode="RemoteOnly"/>
</system.web>
</configuration>
```

One requirement that should be kept in mind is that one should not be able to view specific error messages when accessing the Web application from the network or the Internet. Following is a list of the aspects included in the deployment design:

1. Deploy Microsoft Internet Security and Administration (ISA) Server to Certkiller -WS01.
2. Deploy the Web application to Certkiller -WS01.
3. Configure ISA server with a Web publishing rule to redirect requests to staging.fi-print.com to 127.0.0.1.

You now need to make a decision as to whether the design meets the requirements. What conclusion can you draw?

- A. The design meets the requirements.
- B. The design does not meet the requirements since you need to deploy the .NET Remoting component to a separate computer.
- C. The design does not meet the requirements since you need to deploy ISA server to a separate computer.
- D. The design does not meet the requirements since you need to configure ISA server to redirect requests to Certkiller -WS01's name and not the IP address.

Answer: C

Explanation: ISA server should be deployed on a separate computer since the Web.config file is configured to display specific errors only for local requests. However, since the ISA server is currently configured to redirect requests to the local computer, ASP.NET will interpret the requests as originating from the local computer and will thus result in users being able to view specific error over the network or Internet whereas they should not be able to.

Incorrect answers:

- A: This option is incorrect since you need to deploy ISA server to a separate computer.
- B: .NET Remoting should not be deployed on a separate computer. The Web application connects to this component via IPC channel and IPC allows communication between application domains or processes on the same computer only.
- D: ISA server should not be configured to redirect requests to the Certkiller -WS01 name. This will result in the users still being able to view specific error over the network or the Internet.

QUESTION 83

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com.

The following exhibit illustrates a class definition:

Exhibit:

```
Public Class MarketService
```

```
Friend Function ObtainMarket(ByVal mobilePhoneNumber As String) As String
```

```
Return String.Empty
```

```
End Function
```

```
End Class
```

You received instruction to modify this class so that it becomes a Web service, a Web service that will allow internal applications to invoke ObtainMarket as a Web method. You need to ensure that the Web method does not make use of session state and that it must make use of the default namespace.

What should you do?

- A. Change the access modifier for the ObtainMarket method to Public.
Then apply the WebService attribute to the MarketService class.
- B. Change the access modifier for the ObtainMarket method to Protected.
Then apply the WebMethod attribute to the ObtainMarket method.
- C. Change the access modifier for the ObtainMarket method to Public.
Then apply the WebMethod attribute to the ObtainMarket method.
- D. Derive the MarketService class from SoapHttpClientProtocol.
Then apply the WebMethod attribute to the ObtainMarket method.
- E. Derive the MarketService class from WebService.
Then apply the WebMethod attribute to the ObtainMarket method.

Answer: C

Explanation: Only public methods can be exposed as Web methods. Thus you need to change the access modifiers to public. And you should also apply the WebMethod attribute to the ObtainMarket method as this attribute will indicate that the public method should be exposed as Web methods.

Incorrect answers:

- A: The WebService attribute will allow you to specify the namespace and description for the Web service. This is not required to invoke Web methods. (In cases where no namespace has been specified, use will be made of the default namespace.)
- B: Since only Public methods can be exposed as Web methods, you should not change the access modifier to Protected.
- D: The SoapHttpClientProtocol base class allows for Web service clients to make SOAP calls to Web methods. This is not what is required.
- E: The WebService base class is an optional class as it provides direct access to session

and application instances for session state. It is mentioned in this question that the Web methods does not make use of session state.

QUESTION 84

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com.

The following exhibit illustrates a class definition in a Web service project:

Exhibit:

```
Public Class MarketService
```

```
Public Function ObtainMarket(ByVal mobilePhoneNumber As String) As Point  
Throw New SoapException("Not implemented", New XmlQualifiedName("error"))
```

```
End Function
```

```
End Class
```

You have received instruction to configure the class in such a way so as to allow SOAP clients to invoke the ObtainMarket method.

What should you do?

- A. The class should be derived from WebService.
- B. The class should be derived from SoapHttpClientProtocol.
- C. The WebMethod attribute should be applied to the method.
- D. The WebService attribute should be applied to the class.

Answer: C

Explanation: The Webmethod attribute applied to the method will indicate that a public method should be exposed as a Web method of a Web service. Thus you should apply the WebMethod attribute to the method.

Incorrect answers:

- A: Since the WebService base class is optional, and it provides direct access to the Session and Application instances, you should not derive the class from WebService.
- B: You should derive a proxy class from this class in a SOAP client application. This will allow the client application to make SOAP calls via the proxy class to the Web service. Thus you should not derive the class from SoapHttpClientProtocol.
- D: The WebService attribute will allow you to specify a namespace and description for the Web service; you should not apply the WebService attribute to the class.

QUESTION 85

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com.

The following exhibit illustrates a configuration.

Exhibit:

```
<?xml version="1.0"?>
<dynamicDiscovery xmlns="urn:schemas-dynamicdiscovery:disco.2007.02.19">
<exclude path="_vti_cnf" />
<exclude path="_vti_pvt" />
<exclude path="_vti_log" />
<exclude path="_vti_script" />
<exclude path="_vti_txt" />
<exclude path="Web References" />
</dynamicDiscovery>
```

You have just added the above configuration to a new file by means of using a text editor. You need to save this file to a production server to provide the Web service discovery.

What should you do?

- A. Use the .disco extension to save the file.
- B. Use the .vsdisco extension to save the file.
- C. Use the .wsdl extension to save the file.
- D. Use the .asmx extension to save the file.

Answer: B

Explanation: Dynamic discovery documents are denoted by a file with .vsdisco extension. This will allow the Web service client to discover all Web services that exist at and below the virtual directory that contains the document. You should thus save the file using a .vsdisco extension.

Incorrect answers:

- A: The .disco extension is used to denote a static discovery document. This will not suffice under the circumstances.
- C: The .wsdl extension represents files what are Web Services Description Language (WSDL) documents. You should not make use of this extension to save the file to the production server.
- D: The .asmx extension represents a Web service endpoint. These types of files thus so not allow for dynamic discovery.

QUESTION 86

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com.

After receiving instruction you have just finished developing an ASP.NET Web application named WebServices. WebServices contains the Web services for each of the Certkiller .com clients. Microsoft Internet Information Services (IIS) 6.0 is hosting the Web application. And the Web application is configured in such a way so as to map host header names to client-specific virtual directories. Each

Certkiller .com client has its own virtual directory. These virtual directories are located in a root virtual directory named WebServices.

The following exhibit illustrates an example of the virtual directory structure:

Exhibit:

WebSite

WebServices (Web Application)

Client A (VirtualDirectory)

WebService1.asmx

WebService2.asmx

Client B (VirtualDirectory)

WebService3.asmx

WebService4.asmx

Client C (VirtualDirectory)

WebService5.asmx

WebService6.asmx

You received further instructions to ensure that all Certkiller .com clients have the ability to discover all of the Web services that are implemented in the Web application for that client. You need to accomplish this task while also making provision for those Web services that is intended for future implementation.

However, you also need to ensure that the Certkiller .com clients should not have the ability to discover implemented Web services intended for other clients.

What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. A .vsdisco file should be added to each Certkiller .com client's virtual directory.
- B. A .disco file should be added to each Certkiller .com client's virtual directory.
- C. Both a .vsdisco and a .disco file should be added to the WebServices directory
- D. No .vsdisco or .disco files should be placed in the WebServices directory.
- E. A .vsdisco file should be placed in the WebServices directory.

Answer: A, D

Explanation: A file with a .vsdisco extension will allow for dynamic discovery. This will result in the Certkiller .com clients having the ability to discover all the Web services that exist at and below the virtual directory that contains the document. This means that each client will be able to discover all Web services that exist at and below its own virtual directory.

Incorrect answers:

B: You should not place a .disco file to each Certkiller .com client's virtual directory because this is a static discovery document. You should manually specify the Web services that should be discovered in this document and the clients will then not be able to automatically discover the Web services that will be added in the future.

C: You should not place a .disco or a .vsdisco file in the WebServices directory. This will result in the violation of one of the requirements in the questions that states the no one Certkiller .com client should be able to discover Web services that are not intended for that specific client.

E: You should not place a .vsdisco file in the WebServices directory because you do not want the Certkiller .com clients to be able to discover the Web services that are not implemented for them.

QUESTION 87

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com.

After receiving instructions you have just completed the development and the deployment of an Extensible Markup Language (XML) Web service application. This XML Web service application contains ten (10) Web services. At present dynamic discovery on the Web server that hosts the application has been disabled. To this end you now need to configure the Web.config file of the application to allow Web service clients the ability to dynamically discover all the Web services. You also want to ensure that the Web service clients will be able to discover any future Web services that will be added.

What should you do? (Choose the correct configuration.)

A. <configuration>

<system.web>

<httpHandler>

<add verb="x.disco"

Type=System.Web.Services.Discovery.DiscoveryRequestHandler,

System.Web.Services,Version=2.0.0.0,

Culture=neutral, PublicKeyToken=b03f5f7f11d50a3a"

validate="false"/>

</httpHandlers>

</system.web>

</configuration>

B. <configuration>

<system.web>

<httpHandler>

<add verb="x.vsdisco"

Type=System.Web.Services.Discovery.DiscoveryRequestHandler,

System.Web.Services,Version=2.0.0.0,

Culture=neutral, PublicKeyToken=b03f5f7f11d50a3a"

validate="false"/>

</httpHandlers>

</system.web>

</configuration>

C. <configuration>

<system.web>

<httpHandler>

<add verb="x.wsdl"

```
Type=System.Web.Services.Discovery.DiscoveryRequestHandler,  
System.Web.Services,Version=2.0.0.0,  
Culture=neutral,PublicKeyToken=b03f5f7f11d50a3a"  
validate="false"/>  
</httpHandlers>  
</system.web>  
</configuration>  
D. <configuration>  
<system.web>  
<httpHandler>  
<add verb="x.asmx"  
Type=System.Web.Services.Discovery.DiscoveryRequestHandler,  
System.Web.Services,Version=2.0.0.0,  
Culture=neutral,PublicKeyToken=b03f5f7f11d50a3a"  
validate="false"/>  
</httpHandlers>  
</system.web>  
</configuration>
```

Answer: B

Explanation: An Http handler should be added for all .vsdisco files. DiscoveryRequestHandler is the default handler class in ASP.NET 2.0. A file with the .vsdisco extension will allow a Web service client to dynamically discover all Web services that exist at and below the virtual directory that contains the document.

Incorrect answers:

A: A .disco file extension denotes a static discovery document. You will need to manually specify the Web services that should be discovered in this document. This will result in clients being unable to automatically discover the Web services that will be added in future.

C: A .wsdl handler denotes a Web Services Description Language (WSDL) document. This type of file will not provide for dynamic discovery of Web services.

D: An .asmx handler denotes a Web service endpoint and will thus not provide clients with the ability to automatically discover Web services.

QUESTION 88

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com.

After receiving instructions, you have just finished developing and deploying public and private Extensible Markup Language (XML) Web services to a production server. This production server has been configured with Microsoft Internet Information Services (IIS) 6.0. The Web services are located on different IIS virtual directories. Each of these IIS virtual directories hosts either public Web services or

private Web services, but not both. Part of the instructions that you received also states that Web service clients must have the ability to discover the public Web services dynamically, but not the private Web services. The Web Service clients should also be granted the ability to dynamically discover any new public Web services that are added to an existing virtual directory.

To this end you now need to configure the server to meet these requirements. You should take care that your configuration does not prevent the discovery of Web services in new virtual directories unless you reconfigure the server.

What should you do? (Each correct answer presents part of the solution. Choose three.)

- A. Add a .disco file to the Web site's virtual root directory.
- B. Add a .vsdisco file to the Web site's virtual root directory.
- C. Do not add .vsdisco files anywhere on the server.
- D. Add the .vsdisco files to each virtual root directory that exposes public Web services.
- E. Configure the .disco file with reference to each public Web service.
- F. Configure the .disco file with reference to each .vsdisco file.

Answer: A, D, F

Explanation: You need to add a static discovery document, i.e. a .disco file to the IIS root directory and dynamic discovery documents, i.e. .vsdisco files to each virtual directory that exposes public Web services. This way you can ensure that Web service clients have the ability to only discover the public Web services.

Incorrect answers:

- B: You should not add .vsdisco files to the IIS root directory.
- C: Adding a .vsdisco file anywhere on the server will expose the private Web services.
- E: .disco files should not be configured to reference to each public Web service. This means that Web clients will not be able to not automatically discover new Web services that are added to existing virtual directories.

QUESTION 89

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Web Service applications forms part of your responsibilities at Certkiller .com. You have just developed an Extensible Markup Language (XML) Web service application by making use of Microsoft Visual Studio 2005. Now you need to deploy the project that contains the application to another computer on the Certkiller .com network. The other computer intended to have the project deployed does not have Microsoft Internet Information Services (IIS) 6.0 installed. However, you need to deploy the project.

What should you do?

- A. Make use of the Copy Web Site utility and specify the file share location for the remote Web service application.

- B. Make use of the Publish Web Site utility and specify the URL for the remote Web service application.
- C. Make use of the Publish Web Site utility and specify the file share location for the remote Web service application.
- D. Make use of the Copy Web Site utility and specify the URL for the remote Web service application.

Answer: A

Explanation: using the Copy Web Site utility and specifying the file share location for the remote Web service application will allow you to copy the project to a folder on the computer that does not have IIS 6.0 installed, by using the local file system; the project is simply the collection of the relevant files in the Web application's folder.

Incorrect answers:

- B: The Publish Web site utility is not used to copy projects, but rather to copy the application's runtime files.
- C: The Publish Web site utility is not used to copy projects, but rather to copy the application's runtime files.
- D: If you specify the URL for the remote Web service application, you would require Front Page Server Extensions to be installed on the target computer. But in the question it is already mentioned that the target computer does not have IIS installed.

QUESTION 90

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The configuration and customization of Web Service applications forms part of your responsibilities at Certkiller .com.

You are currently busy developing an Extensible Markup Language (XML) Web Service named MarketService. This MarketService will be used by the Certkiller .com Marketing department. You are now required to create a Web method named ObtainMarket. The ObtainMarket Web method must return global positioning system (GPS) coordinates of a mobile phone given a mobile phone number.

In you development of the ObtainMarket Web method, you must ensure that it can be uniquely identified among all the Web services that are implemented by the Sales and Transport departments.

What should you do? (Choose the correct code segment.)

```
A. <WebService(Name:="MarketService")>_  
Public Class MarketService  
Inherits WebService  
<WebMethod(MessageName:="urn:gov:dot:MarketServices")> _  
Public Function ObtainMarket(ByVal mobilePhoneNumber as String) As String  
Return String.Empty  
End Function
```

End Class

B. <WebService(Namespace:="urn:gov:dot:MarketServices")> _

Public Class MarketService

Inherits WebService

<WebMethod()> _

Public Function ObtainMarket(ByVal mobilePhoneNumber As String) As String

Return String.Empty

End Function

End Class

C. <WebService(Name:="MarketService")> _

Public Class LocationService

Inherits WebService

<WebMethod> _

Public Function ObtainMarket(ByVal mobilePhoneNumber As String) As String

Return String.Empty

End Function

End Class

D. <WebService()> _

Public Class LocationService

Inherits WebService

<WebMethod>(MessageName:="urn:gov:dot:LocationServices")> _

Public Function ObtainMarket(ByVal mobilePhoneNumber As String) As String

Return String.Empty

End Function

End Class

Answer: B

Explanation: The namespace property of the WebService attribute should be set to a name that is unique within the organization. When WSDL is generated for the Web service, it will define the request and response messages that are associated with a Web method to be part of the namespace that you set, thus ensuring unique messages.

Incorrect answers:

A: The MessageName property allows you to uniquely identify an overloaded Web method, thus you should not set the MessageName property of the Web Method.

C: The Name property allows you to change the name of the WSDL element that represents the Web service, thus the name property should not be set to uniquely identify the Web method.

D: The MessageName property allows you to uniquely identify an overloaded Web method, thus you should not set the MessageName property of the Web Method.

QUESTION 91

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The configuration and customization of Web Service applications forms part of your responsibilities at

Certkiller .com.

The following exhibit illustrates the class definition that currently exists for a Web Service.

Exhibit:

```
WebService(), SoapRpcService()> _  
Public Class LicenseService  
Inherits WebService  
<WebMethod(), SoapRpcMethodAttribute()> _  
Public Function ObtainPoints(ByVal licenceNumber as String) As Numeral  
Return 0  
End Function  
<WebMethod(),SoapRpcMethodAttribute(ByVal state as String, ByVal licenseNumber  
as String)  
End Sub  
End Class
```

You received instruction to apply the WebServiceBinding attribute to support the Web Service.

What should you do?

- A. A WebServiceBinding attribute should be applied to the class.
Set the Attribute's Name property to Atlanta.
 - B. A WebServiceBinding attribute should be applied to the ObtainPoints method.
Set the Attribute's Name property to Atlanta.
 - C. Two WebServiceBinding attributes should be applied to the class.
Set the Name property of the one attribute to Default and the other to Atlanta.
 - D. A WebServiceBinding attribute should be applied to the ValidateLicense method.
Set the attribute's Name property to Default.
- A WebServiceBinding attribute should be applied to the ObtainPoints method.
Set the attribute's Name property to Atlanta.

Answer: C

Explanation: It is possible to associate multiple bindings with a Web Service by means of multiple WebServiceBinding attributes. Each binding can have a set of operations. Since the SoapRpcMethod attribute that is applied to the ValidateLicence method has its binding set to Default, you should add a corresponding WebServiceBinding attribute to the class. The Binding property of the SoapRpcMethod attribute must map the Name property of the WebServiceBinding attribute. This will indicate that the ValidateLicense Method, is part of a binding named Default. In the same way you should set the Name property of the second WebServiceBinding attribute to Atlanta.

Incorrect answers:

A: Bindings should be defined at the class or Web service level and thus you should not apply a WebServiceBinding attribute to a Web method because a Web method can only indicate the binding to which it is associated.

B: A Webservice class that does not have a WebServiceBinding attribute applied has a default binding. The name of a default binding is usually the name of the Web service

appended to the word "Soap". In this case the default binding is named LicenseServiceSoap. Thus you should not apply a single attribute to the class. D: You should rather have the WebServiceBinding attribute applied to the class and not to the Web methods.

QUESTION 92

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The configuration and customization of Web Service applications forms part of your responsibilities at Certkiller .com.

You are currently busy developing an Extensible Markup Language (XML) Web service. This XML Web service is intended to allow the traffic department to perform driver license verifications. To this end you created the following Web method:

Exhibit:

