



A Composite Solution With Just One Click

Microsoft

70-492 PRACTICE EXAM

Upgrade your MCPD: Web Developer 4 to MCSD: Web Applications

TOTAL QUESTIONS 129/5CASE STUDY

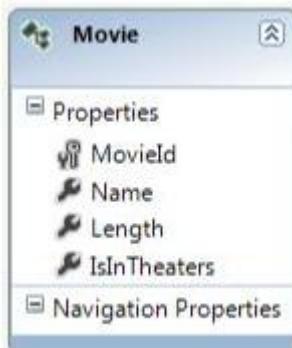
Question: 1

DRAG DROP

You are developing a WCF Data Services service in Visual Studio 2012 to display movie information from a SQL Server database that changes every 24 hours. The service is defined in the following class.

```
public class MovieService : DataService<MovieEntities>
{
    public static void InitializeService(DataServiceConfiguration config)
    {
        config.SetEntitySetAccessRule("Movies", EntitySetRights.AllRead);
        config.DataServiceBehavior.MaxProtocolVersion = DataServiceProtocolVersion.V2;
    }
}
```

The application contains the following Entity Framework model.



The service must only return data for movies that are currently in theaters.

You need to add a method to the MovieService class to filter the data.

How should you build the method? (To answer, drag the appropriate code segments to the correct location or locations in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

ChangeInterceptor

QueryInterceptor

"Movies"

"MovieEntities"

Expression

Filter

```
public class MovieService : DataService<MovieEntities>
{
    public static void InitializeService(DataServiceConfiguration config)
    {
        config.SetEntitySetAccessRule("Movies", EntitySetRights.AllRead);
        config.DataServiceBehavior.MaxProtocolVersion =
            DataServiceProtocolVersion.V2;
    }

    [ ]( [ ] )
    public [ ] <Func<Movie, bool>> ApplyTheaterFilter()
    {
        return movie => movie.IsInTheaters == true;
    }
}
```

Answer:

```

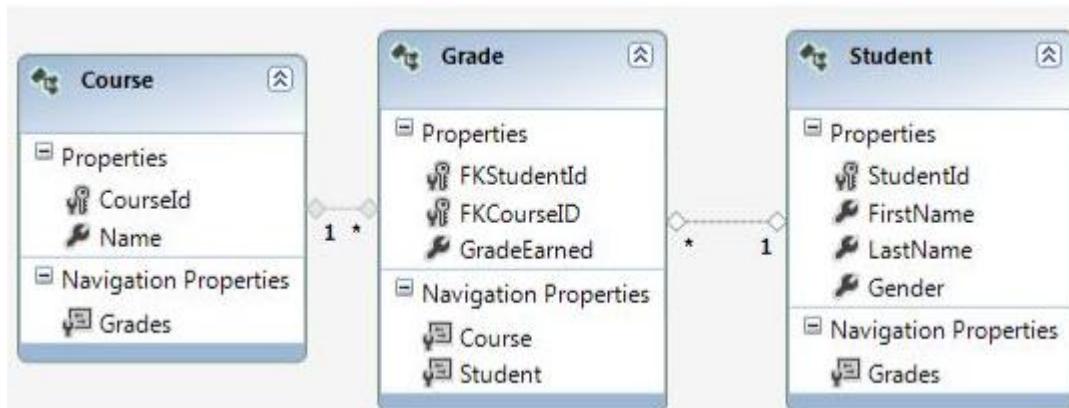
public class MovieService : DataService<MovieEntities>
{
    public static void InitializeService(DataServiceConfiguration config)
    {
        config.SetEntitySetAccessRule("Movies", EntitySetRights.AllRead);
        config.DataServiceBehavior.MaxProtocolVersion =
            DataServiceProtocolVersion.V2;
    }

    [QueryInterceptor("Movies")]
    public Expression<Func<Movie, bool>> ApplyTheaterFilter()
    {
        return movie => movie.IsInTheaters == true;
    }
}

```

Question: 2

You are developing an application in Visual Studio 2012 to display student information. The application contains the following Entity Framework model.



The application contains a WCF data service named DirectoryService.svc.

You need to create a query expression to display all of the grades for students whose first name is "John". How should you build the expression?

- A. `http://localhost:54946/DirectoryService.svc/Students?$filter=FirstName = 'John' &$expand=Grades`
- B. `http://localhost:54946/DirectoryService.svc/Grades/Students?$filter=FirstName eq 'John'`
- C. `http://localhost:54946/DirectoryService.svc/Students?$filter=FirstName eq 'John' &$expand=Grades`
- D. `http://localhost:54946/DirectoryService.svc/Students?$filter=FirstName eq 'John'/Grades`

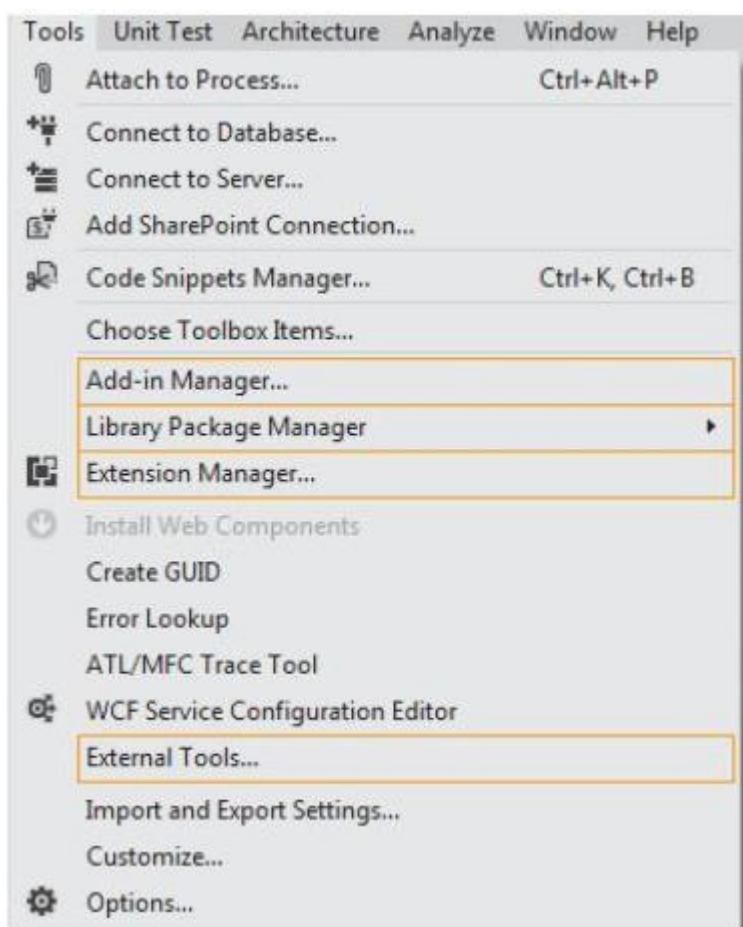
- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

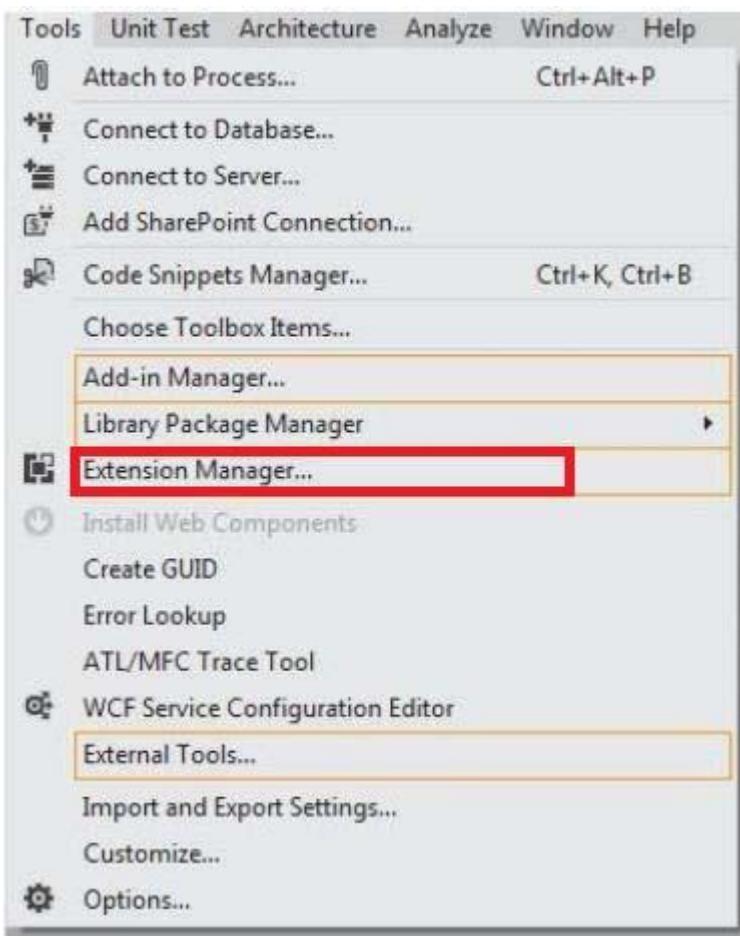
Question: 3

HOTSPOT

You are supporting an application that uses the ADO.NET Entity Framework to query and access data. The latest version of Entity Framework contains bug fixes that will improve performance. You need to update Entity Framework. Which Visual Studio 2012 menu item should you choose? (To answer, select the appropriate menu item in the answer area.)



Answer:



Question: 4

You are preparing to develop a set of libraries for a company.

The libraries must be shared across the company.

You need to create a remote NuGet feed that exposes the libraries.

What should you do? (Each answer presents part of the solution. Choose all that apply.)

- A. Install the NuGet.Feed Package.
- B. Install the NuGet.Server Package.
- C. Configure the Packages folder located in the system.webserver section of the web application's Web.config.
- D. Create a new Empty Web Site in Visual Studio 2012.
- E. Configure the Packages folder located in the appSettings section of the web application's Web.config.
- F. Add packages to the Packages folder.
- G. Create a new Empty Web Application in Visual Studio 2012.

Answer: B, E, F, G

Question: 5

You are developing a WCF service that returns the result of a comparison between several data sources. The service takes a long time to complete.

The service must meet the following requirements.

The client must be able to continue processing while the service is running.

The service must initiate communication with the client application when processing is complete.
You need to choose a message pattern to meet the requirements.
Which message pattern should you choose?

- A. Duplex
- B. Streaming
- C. One Way
- D. Request/Reply

Answer: A

Question: 6

You are developing a WCF service.
A new service instance must be created for each client request.
You need to choose an instancing mode.
Which instancing mode should you use?

- A. single
- B. Multiple
- C. PerSession
- D. PerRequest
- E. PerCall

Answer: E

Question: 7

You are developing an ASP.NET MVC web application that contains the following HTML.
<table id="customers"></table>
You also have an ASP.NET Web API application that contains a call for retrieving customers.
You must send and retrieve the data in the most compact format possible.
You need to update the HTML for the customers table to contain data from the Web API application. Which script segment should you use?

- A.

```
<script>
$(function () {
    var $customers = $("#customers");
    $.ajax({
        url: "api/customers",
        dataType: "json",
        success: function (data) {
            ...
        }
    });
});
</script>
```
- B.

```
<script>
$(function () {
    var $customers = $("#customers");
    $.xml({
        url: "api/customers",
        dataType: "ajax",
        success: function (data) {
            ...
        }
    });
});
</script>
```
- C.

```
<script>
$(function () {
    var $customers = $("#customers");
    $.json({
        url: "api/customers",
        dataType: "ajax",
        success: function (data) {
            ...
        }
    });
});
</script>
```
- D.

```
<script>
$(function () {
    var $customers = $("#customers");
    $.ajax({
        url: "api/customers",
        dataType: "xml",
        success: function (data) {
            ...
        }
    });
});
</script>
```

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: A

Question: 8

DRAG DROP

You are developing an ASP.NET MVC Web API application.

The method names of the Web API must match naming guidelines for RESTful services.

You need to create methods to support standard insert, select, update, and delete operations in an HTTP service.

What should you do? (To answer, drag the appropriate HTTP methods to the correct row in the table in the answer area. Each HTTP method may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

Action	HTTP method	Relative URI
Retrieve a list of all customers	<input type="text"/>	/api/customers
Retrieve a customer by id	<input type="text"/>	/api/customers/ <i>id</i>
Retrieve a customer by category	<input type="text"/>	/api/customer/?category= <i>category</i>
Create a new customer	<input type="text"/>	/api/customers
Update a customer	<input type="text"/>	/api/customers/ <i>id</i>
Remove a customer	<input type="text"/>	/api/customers/ <i>id</i>

Answer:

Action	HTTP method	Relative URI
Retrieve a list of all customers	GET	/api/customers
Retrieve a customer by id	GET	/api/customers/ <i>id</i>
Retrieve a customer by category	GET	/api/customer/?category= <i>category</i>
Create a new customer	POST	/api/customers
Update a customer	?? PUT ?	/api/customers/ <i>id</i>
Remove a customer	DELETE	/api/customers/ <i>id</i>

Question: 9**DRAG DROP**

You are developing an ASP.NET Web API action method.

The action method must return the following JSON in the message body.

```
{"Name":"Fabrikam","VendorId":9823,"Items":["Dogs","Cats"]}
```

You need to return an anonymous object that is serialized to JSON.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

```
public object Get()
{
    {
        Name = 
        Items =
    };
    return new
}
return new
```

Answer:

```

public object Get()
{
    return new List<string>
    {
        Name = "Fabrikam", VendorNumber = "9823",
        Items = new List<string> { "Dogs", "Cats" }
    };
}

```

Question: 10**DRAG DROP**

You are developing an ASP.NET Web API application that will be consumed by a web browser via a composite application that is served from another web domain.

You need to configure the Web API.

What should you do? (To answer, drag the appropriate XML elements to the correct location or locations in the answer area.

Each XML element may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Access-Control-Allow-Origin

Access-Control-Allow-Headers

Access-Control-Allow-Methods

Access-Control-Request-Method

Access-Control-Request-Headers

*

POST, GET

Content-Type

Answer Area

```

<httpProtocol>
  <customHeaders>
    <add name="Access-Control-Allow-Origin"
      value="" /> />
    <add name="" />
      value="PUT, DELETE"/>
    <add name="" />
      value="" />
  </customHeaders>
</httpProtocol>

```

Answer:

Access-Control-Allow-Origin
Access-Control-Request-Method
Access-Control-Request-Headers
POST, GET

Answer Area

```
<httpProtocol>
<customHeaders>
<add name="Access-Control-Allow-Origin"
      value=" * " />
<add name=" Access-Control-Allow-Methods "
      value="PUT, DELETE" />
<add name=" Access-Control-Allow-Headers "
      value="Content-Type" />
</customHeaders>
</httpProtocol>
```

Question: 11

DRAG DROP

You are developing an ASP.NET MVC Web API image management application.

The application must meet the following requirements.

It must send or receive image data without the use of a buffer.

It must allow up to 4 MB of image data to be received.

It must allow up to 3 MB of image data to be sent.

You need to complete the code to meet the requirements.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

config
server
MaxBufferSize
MaxReceivedMessageSize
MaxConcurrentRequests
Streamed
Buffered

Answer Area

```
class Program
{
    private static string _baseAddress = "http://localhost:8080/";

    static void Main(string[] args)
    {
        var config = new HttpSelfHostConfiguration(_baseAddress);
        config.Routes.MapHttpRoute(
            name: "DefaultApi",
            routeTemplate: "api/{controller}/{id}",
            defaults: new { id = RouteParameter.Optional }
        );
        [ ] . [ ] = 1024 * 1024 * 3;
        [ ] . [ ] = 1024 * 1024 * 4;
        [ ] .TransferMode =
            TransferMode. [ ];
        var server = new HttpSelfHostServer(config);
        server.OpenAsync().Wait();
    }
}
```

Answer:

```

class Program
{
    private static string _baseAddress = "http://localhost:8080/";

    static void Main(string[] args)
    {
        var config = new HttpSelfHostConfiguration(_baseAddress);
        config.Routes.MapHttpRoute(
            name: "DefaultApi",
            routeTemplate: "api/{controller}/{id}",
            defaults: new { id = RouteParameter.Optional }
        );
    }

    config . MaxBufferSize = 1024 * 1024 * 3;

    config . MaxReceivedMessageSize = 1024 * 1024 * 4;

    config .TransferMode =
        TransferMode. Streamed ;
}

var server = new HttpSelfHostServer(config);
server.OpenAsync().Wait();
}

```

Question: 12

You are designing an ASP.NET Web API application.

You need to select an HTTP verb to allow blog administrators to remove a comment.

Which HTTP verb should you use?

- A. POST
- B. PUT
- C. GET
- D. DELETE

Answer: D

Question: 13

You are building an ADO.NET Entity Framework application.

You need to validate the conceptual schema definition language (CSDL), store schema definition language (SSDL), and mapping specification language (MSL) files.

Which Entity Data Model tool can you use? (Each correct answer presents a complete solution. Choose all that apply.)

- A. EDM Generator (EdmGen.exe)

- B. ADO.NET Entity Data Model Designer
- C. Entity Data Model Wizard
- D. Update Model Wizard

Answer: B, C

Question: 14

DRAG DROP

You are developing an ASP.NET Web API action method.

The action method must return the following JSON in the message body.

```
{ "Name": "Fabrikam", "VendorId": 9823, "Items": ["Apples", "Oranges"] }
```

You need to return an anonymous object that is serialized to JSON.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```
"Fabrikam", VendorNumber = 9823,  
"Fabrikam", VendorNumber = "9823",  
new List<string> { "Apples", "Oranges" }  
new List<string> { "Apples, Oranges" }  
return new List<string>  
return new
```