```
<WebMethod()>
Public Sub VerifyLicence(ByVal licenseNumber As String)
End Sub
```

You need to apply an attribute to the method to specify the parameter style and formatting that is expected from SOAP clients. You should take care that the XML Web Service that you are developing is Web Services Interoperability (WS-1) compliant.

What should you do? (Choose the correct code segment.)

- A. <SoapDocumentMethod("urn:gov:DOT", Use:=SoapBindingUse.Encoded, ParameterStyle:=SoapParameterStyle.Bare)> _
- B. <SoapDocumentMethod("urn:gov:DOT", Use:=SoapBindingUse.Literal, ParameterStyle:=SoapParameterStyle.Wrapped)> _
- C. <SoapRpcMethod("urn:gov:DOT", Use:=SoapBindingUse.Encoded)> _
- D. <SoapRpcMethod("urn:gov:DOT", Use:=SoapBindingUse.Literal)> _

Answer: B

Explanation: To ensure that you comply with the WS-1 standard, you need to make use of document-literal Web methods with wrapped parameter styles. Thus you need to use a SoapDocumentMethod attribute with its Use property set to SoapDocumentUse.Literal and its parameter style property should be set to SoapParameterStyle.Wrapped. Literal in SoapDocumentUse.Literal means that literal formatting should be used. Thus the parameter elements do not need to explicitly specify their types because the elements are included in the definition section of the Web Services Description Language (WSDL) document.

Incorrect answers:

A: The SoapParameterStyle should not be set to Bare as it indicates that parameters can exist as immediate children of the body element in the SOAP request. Furthermore, it does not comply with WS-1 standards.

C: You should not set the Use Property of the SoapDocument method to Encoded because this would indicate that parameter elements must explicitly specify their types. And it does not comply with WS-1 standards.

D: You should not make use of the SoapRpcMethod attribute since the WS-1 standard does not support the RPC style. And RPC always encapsulates parameters as elements within a single body element.

QUESTION 93

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The configuration and customization of Web Service applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as a taxi-cab-for-hire company.

You are currently developing an Extensible Markup Language (XML) Web Service that is meant to allow Certkiller .com to be able to locate the taxis that it provides for its customers. With this Web service application the Certkiller .com Web service clients will send a SOAP request similar to the one that is illustrated in the exhibit.

Exhibit:

```
<soap:envelope>
<soap:body>
<ObtainLocation xmlns="urn:gov:DOT">
<mobilePhoneNumber>000-000-0000</mobilePhoneNumber>
</ObtainLocation>
</soap:body>
</soap:envelope>
```

You have created a Web method named ObtainLocation. You then apply a SoapDocumentMethod attribute to ObtainLocation. Now you need to configure the SoapDocumentMethod attribute so as to enable it to support the SOAP request. What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. The Use property should be set to SoapDocumentUse.Encoded.
- B. The Use property should be set to SoapDocumentUse.Literal.
- C. The ParameterStyle property should be set to SoapParameterStyle.Wrapped.
- D. The ParameterStyle property should be set to SoapParameterStyle.Bare.

Answer: B, C

Explanation: SoapDocumentUse.Literal will indicate that literal formatting should be used. This in turn means that elements do not need to explicitly specify their types because the elements would be included in the definitions section of the Web Services Description Language (WSDL) document.

SoapParameterStyle.Wrapped will indicate that the parameter elements have to exist within a single child element of the body element. In this case the mobilePhoneNumber parameter element does not explicitly define its type. Furthermore the mobilePhoneNumber parameter exists as a child element of ObtainLocation.

Incorrect answers:

A: The Use property should not be set to SoapDocumentUse.Encoded as this indicates that the parameter elements must explicitly define their types.

D: The ParameterStyle property should not be set to SoapParameterStyle.Bare as this indicates that parameters may exist as immediate children of the body element in the SOAP request.

QUESTION 94

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The configuration and customization of Web Service applications forms part of your responsibilities at Certkiller .com.

You are currently busy developing an Extensible Markup Language (XML) Web service. This XML Web service is intended to allow the traffic department to perform driver license verifications. The traffic department will send a SOAP request similar to the one illustrated in the exhibit.

Exhibit:

```
<soap:envelope>
<soap:body>
<state xmlns="urn:gov:DOT">GA</state>
<licenseNumber xmlns="urn:gov:DOT">111222333</LicenseNumber>
</soap:body>
</soap:envelope>
```

You have created a Web method named VerifyLicence. And now you need to apply an attribute to the VerifyLicence method to enable it to support the SOAP requests which will be sent to it.

What should you do? (Choose the correct code segment.)

- A. <SoapDocumentMethod("urn:gov:DOT", Use:=SoapBindingUse.Encoded, ParameterStyle:=SoapParameterStyle.Wrapped)> _
- B. <SoapDocumentMethod("urn:gov:DOT", Use:=SoapBindingUse.Literal, ParameterStyle:=SoapParameterStyle.Wrapped)> _
- C. <SoapDocumentMethod("urn:gov:DOT", Use:=SoapBindingUse.Literal, ParameterStyle:=SoapParameterStyle.Bare)> _
- D. <SoapDocumentMethod("urn:gov:DOT", Use:=SoapBindingUse.Encoded, ParameterStyle:=SoapParameterStyle.Bare)> _

Answer: C

Explanation: SoapDocumentUse.Literal will indicate that literal formatting should be used. This in turn means that elements do not need to explicitly specify their types because the elements would be included in the definitions section of the Web Services Description Language (WSDL) document.

SoapParameterStyle.Bare will indicate that parameters may exist as immediate children of the body element in the SOAP request. In this case the LicenseNumber parameter

element does not explicitly define its type. Furthermore it exists as an immediate child element of the body element.

Incorrect answers:

A: Both sections in this option are incorrect. The ParameterStyle property should not be set to SoapParameterStyle.Wrapped as this will indicate that the parameter elements have to exist within a single child element of the body element and the Use property should not be set to SoapDocumentUse.Encoded as this indicates that the parameter elements must explicitly define their types.

B: The ParameterStyle property should not be set to SoapParameterStyle.Wrapped as this will indicate that the parameter elements have to exist within a single child element of the body element.

D: The Use property should not be set to SoapDocumentUse.Encoded as this indicates that the parameter elements must explicitly define their types.

QUESTION 95

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The configuration and customization of Web Service applications forms part of your responsibilities at Certkiller .com.

You are currently busy developing an Extensible Markup Language (XML) Web service. This XML Web service is intended to allow the traffic department to perform driver license verifications in particular geographic areas. To this end you created the following Extensible Markup Language (XML) Web Service class definition as illustrated in the exhibit.

Exhibit:

```
<WebService(> _
Public Class LicenseService
Inherits WebService
Private _licenceVerifier as LicenseVerifier
<WebMethod(> _
Public Function GetRecentInvalidLicenseHistory() As String()
Dim invalidLicenses As ArrayList =
CType(MyBase.Application.Item(InvalidLicenses"), ArrayList)
Return CType(invalidLicenses.ToArray(GetType(String)), String())
End Function
<WebMethod(> _
Public Function VerifyLicense(ByVal state As String, ByVal licenseNumber As String)
As Boolean
Dim isValid As Boolean = Me._licenseVerifier.Verify(geoArea, licenseNumber)
If Not isValid Then
Dim invalidLicenses As ArrayList -
Ctype(MyBase.Application.Item("InvalidLicenses"),
ArrayList) invalidLicenses.Add(LicenseNumber)
End If
Return isValid
```

End Function

End Class

The VerifyLicence Web method will verify an individual's driver license in a particular geographic area.

The ObtainRecentInvalidLicenseHistory will return a list of all the driver licenses that has been revoked regardless of geographic area.

You are required to modify the two Web methods so as to prevent them from throwing exception of type NulReferenceException.

What should you do?

- A. Create an instance of ArrayList if there is no ArrayList in the Application object.
- B. Store and retrieve the ArrayList instance to and from the Session object.
- C. Serialize and deserialize the items in the ArrayList instance using the XmlSerializer class.
- D. In each Web method create an instance of LicenseVerifier.

Answer: A

Explanation: The application object holds the state information for the Web service and is thus not client-specific. Also if the Application does not have a certain value for the InvalidLicenses key, a null reference (Nothing) is returned. If you try to access members of a null reference, an exception of type NulReferenceException is thrown. Thus you should create an instance of ArrayList if one does not exist in the Application object.

Incorrect answers:

B: The Session object holds state information for each client that is connected to the Web service. This means that the GetRecentInvalidLicenseHistory method will only return licenses that were rendered invalid by a particular Web service client. This you should not store and retrieve the ArrayList instance to and from the Session object.

C: The XmlSerializer allows one to desrialiae and deserilaize an object to and from XML. The GetRecentInvalidLicenseHistory method returns a String Array which is supported by Web Services Description Language (WSDL). Thus you should not serialize and deserialize the items in the ArrayList instance using the XmlSerializer class

D: A LicenseVerifier instance is created during the construction of the LicenseService class and this construction takes place after the Web method is called due to Web services being inherently stateless. Thus you should not create an instance of LicenseVerifier in each Web method.

QUESTION 96

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The configuration and customization of Web Service applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as a real estate and property management company.

A class named PropertyManagement holds a shared method named ObtainProperties. ObtainProperties is configured to accept a String parameter that

identifies a client and return a DataSet instance that holds all the properties that are managed by that client. The client identifier is a Microsoft Windows Active Directory user name.

You received instruction to create an Extensible Markup Language (XML) Web Service that makes use of Windows Authentication to expose this functionality to the Internet. However, you need to ensure that your solution also enhances the Web server performance. To this end you need to save the property results in memory on the Web server.

What should you do? (Choose the correct code segment.)

A. Public Class PropertyManagementService
<WebMethod(EnableSession:=True)> _
Public Function ObtainProperties() As DataSet
Dim dataset As DataSet = Nothing
dataSet = CType(Session("Properties"), DataSet)
If (dataSet Is Nothing) Then
dataSet = PropertyManagement.ObtainProperties(User.Identity.Name)
Session("Properties") = dataSet
End If
Return dataSet
End Function
End Class

B. Public Class PropertyManagementService
Inherits WebService
<WebMethod(EnableSession:=True)> _
Public Function ObtainProperties() As DataSet
Dim dataset As DataSet = CType(Session("Properties"), DataSet)
If (dataSet Is Nothing) Then
dataSet = PropertyManagement.ObtainProperties(User.Identity.Name)
Session("Properties") = dataSet
End If
Return dataSet
End Function
End Class

C. <WebService()> _
Public Class PropertyManagementService
Inherits WebService
<WebMethod()> _
Public Function ObtainProperties() As DataSet
Dim dataset As DataSet = CType(Application("Properties"), DataSet)
If (dataSet Is Nothing) Then
dataSet = PropertyManagement.ObtainProperties(User.Identity.Name)
Application("Properties") = dataSet
End If
Return dataSet
End Function

```
End Class
D. <WebService()> _
Public Class PropertyManagementService
<WebMethod()> _
Public Function ObtainProperties() As DataSet
Dim dataset As DataSet = Nothing
dataset = CType(Application("Properties"), DataSet)
If (dataset Is Nothing) Then
dataset = PropertyManagement.ObtainProperties(User.Identity.Name)
Application("Properties") = dataset
End If
Return dataset
End Function
End Class
```

Answer: B

Explanation: The Web service class should be derived from the WebService, set the EnableSession property of the WebMethod attribute to true and use the Session object to save and retrieve properties. The session object holds information for each client that is connected to the Web service. This in turn will allow the results to be saved in memory on a per-client-basis. The base WebService class provides access to the Session object and the EnableSession property will indicate that the Web method makes use of the Session object.

Incorrect answers:

A: The Web service class must be derived from the Web service because the WebService class provides access to the Session object.

C: The Application object should not be used to store and retrieve information. This object holds the state information for the Web service and is thus not client specific.

D: The Application object should not be used to store and retrieve information. This object holds the state information for the Web service and is thus not client specific.

QUESTION 97

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Certkiller .com operates as a financial information services provider to a number of financial institutions, i.e. banks.

You are currently developing an application that will allow interaction with the financial institutions. All these banks expose a Web service that conforms to a standard Web Services Description Language (WSDL) document. However there are some of these banks that do not support a SOAP head that will allow Certkiller .com to pass transaction information to the Web services.

To this end you make use of Microsoft Visual Studio 2005 to generate a Web proxy service named FinancialService. The exhibit below illustrates the clss that also gets generated.

Exhibit:

Public Class Transaction

Inherits SoapHeader

Public TransactionID As Integer

Public TransactionState As String

End Class

You then proceed to write the following code so as to initiate the proxy class:

01 Dim financialServiceProxy as FinancialService = NewFinancialService()

02 financialServiceProxy.TransactionValue = New Transaction ()

03 financialService Proxy.TransactionValue.TransactionID = 1000

04 financialService Proxy.TransactionValue.MustUnderstand = True

However, after you have written this code you discover that the financial institutions that do support SOAP heads; throw exceptions of type

SoapHeaderException when the Web methods are invoked. You thus need to modify the code to prevent these exceptions from being thrown.

What should you do? (Choose the line number that represents the code statement that should be modified.)

A. 01

B. 02

C. 03

D. 04

Answer: D

Explanation: Line 04 should be changed. More specifically the MustUnderstand property of the Transaction class should be changed to false. When set to true, the Web method is invoked must understand the header represented by that class. Else the Web method throws an exception of SoapHeaderException. Because not all the financial institutions support SOAP headers, you should not force the Web services to understand the header.

Incorrect answers:

A, B, C: None of these line statements will cause an exception of type SoapHeaderException to be thrown.

QUESTION 98

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The creation, configuration and deployment of Remoting applications form part of your responsibilities at Certkiller .com.

A class named ObjectManager is defined in the ManagementServer namespace in an executable named ManagementServer.exe. The ObjectManager class is derived from MarshalByRefObject. You then create a client application named Client.exe. Client.exe does not have a reference to ManagerServer.exe. You need to keep in mind that there are a few technical requirements. These are:

1. The client application must execute with restricted permissions.
 2. The ObjectManager must execute with unrestricted permissions.
- You now need to create an instance of ObjectManager in the client application. What should you do? (Choose the correct code segment.)

A. Dim remoteAssembly As Assembly =
Assembly.LoadFrom("ManagementServer.exe")
Dim level As PolicyLevel = PolicyLevel.CreateAppDomainLevel()
Dim permissionSet As PermissionSet = New
PermissionSet(PermissionState.Unrestricted)
level.RootCodeGroup.PolicyStatement = New PolicyStatement(permissionSet)
AppDomain.CurrentDomain.SetAppDomainPolicy(level)
Dim instance As Object =
remoteAssembly.CreateInstance("ManagementServer.ObjectManager")

B. Dim level As PolicyLevel = PolicyLevel.CreateAppDomainLevel()
Dim permissionSet As PermissionSet = New
PermissionSet(PermissionState.Unrestricted)
level.RootCodeGroup.PolicyStatement = New PolicyStatement(permissionSet)
AppDomain.CurrentDomain.SetAppDomainPolicy(level)
Dim handle As ObjectHandle =
AppDomain.CurrentDomain.CreateInstanceFrom("ManagementServer.exe",
"ManagementServer.ObjectManager")

C. Dim remoteDomain As AppDomain =
AppDomain.CreateDomain("RemoteComponents")
remoteDomain.ExeciteAssembly("ManagementServer.exe")
Dim level As PolicyLevel = PolicyLevel.CreateAppDomainLevel()
Dim permissionSet As PermissionSet = New
PermissionSet(PermissionState.Unrestricted)
level.RootCodeGroup.PolicyStatement = New PolicyStatement(permissionSet)
remoteDomain.SetAppDomainPolicy(level)
Dim handle As ObjectHandle =
remoteDomain.CreateInstanceFrom("ManagementServer.exe",
"ManagementServer.ObjectManager")

D. Dim level As PolicyLevel = PolicyLevel.CreateAppdomainLevel()
Dim permissionSet As PermissionSet = New
PermissionSet(PermissionState.Unrestricted)
level.RootCodeGroup.PolicyStatement = New PolicyStatement(permissionSet)
AppDomain.CurrentDomain.SetAppDomainPolicy(level)
Dim objectManager As ManagementServer.ObjectManager = New
ManagementServer.ObjectManager()

Answer: C

Explanation: ObjectManager should be created in a separate application domain because then it will allow unrestricted permissions to ObjectManager while still allowing the application to continue to run with restricted permissions. To create the application domain, you must

call the CreateDomain method of the AppDomain class. ManagementServer.exe should then be loaded into the application domain by means of calling the ExecuteAssembly method of the AppDomain class. Then the security policy for the application domain should be set. Then you should create an instance of ObjectManager from the application domain by calling the CreateInstanceFrom method of the AppDomain class.

Incorrect answers:

A: The LoadFrom method loads an assembly into the current application domain, but due to the client application having a different requirement from the ObjectManager, you should load the ObjectManager into a different application domain. This means that you should not call the LoadFrom method of the Assembly class.

B: The CreateInstanceFrom method of the current AppDomain instance should not be called. It will then load an instance of ObjectManager into the current application domain. But because the client application has different requirement to that of ObjectManager, you should rather load ObjectManager into a different application domain.

D: The client application does not have a reference to ManagementServer.exe and thus you should not instantiate ObjectManager by calling its constructor. If you do it will load an ObjectManager instance into an application domain based on whether its configured to make use of Microsoft.Net Remoting or not.

QUESTION 99

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development of applications forms part of your responsibilities at Certkiller .com.

You are currently developing an application that monitors a network for changes.

The application itself consists of a Microsoft ASP.NET Web application and a Microsoft .NET Remoting server component. Both of these exist on the same server but run in different processes. Policies and rules for monitoring the network are stored in a Microsoft SQL Server 2005 database. The server component contains a class named Monitor. This class contains a method named GetChanges that returns a DataSet instance. Changes to the network are represented by DataSet. When initiated the Monitor class will retrieve all policies and rules from the database. You need to code the host application for the remote component to register the Monitor class for .NET Remoting. However, you do not want the remote component to query the database each time the GetChanges method is called. This means that you should configure a certain code segment.

What should you do? (Choose the correct code segment.)

- A. `Dim channel As TcpClientChannel = New TcpClientChannel()
ChannelServices.RegisterChannel(channel, False)
RemotingConfiguration.RegisterWellKnownServiceType(Get Type(Monitor),
"Monitor.rem", WellKnownObjectMode.SingleCall)`
- B. `Dim channel As IpcServerChannel = New IpcServerChannel("MonitorHost")
ChannelServices.RegisterChannel(channel, False)
RemotingConfiguration.RegisterWellKnownService Type(Get Type(Monitor),`