```
public object Get()  
{  
       
    {  
        Name =    
        Items =    
    };  
}
```

Answer:

block1: return new

block2: "Fabrikam", VendorNumer=98,23

block3: new list<string>{"Apples", "oranges"}

Question: 15

You are designing an ASP.NET Web API application.

You need to select an HTTP verb to allow blog administrators to moderate a comment.

Which HTTP verb should you use?

- A. GET
- B. POST
- C. DELETE
- D. PUT

Answer: D

Question: 16

You are planning to migrate websites from IIS 6 to IIS 7.5.

You do not have access to SSH or a VPN.

You need to select a deployment tool to securely migrate the websites.

Which tool should you use?

- A. RoboCopy
- B. Web Deploy
- C. Microsoft command-line FTP
- D. xCopy

Answer: B

Question: 17

You are developing an ASP.NET MVC application.

Applications can be deployed to remote servers only by administrators who have elevated privileges. The administrators do not have access to Visual Studio 2012.

You need to select a deployment tool to deploy the application to remote servers for testing.

Which tool should you use?

- A. Copy Web Site Tool
- B. One-Click Publish
- C. Publish Web Site Tool
- D. Web Deployment Package

Answer: D

Question: 18

You develop an ASP.NET MVC application that is secured by using SSL. You are ready to deploy the application to production.

The deployment package must include the installation of the SSL certificate.

You need to configure the deployment package to meet the requirement.

What should you do?

- A. Create a web publish pipeline target file with a custom web deploy target.
- B. In the Package/Publish settings of the project, select the All Files in this project option.
- C. Extend the CopyAllFilesToSingleFolder target in the project file.
- D. In the Build Events settings of the project, configure a pre-build event to include the SSL certificate.

Answer: A

Question: 19

You are developing a library to support multiple ASP.NET MVC web applications on a shared server. The library provides implementations of security algorithms.

If a problem with any of the security algorithms is discovered, a new version of the library must be created and deployed. Application downtime during the update must be minimized.

You need to ensure that the new version of the library will be used by all applications as soon as possible.

What should you do?

- A. Build the web applications and include the security assembly as an embedded resource.
When an update is needed, copy the new assembly to the bin directory for the application.
- B. Sign all assemblies in each application with the same key used to sign the security assembly.
When an update is needed, create a new key pair and re-sign all assemblies.
- C. Build the security assembly as a netmodule in a shared location.
Use the assembly linker to merge the netmodule into the assemblies for the application.
When an update is needed, update the netmodule in the shared location.
- D. Install the security assembly in the Global Assembly Cache (GAC).
When an update is needed, update the assembly in the GAC.

Answer: D

Question: 20

You are developing an ASP.NET MVC application that reads and writes data from a SQL Server database. You need to prevent the application from reading data that is locked by other transactions. You also need to prevent exclusive range locks. Which isolation level should you use?

- A. ReadCommitted
- B. Serializable
- C. Repeatable
- D. ReadUncommitted

Answer: D

Question: 21

DRAG DROP

You are developing a Windows Azure based web application that provides users the ability to rent training videos. The application is deployed to hosted services in Asia and Europe.

The web application must meet the following requirements:

Video files are large and must be able to be streamed.

Streaming videos requires low latency network connections.

Rental data contains structured information about the user and the video.

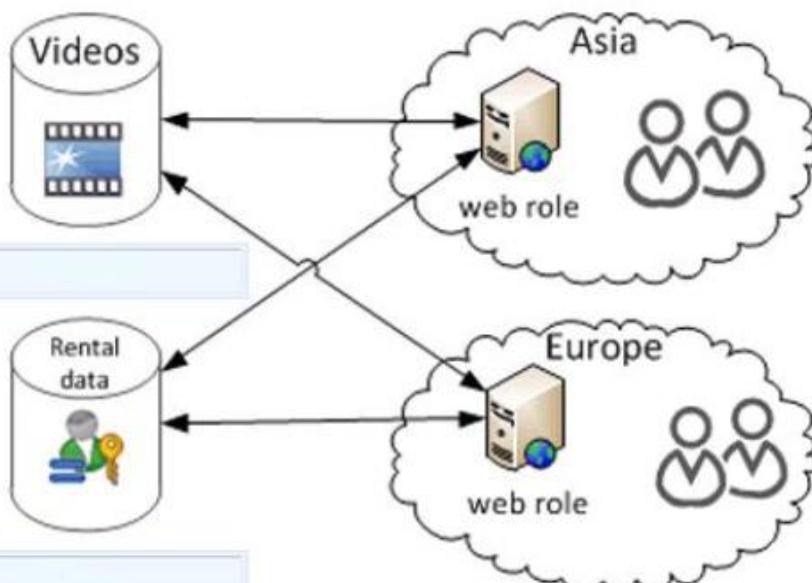
Rental permissions are checked every five seconds during video playback.

You need to recommend a storage architecture for the application.

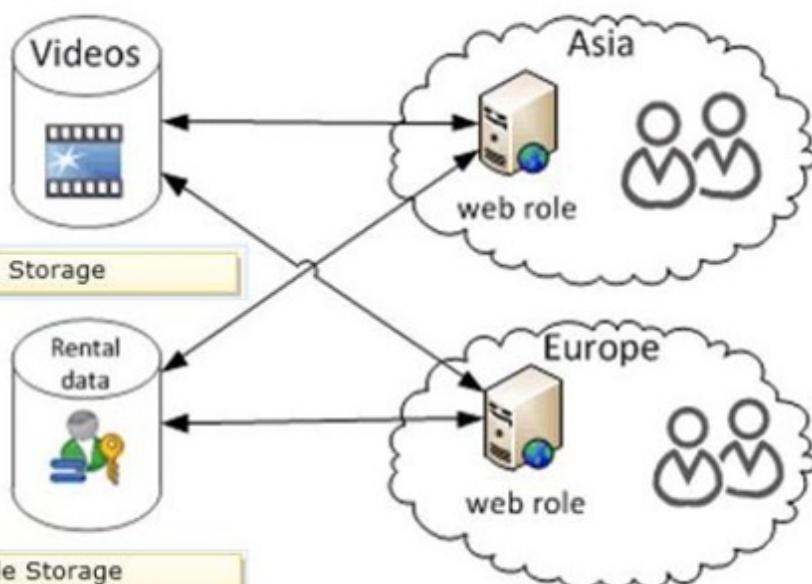
What should you do? (To answer, drag the appropriate technologies to the correct location or locations in the answerarea. Each technology may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Table Storage Active Directory Service Bus Blob Storage Windows Azure Drive

Answer Area

**Answer:** Active Directory Service Bus Windows Azure Drive

Answer Area

**Question: 22****DRAG DROP**

You are developing a self-hosted WCF service that returns stock market information.

The service must be discoverable by any client application. You need to build the service host.

How should you build the host? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

```

static void Main(string[] args)
{
    Uri StockURI = new Uri("http://localhost:8733/StockTicker");
    var mytype = typeof(StockTickerService);

    using ( ServiceHost host
        = new ServiceHost (mytype, StockURI))
    {

        host.AddServiceEndpoint(typeof(IStockTickerService),
            new WSHttpBinding(), "");

        host.Description.Behaviors.Add(new ServiceDiscoveryBehavior());
        host.AddServiceEndpoint(new UdpDiscoveryEndpoint());

        host.Open();
        Console.ReadLine();
        host.Close();
    }
}

```

Answer:

```

static void Main(string[] args)
{
    Uri StockURI = new Uri("http://localhost:8733/StockTicker");
    var mytype = typeof(StockTickerService);

    using ( ServiceHost host
        = new ServiceHost (mytype, StockURI))
    {

        host.AddServiceEndpoint(typeof(IStockTickerService),
            new WSHttpBinding(), "");

        host.Description.Behaviors.Add(new ServiceDiscoveryBehavior());
        host.AddServiceEndpoint(new UdpDiscoveryEndpoint());

        host.Open();
        Console.ReadLine();
        host.Close();
    }
}

```

Question: 23**DRAG DROP**

You are developing a WCF service.

You need to implement transport security by using NTLM authentication and NetTcpBindings.

Which configuration values should you use? (To answer, drag the appropriate configuration values to the correct location or locations in the answerarea. Each configuration value may be used once, more than once, or not at all. You

may need to drag the split bar between panes or scroll to view content.)

```

binding="netTcpBinding"
binding="Duplex"
binding="Nt1mTcp"
mode="netBindingTcp"
mode="Transport"
mode="Duplex"
clientCredentialType="netTcpBinding"
clientCredentialType="Nt1mTcp"
clientCredentialType="Nt1m"

```

Answer Area

```

<system.serviceModel>
  <protocolMapping>

    <add scheme="https" binding="netTcpBinding" />

  </protocolMapping>
  <bindings>
    <wsHttpBinding>
      <binding>

        <security mode="Transport" />

        <transport clientCredentialType="Nt1m" />

      </binding>
    </wsHttpBinding>
  </bindings>
</system.serviceModel>

```

Answer:

```

binding="Duplex"
binding="Nt1mTcp"
mode="netBindingTcp"
mode="Duplex"
clientCredentialType="netTcpBinding"
clientCredentialType="Nt1mTcp"

```

Answer Area

```

<system.serviceModel>
  <protocolMapping>

    <add scheme="https" binding="netTcpBinding" />

  </protocolMapping>
  <bindings>
    <wsHttpBinding>
      <binding>

        <security mode="Transport" />

        <transport clientCredentialType="Nt1m" />

      </binding>
    </wsHttpBinding>
  </bindings>
</system.serviceModel>

```

Question: 24

You are developing a WCF service.
A new service instance must be created for each client session.
You need to choose an instancing mode.
Which instance mode should you use?

- A. PerCall
- B. Single
- C. Multiple
- D. PerSession
- E. PerRequest

Answer: D

Question: 25**DRAG DROP**

You are developing a WCF service. The service will stream messages to clients on the internal network.

You must use Windows Authentication, and all messages must be binary encoded.

You need to configure the service.

What should you do? (To answer, drag the appropriate elements to the correct location or locations in the answerarea. Each element may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

```
<system.serviceModel>
  <bindings>
    <[ ]>
      <binding>
        <security [ ] />
      </binding>
    </[ ]>
  </bindings>
</system.serviceModel>
```

namedNetBinding
netTcpBinding
binHttpsBinding
httpBasicBinding
mode="Ignore"
mode="Transport"
mode="Direct"

Answer:

```

<system.serviceModel>
  <bindings>

    <> netTcpBinding </>
      <binding>
        <security mode="Transport" />
      </binding>
    <> netTcpBinding </>

  </bindings>
</system.serviceModel>

```

Question: 26

DRAG DROP

You are developing a WCF service.

The WCF service requires implementations of the new data contracts to validate against the old schema.

You need to develop a new data contract without breaking current functionality.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

[DataContract(Validate = "Profile")]

[DataContract(Identifier = "Profile")]

[DataContract(Name = "Profile")]

[DataContract(TypeID = "Profile")]

[DataContract(ID = "Profile")]

Answer Area

```

public class ProfileV1
{
  [DataMember]
  public string Username;
}

```

```

public class ProfileV2
{
  [DataMember]
  public string Username;

  [DataMember]
  public string Email;
}

```

Answer:

[DataContract(Validate = "Profile")]
[DataContract(Identifier = "Profile")]
[DataContract(Name = "Profile")]
[DataContract(TypeID = "Profile")]
[DataContract(ID = "Profile")]

Answer Area

[DataContract(Name = "Profile")]

```
public class ProfileV1
{
    [DataMember]
    public string Username;
}
```

[DataContract(Name = "Profile")]