```
"Monitor.rem", WellKnownObjectMode.Singleton)
C. Dim channel As IpcServerChannel = New IpcServerChannel("Monitor")
ChannelServices.RegisterChannel(channel, False)
RemotingConfiguration.RegisterWellKnownServiceType(Get Type(Monitor),
"Monitor.rem", WellKnownObjectMode.SingleCall)
D. Dim channel As TcpClientChannel = New TcpClientChannel()
ChannelServices.RegisterChannel(channel, False)
RemotingConfiguration.RegisterWellKnownServiceType(Get Type(Monitor),
"Monitor.rem", WellknownObjectMode.Singleton)
```

Answer: B

Explanation: The IPC channel allows an application to communicate with a remote object in a different application domain running the same process or in a different process on the same computer.

You should also use the Monitor class as a singleton object by calling the RegisterWellKnownServiceType method of the RemotingConfiguration class and specifying WellKnownObjectMode.Singleton. Singleton objects has a lifespan that is determined by the .NET Remoting Lease Manager. When initiated, a Singleton object releases its memory until its lease expires. Thus the constructor will not be called with every remote method invocation. This is because the Monitor class queries the database in the constructor and the Singleton method ensures that the class does not query the database with every call to GetChanges.

Incorrect answers:

A: Though you can, you should not register a TcpClientChannel instance. IPC is preferred when using the same computer for intercommunication. If using TCP, you must register a TcpServerChannel instance. And then you would need to register a TcpClientChannel instance in the client application.

C: The Monitor class should not be registered as a single-call object. These objects have a lifetime of a single method call and thus their constructors are called with every method that is invoked, which in turn would cause each invocation to GetChanges to query the database.

D: IPC is preferred over TCP in this case and you should rather be making use of the singleton object.

QUESTION 100

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You are currently developing a Microsoft.NET Remoting component that will be accessed over the Certkiller .com local area network (LAN). To this end you create a console application named RemoteHost.exe to serve remote calls to the component. You added Remoting configuration settings in the app.config file of the console application's project. Now you need to configure the host application to use those configuration settings that

has been added in the app.config file.

What should you do? (Choose the appropriate code segment.)

- A. `RemotingConfiguration.Configure["bin\Release\app.config",false];`
- B. `RemotingConfiguration.Configure["app.config",false];`
- C. `RemotingConfiguration.Configure["bin\Debug\RemoteHost.exe.config", false];`
- D. `RemotingConfiguration.Configure["RemoteHost.exe.config",false];`

Answer: D

Explanation: When passing the "RemoteHost.exe.config" to the configure method of the RemotingConfiguration class, then the app.config file is copied to the runtime directory and renamed to the executable file with ".config" affixed after you compile a console application.

Incorrect answers:

- A: You should not pass "bin\Release\app.config" to the Configure method because this is a project file and not a runtime file.
- B: You should not pass "app.config" to the Configure method because this is a project file and not a runtime file.
- C: You should not pass "bin\Debug\RemoteHost.exe.config" to the configure method because the RemoteHost.exe.config file exists in the same folder as RemoteHost.exe. This means that you should only be passing the configuration file to the method.

QUESTION 101

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The creation, configuration and deployment of Remoting applications form part of your responsibilities at Certkiller .com.

You are currently developing a Microsoft.NET Remoting component that will allow all Certkiller .com employees to send messages and receive messages to each other. To this end you implement the message functionality in an assembly named Messenger.dll. Messenger.dll contains the remotable types. You further implement a host application to host the remotable types and a client application that will provide the user interface.

The Messenger.dll assembly must be private to the application and thus you use both client and server configuration files to configure .NET Remoting. Keep in mind that you are not using any custom .NET Remoting extensions, i.e. custom formatters or custom channels. You thus need to configure the application so that you can use strongly-typed instances of the remotable types in the client application.

What should you do?

- A. You should install the Messenger.dll assembly as a private component into the COM+ catalog.
- B. You should install the Messenger.dll assembly into the global assembly cache (GAC).
- C. You should add a reference to the Messenger.dll assembly in the client application.

D. You should add a reference to the Messenger.dll assembly in the remote host application.

Answer: C

Explanation: This option will allow you to access the types in a strongly-typed manner. Even when instances of these types will be proxy instances at run time, the instances will be marshaled between the client and remote host applications.

Incorrect answers:

A: This option will allow the other COM+ components in the same COM+ application to access the component. Furthermore it will also require the types defined in the Messenger.dll assembly to be hosted by the COM+ hosting process, and in this case the types are hosted by a custom remote host application.

B: The assembly should not be installed in the GAC because the GAC allows for the sharing of assemblies. One requirement is to have the Messenger.dll assembly private to the application.

D: The reference to the Messenger.dll assembly should not be added in the remote host assembly. This will make allowance for using strongly typed instances within the remote host application and not the client application.

QUESTION 102

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You have just completed developing and deploying a Microsoft.NET Remoting component to a server computer.

Microsoft Internet Information Services (IIS) 6.0 is hosting the component. The component runs in an application pool that is configured with the default identity. You received instruction to debug the remote component. You want to do so from your development computer.

What should you do?

A. Ensure that you have administrative privileges on the server computer. Then attach the debugger to the generic service host process [scvhost.exe] on the server computer.

B. Ensure that you have membership of only the Debugger Users group on the server computer.

Then attach the debugger to the ASP.NET Worker Process [w3wp.exe] on the server computer.

C. Ensure that you have administrative privileges on the server computer. Then attach the debugger to the ASP.NET Worker Process [w3wp.exe] on the server computer.

D. Ensure that you have administrative privileges on the server computer. Then attach the debugger to the COM+ hosting process [dllhost.exe] on the server computer.

Answer: C

Explanation: You will need administrative privileges on the server computer since only users with administrative privileges can debug remote processes when the process runs under the Network Service account. Since the remote component is hosted by IIS, it means that it is hosted by the w3wp.exe process. And this process runs each application pool under the Network Service Account by default.

The w3wp.exe process is the ASP.NET process used to host ASP.NET Web applications, -Web services and .NET Remoting components that are hosted by IIS. Thus the debugger should be attached to the ASP.NET Worker Process [w3wp.exe] on the server computer.

Incorrect answers:

A: The svchost.exe process is used to host Microsoft Windows services that are implemented in DLLs. This should not be attached to the debugger.

B: Members of the debugger Users group on the server computer with non-administrative privileges can debug remote processes only if the processes do not run under the Network Service account. This is not the case in this question.

D: You should not attach the debugger to the dllhost.exe process as this process is used to host COM+ server applications.

QUESTION 103

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The creation, configuration and deployment of Remoting applications form part of your responsibilities at Certkiller .com.

You have just completed developing a Microsoft.NET Remoting component that will be used by applications within Certkiller .com. Microsoft Internet Information Services (IIS) 6.0 will be hosting the component. You need to specify a channel and formatter to use so that successful communication can take place between the applications and the remote component.

What should you do?

- A. Make use of a Transmission Control Protocol (TCP) channel with a SOAP formatter.
- B. Make use of a Hypertext Transfer Protocol (HTTP) channel with a SOAP formatter.
- C. Make use of an Inter-process Communication (IPC) channel with a binary formatter.
- D. Make use of a Transmission Control Protocol (TCP) channel with a binary formatter.

Answer: B

Explanation: Because IIS is supported by the HTTP channel you should make use of an HTTP channel with a SOAP formatter.

Incorrect answers:

A: Making use of a TCP channel with a SOAP formatter will not work since only a HTTP channel can support IIS.

C: Making use of an IPC channel with a binary formatter will not work since only a

HTTP channel can support IIS.

D: Making use of a TCP channel with a binary formatter will not work since only a HTTP channel can support IIS.

QUESTION 104

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com.

You are currently developing a Microsoft.NET Remoting component that will be used to accept connections over a binary inter-process communication (IPC) channel. You make use of a configuration file to configure the remote host application for .NET Remoting. The component works as expected when you test the component from a client application after you have done the configuration. You then implement an event to notify client implications about any changes to the state of the component. The delegate that declares the event specifies an EventArgs-derived class named StateChangeEventArgs as its second parameter. This now results in a SecurityException instance being invoked when a client application attempts to attach a delegate to the event. This SecurityException instance is thrown with the following message:

Type System.DelegateSerializationHolder and the types derived from it (such as SystemDelegateSerializationHolder) are not permitted to be serialized at this security level.

You need to prevent this exception from being thrown.

What should you do?

A. Code access security to demand full trust permissions immediately before the configuration of the remote host application to accept remote connections should be used.

B. <serverProviders>

<Formatter ref="binary" typeFilterLevel="Full"/>

</serverProviders>

should be added to the channel element in the server configuration file.

C. The remote component should be hosted in Internet Information Services (IIS) 6.0 without changing the channel or the formatter.

Then configure a virtual directory to make use of integrated Windows authentication only.

D. The StateChangeEventArgs class should be derived from MarshalByRefObject.

Then apply the Serializable attribute to the StateChangeEventArgs class.

Answer: B

Explanation

: you need to configure the binary formatter for full serialization. .NET Remoting makes use of low serialization by default. This results in the fact that only basic common language runtime (CLR) types are deserialized. For the full deserialization of delegates you should configure the binary formatter by setting the typeFilterLevel attribute of the

formatter element to Full.

Incorrect answers:

A: The remote host application should not be configured to demand full trust permissions as it will not allow the remote component to deserialize delegates.

C: The IIS should not host the remote component. IIS only supports HTTP channels and in this case you are using IPC.

D: The StateChangeEventArgs class should not be derived from MarshalByRefObject. Instances of marshal-by-reference types are not transmitted across application domains.

QUESTION 105

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The creation, configuration and deployment of Remoting applications form part of your responsibilities at Certkiller .com.

You are currently developing a client application that will use Microsoft.NET Remoting to access functionality implemented by a remote component. This remote component is exposed through the HyperText Transfer Protocol (HTTP) channel. Furthermore the remote component will make use of the default formatter to serialize and deserialize data.

You now need to configure the client application in such a way so as to enable it to serialize data in a form that is expected by the remote component. You may not use custom channels and formatters.

What should you do? (Choose the correct configuration.)

A. <configuration>
<system.runtime.remoting>
<application>
<channels>
<channel ref="soap">
<clientProviders>
<formatter ref="http"/>
</clientProviders>
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>

B. <configuration>
<system.runtime.remoting>
<application>
<channels>
<channel ref="http">
<clientProviders>
<formatter ref="binary"/>
</clientProviders>

```
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>
C. <configuration>
<system.runtime.remoting>
<application>
<channels>
<channel ref="http">
<clientProviders>
<formatter ref="soap"/>
</clientProviders>
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>
D. <configuration>
<system.runtime.remoting>
<application>
<channels>
<channel ref="binary">
<clientProviders>
<formatter ref="http"/>
</clientProviders>
</channel>
</channels>
</application>
</system.runtime.remoting>
</configuration>
```

Answer: C

Explanation: The channel element's ref attribute should be set to http, and the formatter element's ref attribute to soap, because the channel element specifies the channel through which the application will communicate with the remote component. The only available channels are HTTP, IPC and TCP. The formatter element specifies the serialization formatter responsible for the serialization and deserialization of data that passes through the channel. The only available formatters are SOAP and Binary. The HTTP channel used the SOAP formatter whereas the TCP and IPC channels use the binary formatter by default.

Incorrect answers:

A: The channel element ref cannot be set to SOAP because SOAP is not a channel. If you do this then you will need to implement a custom HTTP channel and specify Soap as its name. However, it is stated in the question that you may not make use of custom

channels or custom formatters.

B: You should not set the formatter ref attribute to binary because the default formatter for HTTP channel is SOAP and in this case the remote component makes use of the default formatter for HTTP.

D: The channel element ref cannot be set to binary since binary is not a channel. If you do this then you will need to implement a custom HTTP channel and you may not make use of a custom channel or formatter. Furthermore, HTTP is not a formatter and if you do this then again it will require a custom SOAP formatter.

QUESTION 106

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The implementation of asynchronous calls and remoting events form part of your responsibilities at Certkiller .com. You have created a Microsoft.NET Remoting component that will import data into a database. The Microsoft.NET Remoting component seems to work but you had complaints regarding sluggish client-side performance. To this end you need to apply the OneWay attribute to methods in the component so as to improve the client-side performance.

What should you do?

- A. Apply the OneWay attribute to methods that do not have only output parameters.
- B. Apply the OneWay attribute to methods that do not have input parameters.
- C. Apply the OneWay attribute to methods that do not have return values.
- D. Apply the OneWay attribute to methods that are not overloaded.

Answer: C

Explanation: Remote methods marked with the OneWay attribute does not send responses back to the client and as such cannot have return values, reference parameters, or output parameters. Thus to improve client-side performance you should apply the OneWay attribute to the methods that has no return values.

Incorrect answers:

A: Remote methods that are marked with the OneWay attribute cannot have return values, reference- or output parameters. Thus you should not apply the attribute to methods that has only output parameters.

B: Since Remote methods marked with the OneWay attribute do not send responses back to clients, you should not apply the attribute to methods that do not have input parameters.

D: You should not apply the attribute to methods that are not overloaded. There are no additional restrictions on overloaded methods, but because Remote methods marked with the OneWay attribute do not send responses back to the client, they cannot have return values, reference- or output parameters.

QUESTION 107

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com

network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You have just completed the development of a Microsoft.NET Remoting component. You now need to call a remote method asynchronously and obtain an IAsyncResult instance as a result. You thus need to perform additional processing while the asynchronous operation is taking place.

What should you do?

- A. You should create a loop and poll on the IAsyncResult.IsCompleted property.
- B. You should create a loop and poll on the IAsyncResult.CompleteSynchronously property.
- C. You should call the WaitAny method of the WaitHandle class, passing to it a WaitHandle array that contains the IAsyncResult.AsyncWaitHandle object.
- D. You should call the WaitAll method of the WaitHandle class, passing to it a WaitHandle array that contains the IAsyncResult.AsyncWaitHandle object.

Answer: A

Explanation: A loop and poll on the IAsyncResult.IsCompleted property will indicate whether the asynchronous operation has completed. This will allow you to perform additional processing during the asynchronous operation.

Incorrect answers:

B: The .CompleteSynchronous property will determine whether an asynchronous operation was actually completed synchronously. If you poll this property, you will be creating an infinite loop for operations that do not complete synchronously.

C: You should not call the WaitAny method of the WaitHandle class because it will block the current thread until at least one asynchronous operation reaches completion. Blocking should not be implemented in this case because you need to perform additional processing while the asynchronous operation is taking place.

D: You should not call the WaitAll method of the WaitHandle class because it blocks the current thread until all asynchronous operations are completed.

QUESTION 108

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of client applications forms part of your responsibilities at Certkiller .com. You are busy developing a Microsoft Windows Form application that will access a Microsoft.NET Remoting component. In the event of a user clicking the Print button on a form, the application must call a remote method asynchronously to print a batch of invoices. The application you are developing must allow users the ability to perform other tasks while the invoices are being printed. Once all of the invoices have been printed, the application must interrupt the user by displaying a message box, notifying the user of the status of the

invoice printing.

You thus need to implement the functionality to meet all these requirements.

What should you do?

- A. A callback should be implemented.
- B. A semaphore should be implemented.
- C. Blocking should be implemented.
- D. Polling should be implemented.

Answer: A

Explanation: A callback will allow you to configure a method that can be executed on another thread when the asynchronous operation completes. This will prevent you from having to block the current thread until the asynchronous operation completes, thus allowing the users to ability to perform other tasks with the application.

Incorrect answers:

B: A semaphore will allow you to implement access control to a shared resource and in this case there is no mention of limiting and exercising any access control.

C: Blocking will halt the current thread until an asynchronous operation is completed and would thus prevent users from performing other tasks while the asynchronous operation is taking place.

D: Polling is used when the application itself must perform additional processing until an asynchronous operation is completed. But in this case the users will be performing the additional tasks and not the application itself.

QUESTION 109

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You are busy developing a Microsoft.NET Remoting component that will allow messages to be sent between client applications. To this end you are creating an event named MessageReceived. Message Received is configured to accept two parameters:

1. An Object instance that represents the object that raised the event.
2. A MessageReceivedEventArgs instance that will contain the data about the message that was sent.

You need to enable the client applications to receive details about a message that was sent. You thus need to code the MessageReceivedEventArgs class accordingly. What should you do?

- A. The MessageReceivedEventArgs class must be derived from the ServicedComponent.
- B. The MessageReceivedEventArgs class must be derived from the MarshalByRefObject.
- C. You should apply the Serializable attribute to the MessageReceivedEventArgs class.
- D. You should apply the NonSerializable attribute to each of the

MessageReceivedEventArgs class members.

Answer: C

Explanation: When you apply the Serializable attribute to the MessageReceivedEventArgs class, it will configure the marshal-by-value type. This type can be created on a remote server, serialized, and then transported across the remote boundaries to a remote client.

Incorrect answers:

A: The MessageReceivedEventArgs class should not be derived from the ServicedComponent as ServicedComponent derives from MarshalByRefObject and as such are executed at the server only.

B: The MessageReceivedEventArgs class should not be derived from the MarshalByRefObject as this will configure the class as a marshal by reference type. And these types are executed at the server only.

D : The NonSerializable attribute should not be applied to each member of the MessageReceivedEventArgs class as this will prevent the message details from being serialized.

QUESTION 110

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of client applications forms part of your responsibilities at Certkiller .com. You are busy developing a client application that will access a Microsoft.NET Remoting messenger application. The messenger application will allow messages to be sent between client applications. A remote class named RemoteMessenger exposes a remote event named MessageReceived. This event will be raised in the event of a client application calling the SendMessage method of the RemoteMessenger class.

A client event sink class named MessengerEventSink handles the remote MessageReceived event in an event handler named OnMessageReceived. In the OnMessage Received handler, the MessengerEventSink class raises its own MessageReceived event.

You are required to allow the client application to be notified as well as log messages when messages are sent through the messenger application. You should take care to not modify the RemoteMessenger class or the MessengerEventSink class.

What should you do?

- A. A delegate instance that represents the OnMessageReceived event handler to the MessageReceived event of the RemoteMessenger class should be attached.
- B. A delegate instance that represents the OnMessageReceived event handler to the MessageReceived event of the MessengerEventSink class should be attached.
- C. A delegate instance that represents a method in the client application to the MessageReceived event of the MessengerEventSink class should be attached.

D. A delegate instance that represents a method in the client application to the MessageReceived event of the RemoteMessenger class should be attached.

Answer: C

Explanation: The delegate instance that is attached to an event that gets raised in a remote class must also be called remotely. However, the direction of the remote call to raise events is from the remote server to the remote client. For this to happen, both the remote server and the remote client must know about the class that contains the method. This can be done by creating client event sink classes. In this case the client event sink class is the MessengerEventSink class. The only purpose of a client event sink class is to allow it to be marshaled from the server to the client to result in the event getting raised at the client. Due to the client event sink class handling the remote event by raising its own MessageReceived event you should handle the client event sink's MessageReceived event. This will allow you to log messages when the event is raised. And by not coupling the MessengerEventSink class' event handler to a specific implementation you will allow client applications to handle the remote event through client-specific implementations.

Incorrect answers:

A: When you attach a delegate instance that represents the OnMessageReceived event handler to the MessageReceived event of the RemoteMessenger class then the event handler will be coupled to a specific implementation and in addition you would then need to modify the MessengerEventSink class which will result in you not complying with the requirements.

B: When you attach a delegate instance that represents the OnMessageReceived event handler to the MessageReceived event of the MessengerEventSink class then the event handler will be coupled to a specific implementation and then it would also require you to modify the MessengerEventSink class which will result in you not complying with the requirements.

D: When you attach a delegate instance that represents a method in the client application to the MessageReceived event of the RemoteMessenger class the event that gets raised at the server and its invocation is not automatically marshaled to the client application. It is client event sink classes that allow you to marshal event invocations from a remote server to a remote client.

QUESTION 111

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently generating a proxy making use of Microsoft Visual Studio 2005 for a Web Services Enhancements (WSE) 3.0-enabled Extensible Markup Language (XML) Web Service in a client application. Unfortunately you did not have the WSE framework installed on your computer at that stage. You thus need to add the custom code to the proxy. At present your application references the following assemblies:

1. System

2. System Configuration
3. System Data System Deployment
4. System Drawing
5. System Web Services
6. System Windows Forms
7. SystemXml

At this stage you install the WSE 3.0 framework on your computer, and in addition you also added the reference to the required WSE 3.0 assemblies to your application. Now you need to make changes to your project to enable you to dynamically apply WSE 3.0 policies to all outgoing SOAP requests. You must ensure that you do not remove any of the custom code that has already been written. What should you do?

- A. Regenerate the proxy using Visual Studio 2005.
- B. Add a reference to the System.EnterpriseServices assembly.
- C. Modify the proxy class to derive from WebServicesClientProtocol.
- D. Remove the reference to the System.Web.Services assembly.

Answer: C

Explanation: If you modify the proxy class to derive from WebServicesClientProtocol, then all SOAP requests can adhere to the policies without removing any of the custom code that is already written. This class derived from SoapHttpClientProtocol, which is used to send SOAP messages to a Web service. However, this class also includes a method named SetPolicy which allows for the dynamic application of WSE 3.0 policy to a Web service proxy. Once you apply a policy to a proxy, all subsequent SOAP requests will adhere to that policy.

Incorrect answers:

A: A regeneration of the proxy using Visual Studio 2005 will overwrite the custom code that is written in the proxy.

B: A reference added to the System.EnterpriseServices assembly will not work. This assembly contains types that are used with COM+ and does not provide you with the ability to apply WSE 3.0 policies.

D: A reference removed from the System.Web.Services assembly is not the solution. The WebServicesClientProtocol class derives from SoapHttpClientProtocol, which is defined in the System.Web.Services assembly.

QUESTION 112

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com.

You are currently implementing two SOAP extension classes named EncryptionExtension and CompressionExtension respectively. These two classes encrypt and compress outgoing SOAP messages, and exist in the SoapUtilities

namespace in an assembly named SoapUtilities.dll.

You are required to modify the Web.config file for an Extensible Markup Language (XML) Web Service to ensure that encryption will occur prior to compression for the SOAP messages that are returned from that service.

What should you do? (Choose the correct configuration.)

A. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.EncryptionExtension,SoapUtilities"

priority="1"

group="1"/>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

priority="2"

group="0"/>

</soapExtensionTypes>

</webServices>

</system.web>

</configuration>

B. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.EncryptionExtension,SoapUtilities"

priority="2"

group="0"/>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

priority="1"

group="0"/>

</soapExtensionTypes>

</webServices>

</system.web>

</configuration>

C. <configuration>

<system.web>

<webServices>

<soapExtensionTypes>

<add type="SoapUtilities.EncryptionExtension,SoapUtilities"

priority="1"

group="1"/>

<add type="SoapUtilities.CompressionExtension,SoapUtilities"

priority="1"

group="0"/>

</soapExtensionTypes>

</webServices>

```
</system.web>
</configuration>
D. <configuration>
<system.web>
<webServices>
<soapExtensionTypes>
<add type="SoapUtilities.EncryptionExtension,SoapUtilities"
priority="1"
group="0"/>
<add type="SoapUtilities.CompressionExtension,SoapUtilities"
priority="2"
group="1"/>
</soapExtensionTypes>
</webServices>
</system.web>
</configuration>
```

Answer: D

Explanation: Soap extensions that are defined in the Web.config file are processed as follows:

- (1) All SOAP extensions that are members of group 0 are executed
 - (2) All SOAP extensions that are members of group 1 are executed.
- Furthermore, within each group, a SOAP extension that has higher priority (i.e. a number closer to zero) is executed before those with lower priority. This means that you have two choices to make sure that encryption takes place prior to compression:

- (1) Make the EncryptionExtension class a member of a lower group than that of the CompressionExtension class.
- (2) Give the EncryptionExtension class a higher priority than that of the CompressionExtension class.

Thus you need to assign the EncryptionExtension class the group 0 membership and the CompressionExtension class the group 1 membership i.e. option D.

Incorrect answers:

A: EncryptionExtension class should not have higher group membership than the CompressionExtension class. This will result in compression occurring before encryption.

B: EncryptionExtension class should not have a lower priority number than the CompressionExtension class as it will result in Compression before Encryption.

C: In this option the Priorities assigned to both these classes are the same. This is incorrect.

QUESTION 113

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Extensible Markup Language (XML) Web Services forms part of your responsibilities at Certkiller .com. You are currently

installing the Microsoft Web Services Enhancements (WSE) 3.0 framework on your development computer. At present the WSE configuration settings are not enabled on your computer.

You are required to modify the Web.config file for an ASP.NET application to enable it to support WSE configuration settings.

What should you do? (Choose the correct configuration.)

A. <configuration>

<appSettings>

<add

key="microsoft.web.services3" value="Microsoft.Web.Services3.Configuration.WebServicesConfiguration, Microsoft.Web.Services3, Version = 3.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35"/>

</appSettings>

</configuration>

B. <configuration>

<appSettings>

<add key="wse" value="Microsoft.web.services3"/>

</appSettings>

<microsoft.web.services3>

</microsoft.web.services3>

</configuration>

C. <configuration>

<configSections>

<section

name="microsoft.web.services3" type="Microsoft.Web.Services3.Configuration.WebServicesConfiguration, Microsoft.Web.Services3, Version=3.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35"/>

</configSections>

<microsoft.web.services3>

</microsoft.web.services3>

</configuration>

D. <configuration>

<appSettings>

<add key="

microsoft.web.services3" value="Microsoft.Web.Services3.Configuration.WebServicesConfiguration, Microsoft.Web.Services3, Version=3.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35

</appSettings>

<microsoft.web.services3>

</microsoft.web.services3>

</configuration>

Answer: C

Explanation: You need to specify the configuration settings handler in the Web.config

file. This will enable ASP.NET to interpret settings that it does not understand by default.

Incorrect answers:

A, B, D: You should not specify the configuration settings section handler in the appSettings element because this element is used to specify application-specific configuration information.

QUESTION 114

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The implementation of policies for Web applications forms part of your responsibilities. You deployed a Microsoft Web Services Enhancements (WSE) 3.0-enabled Web service application to a production server. Each Web service that is implemented in the application has a Policy attribute applied. This attribute specifies the name of a policy in a policy file. The production server has the Microsoft.NET Framework 2.0 installed, but not Microsoft Visual Studio 2005. You are required to modify the Web service on the production server to use a different set of policies than those that were used during the development. What should you do?

- A. Create a new policy file on the server manually.
Specify the policies to be used in this policy file.
Execute the policies at run time by creating the appropriate SOAP extension.
Specify the SOAP extension in the Web.config file.
- B. The names of all the policies in the existing policy file must be changed.
Modify the policies so that it is applicable in the production environment.
- C. Create a new policy file on the server manually.
Configure the Web.config file to use this policy file.
Specify the policies to be used in this policy file.
- D. The names of all the policies in the existing policy file must be changed.
Execute the policies at run time by creating the appropriate SOAP extension.
Specify the SOAP extension in the Web.config file.

Answer: C

Explanation: A policy file that contains all the applicable policies for the production environment must be created manually and to configure these policies you need to specify this policy file in the Microsoft.web.services3 section of the Web.config file.

Incorrect answers:

- A: Soap extensions should not be created to execute policies. The policies must be executed prior to SOAP extensions because the policies will determine which SOAP extensions get executed.
- B: The names of the policies should not be changed. In this case each policy attribute that is applied to a Web service specifies the name of a policy, thus if you change the names of the policies in the policy file, the policies will cease being applicable to the Web Services.

D: Soap extensions should not be created to execute policies. The policies must be executed prior to SOAP extensions because the policies will determine which SOAP extensions get executed.

QUESTION 115

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Client applications forms part of your responsibilities at Certkiller .com. You are currently developing a client application that will retrieve data from two Extensible Markup Language (XML) Web Services.

1. The one Web service requires the use of username/password authentication.
2. The other Web service requires the use of Kerberos authentication.

You make use of the Web Services Enhancements (WSE) 3.0 proxy generation tool (wsseidl3.exe) to generate the proxies to the two Web services that requires the different authentications. To this end you create a policy file that specifies the authentication requirements. Now you need to ensure that the requirements are enforced when you call each of the Web services.

What should you do? (Each correct answer presents part of the solution. Choose two.)

- A. Call the SetPolicy method on each proxy.
- B. Apply a policy attribute to the class that contains the proxy instance.
- C. Pass the policy file name to this method.
- D. Pass the name of the policy to use this method.
- E. Pass the name of this policy to this attribute.

Answer: A, D

Explanation: You should call the SetPolicy method on each proxy, passing to it the name of the policy to use wsseidl3.exe generated Web service classes are derived from WebServicesClientProtocol. This base class defines a SetPolicy method that enables you to programmatically set the policy for the proxy.

Incorrect answers:

- B: You should not apply the policy attribute to the class that contains the proxy instance.
- C: The policy file name should not be specified as a parameter to the SetPolicy method. One specifies the name of a policy, not the file that contains the policy.
- E: Policy attributes should be applied to either Web Service classes or Web Service proxy classes.

QUESTION 116

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003.

The development and deployment of Client applications forms part of your responsibilities at Certkiller .com. You are currently developing a Microsoft Windows

Forms client application that will retrieve data from an Extensible Markup Language (XML) Web Service. This XML Web Services requires Kerberos authentication. To this end you use the Web Services Enhancements (WSE) 3.0 proxy generation tool (wsseidl3.exe) to generate a proxy to the Web service. You then create a policy file named policies.config. Policies.config specifies the authentication requirements.

You now need to specify the policy file in the app.config file
What should you do? (Choose the correct configuration.)

- A. <configuration>
<appSettings>
<add key="microsoft.web.services3"value="policies.config"/>
</appSettings>
</configuration>
- B. <configuration>
<appSettings>
<add key="wse3"value="policies.config"/>
</appSettings>
</configuration>
- C. <configuration>
<microsoft.web.services3>
<policy fileName="policies.config"/>
</microsoft.web.services3>
</configuration>
- D. <configuration>
<system.web>
<webServices>
<soapExtensionTypes>
<add type="policies.config"/>
</soapExtensionTypes>
</webServices>
</system.web>
</configuration>

Answer: C

Explanation:

A microsoft.web.services3 element should be added to the Web.config file and you should apply the policy element to that element. You should also specify the policies.config file as the value of the filename attribute of the policy element. This will result in the WSE runtime to load the policies that are defined in the policies.config file.

Incorrect answers:

A: The policy file name should not be specified in the appSettings element because the WSE runtime does not use this element.

B: The policy file name should not be specified in the appSettings element. Even though you use this element to specify application-specific configuration information, the WSE

runtime does not use this element.

D: The policies.config should not be specified as a SOAP extension type. The WSE runtime does not process the soapExtensionTypes element to load policy files.

QUESTION 117

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Certkiller .com operates as an Internet Auctioneer. The development and deployment of Microsoft.NET Remoting components forms part of your responsibilities at Certkiller .com. You have been instructed to develop an OrderProcessor class that is responsible for charging a customer's credit card, notifying the shipping department of the particular product that must be shipped, as well as updating the product inventory database. A COM+ application will be hosting the OrderProcessor class. To this end you need to create the class definition.

What should you do? (Choose the appropriate code segment.)

- A. Public Class OrderProcessor
Inherits WebService
End Class
- B. Public Class OrderProcessor
Inherits ServicedComponent
End Class
- C. Public Class OrderProcessor
Inherits MarshalByRefObject
End Class
- D. Public Class OrderProcessor
Inherits MarshalByValueComponent
End Class

Answer: B

Explanation: It is stated in the question that a COM+ application is hosting the class and thus the class must derive either directly or indirectly from the ServicedComponent. The ServicedComponent provides the database for all classes that need to make use of COM+ services. The OrderProcessor class should be derived from ServicedComponent.

Incorrect answers:

A: The OrderProcessor class should not be derived from WebService. This class provides a base class for Microsoft ASP.Net Web services which allows you to access Session and application instances directly.

C: The OrderProcessor class should not be derived from MarshalByRefObject because those types are those that cannot be serialized across an application domain and whose methods must execute remotely. ServicedComponent derives directly from MarshalByRefObject.

D: The OrderProcessor class should not be derived from the

MarshalByValueComponent. This class represents marshal-by-value types that can be serialized across an application and whose methods can execute locally.

QUESTION 118

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

Certkiller .com operates as a realtor and property management company.

The exhibit below illustrates the currently existing class definition:

Exhibit:

```
Public Class PropertyManager
```

```
Inherits ServicedComponent
```

```
Public Sub MoveInNewCustomer(ByVal customer As Customer, ByVal unit As Unit)
```

```
End Sub
```

```
End Class
```

Client applications call the MoveInNewCustomer method to move a new customer into a unit. You have been instructed to ensure that this process occurs within the context of a transaction. If a transaction does not already exist when this method is called, a transaction should be created. Only in the event of an exception being thrown; would you want the transaction to abort.

To this end you need to modify the class to meet these requirements.

What should you do? (Choose the correct code segment.)

A. <Transaction(TransactionOption.RequiresNew)]> _

```
Public Class PropertyManager
```

```
Inherits ServicedComponent
```

```
Public Sub MoveInNewCustomer(ByVal customer As Customer, ByVal unit As Unit)
```

```
End Sub
```

```
End Class
```

B. <Transaction(TransactionOption.Required)]> _

```
Public Class PropertyManager
```

```
Inherits ServicedComponent
```

```
AutoComplete()> _
```

```
Public Sub MoveInNewCustomer(ByVal customer As Customer, ByVal unit As Unit)
```

```
End Sub
```

```
End Class
```

C. <Transaction(TransactionOption.Supported)]> _

```
Public Class PropertyManager
```

```
Inherits ServicedComponent
```

```
Public Sub MoveInNewCustomer(ByVal customer As Customer, ByVal unit As Unit)
```