```
public class ProfileV2
{
    [DataMember]
    public string Username;

    [DataMember]
    public string Email;
}
```

Question: 27

DRAG DROP

You are creating a WCF service.

The service endpoints must be exposed to the Windows Azure Service Bus. The service bus has a namespace named RestaurantSB. The key provider is "owner".

You need to modify the web.config file to expose the endpoints.

How should you modify the file? (To answer, drag the appropriate attributes to the correct location or locations in the answerarea. Each attribute may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

```
<services>
    <service name="RestaurantService.MenuService">
        <endpoint [REDACTED] = "RestaurantService.IMenuService"
            binding="netTcpRelayBinding"
            address="sb://RestaurantServiceBus.servicebus.windows.net/Menu"
            behaviorConfiguration="sbBehavior"/>
    </service>
</services>
<behaviors>
    <endpointBehaviors>
        <behavior name="sbBehavior">
            <transportClientEndpointBehavior>
                <tokenProvider>
                    <sharedSecret
                        [REDACTED] ="owner"
                        [REDACTED] ="IoAFgNsbaN8+UIN737K="/>
                </tokenProvider>
            </transportClientEndpointBehavior>
        </behavior>
    </endpointBehaviors>
</behaviors>
```

Answer:

```
<services>
  <service name="RestaurantService.MenuService">

    <endpoint Contract="RestaurantService.IMenuService"
               binding="netTcpRelayBinding"
               address="sb://RestaurantServiceBus.servicebus.windows.net/Menu"
               behaviorConfiguration="sbBehavior"/>
  </service>
</services>
<behaviors>
  <endpointBehaviors>
    <behavior name="sbBehavior">
      <transportClientEndpointBehavior>
        <tokenProvider>
          <sharedSecret

            issuerName="" owner=""
            issuerSecret="loAFgNsbaN8+UIN737K="/>

          </tokenProvider>
        </transportClientEndpointBehavior>
      </behavior>
    </endpointBehaviors>
  </behaviors>
```

Question: 28

DRAG DROP

You are developing an ASP.NET MVC Web API application.

The application must meet the following requirements:

It must send or receive data without the use of a buffer.

It must allow up to 1 MB of data to be received.

It must allow up to 2 MB of data to be sent.

You need to complete the code to meet the requirements.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

config
server
MaxBufferSize
MaxReceivedMessageSize
MaxConcurrentRequests
Streamed
Buffered

```
class Program
{
    private static string _baseAddress = "http://localhost:8080/";

    static void Main(string[] args)
    {
        var config = new HttpSelfHostConfiguration(_baseAddress);
        config.Routes.MapHttpRoute(
            name: "DefaultApi",
            routeTemplate: "api/{controller}/{id}",
            defaults: new { id = RouteParameter.Optional }
        );
    }
}
```

. = 1024 * 1024 * 2;

. = 1024 * 1024;

.TransferMode =

TransferMode. ;

var server = new HttpSelfHostServer(config);
server.OpenAsync().Wait();
}

Answer:

```
class Program
{
    private static string _baseAddress = "http://localhost:8080/";

    static void Main(string[] args)
    {
        var config = new HttpSelfHostConfiguration(_baseAddress);
        config.Routes.MapHttpRoute(
            name: "DefaultApi",
            routeTemplate: "api/{controller}/{id}",
            defaults: new { id = RouteParameter.Optional }
        );
    }
}

 .  = 1024 * 1024 * 2;

 .  = 1024 * 1024;

 .TransferMode =
```

TransferMode. ;

```
var server = new HttpSelfHostServer(config);
server.OpenAsync().Wait();
}
}
```

Question: 29

You are developing an ASP.NET MVC application. The application is an order processing system that uses the ADO.NET Entity Framework against a SQL Server database. It has a controller that loads a page that displays all orders along with customer information. Lazy loading has been disabled.

The Order class is shown below.

```
public partial class Order
{
    ...
    public string CustomerID { get; set; }
    ...
    public virtual Customer Customer { get; set; }
}
```

You need to return the orders and customer information in a single round trip to the database.

Which code segment should you use?

- A.

```
public ActionResult Index()
{
    IQueryable<Order> orders = db.Orders;
    orders = orders.Include("Customer");
    return View(orders.ToList());
}
```
- B.

```
public ActionResult Index()
{
    IQueryable<Order> orders = db.Orders.Include("Order.Customer");
    return View(orders.ToList());
}
```
- C.

```
public ActionResult Index()
{
    IQueryable<Order> orders = db.Orders;
    orders.Select(o => o.Customer).Load();
    return View(orders.ToList());
}
```
- D.

```
public ActionResult Index()
{
    IQueryable<Order> orders = db.Orders;
    return View(orders.ToList());
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Question: 30

You are developing an ASP.NET MVC application that reads and writes data from a SQL Server database. You need to maintain data integrity in all situations that use transactions.

- A. ReadUncommitted

- B. Repeatable
- C. Serializable
- D. ReadCommitted

Answer: D

Question: 31

You are developing an ASP.NET MVC application.

Deployment administrators do not have access to Visual Studio 2012, but will have the elevated permissions required to deploy the application to the servers.

You need to select a deployment tool for use by the deployment administrators.

Which tool should you use?

- A. Publish Web Site Tool
- B. Web Deployment Package
- C. One-Click Publish
- D. Deployment Package Editor

Answer: B

Question: 32

You are developing an ASP.NET MVC application in Visual Studio 2012. The application supports multiple cultures. The application contains three resource files in the Resources directory:

MyDictionary.resx
MyDictionary.es.resx
MyDictionary.fr.resx

Each file contains a public resource named Title with localized translation.

The application is configured to set the culture based on the client browser settings.

The application contains a controller with the action defined in the following code segment. (Line numbers are included for reference only.)

```
01 public ActionResult GetProducts()
02 {
03
04     List<ProductModel> products = DataBase.DBAccess.GetProducts();
05     return View(products);
06 }
```

You need to set ViewBag.Title to the localized title contained in the resource files.

Which code segment should you add to the action at line 03?

- A. `ViewBag.Title = HttpContext.GetGlobalResourceObject("MyDictionary", "Title", new System.Globalization.CultureInfo("en"));`
 - B. `ViewBag.Title = Resources.MyDictionary.Title;`
 - C. `ViewBag.Title = HttpContext.GetGlobalResourceObject("MyDictionary", "Title");`
 - D. `ViewBag.Title = HttpContext.GetLocalResourceObject("MyDictionary", "Title");`
- A. Option A

- B. Option B
- C. Option C
- D. Option D

Answer: B

Question: 33

DRAG DROP

You are developing an ASP.NET MVC application that takes customer orders.

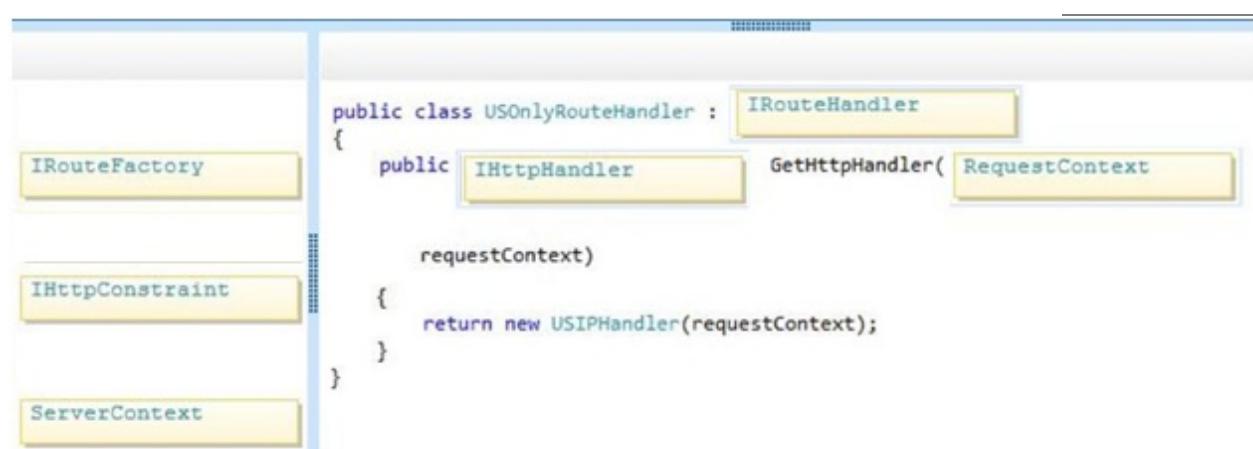
Orders are restricted to customers with IP addresses based in the United States.

You need to implement a custom route handler.

How should you implement the route handler? (To answer, drag the appropriate line of code to the correct location or locations. Each line of code may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)



Answer:



Question: 34

You are developing an ASP.NET MVC application that uses forms authentication. The user database contains a user named OrderAdmin.

You have the following requirements:

You must allow all users to access the GetOrders method.

You must restrict access to the EditOrder method to the user named OrderAdmin.

You need to implement the controller to meet the requirements.

Which code segment should you use? (Each correct answer presents a complete solution. Choose all that apply.)