```
End Sub
```

```
End Class
```

D. <Transaction(TransactionOption.RequiresNew)]> _

```
Public Class PropertyManager
```

```
Inherits ServicedComponent
```

```
Public Sub MoveInNewCustomer(ByVal customer As Customer, ByVal unit As Unit)
End Sub
End Class
```

Answer: B

Explanation: You should apply the Transaction attribute to the class and set its parameter to TransactionOption.Required. This will indicate that the method must execute in the context of a COM+ transaction. If the caller of the method is executing within a transaction, then this transaction is used. If not then a new transaction is created. The AutoComplete attribute should also be applied to this method as it will indicate that the method transaction should commit automatically if the method executes and returns without an exception being thrown. If an exception is thrown, the transaction should abort automatically regardless of the applied AutoComplete attribute.

Incorrect answers:

A: The Transaction attribute parameter should not be set to TransactionOption.RequiresNew as this will indicate that the method must execute within the context of a new COM+ transaction.

C: The Transaction attribute parameter should not be set to TransactionOption.Supported as this will indicate that the method must execute only within the caller's transaction. If the caller is not executing within a transaction, then the method will not execute within the context of a transaction.

D: The Transaction attribute parameter should not be set to TransactionOption.RequiresNew as this will indicate that the method must execute within the context of a new COM+ transaction.

QUESTION 119

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You implemented a strong-named managed assembly that makes use of Enterprise Services. The assembly is not registered for use within a COM+ context. And no RunInstaller attributes have been applied to any of the classes in the assembly. You have been instructed to register the assembly with COM+ to accommodate the COM clients.

What should you do?

A. Install the assembly into the COM+ catalog by running the Regsvcs.exe utility. Then install the assembly into the global assembly cache (GAC) by running the Gacutil.exe utility.

B. Install the assembly into the global assembly cache (GAC) by running the GacUtil.exe utility.

Then install the assembly into the COM+ catalog by running the Regsvcs.exe utility.

C. Install the assembly into the COM+ catalog by running the Regsvcs.exe utility.

Then install the assembly's configuration in the registry by running the InstallUtil.exe

utility.

D. Install the assembly into the global assembly cache (GAC) by running the GacUtil.exe utility.

Then install the assembly's configuration in the registry by running the InstallUtil.exe utility.

Answer: B

Explanation: Managed assemblies that are hosted by COM+ applications must be installed in the GAC before COM+ clients can use them. Then you should run the Regvcs.exe utility as this utility will allow you to install a managed assembly into the COM+ catalog.

Incorrect answers:

A: The Regvcs.exe utility should not be run prior to running the Gacutil.exe utility because you cannot register assemblies with COM+ for use by COM clients if they do not already exist in the GAC.

C: The Regvcs.exe utility should not be run before the InstallUtil.exe utility. You first need to install the assembly into the GAC before running GacUtil.exe.

D: The InstallUtil.exe utility should not be run after you have run the GacUtil.exe utility. The InstallUtil.exe utility executes custom installers that are defined in an assembly. And custom installers are classes that derive from Installer and that have the RunInstaller attribute applied already.

QUESTION 120

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You have developed a serviced component that will be used by both managed and unmanaged applications within Certkiller .com. A remote computer will be hosting this serviced component. The serviced component will be accessible through DCOM. The computers that host the client applications have the .NET Framework 2.0 installed. You have received instruction to allow both managed and unmanaged client applications to reference the serviced component.

What should you do?

A. Copy the serviced component to each client computer that must access the serviced component using the XCOPY tool.

A reference to each client computer should be added to the serviced component's assembly.

B. Run the TypeLibrary Importer (Tlbimp.exe) tool against the serviced component assembly.

Copy the output file to the runtime directory of each client application.

A reference should be added to the output of each client application.

C. A proxy for the COM+ application that hosts the component should be exported into a Microsoft Windows Installer (MSI) package using the Component Services tool.

Execute the package on the computers that contain the client applications.

A reference to the generated assembly should be added to each client application.
D. The RunInstaller attribute should be added to each class in the serviced component assembly.
Run the Installer tool (InstallUtil.exe) on each client computer that must assess the serviced component.
A reference to the serviced component's assembly should be added to each client application.

Answer: C

Explanation: A proxy for the COM+ application that hosts the component should be exported into an MSI package. Then you should execute the proxy component into the COM+ catalog on the client computers. This also installs the GAC. Then a reference to this assembly should be added to each client application. This can be done since all the computers have the .NET Framework installed.

Incorrect answers:

A: XCOPY should not be used to copy the serviced component to each client computer as it will not register the component in the COM+ catalog.

B: The Tlbimp.exe generates a managed assembly from a type library, but then unmanaged client applications cannot directly access components in managed assemblies.

D: The Services component's assembly is a managed assembly, therefore you should not add a reference to the serviced component's assembly to each client application fit then you will deny unmanaged client applications from directly referencing it. Also you should not ass the RunInstaller attribute to each class in the serviced component's assembly. This attribute will indicate that the Installer tool must execute for the associated class when the assembly is installed, however, then you should apply the RunInstaller attribute to Installer-derived classes.

QUESTION 121

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You have received instruction to create an instance of the PropertyManager class from a client application. Following are the circumstances that you need to keep in mind in your attempts to accomplish the task at hand:

1. A class named PropertyManager exists in an assembly named PropertyManagement.dll.
2. The class and component are registered with COM+ services.
3. The COM+ application that hosts this class id configured as a server application.

What should you do? (Choose the correct code segment.)

- A. Dim propertyManager As PropertyManager =
CType(Activator.GetObject(GetType(PropertyManager),"COM+"),PropertyManager)
- B. Dim propertyManager As PropertyManager =

CType(AppDomain.CurrentDomain.CreateInstanceFrom("PropertyManagement.dll", "PropertyManagement.PropertyManager"), PropertyManager);
C. Dim propertyManager As PropertyManager = new PropertyManager();
D. Dim propertyManager As PropertyManager =
CType(Activator.CreateInstanceFrom(PropertyManagement.dll, "PropertyManagement.PropertyManager"), PropertyManager);

Answer: C

Explanation: An instance of the PropertyManager class should be created by calling its constructor. Then the Enterprise Services infrastructure will return a proxy instance that your application uses to make calls across application domain boundaries.

Incorrect answers:

A: The GetObject method of the Activator class should not be used to create an instance of the PropertyManager class. This method will require that the remote object be accessible at a specific URL and COM+ services do not allow objects to be accessed by URL's.

B: Albeit possible to call the CreateInstanceFrom method of the AppDomain class, you should not cast this instance to PropertyManager. It will return an instance of ObjectHandle and to obtain the real object you will need to call the Unwrap method of the ObjectHandle instance.

D: Even though it is possible to call the CreateInstanceFrom method of the Activator class, you should not cast this instance to PropertyManager. It will return an instance of ObjectHandle and to obtain the real object you will need to call the Unwrap method of the ObjectHandle instance.

QUESTION 122

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You have received instruction to develop an order fulfillment application. This order fulfillment application must send multiple messages to the queue in the case of it receiving an order. After the application sends the messages to the queue, it must update an inventory database accordingly. In the event of an error occurring for one of the messages while it is busy updating the database, the application must automatically remove all messages that were sent for the current order. In the event of the database update being successful, another application on the same computer must read and process the messages. Only these two applications must be allowed to access the messages.

Now you need to create the message queue manually.

What should you do?

- A. A non-transactional public queue must be created.
- B. A transactional public queue must be created.
- C. A non-transactional private queue must be created.

D. A transactional private queue must be created.

Answer: D

Explanation: Creating a transactional private queue will allow messages to be rolled back in the event of an error occurring during the database update. In this way, the messages that are sent in the context of the same transaction are either committed or rolled back as a single unit.

Incorrect answers:

A: Since public queues are available to other computers as well, you should not create a non-transactional public queue because only the local computer should have the queue available in this case.

B: This will not fulfill the requirement of these two applications being on the same computer since a public queue will result in availability to other computers as well.

C: A non-transactional private queue will prevent multiple messages from being committed or rolled back as a single unit.

QUESTION 123

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The development and deployment of client applications forms part of your responsibilities at Certkiller .com.

You are currently creating a message queue programmatically. This message queue will be accessed by two applications. Each message represents an instance of a public class named OrderInfo. The OrderInfo class does not derive from ServicedComponent, and it does not implement any interfaces.

You need to ensure that the state of the class is preserved when a message is sent to and received from the message queue. This state of the class would include the values of private members. The message receiving application understands only the basic .NET Framework classes, and the OrderInfo class. To this end you need to specify the formatter that will be used to serialize and dessserialize messages.

What should you do?

- A. You need to specify and instance of the custom formatter class.
- B. You need to specify and instance of the ActiveXMessageFormatter.
- C. You need to specify and instance of the BinaryMessageFormatter class.
- D. You need to specify and instance of the XmlMessageFormatter class.

Answer: C

Explanation: The BinaryMessageFormatter class can be used to serialize and deserialize all members of a class, including private members.

Incorrect answers:

A: The custom formatter class should only be used if none of the default formatter classes are acceptable. In this case the receiving application understands only the basic .NET Framework classes and the OrderInfo class. The OrderInfo class cannot be used as the

custom formatter because it does not implement the IMessageFormatter interface with is a requirement when implementing custom formatters.

B: The ActiveXMessageFormatter is used to serialize COM and COM+ components. In this case, the class that the message represents does not derive from ServicedComponents and only managed classed derived from ServicesComponents are also COM+ components.

D: An XmlMessageFormatter class cannot be used to serialize and deserialize private members of a class.

QUESTION 124

You work as the Microsoft.NET developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The creation and assessment of serviced components form part of your responsibilities at Certkiller .com.

After receiving the instruction, you complied and have just created a private message queue on an application server. You have configured the message queue in such a way than whenever a message arrives in the queue, you will need to simultaneously run two executables to process the message. To this end you need to create a rule or more rules and triggers to ensure that these two executables run simultaneously when a message arrives in the queue.

What should you do?

- A. Create two rules and two triggers. Then apply each rule to only one trigger.
- B. Create a rule and two triggers. Then apply the rule to each trigger.
- C. Create one rule and one trigger. Then apply the rule to the trigger.
- D. Create two rules and one trigger. Then apply both rules to the trigger.

Answer: A

Explanation: A trigger can execute whenever you peek at or retrieve a message from a specific message queue. It is possible that a trigger can contain more than one rule or even no rules; however, in a situation where you want the two executables to run simultaneously, you should specify the conditions that should be met to execute the rule's action. By creating a trigger for each rule you will be allowing the two executables to be invoked simultaneously when the triggers are executed.

Incorrect answers:

B: You should not create only one rule. You need to keep in mind that you must run two executables simultaneously and thus need to create a rule for each executable since a rule can execute at most one executable.

C: You should not create only one trigger, even though it is possible that a trigger may contain more than one rule, the trigger executes the action associated with each rule within a specified sequence. This means that the two executables will be triggered to run but not simultaneously.

D: This option will is possible, but will not allow both executables to run simultaneously.

QUESTION 125

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as a financial institution.

You have been asked to make a recommendation in terms of the technological design to meet the Certkiller .com requirements. The plan is to develop a component for Certkiller .com. And this component is to provide the business logic for the management of customer accounts. The component should meet certain technical requirements to serve the Certkiller .com needs. Following is a list of these requirements:

1. Instantiated classes must be reused by multiple threads.
2. Method calls must be rolled back in the event of a failure occurring.
3. Only certain users must have the ability to call certain methods.

In your recommendation you should mention the appropriate technology that will meet these technological requirements.

What should you do?

- A. Recommend the use of Microsoft .NET Enterprise Services.
- B. Recommend the use of Message Queuing.
- C. Recommend the use of Extensible Markup Language (XML) Web services.
- D. Recommend the use of Microsoft .NET Remoting.

Answer: A

Explanation: Microsoft .NET Enterprise Services will allow you to build applications and components that make use of COM+ services. It further allows you to develop components able of supporting transactions, just-in-time (JIT) activation. Object pooling, as well as role-based security. One of the requirements that should be met includes a roll-back method call in the event of failure. Object pooling will allow you to reuse class instances. And role-based security allows you to restrict method calls to specific users.

Incorrect answers:

B: Message Queuing will not work under these circumstances since though it will allow you to support component-to-component communication through messages; it does not support role-based security to restrict method calls to certain users.

C: You should not recommend the use of Extensible Markup Language (XML) Web services because although it allows one to support communication across different platforms by means of using open Internet Protocols. However, it does not support object pooling to reuse class instances. And this is one of the requirements that should be met.

D: .NET Remoting allows you to support communication across application domain boundaries by means of using remote method invocations; it does not provide transaction support to roll back in case of failure.

QUESTION 126

You work as the Enterprise application developer at Certkiller .com. The

Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as a vehicle testing station that is affiliated to the Chicago Traffic Department.

You have been instructed to develop an enterprise solution for Certkiller .com. This solution is to meet the following requirements:

1. It must allow the Chicago Traffic department employees to register driver licenses for drivers.
2. It must allow the Chicago Traffic department employees to renew driver licenses for drivers.
3. It must allow other States' Traffic departments to access driver licenses statuses via the Internet.
4. It must allow other States' Traffic departments to build applications that integrate with your solution over open protocols.

To this end you propose that the solution should have the following aspects:

Deploy a Microsoft Windows Forms application to be used by Chicago Traffic Department employees.

Deploy a Microsoft ASP.NET 2.0 Web site to be used by other states' Traffic departments.

You now need to make a decision as to whether your proposal will meet the requirements.

What conclusion can you draw?

- A. The solution will meet the requirements.
- B. The solution will not meet the requirements. An Extensible Markup Language (XML) Web service for use of the other states' Traffic departments should be deployed.
- C. The solution will not meet the requirements. A Windows Forms application for use of the other states' Traffic departments should be deployed.
- D. The solution will not meet the requirements. A Microsoft .NET Remoting component for use by the Chicago Traffic department employees should be deployed.

Answer: B

Explanation: An XML Web service will allow the other states' Traffic departments to build applications that integrate with our solution as is mentioned in the requirements.

Incorrect answers:

A: There are some aspects omitted and as such not all the requirements are met. You still require an XML Web service to be deployed.

C: A Windows Forms application will not allow other states Traffic departments to build applications on this solution.

D: A Microsoft .NET Remoting component to be deployed is not a requirement because it will allow a client application to access a server application that is running in another application domain on the same computer or another computer.

QUESTION 127

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as the local municipal traffic authority in Miami.

You have been instructed to develop an enterprise application for Certkiller .com. Following is a list of all the requirements that you should keep in mind when you develop the application:

1. In the event of a driver exceeding the speed limit by more than 10 and less than 20 kilometers per hour (KPH) - the corresponding fine should be \$100 with an additional amount of \$10 for each KPH over the limit.
2. In the event of a driver exceeding the speed limit by 20 or more KPH, the corresponding fine should be \$250 with an additional \$25 for each KPH over the limit.

To this end you write the following pseudo-code to address the requirements:

DECLARE speedLimit INTEGER

DECLARE speed INTEGER

DECLARE fine INTEGER

Now you need to complete the pseudo-code.

What should you do? (Choose the correct code segment.)

- A. IF speed > 10 THEN
fine = 100 + 10 * (speed - speed limit)
IF speed > 20 THEN
fine = 250 + 25 * (speed - speed limit)
- B. IF speed > 20 THEN
fine = 250 + 25 * (speed - speed limit)
IF speed > 10 THEN
fine = 100 + 10 * (speed - speed limit)
- C. IF speed - speed limit > 20 THEN
fine = 250 + 25 * (speed - speed limit)
ELSE IF speed - speed limit > 10 THEN
fine = 100 + 10 * (speed - speed limit)
- D. IF speed > 10 THEN
fine = 100 + 10 * (speed - speed limit)
ELSE IF speed > 20 THEN
fine = 250 + 25 * (speed - speed limit)

Answer: C

Explanation: You should make use of
IF speed - speed limit > 20 THEN
fine = 250 + 25 * (speed - speed limit)
ELSE IF speed - speed limit > 10 THEN
fine = 100 + 10 * (speed - speed limit)

as the code segment. As this is written the code first determines whether the speed exceeds the speed limit by 20 or more KPH. If so, then the fine will be set at \$250 + \$25 times the number of KPH exceeding the limit.

If not, the code will determine whether the speed exceeds the limit by more than 10 KPH, if so the fine is set to \$100 + \$10 time the number of KPH exceeding the limit.

Incorrect answer:

A: If you make use of

IF speed > 10 THEN

fine = 100 + 10 * (speed - speed limit)

IF speed > 20 THEN

fine = 250 + 25 * (speed - speed limit)

it will determine whether the speed is greater than 10KPH or whether it is 20 KPH or more instead of calculating the difference between the speed and the speed limit.

B: If you make use of

IF speed > 20 THEN

fine = 250 + 25 * (speed - speed limit)

IF speed > 10 THEN

fine = 100 + 10 * (speed - speed limit)

it will a fine to be set to \$100 + \$10 for each KPH over the limit even if the driver's speed exceeds 20 KPH or more.

D: If you make use of

IF speed > 10 THEN

fine = 100 + 10 * (speed - speed limit)

ELSE IF speed > 20 THEN

fine = 250 + 25 * (speed - speed limit)

it will determine whether the speed is greater than 10 KPH or whether 20 KPH or more, instead of calculating the difference between the speed and the speed limit.

QUESTION 128

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as an on-line retailer.

You are currently developing a distributed order fulfillment system. When completed, this system must, when an order is placed, first invoke a method on one Web service to charge a customer's credit card. Then the system must continue and invoke methods on another Web service to ship the purchased product. Finally the system must update an internal accounting database.

You need to propose the appropriate component type and layer that must be used to meet the Certkiller .com requirements.

What should you do? (Each correct answer presents part of the solution. Choose two.)

A. Create a business workflow component.

B. Create a user process component.

- C. Place the component in the presentation layer
- D. Place the component in the business layer.

Answer: A, D

Explanation: According to Microsoft best practices, the business layer should include business workflow components, business entity component and business components. The business workflow components manage business workflows. This will allow one to separate business logic from business-to-business (B2B) interactions. And thus you will be able to easily change the business flow of the system. In this scenario you should create a business workflow component and place the component in the business layer.

Incorrect answers:

B: The user process component helps to facilitate the flow through an application. It allows you to reuse the user process in multiple user interfaces. This is not appropriate in this scenario.

C: The presentation later should include user interface components and user process components. It is not appropriate in this scenario,

QUESTION 129

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as a cosmetics company.

You are currently busy developing an enterprise application for Certkiller .com. This application must be able to support the ability to access chemical data. This chemical data are stored in five relational databases. The chemical makeup of each product is represented as a business entity. The business logic determines how the chemical makeup can be used in combinations to create new products.

You need to evaluate the design in terms of the best performance that is can offer. Following are the physical design aspects that you should take into account in you evaluation:

1. One assembly for all business entities.
2. One assembly to contain business logic.
3. An assembly per type of database.

What conclusion can you draw?

- A. This design will result in the best performance.
- B. This design will not yield the best performance.
You should create one assembly for each type of business entity.
- C. This design will not yield the best performance.
You should create an assembly for each type of chemical makeup combination.
- D. This design will not yield the best performance.
You should create one assembly for all databases.

Answer: A

Explanation: The fewer the assemblies the better the performance when it comes to a Microsoft ASP.NET Web application. When the common language runtime (CLR) loads an assembly, it performs certain functions. These functions are necessary and will definitely affect performance when a large number of assemblies are loaded. In this design, only one assembly is used to contain the business entities and only one assembly is used to contain the business logic. Due to a data access component having to correspond to a single data store, an assembly exists for each type of database; however, only one data access assembly will be loaded to access a particular database.

Incorrect answers:

B: You should not create an assembly for each type of chemical makeup combination. This will require the application to load multiple assemblies when different entities are combines. The loading of multiple assemblies degrades performance. It is mentioned in the question that the chemical makeup of each product is represented as an entity.

C: You should not create an assembly for each type of chemical makeup combination. This will require the application to load multiple assemblies when different entities are combines. The loading of multiple assemblies degrades performance. It is mentioned in the question that the chemical makeup of each product is represented as an entity.

D: You should not create one assembly for all the databases. a data access component should correspond to only one single data store. In this case the data store is a database and because only one assembly will be loaded to access a particular database, multiple data access assemblies will not cause performance to degrade.

QUESTION 130

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .Com operates as a telecommunications company.

You are currently busy implementing a solution for Certkiller .com that will, when completed, consist of five Microsoft Windows Forms applications, two Microsoft ASP.NET Web applications, and twenty Extensible Markup Language (XML) Web services. The Web services will be used by the Windows Forms applications as well as the Web applications to access business functionality.

1. The Web services:

All the Web services have similar configuration requirements.

However, only five of the Web services will make use of Simple Object Access Protocol (SOAP) header authentication.

1. The two Microsoft ASP.NET Web applications:

Both of these applications have different configuration requirements.

However, both of them require integrated Windows authentication.

1. The five Microsoft Windows Forms applications:

All these applications makes use of integrated Windows authentication.

The Web applications and the Web services are destined to be hosted on a server that will be running Microsoft Internet Information Services (IIS) 6.0. Following is the design of the Microsoft Visual Studio 2005 project structure:

1. One project for each Windows Forms application.
2. One project for each Web application.
3. One project for each XML Web service.

You have been instructed to evaluate the design for maintainability and thus you need to draw a conclusion regarding the maintainability for the design.
What conclusion can you draw?

- A. The design is easily maintainable.
- B. The design is difficult to maintain.
Both Web applications should be placed in a single project.
- C. The design is difficult to maintain.
All Web services should be placed in a single project.
- D. The design is difficult to maintain.
All Windows Forms applications should be placed in a single project.

Answer: C

Explanation: Maintainability will be improved if all Web services are placed in a single project as it will then allow you to make changes to the configuration in one place and have it reflected by all the Web services. Thus the conclusion should be the design is not maintainable - all Web services should be placed in a single project.

Incorrect answers:

- A: This is incorrect since there are still some measures that can be taken to improve maintainability.
- B: Placing both Web applications in a single project is impractical. These two Web applications have different configuration requirements and that means that they need to be in separate projects.
- D: Placing all Windows Forms applications in a single project is impractical since Windows Forms applications require an entry point, and only one point can exist per application.

QUESTION 131

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com. Certkiller .com operates as an information bureau for the supply of information to financial institutions such as banks.

You are currently busy implementing a solution for Certkiller .com that will, when completed, consist of three Microsoft ASP.NET Web applications. These applications will allow the Certkiller .com customer banks to manage credit-, investment- and current accounts. All three applications are destined to be hosted on a server that is configured with Microsoft Internet Information Services (IIS) 6.0.

Included in the Physical design is the following IIS directory structure:

1. Default Web Site (D:\Inet\wwwroot)

- 2. Credit Portal (D:\FinanceWeb\Credit)
- 3. Investment Portal (D:\FinanceWeb\Investment)
- 4. Current Portal (D:\FinanceWeb\Current)

In your solution you are required to display the application on pages. And images need to be reused across all three applications. To this end you need to select the best location to store these images to ensure that it can be used across all three applications.

What should you do?

- A. Use D:\FinanceWeb to store the images.
- B. Use D:\Images to store the images.
- C. Use D:\InetWeb\wwwroot\Images to store the images.
- D. Use D:\FinanceWeb\Images to store the images.

Answer: C

Explanation: The D:\Inet\wwwroot\Images is the only location amongst the available options that represents a subdirectory of the IIS virtual root directory. This will allow each of the three Web applications the ability to reference the images by means of a URL.

Incorrect answers:

- A: D:\FinanceWeb does not correspond to the IIS virtual root directory and as such will not allow the web applications to reference the images using a URL.
- B: There is no IIS virtual directory that corresponds to any part of D:\Images and this option will thus not allow the Web applications to reference the images.
- D:\FinanceWeb\Images and as such this option will now allow the three Web applications to reference the images.

QUESTION 132

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. The design of applications forms part of your responsibilities at Certkiller .com.

You are currently developing a Microsoft ASP.NET Web application that makes use of a data access component to access data in a Microsoft SQL Server 2005 database. This data access component makes use of Microsoft .NET Remoting to enable access over Transmission Control Protocol (TCP) port 9001. You must develop the Microsoft ASP.NET application to enable users to access data in the database via the Web application only. The following table illustrates the logical and physical design aspects that you should take into account when deciding whether the design meets with the security requirement:

Logical Design Aspects:	Physical Design Aspects:
<ul style="list-style-type: none"> • The user interface is implemented in a Microsoft ASP.NET Web application. • Data is stored in a Microsoft SQL Server 2005 database. • A data access component accesses data in the database. • The Web application connects to the data access component over an inter-process communication (IPC) channel. 	<ul style="list-style-type: none"> • Host the Web application on a Web server on the perimeter network. • Deploy the data access component to the web server. • Place the database server on the intranet. • Allow only Hypertext Transfer Protocol (HTTP) traffic to the Web server.

What conclusion can you draw?

A. The design meets the security requirement.

B. The design does not meet the security requirement.

The data access component should be deployed to an application server on the intranet.

C. The design does not meet the security requirement.

The data access component should be deployed to the database server on the intranet.

D. The design does not meet the security requirement.

The data access component should be deployed to an application server on the perimeter network.

Answer: A

Explanation: It is mentioned in the question that the Web server is placed in the perimeter network and that only HTTP traffic is allowed to the Web server. This means that users can only send HTTP requests to the Web server. Even though the data access component does exist on the Web server, it will still require access through an IPC channel and IPC supports communication on the same computer only. Thus the design currently meets the security requirement.

Incorrect answers:

B: There is no need to deploy the data access component to application server on the intranet. The Web application connects to the data access component over IPC and IPC supports communication on the same computer only.

C: There is no need to deploy the data access component to database server on the intranet. The Web application connects to the data access component over IPC and IPC supports communication on the same computer only.

D: There is no need to deploy the data access component to application server on the perimeter network. The Web application connects to the data access component over IPC and IPC supports communication on the same computer only.

QUESTION 133

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as a financial institution.

You are currently developing an enterprise application for Certkiller .com.

Following are the aspects that should be taken into account in your design:

1. A Microsoft Windows Forms application that will allow all Certkiller .com employees to open accounts for customers.
2. A Microsoft ASP.NET Web application that will allow customers to open their own accounts.
3. A component named OpenAccount that manages the flow throughout both applications.

You thus need to decide on the appropriate layer in the design in which to implement these components.

What should you do?

- A. The Windows Forms, the Web application as well as the OpenAccount component must be placed in the business layer.
- B. The Windows Forms, the Web application as well as the OpenAccount component must be placed in the presentation layer.
- C. The Windows Forms and the Web application must be placed in the presentation layer.
The OpenAccount component must be placed in the data layer.
- D. The Windows Forms and the Web application must be placed in the presentation layer.
The OpenAccount component must be placed in the business layer.

Answer: B

Explanation: According to Microsoft best practices, the presentation layer should include the user interface components and user process components. The user interface components provide the interface with which users interact directly. This is what the Windows Forms application and the Web application is in this scenario. The user process components aid the flow of the application. If you separate the user process components from the user interface components, then you allow the workflow to be reused by multiple user interfaces. Due to the OpenAccount component aiding the flow throughout the application, you should place this component in the presentation layer as well.

Incorrect answers:

- A: None of these components should be placed in the business layer. The business layer should include the business workflows, business entities, business components and service interfaces.
- C: This option is only partly correct. You should instead also be placing the OpenAccount component in the Presentation layer and not in the data layer.
- D: This is only partly correct since the OpenAccount component should also be placed in the presentation layer.

QUESTION 134

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. You are currently developing a Microsoft Windows service that will form part of an

enterprise solution for Certkiller .com. The service must be able to (1) Monitor a File Transfer Protocol (FTP) directory for incoming files, and (2) Extract data from the files and import them into a database.

Following are the requirements that should be met by this service:

1. It must run using a least privileged account.
2. It must be capable of processing 450 files per minute.
3. It must be able to recover from failures that cause it to stop functioning.

You thus need to identify the factor that is most important during the design of the application.

What should you do?

- A. You should identify factors pertaining to Maintainability.
- B. You should identify factors pertaining to Performance.
- C. You should identify factors pertaining to Security.
- D. You should identify factors pertaining to Usability.

Answer: B

Explanation: Performance should be identified as the most important factor under these circumstances. One of the requirements states that the service must be able to process 450 files per minute. This means that the service should perform at a rate of file files per second. This is this important and you need to decide how to design and implement the service to achieve this performance goal.

Incorrect answers:

A: Maintainability is easily attainable by configuring Windows services to automatically restart after it stops. Thus this is not a factor to take into consideration under these circumstances.

C: Security can easily be configured in a Windows service to run as a dedicated account for file and database purposes after it is implemented.

D: Usability should not be the factor to take into consideration in this scenario. Windows services typically do not provide a user interface.

QUESTION 135

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as a Geographic Positioning System service provider. You are currently developing a geographical mapping application. You must create a struct named Waypoint that models a waypoint. This waypoint is to consist of a set of latitude and longitude coordinates. In the event of a user passing a street address to the struct, it must perform a location lookup and set its coordinates appropriately.

To this end you need to define the Waypoint struct. You need to ensure that your application requires the least amount of code to set the coordinates from a street address.

What should you do? (Choose the correct code segment.)

- A. Public Structure Waypoint
Public Latitude As Double
Public Longitude As Double
Public WriteOnly Property Address() As String
Set(ByVal value As String)
'Set the Latitude and Longitude field based on the address.
End Set
End Property
End Structure
- B. Public Structure Waypoint
Public Latitude As Double
Public Longitude As Double
Public Sub New(ByVal address As String)
'Set the Latitude and Longitude fields based on the address.
End Sub
End Structure
- C. Public Structure Waypoint
Public Latitude As Double
Public Longitude As Double
Public Function FromAddress(ByVal address As String) As Waypoint
Dim waypoint As Waypoint = New Waypoint()
'Set the Latitude and Longitude fields based on the address.
Return Waypoint
End Function
End Structure
- D. Public Structure Waypoint
Public Latitude As Double
Public Longitude As Double
Public Sub SetAddress(ByVal address As String)
'Set the Latitude and Longitude fields based on the address.
End Sub
End Structure

Answer: B

Explanation: When the Waypoint struct is defined with a non-default constructor, it allows calling code to initialize the Latitude and Longitude fields of the Waypoint struct when it is instantiated. This solution only uses one code statement.

Incorrect answers:

A: You should not add a non-static method to return a Waypoint instance. As such it would require applications to first initialize the Waypoint struct by calling its constructor and only then can applications call methods on the structs. Furthermore this solution will require two code statements.

C: You should not add a non-static method to set the Latitude and Longitude fields of the

Waypoint instance. This will require the application to first initialize the Waypoint struct by calling its constructor and only then will the application be able to call methods on the struct. Furthermore, this solution will require two code statements.

D: You should not add a property to set the Longitude and Latitude fields of the Waypoint instance. This will require the application to first initialize the Waypoint struct by calling its constructor and only then will the application be able to call methods on the struct. Furthermore, this solution will require two code statements.

QUESTION 136

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as the Emergency unit of the Traffic Department. You are currently busy implementing a Microsoft .NET Remoting component. This component will be used in the traffic control environment. The component will allow the traffic department to guide all traffic officers on duty to the available alternative routes during emergencies. As such the component must meet the following requirements:

1. A specific instance of the component must be allowed to control access to the navigational system on one traffic officer's vehicle.
 2. The component must be instantiated only once while the traffic officer's navigational system is being controlled.
 3. The component must be hosted on a server that is separate from the application.
- To this end the design suggests making use of single-call activation over Transmission Control Protocol (TCP). You are now required to decide whether or not the design meets the requirements.

What conclusion can you draw?

- A. The design meets the requirements.
- B. The design does not meet the requirements; it should make use of inter-process communication (IPC).
- C. The design does not meet the requirements; it should make use of client activation.
- D. The design does not meet the requirements; it should make use of Singleton activation.

Answer: C

Explanation: The requirements clearly indicate that the component should be stateful, being stateful means that the component can be instantiated once, and maintain its state throughout its lifetime. With client activation, the client maintains state for a remote object; also the object gets instantiated once for each client. Thus the design is inadequate and should also make use of client activation.

Incorrect answers:

A: IPC supports communication between different processes running on the same computer only. This is not the case in this scenario; instead the application needs to communicate

with the component on a different computer.

B: There are definitely some inadequacies and you will need client activation to meet the stated requirements.

D: Singleton activation is when a single instance of an object is provided to multiple clients. This is not what is required in this scenario since you only need to use one object per client.

QUESTION 137

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as an airliner. You are stationed on one of the airports that the airliner operates from.

You are currently developing an enterprise air traffic control system for Certkiller .com. The plan is to make use of a Microsoft .NET Remoting component with Singleton activation to control the airplanes. An application server will be used to host the component. The air traffic controllers will make use of a Microsoft Windows Forms application that will be deployed to their workstations.

You now need to define the implementation details of the component to ensure that it supports scalability.

What should you do?

- A. You should ensure that the component processes singular requests.
- B. You should ensure that the component is multithreaded.
- C. You should ensure that the component is stateful.
- D. You should ensure that the component uses the inter-process communication (IPC) channel.

Answer: B

Explanation: A Singleton object is accessible to multiple threads; you need to ensure that it behaves correctly when it is accessed in a multithreaded environment. If not it will affect scalability adversely.

Incorrect answers:

A: Ensuring that the component processes singular processes will require a single thread and would affect scalability adversely.

C: Stateful components are not scalable.

D: IPC is meant to support communication between different processes that runs on the same computer only. This is not what will be occurring in this scenario because the air traffic controllers will be working from their own workstations.

QUESTION 138

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your

responsibilities at Certkiller .com include the design and development of applications. You are currently developing a business logic component that is used in a line-of-business (LOB) application. The business logic component calls a Web method named SeeCustomer in an Extensible Markup Language (XML) Web service. The SeeCustomer Web method throws an exception of a type SoapExtension in the event of the specified customer being non-existent. Now, when this exception is thrown, you must call a Web method named NewCustomer. To this end you need to implement the appropriate exception handling mechanism to meet this requirement.

What should you do?

- A. Do nothing and leave the exception.
- B. First catch the exception and do not re-throw it.
- C. First catch the exception, then log it, and then re-throw it.
- D. First catch the exception, then wrap the exception, and then throw the wrapped exception.

Answer: B

Explanation: When an exception is caught, you prevent it from propagating up the call stack. This will then allow you to call the NewCustomer Web method. Thus you should catch the exception and not re-throw it.

Incorrect answers:

- A: Not doing anything about the exception will allow the exception to propagate up the call stack and prevent you from calling the NewCustomer Web method.
- C: Re-throwing the exception will result in the exception propagating up the call stack and will not afford you the opportunity to call the NewCustomer Web method.
- D: A Wrapped exception being thrown would result in a new exception up the call stack and will also prevent you from calling the NewCustomer Web method.

QUESTION 139

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as a service provider in the security industry. You are currently developing a video surveillance application for Certkiller .com. You need to implement a class named Visuals. Visuals will be destined to control access to a video camera. A method named CommenceRecording must start a recording session of the camera if one is not already started. In the event of a recording session having started already when the method is called, you have to interrupt the execution of the application. To this end you now need to define the Visuals class.

What should you do? (Choose the correct code segment.)

- A. Public Class Visuals

```
Private _recording As Boolean = False
Public Sub CommenceRecording()
If (_recording = True) Then
MessageBox.Show("A recording session is in progress.")
End If
'Start recording
_recording = True
End Sub
End Class
B. Public Class Visuals
Private _recording As Boolean = False
Public Event Recording As EventHandler
Public Sub CommenceRecording()
If (_recording = True)
RaiseEvent Recording(Me, EventArgs.Empty)
End If
'Start recording
_recording = True
End Sub
End Class
C. Public Class Visuals
Private _recording As Boolean = False
Private Sub CommenceRecording()
If (_recording = True) Then
Throw New InvalidOperationException("A recording session is in progress.")
End If
'Start recording
_recording = True
End Sub
End Class
D. Public Delegate Sub RecordingStarted(ByVal message As String)
Public Class Visuals
Private _recording As Boolean = False
Public Recording As RecordingStarted
Public Sub CommenceRecording()
If (_recording = True) Then
Recording("A recording session is in progress.")
End If
'Start Recording
_recording = True
End Sub
End Class
Answer C
```

Explanation: If the method is called when there is already a recording session in progress then you should throw an exception. This will allow you to interrupt the normal

flow of an application.

Incorrect answers:

A: Displaying a message box does not interrupt the execution of an application; it would instead result in an interruption to the user.

B: Raising an event will result in the application to subscribe to the event to receive notification regarding the status of recording sessions. Thus it will not interrupt the execution of the application.

D: Invoking a delegate is not the solution since it will result in the application to require associating with a method with the delegate to receive notification regarding recording session status and as such would not interrupt the execution of the application.

QUESTION 140

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as an Independent Electoral Commission.

You are currently developing a voter registration application for Certkiller .com.

Following is a list of the facts that must be taken into account:

1. A voter is associated with one political party.
2. A voter has one mailing address.
3. A mailing address can belong to multiple voters.
4. It is estimated that on average each mailing address can be used by two voters.
5. A voter has two telephone contact numbers.
6. A contact phone number can belong to multiple voters.
7. It is estimated that on average each contact phone number can be used by two voters.

The plan is to design the database schema based on these facts. Now you need to decide on the minimum number of tables that will be required. In your solution you must ensure that it offers the best performance.

What should you do? (Choose the correct amount of tables required.)

- A. 1
- B. 2
- C. 3
- D. 4

Answer: A

Explanation: A single table will suffice in this scenario. You will be able to store all the voters' mailing addresses, political party affiliation and telephone contact numbers. It will however result in a renormalization of the database, but it will offer the best performance since it offers better performance than a normalized database. In a normalized database only an average of two voters are associated with the same addresses and telephone contact numbers.

Incorrect answers:

B, C, D: Creating more than one table will result in normalization of the database, but it would not offer the best performance.

QUESTION 141

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. Certkiller .com operates as an umbrella company for several recording houses in the music industry.

You are currently developing an enterprise application for Certkiller .com. you need to design the database schema for this application and following are the facts regarding record labels/recording house, albums, songs, and artists; pertaining to the company that you need to take into account in your design:

1. A label has one or more albums.
2. A label has one or more artists.
3. An artist records zero or more albums.
4. An artist records one or more songs.
5. An artist belongs to one label.
6. An album is recorded by one or more artists.
7. An album has one or more songs.
8. An album is owned by one label.
9. A song is recorded by one or more artists.
10. A song exists on one or more albums.

You need to normalize the database. To this end you need to decide on the amount of tables to use in the database.

What should you do?

- A. You require 2 tables.
- B. You require 4 tables.
- C. You require 5 tables.
- D. You require 7 tables.

Answer: D

Explanation: There are four main entities: namely Label, Artist, Album, Song. This means that you need to create four tables to correspond to these entities. However, you also need to take into account the many-to-many relationships that has to be reflected in the database. The existing many-to-many relationships include relationships between: artists and albums, albums and songs, and artists and songs. Thus you need an additional three tables. Seven tables is thus the minimum number of tables required for normalization.

Incorrect answers:

- A: With two tables only, the database would not be normalized.
 - B: With only 4 tables the database would not be normalized.
 - C: With only 5 tables the database would not be normalized.
-

QUESTION 142

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of applications. You are currently developing an Extensible Markup Language (XML) Web service that when completed will allow client applications the ability to download movie clips. One of the requirements that should be met is that all Web service clients must be able to use the Web service. You should also keep in mind that you should optimize the message transfer for some of the movie clips since fifty percent of the movie clips are quite large.

To this end you decide to make use of Microsoft Visual Studio 2005 and Web Services Enhancements (WSE) 3.0 to develop the Web service. Now you need to modify the Web.config file to meet the requirements.

What should you do? (Choose the correct configuration.)

- A. <configuration>
<configuration.web.services3>
<mtom serverMode="optional"/>
</microsoft.web.services3>
</configuration>
- B. <configuration>
<configuration.web.services3>
<mtom serverMode="always"/>
</microsoft.web.services3>
</configuration>
- C. <configuration>
<configuration.web.services3>
<mtom serverMode="on"/>
</microsoft.web.services3>
</configuration>
- D. <configuration>
<configuration.web.services3>
<mtom serverMode="never"/>
</microsoft.web.services3>
</configuration>

Answer: A

Explanation: WSE 3.0 allows one to make use of Message Transmission Optimization Mechanism (MTOM) to encode and transmit large amounts of binary data. MTOM allows one to transmit binary messages in binary form without the need to encode them in a text format. It is necessary that the client application support MTOM to be able to use it. You also set MTOM in a Web service by setting the serverMode attribute of the mtom element. This attribute supports three values: optional, never and always. However, if MTOM is used in this way, the message transfer is not optimized, thus the

attribute should be set to optional.

Incorrect answers:

B: The serverMode attribute should be set to optional, for if set to always, you need the Web service client to support MTOM and not all Web service clients supports MTOM.

C: The serverMode attribute should be set to optional, for if set to on, the attribute will determine whether MTOM is supported by the Web service client and in this scenario you are configuring the Web service.

D: The serverMode attribute should be set to optional, for if set to never, this attribute will indicate that MTOM should not be enabled for incoming Simple Object Access Protocol (SOAP) requests.

QUESTION 143

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates as a medical technological company that manufactures electronic scanning equipment for medical use.

You are currently developing a Microsoft Windows Forms application. This application is destined to allow doctors to perform computed Axial Tomography (CAT) scans on patients. When a CAT scan is carried out, it takes over 1,000 two-dimensional scans that are combined to create a three-dimensional image. It takes no more than two seconds to make a two-dimensional scan, however it also takes approximately 20 seconds to combine each image.

The Microsoft Windows Forms application that you are developing must allow doctors to take the two-dimensional scans without requiring the patients to wait for a long time. You thus need to choose the appropriate component to meet this requirement.

What should you do? (Choose the correct component.)

- A. Process
- B. Timer
- C. BackgroundWorker
- D. ImageList

Answer: C

Explanation: The BackgroundWorker component will allow one to implement asynchronous processing. In this particular case you can implement two-dimensional scanning and use BackgroundWorker component to combine the scans.

Incorrect answers:

A: The Process component allows one to execute a process. This is not what will reduce the waiting time for the patients.

B: The Timer component allows a Windows Forms application to respond to timed events. You rather need to make use of BackgroundWorker component to reduce the waiting time for patients.

D: The ImageList component allows one to manage a collection of images that can be used with the TreeView, ListView, and ToolStrip controls, not to reduce waiting time.

QUESTION 144

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks.

You are currently developing a Microsoft Windows Forms monitoring application for Certkiller .com. This application is destined to read data in a Microsoft SQL Server 2005 database and display it graphically on a form. All Certkiller .com users need to be able to:

1. choose the refresh rate for displaying data
2. choose an interval in multiples of one second

To this end you need to reuse a component to meet these requirements without requiring excessive coding.

What should you do?

- A. You need to encapsulate a BackgroundWorker instance in a custom class by wrapping the BackgroundWorker component.
- B. You need to encapsulate a Timer instance in a custom class by wrapping the Timer component.
- C. You need to derive a class from BackgroundWorker by extending the BackgroundWorker component.
- D. You need to derive a class from System.Windows.Forms.Timer by extending the Timer component.

Answer: D

Explanation: The Timer component needs to be extended in the System.Windows.Forms.Timer class. The Timer component raises a Tick event at intervals specified in the Interval property. If you derive a class from Timer, you in essence allow client applications to set the interval property to multiples of one second.

Incorrect answers:

- A: The BackgroundWorker component allows for asynchronous code execution. It is stated pertinently in the question that no excessive coding must be allowed.
- B: Wrapping the Timer component is not the solution. It will require you to write code that exposes the functionality of the Timer component.
- C: You should not extend the BackgroundWorker component as this component allows one to execute code asynchronously in a background thread and automatically notify the foreground thread when the asynchronous operation completes. However, this involves extra coding is that is required.

QUESTION 145

You work as the Enterprise application developer at Certkiller .com. The

Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates in the security and surveillance environment. You are currently developing a video surveillance application for Certkiller .com. While executing your duties, you examine a third party component that implements a Camera class. This class allows you to connect to a physical camera and record video or capture images. The following exhibit illustrates the Camera class definition:

Exhibit:

```
Public Class Camera
Public Overridable Sub CaptureImage()
'Capture a still image
End Sub
Public Overridable Sub StartRecording()
'Start a recording session
End Sub
Public Overridable Sub StopRecording()
'Stop a recording session
End Sub
End Class
```

You now need to define the custom class to achieve the following goals:

1. reuse the Camera class to implement a custom class
2. allow the application to capture still images
3. prevent the application from being able to use your class to start and stop a recording session

What should you go? (Choose the correct code segment.)