A. [Authorize]
public class OrderController : Controller
{
 [AllowAnonymous]
 public ActionResult GetOrders()
 {
 ...
 return View();
 }
 [Authorize(Users = "OrderAdmin")]
 public ActionResult EditOrder()
 {
 ...
 return View();
 }
}

B. [Authorize]
public class OrderController : Controller
{
 [AllowAnonymous]
 public ActionResult GetOrders()
 {
 ...
 return View();
 }

 [Authorize]
 public ActionResult EditOrder()
 {
 if (this.HttpContext.User.Identity.Name != "OrderAdmin")
 {
 return RedirectToAction("Login", "Account", new { ReturnUrl = "/Order/EditOrder" });
 }
 else
 {
 ...
 return View();
 }
 }
}

C. [Authorize(Roles = "Anonymous")]
public class OrderController : Controller
{
 public ActionResult GetOrders()
 {
 ...
 return View();
 }

 [Authorize(Users = "OrderAdmin")]
 public ActionResult EditOrder()
 {
 ...
 return View();
 }
}

```

D. [Authorize]
public class OrderController : Controller
{
    [Authorize(Roles="Anonymous")]
    public ActionResult GetOrders()
    {
        ...
        return View();
    }

    [Authorize(Users = "OrderAdmin")]
    public ActionResult EditOrder()
    {
        ...
        return View();
    }
}

```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: AB

Question: 35

HOTSPOT

You are developing an ASP.NET MVC web application that enables users to open Microsoft Excel files.

The current implementation of the ExcelResult class is as follows.

```

public class ExcelResult : ActionResult
{
    public string Path { get; set; }

    public override void ExecuteResult(ControllerContext context)
    {
        ...
    }
}

```

You need to enable users to open Excel files.

How should you implement the ExecuteResult method? (To answer, select the appropriate options in the answer area.)

Work Area

```
var response = context.HttpContext.Response;
var request = context.HttpContext.Request;

if (canProcess)
{
    response.Clear();

    response.WriteFile(context.HttpContext.Server.MapPath(Path));
}
```

Work Area

```
var response = context.HttpContext.Response;
var request = context.HttpContext.Request;

var canProcess = request.AcceptTypes.Contains("application/vnd.ms-excel");
var canProcess = request.ContentType.Contains("application/vnd.ms-excel");

if (canProcess)
{
    response.Clear();

    response.AddHeader("content-disposition", "attachment; filename=dl");
    response.Output.Write("content-disposition", "application/vnd.ms-excel");

    response.ContentType = "application/vnd.ms-excel";
    response.ContentEncoding = new UTF8Encoding

    response.WriteFile(context.HttpContext.Server.MapPath(Path));
}
```

Answer:

Work Area

```
var response = context.HttpContext.Response;
var request = context.HttpContext.Request;

var canProcess = request.AcceptTypes.Contains("application/vnd.ms-excel");
var canProcess = request.ContentType.Contains("application/vnd.ms-excel");

if (canProcess)
{
    response.Clear();

    response.AddHeader("content-disposition", "attachment; filename=dl");
    response.Output.Write("content-disposition", "application/vnd.ms-excel");

    response.ContentType = "application/vnd.ms-excel";
    response.ContentEncoding = new UTF8Encoding

    response.WriteFile(context.HttpContext.Server.MapPath(Path));
}
```

Question: 36**HOTSPOT**

You are developing an ASP.NET MVC application that authenticates a user by using claims-based authentication. The application must:

Use Windows Identity Foundation 4.5.

Support the Windows Azure Access Control Service.

You need to implement authentication.

How should you build the class constructor? (To answer, select the appropriate option from the drop-down list in the answer area.)

Work Area

```
using Microsoft.IdentityModel.Claims;

public class IdentityClaim
{
    private string _identityProvider;
    private string _identityValue;
    public const string ACSProviderClaim =
        "http://schemas.microsoft.com/accesscontrolservice/...";

    public IdentityClaim([ ] identity)
    {
        if (identity != null)
        {
            foreach (var claim in identity.Claims)
            {
                if (claim.[ ] == [ ].NameIdentifier)
                {
                    _identityValue = claim.Value;
                }
                if (claim.[ ] == ACSProviderClaim)
                {
                    _identityProvider = claim.Value;
                }
            }
        }
    }
}
```

Work Area

```

using Microsoft.IdentityModel.Claims;

public class IdentityClaim
{
    private string _identityProvider;
    private string _identityValue;
    public const string ACSProviderClaim =
        "http://schemas.microsoft.com/accesscontrolservice/...";

    public IdentityClaim( identity)
    {
        ClaimNames
        ClaimTypes
        IIdentityClaims
        IClaimsIdentity
        ClaimType
        ClaimName
    }

    if (identity != null)
    {
        foreach (var claim in identity.Claims)
        {
            if (claim. == .NameIdentifier)
            {
                ClaimNames
                ClaimTypes
                IIdentityClaims
                IClaimsIdentity
                ClaimType
                ClaimName
            }
            _identityValue = claim.Value;
        }
        if (claim. == ACSProviderClaim)
        {
            ClaimNames
            ClaimTypes
            IIdentityClaims
            IClaimsIdentity
            ClaimType
            ClaimName
        }
        _identityProvider = claim.Value;
    }
}
}

```

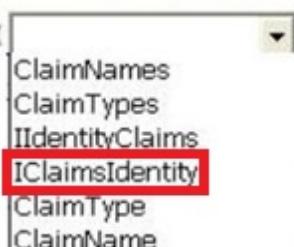
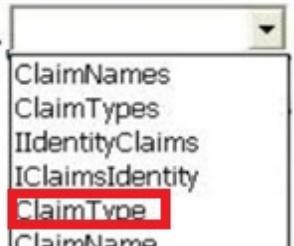
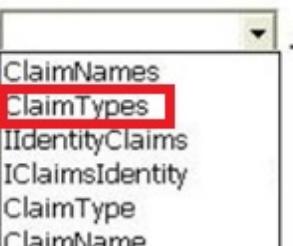
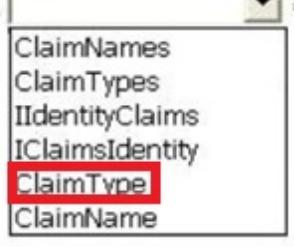
Answer:

Work Area

```

using Microsoft.IdentityModel.Claims;

public class IdentityClaim
{
    private string _identityProvider;
    private string _identityValue;
    public const string ACSProviderClaim =
        "http://schemas.microsoft.com/accesscontrolservice/...";

    public IdentityClaim( identity)
    {
        if (identity != null)
        {
            foreach (var claim in identity.Claims)
            {
                if (claim. == .NameIdentifier)
                {
                    _identityValue = claim.Value;
                }
                if (claim. == ACSProviderClaim)
                {
                    _identityProvider = claim.Value;
                }
            }
        }
    }
}

```

Question: 37

You are designing an HTML5 website.

You need to design the interface to make the content of the web page viewable in all types of browsers, including voice recognition software, screen readers, and reading pens.

What should you do? (Each correct answer presents a complete solution. Choose all that apply.)

- A. Annotate HTML5 content elements with Accessible Rich Internet Application (ARIA) attributes.
- B. Convert HTML5 forms to XForms.
- C. Ensure that HTML5 content elements have valid and descriptive names.
- D. Use HTML5 semantic markup elements to enhance the pages.
- E. Use Resource Description Framework (RDF) to describe content elements throughout the entire page.

Answer: A, D

Question: 38

DRAG DROP

You are developing an ASP.NET MVC web application in Visual Studio 2012.

The application has a model named ReservationLocation that contains properties named City and State.

The view that displays reservations has a single text box named loc for entering the location information. The location is entered as city, state.

There are action methods that have ReservationLocation as a parameter type. You need to ensure that the City and State properties are correctly populated.

How should you implement model binding for the ReservationLocation type? (To answer, drag the appropriate code segment to the correct location or locations. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```

bindingContext.ModelType = typeof
(ReservationLocation);

var raw = bindingContext.ValueProvider.GetValue
("loc");

dynamic data = bindingContext.ValueProvider.GetValue
("loc");

dynamic data = raw.RawValue
.ToString().Split(',');

bindingContext.ModelState.Add("city,state",
    new ModelState { Value = data });

dynamic data = controllerContext.RouteData
.Values[raw + "[city,state]"];

```

```

public class ReservationModelBinder : IModelBinder
{
    public object BindModel(ControllerContext controllerContext,
        ModelBindingContext bindingContext)
    {
        // code for binding
        // code for validation

        return new ReservationLocation
        {
            City = data[0],
            State = data[1],
        };
    }
}

```

Answer:

```

bindingContext.ModelType = typeof
(ReservationLocation);

dynamic data = bindingContext.ValueProvider.GetValue
("loc");

bindingContext.ModelState.Add("city,state",
    new ModelState { Value = data });

dynamic data = controllerContext.RouteData
.Values[raw + "[city,state]"];
=====

public class ReservationModelBinder : IModelBinder
{
    public object BindModel(ControllerContext controllerContext,
        ModelBindingContext bindingContext)
    {
        var raw = bindingContext.ValueProvider.GetValue
        ("loc");

        dynamic data = raw.RawValue
            .ToString().Split(',');

        return new ReservationLocation
        {
            City = data[0],
            State = data[1],
        };
    }
}

```

Question: 39

You are developing an ASP.NET MVC web application in Visual Studio 2012. The application requires several thousand content files. All content is hosted on the same IIS instance as the application.

You detect performance issues when the application starts.

You need to resolve the performance issues.

What should you do?

- A. Implement HTTP caching in the ASP.NET MVC controllers.
- B. Combine the content files by using ASP.NET MVC bundling.
- C. Install a second IIS instance.
- D. Move the content to a Windows Azure CDN.

Answer: B

Question: 40

You are testing an ASP.NET application.
The test plan requires that tests run against the application's business layer.
You need to use the test project template that meets this requirement.
Which template should you use?

- A. Web Test Project
- B. Load Test Project
- C. Unit Test Project
- D. Coded Test Project

Answer: C

Question: 41

You are authoring unit tests.
The unit tests must test code that consumes sealed classes.
You need to create, maintain, and inject dependencies in the unit tests.
Which isolation method should you use?

- A. T4 text templates and code generation
- B. Stub types
- C. Shim types
- D. Hard-coded implementation

Answer: C

Question: 42

You are developing an ASP.NET MVC web application that includes the following method.