```
A. Public Class StillImageCamera
Inherits Camera
Public Overrides Sub CaptureImage()
MyBase.CaptureImage()
End Sub
End Class
```

```
B. Public Class StillImageCamera
Inherits Camera
Public Overrides NotOverridable Sub StartRecording()
MyBase.StartRecording()
End Sub
Public Overrides NotOverridable Sub StopRecording()
MyBase.StopRecording()
End Sub
End Class
```

```
C. Public Class StillImageCamera
Private ReadOnly _camera As Camera = new Camera()
Public Overridable Sub CaptureImage()
```

```
_camera.CaptureImage()  
End Sub  
End Class  
D. Public Class StillImageCamera  
Inherits Camera  
Public Shadows Sub CaptureImage()  
MyBase.CaptureImage()  
End Sub  
End Class
```

Answer: C

Explanation: To allow yourself to be able to control access to the functionality exposed by the Camera class, you should wrap the Camera class by encapsulating it within another class. When you implement only the method that captures still images, you can prevent the application from making use of your class to start or stop a recording session. Incorrect answers:

A, B, D: To derive a class from the Camera class as suggested in these options is not the solution. This will result in a solution that will allow the application to access all functionality exposed by the Camera class through polymorphism.

QUESTION 146

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates in the Inland Revenue services department. You are currently developing an income tax preparation application. This application should calculate income tax on the following basis:

Income	Tax
Up to \$7,500	10%
Over \$7,500 and up to \$30,000	\$750 + 15% of the amount over \$7,500
Over \$30,000 and up to \$72,000	\$4,200 + 25% of the amount over \$30,000
Over \$72,000	\$15,000 + 28% of the amount over \$72,000

To this end you create two Double variables. These are named income and tax respectively. What is now required is to choose an appropriate decision flow structure to implement the business rules.

What should you do? (Choose the appropriate code segment.)

A. If (income <= 7500) then
tax = 0.1 * income
ElseIf (income <= 30000) Then
tax = 0.15 * (income - 7500) + 750
ElseIf (income <= 72000) Then
tax = 0.25 * (income - 30000) + 4200

```
Else
tax = 0.28 * (income - 72000) + 15000
End If
B. If (income < + 7500) Then
tax = 0.1 * income
If (income < + 30000) Then
tax = 0.15 * (income - 7500) + 750
If (income <= 72000) Then
tax = 0.25 * (income - 30000) + 4200
Else
tax = 0.28 * (income - 72000) + 15000
End If
End If
End If
C. Select Case (CInt(income))
Case 7500
tax = 0.1 * income
Case 30000
tax = 0.15 * (income - 7500) + 750
Case 72000
tax = 0.25 + (income - 30000) + 4200
Case Else
tax = 0.28 * (income - 72000) + 15000
End Select
D. If (income < 7500) Then
tax = 0.1 * income
End if
If (income < 30000) Then
tax = 0.15 * (income- 7500) + 750
End if
If (income < 72000) Then
tax = 0.25 * (income - 30000) + 4200
End if
If (income > 72000) Then
tax = 0.28 * (income - 72000) + 15000
End if
```

Answer: A

Explanation: When you make use of if-else statements then you control execution based on a single expression. In this case, if the income of an individual is less than or equal to \$7,500, the tax variable is set to 10% of the value of the income variable. Execution then leaves the entire if-else block. If not, then the code will determine whether the income is less than or equal to \$ 30,000. If so, then the tax variable is set to \$750 + 15% of the income over \$7,500 etc.

Incorrect answers:

B: You should not make use of nested if-statements because it will result in income less than \$7,500 to be taxed as 25%.

C: You should not make use of switch-case statements because each statement can be used to test a single value, but not a range of values. This will then result in income of less than \$ 7,500 to be taxed at 28%.

D: You should not make use of if statements as it will cause income of less than \$7,500 to be taxed at 25%.

QUESTION 147

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates as a financial institution.

You are currently developing a Microsoft Windows Forms application for Certkiller .com that is meant to allow bank tellers to manage account transactions for the Certkiller .com customers. In the United States of America is it government policy that all transactions to the value of \$10 000 or greater must be reported.

Certkiller .com need to comply with this policy. This policy also states that the government should be informed as to who made the large transaction.

The logical design suggests that in the event of a teller managing a transaction for a customer that is \$ 10,000 or greater in value logging of the following information should occur:

1. Date and time
2. Customer account number
3. Transaction amount
4. Transaction type

When subjected to government audit, Certkiller .com needs to have peace of mind that they are in compliance with the government policies. Thus you now need to decide whether or not the design meets the requirements for compliance.

What conclusion can you draw?

- A. The design is adequate. It meets all the requirements for compliance.
- B. The design is inadequate. You should not log the Certkiller .com customer's account number.
- C. The design is inadequate. You should not log the transaction amount.
- D. The design is inadequate. You should also log the name of the Certkiller .com teller managing the account.

Answer: A

Explanation: The design logs enough information to allow the government to determine which customer made the large transaction as well as the type of transaction that was made. They can even identify the customer through the account number. Thus the design meets the requirements.

Incorrect answers:

B: You will need the account number because it will allow the government to identify who made the transaction.

C: The transaction amount has to be logged because it will provide the proof that an amount of \$ 10,000 or more has been made.

D: The requirements do not indicate that the need to know which Certkiller .com teller managed the transaction for the customer has to be logged.

QUESTION 148

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates as a financial institution.

You are currently developing a Microsoft Windows Forms application for Certkiller .com that is meant to allow bank tellers to manage account transactions for the Certkiller .com customers. In the United States of America is it government policy that all transactions to the value of \$10 000 or greater must be reported.

Certkiller .com need to comply with this policy. This policy also states that the government should be informed as to who made the large transaction.

When subjected to government audit, Certkiller .com need to be able to easily search for transactions by account number, amount, or date. It is anticipated that 100,000 transactions per day will take place.

The logical design suggests that logging of the transactions should occur to an Extensible Markup Language (XML) file. You need to decide whether the design is feasible whilst ensuring that it is also scalable.

What conclusion can you draw?

- A. The design is feasible.
- B. The design is not feasible. Make use of an event log instead of an XML file.
- C. The design is not feasible. Make use of a database instead of an XML file.
- D. The design is not feasible. Make use of a binary file instead of an XML file.

Answer: C

Explanation: A database would be more suited to the scenario since you need to make provision for scalability by allowing multiple instances of the Windows Forms application to log transaction data at the same time.

Incorrect answers:

A: The design is clearly not feasible since you also need to make provision for scalability which is currently no provision has been made.

B: An event log would not allow you to search the event log by account number or amount.

D: A binary file will not suffice since it will only allow one application to write to a file at a time.

QUESTION 149

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks.

You are currently developing a Microsoft Windows Forms application. You used Microsoft Visual Studio 2005 Team Edition for Software Developers. This Windows Forms application that you are developing, when completed will allow users to access data on the Certkiller .com mainframe. This data access will happen as follows: A Microsoft .NET Remoting component accesses the mainframe, and the application connects to the Remoting component via Transmission Control Protocol (TCP) channel.

You need to keep in mind that there is a performance requirement that the application should not perform excessive and unnecessary security checks. A performance monitoring solution that will be put in place will consists a measuring the Total Runtime Checks and Stack Walk Depth performance counters in the .NETCLR Security category.

You need to make a decision as to whether the monitoring solution is correct. What conclusion can you draw?

- A. The monitoring solution will be correct.
- B. The monitoring solution will be inadequate. You need to use the Process component to query information from the application.
- C. The monitoring solution will be inadequate. You need to examine the Security event log.
- D. The monitoring solution will be inadequate. You need to create a Performance Session in Microsoft Visual Studio.

Answer: A

Explanation: The Stack Walk Depth performance counter measures the amount of stack frames that are used by a security demand to request permission to access a protected resource.

The Total RunTime Checks performance counter measures the amount of security checks that the common language runtime (CLR) makes since the application started. Thus these two performance counters will help you in eliminating the excessive and unnecessary security checks. This results in the monitoring solution to be adequate.

Incorrect answers:

- B: The Process component allows one to query information like threads, memory, modules, and handles, but is does not allow one to query security information.
- C: The Security event log contains the success and failure audits, it does not display CLR code access security checks information.
- D: The creation of a Performance Session in Visual Studio will now allow you to obtain CLR code access security information.

QUESTION 150

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks. Certkiller .com operates in the security and surveillance environment. You are currently developing a Microsoft Windows Forms security monitoring system. The application is destined to connect to fifty cameras to record as well as play video. A class named Camera interacts with a physical camera. You make use of the semaphore class to create a resource pool of five camera instances. The business is of such a nature that no more than three Camera instances will be in use at a time. To this end you implement a custom trace listener to send trace messages to a database. In the event of a fourth Camera instance is obtained from the resource pool, you will require to log a message that will read something like: Only one Camera instance remains in the resource pool. You now need to choose the most appropriate trace level for this message. What should you do?

- A. You should select the Verbose level.
- B. You should select the Error level.
- C. You should select the Warning level.
- D. You should select the Informational level.

Answer: C

Explanation: This type of message would be considered a warning message because it indicates that something out of the ordinary might happen if a problem is not addresses. In this case, a fourth Camera instance is not anticipated and if a fourth Camera instance is obtained from the resource pool, there would only be one Camera instance remaining. If the fifth Camera instance is obtained there would be none remaining.

Incorrect answers:

- A: Verbose level is chosen for messages that do not provide a high level of technical information. It is usually used in messages pertaining to control flows, component state changes, etc.
- B: Error level messages are not appropriate in this scenario. This message does not indicate that something exceptional has happened.
- D: Informational level messages simply provide information that indicates what is happening; not exceptional instances.

QUESTION 151

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the design and development of application frameworks.

A developer named Clive Wilson is currently writing the following code for an

Extensible Markup Language (XML) Web service:

```
01 TraceSwitch generalSwitch = new TraceSwitch("General", "General Switch");  
02 Trace.WriteLineIf(generalSwitch.TraceError, "Cannot access mainframe computer");  
03 Trace.WriteLineIf(generalSwitch.TraceInfo, "Creating a new data file");
```

(Please note: The line numbers are for reference purposes only.)

Unfortunately the Web service is experiencing problems in production. To this end you decide that both the error message and the informational message need to be written to a Microsoft SQL Server 2005 database. Thus a custom trace listener is configured in the Web.config file to write the trace information to the database.

Clive Wilson then sets the trace level to 1 (Error).

You need to make a decision as to whether the solution is correct or not.

What conclusion can you draw?

- A. The solution is correct.
- B. The solution is incorrect because Clive Wilson should set the trace level to 3(Info).
- C. The solution is incorrect because Clive Wilson should delete the code at line 02 and include the informational message with the error message.
- D. The solution is incorrect because Clive Wilson should delete the code at line 03 and include the informational message with the error message.

Answer: B

Explanation: This solution is incorrect since Clive Wilson should rather set the trace level to 3. This trace level only indicates that only error, warning, and informational messages should be logged. Trace level ranges from 1 through 4 and the higher the trace level, the more types of messages it is capable of logging.

Incorrect answers:

- A: There is definitely something wrong with the solution and thus this option is incorrect.
- C: Clive Wilson should not delete the code at line 02 and include the error message with the informational message. It is possible to write both messages if the trace level is set to 3.
- D: Clive Wilson should not delete the code at line 03 and include the error message with the informational message. It is possible to write both messages if the trace level is set to 3.

QUESTION 152

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications.

Certkiller .com is in the business of retailing music videos online.

Your team is currently busy developing a Microsoft ASP.NET Web application that is destined to allow users to purchase music videos online. A Microsoft SQL Server 2005 database is currently used to store the music video data. The Certkiller .com management wants the application to allow the users to search for music videos by title, artist, and genre. To this end you perform a code review for a page and then discovered the following SQL statement stored in a String variable:

```
SELECT * FROM Musicvideo WHERE Artist=@Artist
```

The code makes use of a query string value to create a SqlParameter instance that represents the @Artist parameter. The code then executes the query and displays the results in a GridView control. Now you need to make a decision as to whether the application is vulnerable to a SQL injection attack.

What conclusion can you draw?

- A. The application is not vulnerable to a SQL injection attack.
- B. The application is vulnerable to a SQL injection attack. The SQL statement should be replaced with a function call.
- C. The application is vulnerable to a SQL injection attack. The SQL statement should be replaced with a table-direct call.
- D. The application is vulnerable to a SQL injection attack. The SQL statement should be replaced with a stored procedure call.

Answer: A

Explanation: SQL injection attacks can occur when an application constructs SQL queries dynamically. In this case this risk is negated by the use of parameterized queries.

Incorrect answers:

B: Replacing the SQL statement with a function call is superfluous since the application makes use of parameterized queries.

C: Replacing the SQL statement with a table-direct call is superfluous since the application makes use of parameterized queries.

D: Replacing the SQL statement with a stored procedure call is superfluous since the application makes use of parameterized queries.

QUESTION 153

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the Inland Revenue services department.

You are currently performing a code review for an income tax filing application. In the code review you examine the following code:

```
While (True)
Dim form As TaxForm = TaxForm.Instance
If (form Is Nothing) Then
Exit While
End If
Dim schedule As Schedule = form.schedule
If (schedule Is Nothing) Then
Exit While
End If
Dim worksheet As Worksheet = schedule.Worksheet
If (worksheet Is Nothing) Then
Exit While
```

```
End If  
worksheet.Clear()  
Exit While  
End While
```

The code is meant to clear a worksheet. Now you need to check whether the code has any problems with its semantics.

What conclusion can you draw?

- A. The code has no problems.
- B. The code has problems as execution will occur in an infinite loop.
- C. The code has problems as you need to pass the value false to the while expression.
- D. The code review failed as the Clear method of the Worksheet class will never get called.

Answer: A

Explanation: A while true loop will prevent the need to make use of nested if statements. Thus this code does not have any problems. You simply need to ensure that you always break out of the loop after all conditions inside the loop have been tested.

Incorrect answers:

B: There will not be an infinite loop because execution will break after the last break statement.

C: This is incorrect the condition would always fail and execution would never enter the loop.

D: This is incorrect since as long as each if statement inside the while true loop fails, execution will reach the end of the loop and the Clear method will get called.

QUESTION 154

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the security and surveillance environment.

You are currently developing a video surveillance application for Certkiller .com.

You perform a code review of the following class:

```
Public Class Camera  
Public Function GetInstance() As Camera  
Return Nothing  
End Function  
End Class
```

This class is supposed to make use of the Singleton design pattern to control access to a physical video camera. You need to modify the Camera class.

What should you do? (Choose the correct code segment.)

- A. Public Class Camera
Private Shared _instance As Camera

```
Public Shared ReadOnly Property Instance() As Camera
Get
If (_instance Is Nothing) Then
SyncLock (_instance)
If (_instance Is Nothing) Then
_instance = New Camera()
End If
End SyncLock
End If
Return _instance
End Get
End Property
End Class

B. Public Class Camera
Private _instance As Camera
Public ReadOnly Property Instance() As Camera
Get
If (_instance Is Nothing) Then
SyncLock(_instance)
If (_instance Is Nothing) Then
_instance = New Camera()
End If
End SyncLock
End If
Return _instance
End Get
End Property
End Class

C. Public Class Camera
Public Shared ReadOnly Property Instance() As Camera
Get
Dim camera As Camera = New Camera()
Return camera
End Get
End Property
End Class