```
public double AccountBalance(double currentBalance, double transactionAmount)
{
    double finalBalance = 0.00;
    finalBalance = currentBalance + transactionAmount;
    return finalBalance;
}
```

You need to test the AccountBalance method.
Which unit test should you use?

- C A. [TestMethod()]
private void AccountBalanceTest()
{
 double currentBalance = 175.05;
 double transactionAmount = 76.03;
 double finalBalance = 251.08;
 double result = 0.00;

 result = AccountBalance(currentBalance, transactionAmount);
 Assert.AreEqual(finalBalance, result);
}
- C B. [TestMethod()]
public void AccountBalanceTest()
{
 double currentBalance = 175.05;
 double transactionAmount = 76.03;
 double finalBalance = 251.08;
 double result = 0.00;

 result = AccountBalance(currentBalance, transactionAmount);
 Assert.IsTrue(finalBalance, result);
}
- C C. [TestMethod()]
public void AccountBalanceTest()
{
 double currentBalance = 175.05;
 double transactionAmount = 76.03;
 double finalBalance = 251.08;
 double result = 0.00;

 result = AccountBalance(currentBalance, transactionAmount);
 Assert.AreEqual(finalBalance, result);
}
- C D. [UnitTests()]
public void AccountBalanceTest()
{
 double currentBalance = 175.05;
 double transactionAmount = 76.03;
 double finalBalance = 251.08;
 double result = 0.00;

 result = AccountBalance(currentBalance, transactionAmount);
 Assert.AreEqual(finalBalance, result);
}

- A. Option A
B. Option B

- C. Option C
- D. Option D

Answer: C

Question: 43

You are developing an ASP.NET MVC application by using Visual Studio 2012.

The application throws and handles exceptions when it runs.

You need to examine the state of the application when exceptions are thrown.

What should you do?

- A. From the DEBUG menu in Visual Studio 2012, select Exceptions. Enable the Thrown check box for Common Language Runtime Exceptions.

- B. From the DEBUG menu in Visual Studio 2012, select Exceptions. Disable the User-unhandled check box for Common Language Runtime Exceptions.

- C. Add the following code to the Web.config file of the application.

```
<customErrors mode="On">
<error statusCode="500" redirect="CustomErrors.html" />
</customErrors>
```

- D. Add the following code to the Web.config file of the application.

```
<customErrors mode="On" >
<error statusCode="404" redirect="CustomErrors.html"/>
</customErrors>
```

Answer: A

Question: 44

You are developing an ASP.NET MVC news aggregation application that will be deployed to servers on multiple networks.

The application must be compatible with multiple browsers. A user can search the website for news articles. You must track the page number that the user is viewing in search results.

You need to program the location for storing state information about the user's search.

What should you do?

- A. Store search results and page index in Session.
- B. Use Application state to store search terms and page index.
- C. Use QueryString to store search terms and page index.
- D. Store search results and page index in TempData

Answer: C

Question: 45

You are developing an ASP.NET MVC application. The application is deployed in a web farm and is accessed by many users.

The application must handle web server failures gracefully. The servers in the farm must share the state information.

You need to persist the application state during the session.

What should you implement?

- A. A state server
- B. Cookieless sessions
- C. A web garden on the web servers
- D. An InProc session

Answer: A

Question: 46

You are developing an ASP.NET MVC application that displays stock market information.

The stock market information updates frequently and must be displayed in real-time.

You need to eliminate unnecessary header data, minimize latency, and transmit data over a full-duplex connection.

What should you do?

- A. Implement long-running HTTP requests.
- B. Instantiate a MessageChannel object on the client.
- C. Implement WebSockets protocol on the client and the server.
- D. Configure polling from the browser.

Answer: C

Question: 47

You are designing a distributed application that runs on the Windows Azure platform.

The application must store a small amount of insecure global information that does not change frequently.

You need to configure the application to meet the requirements.

Which server-side state management option should you use? (Each correct answer presents a complete solution. Choose all that apply.)

- A. Windows Azure application state
- B. Sql Azure
- C. Profile properties of the Windows Azure application
- D. Windows Azure session state

Answer: B, D

SQL Database provides a relational database management system for Windows Azure and is based on SQL Server technology. With a SQL Database instance, you can easily provision and deploy relational database solutions to the cloud, and take advantage of a distributed data center that provides enterprise-class availability, scalability, and security with the benefits of built-in data protection and self-healing.

Session States in Windows Azure.

If you are a Web developer, you are probably very familiar with managing user state - that is you are familiar with tracking user activity and actions across several request-response exchanges that occur in Web applications. Since HTTP is a stateless protocol, developers over the years have developed all sorts of means to manage state. You'll even find an MSDN page providing alternatives and recommendations for state management here. Cookies, hidden fields, and query strings are some client-side options to tracking user state. When it comes to managing that state on the server-side, most Web developers rely on session objects.

Question: 48**DRAG DROP**

You are developing an ASP.NET MVC application that has pages for users who browse the site with Windows Phone 7. The pages for Windows Phone 7 include the following files:

_Layout.WP7.cshtml

Index.WP7.cshtml

You need to update the application so that it renders the customized files correctly to Windows Phone 7 users.

How should you update the Application_Start method? (To answer, drag the appropriate line of code to the correct location or locations. Each line of code may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```
DefaultDisplayMode("WP7")
("Windows Phone OS",
 StringComparison.OrdinalIgnoreCase
DefaultDisplayMode("Mobile")
("Mobile",
AreaRegistration.RegisterAllDevices();
```

```
protected void Application_Start()
{
    DisplayModeProvider.Instance.Modes.Insert(0, new
    {
        ContextCondition = (context =>
            context.GetOverriddenUserAgent().IndexOf(
                "Windows Phone OS",
                StringComparison.OrdinalIgnoreCase) >= 0
        );
    });
    AreaRegistration.RegisterAllAreas();
```

Answer:

```
DefaultDisplayMode("Mobile")
("Mobile",
AreaRegistration.RegisterAllDevices();
```

```
protected void Application_Start()
{
    DisplayModeProvider.Instance.Modes.Insert(0, new
    {
        DefaultDisplayMode("WP7")
        {
            ContextCondition = (context =>
                context.GetOverriddenUserAgent().IndexOf(
                    "Windows Phone OS",
                    StringComparison.OrdinalIgnoreCase) >= 0
            );
        }
    });
    AreaRegistration.RegisterAllAreas();
```

Question: 49

You are developing an ASP.NET MVC web application for viewing a list of contacts. The application is designed for devices that support changes in orientation, such as tablets and smartphones. The application displays a grid of contact tiles in portrait mode.

When the orientation changes to landscape, each tile in the grid expands to include each contact's details. The HTML that creates the tiled interface resembles the following markup.

```
<ul class="contacts">
  <li>
    
    <div>Details</div>
  </li>
</ul>
```

The CSS used to style the tiles in landscape mode is as follows.

```
ul.contacts > li {
  width: 150px;
}

ul.contacts > li > div {
  display: block;
}
```

If this CSS is omitted, the existing CSS displays the tiles in portrait mode.

You need to update the landscape-mode CSS to apply only to screens with a width greater than or equal to 500 pixels. Which code segment should you use?

- A. @media screen and (width >= 500px) {
...
}
- B. @media screen and (min-width: 500px) {
...
}
- C. @media screen (min-width: 500px, max-width: 1000px) {
...
}
- D. @media resolution (min-width: 500px) {
...
}

Answer: B

Question: 50

You are developing an ASP.NET MVC application.

You need to authenticate clients by using NT LAN Manager (NTLM).

Which authentication method should you implement?

- A. Basic
- B. Windows
- C. Forms
- D. Kerberos

Answer: B

Question: 51

DRAG DROP

You are developing an ASP.NET MVC application in Visual Studio 2012. The application contains sensitive bank account data.

The application contains a helper class named **SensitiveData.Helpers.CustomEncryptor**.

```
public class CustomEncryptor
{
    public string Encrypt(string plaintext)
    {
        ...
    }
}
```

The application contains a controller named **BankAccountController** with two actions.

```
public class BankAccountController : Controller
{
    public ActionResult GetAccounts()
    {
        ...
    }

    public ActionResult EditAccount(string maskedAccountNum)
    {
        ...
    }
}
```

The application contains a model named **BankAccount**, which is defined in the following code segment.

```
public class BankAccount
{
    public string AccountNumber { get; set; }
    public string AccountName { get; set; }
    public double Balance { get; set; }
}
```

The application must not display AccountNumber in clear text in any URL.

You need to build the view for the GetAccounts action.

How should you build the view? (To answer, drag the appropriate code segment to the correct location or locations. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

custEncrypt
maskedAccountNum
Html
Encrypt(item.AccountNumber)
Encode(item.AccountNumber)

```
@model IEnumerable<SensitiveData.Models.GamerAccount>
@(SensitiveData.Helpers.CustomEncryptor custEncrypt =
    new SensitiveData.Helpers.CustomEncryptor())
<h2>GetAccounts</h2>
<table>
    <tr>
        <th>Account Name</th>
        <th>Balance</th>
    </tr>
    @foreach (var item in Model)
    {
        <tr>
            <td>@Html.DisplayFor(modelItem => item.AccountName)</td>
            <td>@Html.DisplayFor(modelItem => item.Highscore)</td>
            <td>
                @Html.ActionLink("Edit", "EditAccount",
                    new {
                        maskedAccountNum = custEncrypt.Encrypt(item.AccountNumber)
                    })
            </td>
        </tr>
    }
</table>
```

Answer:

Html
Encode(item.AccountNumber)

```
@model IEnumerable<SensitiveData.Models.GamerAccount>
@(SensitiveData.Helpers.CustomEncryptor custEncrypt =
    new SensitiveData.Helpers.CustomEncryptor())
<h2>GetAccounts</h2>
<table>
    <tr>
        <th>Account Name</th>
        <th>Balance</th>
    </tr>
    @foreach (var item in Model)
    {
        <tr>
            <td>@Html.DisplayFor(modelItem => item.AccountName)</td>
            <td>@Html.DisplayFor(modelItem => item.Highscore)</td>
            <td>
                @Html.ActionLink("Edit", "EditAccount",
                    new {
                        maskedAccountNum = custEncrypt.Encrypt(item.AccountNumber)
                    })
            </td>
        </tr>
    }
</table>
```

Question: 52

You are developing an ASP.NET MVC application.
The application must allow users to enter JavaScript in a feedback text box only.

You need to disable request validation.
What should you do?

- A. Apply and set the CausesClientSideValidation attribute on the text box to FALSE.
- B. Apply and set the ValidateInput attribute on the text box to FALSE.
- C. Use the HttpRequest.Unvalidated property to read the unvalidated form value.
- D. Use the HttpRequest.Form property to read the unvalidated form value.

Answer: C

Question: 53

You are developing an ASP.NET MVC application that will be deployed on a web farm.
Passwords must be stored in the web.config file and must not be readable or in a format that is easily decodable.
You need to encrypt the passwords that are stored in the web.config file.
Which command-line tool should you use?

- A. Aspnet_regiis.exe
- B. Ngen.exe
- C. Aspnet_merge.exe
- D. EdmGen.exe

Answer: A

Question: 54

HOTSPOT
You are developing an ASP.NET MVC application.
You need to store membership information in a Microsoft SQL Server database.
How should you configure the membership provider? (To answer, select the appropriate options in the answer area.)

Work Area

```
<configuration>
  <connectionStrings>
    <add name="SqlServices"
      connectionString="Data Source=localhost;
      Integrated Security=SSPI;Initial Catalog=aspnetdb;" />
  </connectionStrings>
  <system.web>
    <authentication mode="Forms" >
      <forms loginUrl="login.aspx"
        name=".ASPXFORMSAUTH" />
    </authentication>
    <authorization>
      <deny users="?" />
    </authorization>
    <membership defaultProvider="SqlProvider">
      <providers>
        <add
          name="SqlProvider"
          applicationName="MyApplication" />
        </providers>
      </membership>
    </system.web>
  </configuration>
```

Work Area

```
<configuration>
  <connectionStrings>
    <add name="SqlServices"
      connectionString="Data Source=localhost;
      Integrated Security=SSPI;Initial Catalog=aspnetdb;" />
  </connectionStrings>
  <system.web>
    <authentication mode="Forms" >
      <forms loginUrl="login.aspx"
        name=".ASPxFORMSAUTH" />
    </authentication>
    <authorization>
      <deny users="?" />
    </authorization>
    <membership defaultProvider="SqlProvider">
      <providers>
        <add
          name="SqlProvider"
          type="System.Web.Security.SqlMembershipProvider"
          type="System.Web.Security.SqlProvider"
          namespace="System.Web.Security.SqlMembershipProvider"
          namespace="System.Web.Security.SqlProvider"
          connectionString="SqlServices"
          connectionStringName="SqlServices"
          applicationName="MyApplication" />
      </providers>
    </membership>
  </system.web>
</configuration>
```

Answer:

Work Area

```

<configuration>
  <connectionStrings>
    <add name="SqlServices"
      connectionString="Data Source=localhost;
      Integrated Security=SSPI;Initial Catalog=aspnetdb;" />
  </connectionStrings>
  <system.web>
    <authentication mode="Forms" >
      <forms loginUrl="login.aspx"
        name=".ASPxFORMSAUTH" />
    </authentication>
    <authorization>
      <deny users="?" />
    </authorization>
    <membership defaultProvider="SqlProvider">
      <providers>
        <add
          name="SqlProvider"
          type="System.Web.Security.SqlMembershipProvider"
          type="System.Web.Security.SqlProvider"
          namespace="System.Web.Security.SqlMembershipProvider"
          namespace="System.Web.Security.SqlProvider"
          connectionString="SqlServices"
          connectionStringName="SqlServices"
          applicationName="MyApplication" />
      </providers>
    </membership>
  </system.web>
</configuration>

```

Question: 55

You are designing a distributed application.

The application must store a small amount of insecure global information that does not change frequently.

You need to configure the application to meet the requirements.

Which server-side state management option should you use? (Each correct answer presents a complete solution. Choose all that apply.)

- A. Application state
- B. Session state

- C. Database support
- D. Profile properties

Answer: A, C

Question: 56

You are developing an ASP.NET MVC application in Visual Studio 2012. The application supports multiple cultures. The application contains three resource files in the Resources directory:

ProductDictionary.resx
ProductDictionary.es.resx
ProductDictionary.fr.resx

Each file contains a public resource named Currency with the localized currency symbol. The application is configured to set the culture based on the client browser settings.

The application contains a controller with the action defined in the following code segment. (Line numbers are included for reference only.)

```
01 public ActionResult GetProducts()
02 {
03
04     List<ProductModel> products = DataBase.DBAccess.GetProducts();
05     return View(products);
06 }
```

You need to set ViewBag.LocalizedCurrency to the localized currency contained in the resource files.

Which code segment should you add to the action at line 03?

- A. ViewBag.LocalizedCurrency = Resources.ProductDictionary.Currency;
- B. ViewBag.LocalizedCurrency = HttpContext.GetGlobalResourceObject("ProductDictionary", "Currency", new System.Globalization.CultureInfo("en-US"));
- C. ViewBag.LocalizedCurrency = HttpContext.GetLocalResourceObject("ProductDictionary", "Currency");
- D. ViewBag.LocalizedCurrency = HttpContext.GetGlobalResourceObject("ProductDictionary", "Currency");

Answer: A

Question: 57

You are developing an ASP.NET MVC application.

You need to authenticate clients by using an ASP.NET membership database.

Which authentication method should you implement?

- A. Kerberos
- B. Forms
- C. Basic
- D. Windows

Answer: B

Question: 58

DRAG DROP

You are developing an ASP.NET MVC application that authenticates a user by using claims-based authentication.

The application must:

Use Windows Identity Foundation 4.5.

Support the Windows Azure Access Control Service.

You need to implement authentication.

How should you build the class constructor? (To answer, drag the appropriate code segment to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

ClaimNames	using Microsoft.IdentityModel.Claims;
ClaimTypes	public class IdentityClaim
IIdentityCla	{
IClaimsIdent	private string _identityProvider;
ClaimType	private string _identityValue;
ClaimName	public const string ACSProviderClaim =
	"http://schemas.microsoft.com/accesscontrolservice/...";
	public IdentityClaim([] identity)
	{
	if (identity != null)
	{
	foreach (var claim in identity.Cclaims)
	{
	if (claim. [] == [].NameIdentifier)
	{
	_identityValue = claim.Value;
	}
	if (claim. [] == ACSProviderClaim)
	{
	_identityProvider = claim.Value;
	}
	}
	}
	}

Answer:

Box 1:IClaimsIdent

Box 2: ClaimType

Box 3: ClaimTypes

Box 4: ClaimType

Explanation:

Similar example:

For Box 1, see line 15.

For Box 2, see line 22.

For Box 3, see line 22.

For Box 4, see line 26.

using System;

02 using System.Collections.Generic;

03 using System.Linq;

04 using System.Web;

```

05     using Microsoft.IdentityModel.Claims;
06
07     namespace MVC3MixedAuthenticationSample.Models
08     {
09         public class IdentityClaim
10         {
11             private string _identityProvider;
12             private string _identityValue;
13             public const string ACSProviderClaim
14                 ="http://schemas.microsoft.com/accesscontrolservice/2010/07/claims/identityprovider";
15
16             public IdentityClaim(IClaimsIdentity identity)
17             {
18                 if (identity != null)
19                 {
20                     foreach (var claim in identity.Claims)
21                     {
22                         if (claim.ClaimType == ClaimTypes.NameIdentifier)
23                         {
24                             _identityValue = claim.Value;
25                         }
26                         if (claim.ClaimType == ACSProviderClaim)
27                         {
28                             _identityProvider = claim.Value;
29                         }
30                     }
31                 }
32             }
33         }
34     }

```

Question: 59

You are developing an ASP.NET MVC web application that includes the following method.

```

public double GoldMined(double currentGold, double newlyMinedGold)
{
    double totalGold = 0.00;
    totalGold = currentGold + newlyMinedGold;
    return totalGold;
}

```

You need to test the GoldMined method.

Which unit test should you use?

C A. [TestMethod()]
 public void GoldMinedTest()
 {
 double currentGold = 175.05;
 double newlyMinedGold = 76.03;
 double totalGold = 251.08;
 double result = 0.00;

 result = GoldMined(currentGold, newlyMinedGold);
 Assert.IsTrue(totalGold, result);
 }

C B. [TestMethod()]
 private void GoldMinedTest()
 {
 double currentGold = 175.05;
 double newlyMinedGold = 76.03;
 double totalGold = 251.08;
 double result = 0.00;

 result = GoldMined(currentGold, newlyMinedGold);
 Assert.AreEqual(totalGold, result);
 }

C C. [UnitTests()]
 public void GoldMinedTest()
 {
 double currentGold = 175.05;
 double newlyMinedGold = 76.03;
 double totalGold = 251.08;
 double result = 0.00;

 result = GoldMined(currentGold, newlyMinedGold);
 Assert.AreEqual(totalGold, result);
 }

C D. [TestMethod()]
 public void GoldMinedTest()
 {
 double totalGold = 175.05;
 double newlyMinedGold = 76.03;
 double totalGold = 251.08;
 double result = 0.00;

 result = GoldMined(currentGold, newlyMinedGold);
 Assert.AreEqual(totalGold, result);
 }

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

Question: 60

You are developing an ASP.NET MVC application by using Visual Studio 2012.

The application throws and handles exceptions when it runs.

You need to examine the state of the application when exceptions are thrown.

What should you do?