D. Public Class Camera
Private _instance As Camera
Public Function GetInstance() As Camera
_instance = New Camera()
Return _instance
End Function
End Class
```

Answer: A

Explanation: you need to define a static class member that returns a single instance of the class because the Singleton design pattern allows one instance of a class to be provided to multiple threads. The method must ensure that it creates an instance if there is not already an instance in existence and return the already existent instance if one does exist.

Incorrect answers:

B: This is incorrect you should be defining a static class member that returns a single instance of the class with the Singleton design pattern.

C: You should not implement a static property to always create a new instance of the class. You should rather return a single instance with the Singleton design pattern.

D: you should not be implementing a class member to return a non-static instance of the class. You need to return a static instance of the class with the Singleton design pattern.

QUESTION 155

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the Credit Card Services department of a financial institution.

You and your team are currently developing an Extensible Markup Language (XML) Web service. When completed this Web service will allow merchants to verify and charge a customer's credit card. A Web method named Verify accepts a String parameter that represents the customer's credit card number. Verify's main function will be to ensure that a credit card number is valid. Verify will be configured to throw an exception in the event of the card number being invalid.

Following is the unit strategy testing as it will be implemented:

1. Use the automatically generated Microsoft ASP.NET Web page to test the Verify Web method.
2. Ensure that no exception is thrown when you pass a valid credit card number to the Web method.

What conclusion can you draw?

- A. The unit testing strategy is correct.
- B. The unit testing strategy is incorrect, since you need to ensure that an exception is thrown when an invalid credit card number is passed to the Web method.
- C. The unit testing strategy is incorrect since you need to perform unit testing from a merchant's client application.
- D. The unit testing strategy is incorrect since you only need to ensure that an exception is thrown when an invalid credit card number is passed to the Web method.

Answer: B

Explanation: This strategy is inadequate. When performing unit testing you essentially ensure that a method behaves in the way it is expected to behave. In this case the Verify Web method must throw an exception when an invalid credit card number is passed. You need to:

Call the Web method and pass a valid credit card number. Ensure that no exception is thrown.

Call the Web method. Ensure that the exception is thrown.

to complete the test and the test will only be passes if these two conditions pass.

Incorrect answers:

A: This option is incorrect since not all the conditions will be met.

C: This option is suggesting integration testing.

D: You also need to ensure that verification succeeds when a valid credit card number is passed to the Web method. An exception should not be thrown in the event of validation success.

QUESTION 156

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates as an airliner. You are stationed on one of the airports that the airliner operates from.

You are currently developing an air traffic control system. This system has a Microsoft .NET Remoting component that upon completion will allow air traffic controllers to help guide airplanes. There is a specific instance of the remote component that controls one airplane. A Microsoft Windows Forms application will provide the user interface which will be used by the air traffic controllers.

A test engineer named Amy Wilson created the following integration testing strategy:

1. Deploy the Windows Forms application to a client computer
2. Deploy the remote component to an application server
3. Launch a real airplane into the air with no passengers, on automatic pilot.
4. Attempt to control the airplane by means of the application

You now need to make a decision as to whether the integration test strategy will be feasible.

What conclusion can you draw?

- A. The integration testing strategy is feasible.
- B. The integration testing strategy is not feasible. Methods of the remote component should be called from a test application.
- C. The integration testing strategy is not feasible. Stub out the methods prior to calling them from the test application.
- D. The integration testing strategy is not feasible. Tests should not be carried out against a real airplane.

Answer: A

Explanation: When one performs integration testing, you essentially ensure that all the components of the application are working properly. The components should include all software and hardware components. In this case the components are the Windows Forms

application, the remote components and the airplane and Amy Wilson covered all these in the integration testing strategy. Thus the strategy is feasible.

Incorrect answers:

B: This is not feasible as you should not call methods of the remote component from a test computer; instead you need to make use of the real application to ensure that it interacts in the proper fashion with the remote component.

C: You should not stub out the methods prior to calling them from the application. This way of testing represents a type of unit testing in which you are only to deal with the state of the software components and not a fully integrated testing strategy.

D: It is essential that a real airplane also be used in the integration test. With integration testing the objective is to ensure that all the components of an application functions properly and the airplane should be considered a component since its behavior is dependent on commands via the Windows Forms application.

QUESTION 157

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates as a medical technological company that manufactures electronic scanning equipment for medical use.

You are currently developing a Microsoft Windows Forms application. This application is destined to allow doctors to perform computed Axial Tomography (CAT) scans on patients. When a CAT scan is carried out, it takes over 1,000 two-dimensional scans that are combined to create a three-dimensional image. There is the matter of performance requirements that the application need to comply with. This performance requirement states that the application must scan 10 images per second.

To this end the testing team deployed a debug build of the application to a staging environment to carry out performance testing. The result of the performance testing was that the application scans nine images per second. You now need to determine whether the performance testing strategy is feasible.

What conclusion can you draw?

- A. The strategy is feasible.
- B. The strategy is not feasible. The team has to test a debug build of the application in a production environment.
- C. The strategy is not feasible. The team has to test a release build of the application in a production environment.
- D. The strategy is not feasible. The team has to test a release build of the application in a staging environment.

Answer: D

Explanation: the debug build of the application scans nine out of ten images. You may attempt to guess that a release build of the application would meet the performance

requirements. But it could be just an assumption and thus you should rather attempt to get accurate results and test a release build of the application.

Incorrect answers:

A: The test yielded nine out of ten images and this means that it is not feasible.

B: This is incorrect as the tests with the debug build yielded only nine out of ten images.

C: You should not make use of the production environment to test the application. A staging environment is better suited since you can exercise the proper control, and you can better isolate and analyze performance issues that are associated with the application.

QUESTION 158

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the international retail environment.

You are currently developing an order fulfillment solution for Certkiller .com. In this solution, the Certkiller .com customer's order is represented by the Order class. The Order class has a property named Status. It is possible to set Status to one of the following enumeration members:

1. Created - the order has been created.
2. BackOrdered - the order has been placed on backorder.
3. Scheduled - the order is scheduled for delivery.
4. Cancelled - the order has been cancelled.
5. Shipped - the order has been shipped.
6. Delivered - the order has been delivered.

Certkiller .com works in joint ventures with courier companies world-wide due to the nature of the business. A method named Ship is implemented to invoke a Web method of an Extensible Markup Language (XML) Web service at these courier companies. The courier companies are then responsible for the delivery of the order. When the Ship method is called, the Status property is set to Shipped. You are required to unit test the Ship method to ensure that the test passes.

What should you do?

- A. Carry out the unit test by calling the Ship method.
Then verify that the Status property is not changed to Scheduled.
- B. Carry out the unit test by calling the Ship method.
Then verify that the Status property is not changed to BackOrdered.
- C. Carry out the unit test by calling the Ship method.
Then verify that the Status property is changed to Ship prior to the delivery of the order.
- D. Carry out the unit test by calling the Ship method.
Then verify that the Status property is changed to Delivered after delivery of the order.

Answer: C

Explanation: During a unit test on a method, you should test the logical outcome of the method call. In this case you need to call the Ship method and verify the Status property

is changed to Shipped.

Incorrect answers:

A: You should not verify that the Status is not changed to Scheduled as this will not indicate that the Ship method is working as it should. This option will allow the unit test to pass even if the Ship method set the Status to Cancelled, Created, BackOrdered or Delivered.

B: You should not verify that the Status is not changed to BackOrdered as this will not indicate that the Ship method is working as it should. This option will allow the unit test to pass even if the Ship method set the Status to Cancelled, Created, Scheduled or Delivered.

D: In this scenario you are unit testing the Ship method, this means that you should only ensure that the Status property is set to Shipped.

QUESTION 159

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates in the international retail environment.

Certkiller .com works in joint ventures with courier companies world-wide due to the nature of the business. These courier companies are responsible for the delivery of the order. A method named Ship is implemented to invoke a Web method of an Extensible Markup Language (XML) Web service at these courier companies. You are currently developing an order fulfillment solution for Certkiller .com. In this solution, the Certkiller .com customer's order is represented by the Order class. The Order class in turn has a Web method named Ship. The Ship method is designed as follows:

1. It accepts a DateTime instance that represents the earliest date that an order should be shipped.
2. It throws an exception if it is passed a data that is earlier than the current date.
3. It allows multiple threads to call it at the same time.
4. It invokes the Web method of the Web service asynchronously.

You are required to unit test and conclude that the previous design aspects are implemented correctly. To this end you need to perform an additional unit test so as to ensure that the Ship method will be functional under all production scenarios. What should you do?

- A. You should perform the Performance unit test.
- B. You should perform the Expected Exception unit test.
- C. You should perform the Concurrency unit test.
- D. You should perform the Boundary Condition unit test.

Answer: D

Explanation: A Boundary Condition test will allow you to evaluate whether the code responds in the proper fashion when out-of-bounds input values are entered. This will

allow you to ensure that code fails gracefully if out-of-bounds input values are used at run time.

Incorrect answers:

A: A Performance test will allow you to measure the speed at which the method executes.

Nothing in this question suggests the need to a performance test.

B: An Expected Exception test has already been run in this scenario to ensure that an exception is thrown when a date earlier than the current date is passed to the Ship method.

C: A Concurrency test is the type of test that has already been performed to ensure that multiple threads can call the method at the same time. This is not the appropriate solution since this test has been run already in this scenario.

QUESTION 160

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. You and the development team is currently busy developing an enterprise resource planning solution for Certkiller .com. The logical design for this application consists of a Microsoft ASP.NET Web application, a Microsoft .NET Remoting component, and a Microsoft Windows service. The Microsoft Windows service hosts the .NET Remoting component which is a marshal-by-reference component. The purpose of this component is to read and update the performance counters. The Web application is designed to access the component via Transmission Control Protocol (TCP) channel. The Web application is hosted on a Web server and the .NET Remoting component is hosted on an application server.

A Developer named Mia Hamm has been instructed to perform the integration testing of the component. Following is the step-by step procedure that Mia Hamm followed during the integration testing:

1. Mia Hamm adds the component to an ASP.NET Web application project.
2. Mia Hamm does not configure Remoting in the Web application.
3. Mia Hamm accesses the Web application and invokes methods on the component.
4. The method calls fail.

You need to make a decision as to whether the test results can be considered valid.

What conclusion can you draw?

- A. The test results are valid.
- B. The test results are invalid. Mia Hamm should not add the component to the Web application.
- C. The test results are invalid. Mia Hamm should configure Remoting in the Web application.
- D. The test results are invalid. Mia Hamm needs to make use of the inter-process communication (IPC) channel.

Answer: C

Explanation: These test results cannot be valid if .NET Remoting, marshal-by-reference components are executing at the server. If one does not configure .NET Remoting in an application that accesses a marshal-by-reference component, then the component will execute at the client. In this case the client is the Web application. This will then mean that performance counters will be updated on the Web server. To ensure valid results Mia Hamm must configure .NET Remoting in the Web application.

Incorrect answers:

A: The test results will not be valid since Mia Hamm still needs to configure .NET Remoting in the web application.

B: Although adding the component is not a requirement, it does make provision for the developer to enforce compile-time type checking. Removing the component from the project will not affect the results of the test.

D: IPC supports communication between different processes on the same computer. In this scenario the Web application and the remote component are hosted on different computers.

QUESTION 161

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the testing and stabilization of applications. Certkiller .com operates as a retailer.

You are currently developing a sales management application. You are making use of Microsoft ASP.NET Web and the application will be hosted on a Production Web server that runs Microsoft Internet Information Services (IIS) 6.0. Another Certkiller .com tester named Rory Allen discovered a bug and reported as follows: If 30 users access the application simultaneously, an error page is displayed.

At present this is unacceptable since Certkiller .com requirements state that the application should support up to 60 concurrent users. You are thus required to address the issue. To this end you need to reproduce and isolate the bug.

What should your first step be?

- A. Create a test that simulates 30 users accessing the application simultaneously. Deploy a Debug build to your computer and run the test to debug the application using your development computer.
- B. Deploy a debug build of the application to reproduction
Attach the Debugger to the IIS worker process. Instruct 30 users to access the application simultaneously.
- C. Deploy a Release build of the application to a staging environment
Attach the Debugger to the IIS worker process. Instruct 30 users to access the application simultaneously.
- D. Load 30 browser instances on your development computer to access the application. Use your development computer to debug the application.

Answer: A

Explanation: A simulation test will simulate the production use while keeping the application in isolation. This type of test is also known as the load test. You should use a development computer to debug the application while the test is running.

Incorrect answers:

B: Instructing 30 users to access the application will make it difficult to control the user environment while debugging is taking place. This is an impractical solution.

C: This is an impractical solution to carry out since you will not be able to control the user environment when 30 users are accessing the application. You should rather debug the application while a load test is running. And you should debug the production application only if you are unable to reproduce the bug while debugging a load test.

D: If you load 30 browser instances to access the application, you will find it a very impractical solution as it is difficult to manage. A better solution would be to debug the application while a load test is running.

QUESTION 162

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You completed the development of a Microsoft ASP.NET Web application using Microsoft Visual Studio 2005 Team Edition for Software Developers. You then deploy the Microsoft ASP.NET Web application to a production server. Then you discover that the central processing unit (CPU) usage on the Web server sometimes reaches 100%. You then assume that the Web application can be the cause of the sudden increase of CPU usage, but you have no idea of where in the application the problem can be.

You now need to ascertain the reason why this performance spike occurs.

What should you do?

- A. You should create a Web test that consists of unit tests and run the application.
- B. You should create a Web test that consists of a load test and run the application.
- C. You should create a Performance test in Visual Studio and instrument the application.
- D. You should create a Performance test in Visual Studio and sample the application.

Answer: D

Explanation: Sampling periodically interrupts the application to collect performance data. This is extremely helpful in cases where you are unsure of where in an application there might be a bottleneck.

Incorrect answers:

A: You should not create a Web test to test a Web application's performance. You know that the application performs, what you need to do is to locate the performance bottleneck.

B: A Web test consisting of a load test will allow you to test whether the application performs as expected when a certain number of users are accessing the application. In this case it is known that the application does perform, what is not known is where the

performance bottleneck exists.

C: Instrumentation presupposes the location of the performance bottleneck is known and in this case you are unsure of where in the application the performance bottleneck is occurring.

QUESTION 163

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. Certkiller .com operates as a credit bureau.

You are currently developing an Extensible Markup Language (XML) Web service that is destined to allow companies to retrieve credit reports from Certkiller .com. You created a Performance Session in Microsoft Visual Studio 2005 Team Edition for Software Developers. Following are the measurements you obtained from a Web method named ObtainCreditReport:

- 1. When the Web method is called once:
execution time for the method is measured to be 8,340.211 milliseconds
memory consumption is measured to be 10,200 Kilobytes (K).
- 1. When the Web method is called twice:
total execution time for the method is measured to be 33,360.844 milliseconds
memory consumption is measured to be 10.296K.
- 1. When the Web method is called thrice:
total execution time for the method is measured to be 133,443.376 milliseconds
memory consumption is measured to be 10,264 K.

You need to analyze the performance trends.

What conclusion can you draw?

- A. There is a memory leak.
- B. There is a linear increase in memory consumption.
- C. The Execution time stays constant.
- D. There is an exponential increase in execution time.

Answer: D

Explanation: The results clearly indicate the each time the method is called; the execution time is increased by a factor of four. Thus your conclusion should be that the execution time increases exponentially.

Incorrect answers:

- A: If there is a memory leak, memory consumption must increase each time the method is called. However, in this scenario the memory consumption increases as well as decreases.
- B: There is no linear increase in memory consumption as the memory consumption increases as well as decreases.
- C: In the event of execution time staying constant, then the total execution time will need to increase linearly. Thus the total execution time for calling the method twice should be

16,680.422 and calling the method a third time should result in total execution time to be 25,020.633, which it isn't.

QUESTION 164

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. There is a Microsoft .NET Remoting component that configured to allow a total of five applications to access data in a C-tree database. All aspects seems to be functional however, you have discovered that whenever it happens that an application accesses data, the other four applications are blocked from accessing the data. To this end you monitor the Contention Rate / Sec performance counter in the .NET CLR LocksAndThreads category and measure it to be 50. You now need to analyze this result.

What conclusion can you draw?

- A. Excessive memory is consumed.
- B. Excessive processor time is consumed.
- C. There is a synchronization problem.
- D. There is a platform invocation problem.

Answer: C

Explanation: It is highly likely that the .NET Remoting component allows only one thread to access the database at a time. The Contention Rate / Sec performance counter measures the rate at which the threads are blocked from acquiring a lock.

Incorrect answers:

- A: You cannot use performance counters in the .NET CLR LocksAndThreads category to assume that excessive memory is being consumed.
- B: You cannot use performance counters in the .NET CLR LocksAndThreads category to assume that excessive processor time is being consumed.
- D: You cannot use performance counters in the .NET CLR LocksAndThreads category to monitor platform invocation issues.

QUESTION 165

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. Certkiller .com operates as a company specializing in providing environmental and social impact assessments for civil engineering companies. Certkiller .com currently offers an Extensible Markup Language (XML) Web service which allows civil engineering companies the ability to submit environmental impact results and the liability and indemnity coverage of projects to a government agency that deals with infrastructure and engineering. A Web method named

AddEnvironmentalImpactTestResult is designed to accept a String parameter that represents a specific geographical area (GEO); usually identified by means of its coordinates; and a Boolean parameter that indicates that the test was passed. The AddEnvironmentalImpactTestResult method then executes the following query: INSERT INTO EnvironmentalImpactResult (GEO, Passed) VALUES ('{0}', {1}) The {0} and {1} format placeholders are replaced with the values for the String and Boolean parameters, respectively. The results are stored in a SQL database. An operations engineer named Clive Wilson is responsible for the monitoring of the database. In carrying out his duties, Clive Wilson compares several liability and indemnity coverage records in the database with the paper results. However, Clive Wilson found that there are some inconsistencies in the results. It thus appears that there were some unauthorized changes to data objects in the database. The suspicion is that an attack must have occurred. What type of attack would result in these inconsistencies?

- A. Cross-site scripting
- B. Buffer overrun
- C. SQL injection
- D. Denial-of-service

Answer: C

Explanation: A SQL injection attack occurs when a malicious user injects SQL Statements into clauses that build SQL queries. In this case the queries are constructed dynamically. Thus it is possible that an attacker could modify the liability and indemnity coverage by calling the AddEnvironmentalImpactTestResult Web method. It is further possible that the attacker can be a developer for one of the civil engineering companies who are authorized to call the AddEnvironmentalImpactTestResult Web method.

Incorrect answers:

- A: A cross-site scripting attack occurs when a Web application writes input data to the browser without encoding it. In this case a Web service and not a Web application is being attacked.
- B: A buffer overrun attack usually occurs in unmanaged code when an attacker can overflow the buffer in an attempt to execute malicious code. This is not what is happening in this scenario.
- D: A denial-of-service attack occurs when an attacker attempts to overload a server with an excessive amount of requests, akin to flooding the server. This is not the case here.

QUESTION 166

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You are currently busy developing an enterprise solution for Certkiller .com. The Certkiller .com network contains amongst, others two Web servers named Certkiller -WS501 and Certkiller -WS502, as well as a database server named

Certkiller -DB01 which you intend to use in the deployment of the solution. Upon completion the solution will consist of a Microsoft ASP.NET Web application, a Microsoft .NET Remoting component, an Extensible Markup Language (XML) Web service, as well as a Microsoft SQL Server 2005 database.

The Microsoft ASP.NET Web application and the Extensible Markup Language (XML) Web service make use of the inter-process communication (IPC) channel for connectivity to the .NET Remoting component. The .NET Remoting component in turn accesses data in the database.

Following is the deployment design:

1. Deploy the Microsoft ASP.NET Web application to Certkiller -WS501
2. Deploy the Extensible Markup Language (XML) Web service to Certkiller -WS502
3. Deploy the database to Certkiller -DB01

Now you need to make a decision as to where the data access component should be deployed.

What should you do?

- A. Identify Certkiller -WS02 AND Certkiller -DB01 for data access component deployment.
- B. Identify Certkiller -WS01 AND Certkiller -DB01 for data access component deployment.
- C. Identify either Certkiller -WS01 OR Certkiller -WS502 for data access component deployment.
- D. Identify both Certkiller -WS01 AND Certkiller -WS502 for data access component deployment.

Answer: D

Explanation: IPC is being used for connectivity purposes by the Web application and the Web service. This means that communication can occur between different application domains or processes on the same computer only. However, in this scenario the Web application is deployed to CERTKILLER-WS501 and the Web service is deployed to CERTKILLER-WS502, thus you should deploy the Microsoft .NET Remoting component to Certkiller -WS501 and Certkiller -WS502.

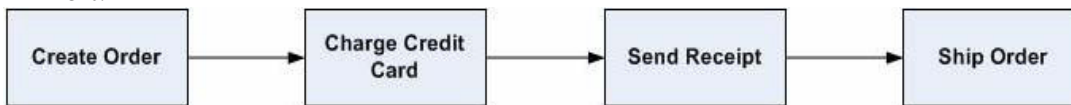
Incorrect answers:

- A: There is no need to deploy the Microsoft .NET Remoting component to Certkiller -DB01. The component will be able to access data from the Microsoft SQL Server 2005 database over the network.
- B: There is no need to deploy the Microsoft .NET Remoting component to Certkiller -DB01. The component will be able to access data from the Microsoft SQL Server 2005 database over the network.
- C: The Microsoft .NET Remoting component should not be deployed to either Certkiller -WS501 OR Certkiller -WS502. Rather you need to deploy it to both servers since both the Web service and the Web application must be allowed to connect to it via IPC channel.

QUESTION 167

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You are currently developing an enterprise order fulfillment application for Certkiller .com. Upon completion this application will allow customers to place orders for their respective chosen products that they intend to purchase. At present Certkiller .com handles its own payment processing. However, it is foreseen that as Certkiller .com grows, they will make use of a third party company in the future. The exhibit below illustrates the application flow diagram that represents the order process. A factor that should be kept in mind is that the process is subject to future alterations.

Exhibit:



You now need to create components to manage the order process. What should you do?

- A. Create one business entity component and four user process components.
- B. Create one business workflow component and four business components.
- C. Create two service agent components and two user process components.
- D. Create two service agent components and two service interface components.

Answer: B

Explanation: Business components encapsulate the business logic. Business workflow components manage business activities or workflows. Thus you should create four business components and one business workflow component. I.e. you create Order, Charge, Receipt, and Fulfillment business components as this will allow you to implement all business logic. By implementing a sequence of activities in a business workflow, you can decouple the application flow logic from the business logic which will allow you to accommodate changes to the sequence of activities in future in a very easy manner.

Incorrect answers:

- A: Service agents hide the complexity of calling multiple services to access external functionality. This is not what is required in this scenario.
- C: User Process components manage user or screen flow throughout an application. In this case the activities indicate a business workflow and not a user workflow. Thus this option is not the solution.
- D: There is no need to create service interfaces as this will expose an application's business logic to external systems.

QUESTION 168

You work as the Enterprise application developer at Certkiller .com. The Certkiller .com network consists of a single Active Directory domain named

Certkiller .com. All servers in the domain run Windows Server 2003. Your responsibilities at Certkiller .com include the support and deployment of applications. You are currently developing an enterprise solution that consists of a Microsoft ASP.NET Web application and a Microsoft .NET Remoting component. The Web application connects to the .NET Remoting component via inter-process communication (IPC) channel. A Web server named Certkiller -WS01 will be used for the deployment of the enterprise solution. The following exhibit illustrates the production Web.config file configuration:

Exhibit:

```
<configuration>
<system.web>
<customErrors mode="RemoteOnly"/>
</system.web>
</configuration>
```

One requirement that should be kept in mind is that one should not be able to view specific error messages when accessing the Web application from the network or the Internet. Following is a list of the aspects included in the deployment design:

1. Deploy Microsoft Internet Security and Administration (ISA) Server to Certkiller -WS01.
2. Deploy the Web application to Certkiller -WS01.
3. Configure ISA server with a Web publishing rule to redirect requests to staging.fi-print.com to 127.0.0.1.

You now need to make a decision as to whether the design meets the requirements.

What conclusion can you draw?

- A. The design meets the requirements.
- B. The design does not meet the requirements since you need to configure ISA server to redirect requests to Certkiller -WS01's name and not the IP address.
- C. The design does not meet the requirements since you need to deploy ISA server to a separate computer.
- D. The design does not meet the requirements since you need to deploy the .NET Remoting component to a separate computer.

Answer: C

Explanation: ISA server should be deployed on a separate computer since the Web.config file is configured to display specific errors only for local requests. However, since the ISA server is currently configured to redirect requests to the local computer, ASP.NET will interpret the requests as originating from the local computer and will thus result in users being able to view specific error over the network or Internet whereas they should not be able to.

Incorrect answers:

- A: This option is incorrect since you need to deploy ISA server to a separate computer.
- B: ISA server should not be configured to redirect requests to the Certkiller -WS01 name. This will result in the users still being able to view specific error over the network or the Internet.

D: .NET Remoting should not be deployed on a separate computer. The Web application connects to this component via IPC channel and IPC allows communication between application domains or processes on the same computer only.