- A. From the Debug menu in Visual Studio 2012, select Exceptions. Enable the Thrown check box for Common Language Runtime Exceptions.
- B. From the DEBUG menu in Visual Studio 2012, select Attach to Process. Select the IIS process.
- C. From the Debug menu in Visual Studio 2012, select Exceptions. Disable the User-unhandled check box for Common Language Runtime Exceptions.
- D. From the TOOLS menu in Visual Studio 2012, click Customize. Click Commands tab and select Debug.

Answer: A

Case Study: 1

Scenario video transcoding service

Background

You are developing a video transcoding service. This service is used by customers to upload video files, convert video to other formats, and view the converted files. This service is used by customers all over the world.

Business Requirements

The user-facing portion of the application is an ASP.NET MVC application. It provides an interface for administrators to upload video and schedule transcoding. It also enables administrators and users to download the transcoded videos.

When videos are uploaded, they are populated with metadata used to identify the video. The video metadata is gathered by only one system when the video upload is complete.

Customers require support for Microsoft Internet Explorer 7 and later.

The application contains a header that is visible on every page.

If the logged-on user is an administrator, then the header will contain links to administrative functions. This information is read from a cookie that is set on the server. The administrative links must not be present if an error condition is present.

Technical Requirements

User Experience:

- The front-end web application enables a user to view a list of videos.
- The main view of the application is the web page that displays the list of videos.
- HTML elements other than the list of videos are changed with every request requiring the page to reload.

Compatibility:

- Some customers use browsers that do not support the HTTP DELETE verb.
- These browsers send a POST request with an HTTP header of X-Delete when the intended action is to delete.

Transcoding:

- The video transcoding occurs on a set of Windows Azure worker roles.
- The transcoding is performed by a third-party command line tool named transcode.exe. When the tool is installed, an Environment variable named transcode contains the path to the utility.
- A variable named license contains the license key. The license for the transcoding utility requires that it be unregistered when it is not in use.
- The transcoding utility requires a significant amount of resources. A maximum of 10 instances of the utility can be running at any one time. If an instance of the role cannot process an additional video, it must not prevent any other roles from processing that video.
- The utility logs errors to a Logs directory under the utilities path.
- A local Azure directory resource named perf is used to capture performance data.

Development:

- Developers must use Microsoft Remote Desktop Protocol (RDP) to view errors generated by the transcode.exe utility.
- An x509 certificate has been created and distributed to the developers for this purpose.
- Developers must be able to use only RDP and not any other administrative functions.

Application Structure

TranscodeWorkerRole.cs

```
public class TranscodeWorkerRole : RoleEntryPoint
{
    public override void Run()
    {
        while (true)
        {
            var nextWorkItem = GetWorkItem();
            TranscodeService.Start(new [] { nextWorkItem } );
        }
    }

    private string GetWorkItem()
    {
        ...
    }
}
```

ThumbnailGenerator.cs

```

public class ThumbnailGenerator : IHttpHandler
{
    public bool IsReusable
    {
        get { return true; }
    }

    public void ProcessRequest(HttpContext context)
    {
        var videoId = context.Request.QueryString["videoId"];
        var startBytes = File.ReadAllBytes(videoId);
        var bytes = BuildThumbnail(videoId);
        StreamResults(context, bytes);
    }

    private Task<byte[]> BuildThumbnail(string videoId)
    {
        return new Task<byte[]>(() => File.ReadAllBytes(videoId));
    }

    private void StreamResults(HttpContext context, byte[] content)
    {
    }
}

```

VideoController.cs

```

[Authorize]
public class VideoController : Controller
{
    public FileResult DownloadVideo(string videoId)
    {
        var stream = GetVideoStream(videoId);
        return File(stream, "video/mpeg");
    }

    [HttpPost]
    public ActionResult UploadVideo(string videoId)
    {
        return View();
    }

    [HttpDelete]
    public ActionResult DeleteVideo(string videoId)
    {
        return View();
    }

    public ActionResult VideoMetadata(string videoId)
    {
        var metadata = HttpRuntime.Cache[videoId];
        if (metadata == null)

```

```
(HttpRequestMessage request,
 CancellationToken cancellationToken)
{
    ...
}
```

VideoAdminAttributes.cs

```
public class VideoAdminAttribute : Attribute
{
    private IEnumerable<string> Admins()
    {
        ...
    }
}
```

AdminVerifierFactory.cs

```
public class AdminVerifierFactory : DefaultControllerFactory
{
    public override IController CreateController(RequestContext requestContext,
        string controllerName)
    {
        return base.CreateController(requestContext, controllerName) as Controller;
    }
}
```

Question: 1

You need to ensure that developers can connect to a Windows Azure role by using RDP.
What should you do?

- A. Export a certificate with a private key. Upload the .pfx file to the Management Certificates section on the Azure Management Portal.
- B. Export a certificate without a private key. Upload the .cer file to the Management Certificates section on the Azure Management Portal.
- C. Export a certificate without a private key. Upload the .cer file to the Certificates section under the TranscodeWorkerRole hosted service on the Azure Management Portal.
- D. Export a certificate with a private key. Upload the .pfx file to the Certificates section under the TranscodeWorkerRole hosted service on the Azure Management Portal.

Answer: D

Question: 2

You need to set the cookie that will be used by the header as defined in the business requirements.
Which code segment should you use to replace the existing VideoAdminAttribute class in VideoAdminAttributes.es?

A.

```
public class VideoAdminAttribute : ActionFilterAttribute
{
    public override void OnResultExecuted(ResultExecutedContext filterContext)
    {
        base.OnResultExecuted(filterContext);
        var context = filterContext.HttpContext;
        var user = context.User.Identity.Name;
        if (Admins().Contains(user) && context.Error == null)
            context.Response.AppendCookie(new HttpCookie("admin", "true"));
    }
}
```

B.

```
public class VideoAdminAttribute : AuthorizeAttribute
{
    private string User { get { return HttpContext.Current.User.Identity.Name; } }

    public override void OnAuthorization(AuthorizationContext filterContext)
    {
        if (Admins().Any(x => x == User) && HttpContext.Current.Error == null)
            HttpContext.Current.Response.AppendCookie(new HttpCookie("admin", "true"));
        base.OnAuthorization(filterContext);
    }
}
```

C.

```
public class VideoAdminAttribute : ActionFilterAttribute
{
    public override void OnActionExecuting(ActionExecutingContext filterContext)
    {
        var context = filterContext.HttpContext;
        var user = context.User.Identity.Name;
        if (Admins().Contains(user) && context.Error == null)
            context.Response.AppendCookie(new HttpCookie("admin", "true"));
        base.OnActionExecuting(filterContext);
    }
}
```

D.

```
public class VideoAdminAttribute : AuthorizeAttribute
{
    private string User { get { return HttpContext.Current.User.Identity.Name; } }

    public override bool Match(object obj)
    {
        if (Admins().Any(x => x == User) && HttpContext.Current.Error == null)
            HttpContext.Current.Response.AppendCookie(new HttpCookie("admin", "true"));
        return base.Match(obj);
    }
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

Question: 3

You are creating a new authentication system that uses an HTTP header value.
The existing authentication system must continue to operate normally.
You need to implement the custom authentication.

What should you do? (Each correct answer presents a complete solution. Choose all that apply.)

- A. Create a class derived from ActionResult and check for a valid HTTP header value in the ExecuteResult method. Change all actions to return this new class.
- B. Create an HttpHandler to check for a valid HTTP header value in the ProcessRequest method.
- C. Create an HttpModule and check for a valid HTTP header value in the AuthenticateRequest event.
- D. Create a class derived from AuthorizeAttribute and check for a valid HTTP header value in the AuthorizeCore method. Change usages of the existing AuthorizeAttribute to use the new class.

Answer: C, D

Question: 4

DRAG DROP

You need to ensure that the transcode.exe utility is installed before the worker role starts.

How should you implement the startup task? (To answer, drag the appropriate values to the correct element or attribute. Each value may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)



Answer:



Question: 5

You need to maximize performance of video delivery.

Which code segment should you use as the body of the GetVideoStream function in the videoController class?

- A. `if (Request.Headers["Accept-Encoding"].Contains("gzip"))
{
 return new GZipStream(System.IO.File.OpenRead(videoId), CompressionMode.Compress);
}
return System.IO.File.OpenRead(videoId);`
- B. `if (Request.ContentEncoding.BodyName == "application/x-gzip")
{
 return new GZipStream(System.IO.File.OpenRead(videoId), CompressionMode.Compress);
}
return System.IO.File.OpenRead(videoId);`
- C. `return new GZipStream(System.IO.File.OpenRead(videoId), CompressionMode.Compress);`
- D. `MemoryStream stream = new MemoryStream();
new GZipStream(System.IO.File.OpenRead(videoId), CompressionMode.Compress).CopyTo
(stream);
return stream;`

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: A

Question: 6

The transcode.exe utility activates its license online when it is installed.

You need to ensure that the registration of the transcode utility is handled as specified in its license. Which method should you add to the TranscodeWorkerRole class?

```
A. public override void OnStop()
{
    Process.Start("transcode.exe", "unregister").WaitForExit();
    base.OnStop();
}

B. public override void OnStop()
{
    RoleEnvironmentStopping += (sender, args) =>
    {
        Process.Start("transcode.exe", "unregister").WaitForExit();
        base.OnStop();
    };
}

C. public override void OnStop()
{
    RoleEnvironmentStopping += (sender, args) =>
    {
        var task = Process.Start("transcode.exe", "unregister");
        if (task.HasExited)
            base.OnStop();
    };
}

D. public override void OnStop()
{
    Process.Start("transcode.exe", "unregister");
    base.OnStop();
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Question: 7

You need to ensure that all the MVC controllers are secure.

Which code segment should you use as the body for the CreateController method in AdminVerifierFactory.es?

```

A. var controller = base.CreateController
    (requestContext, controllerName) as Controller;

    var hasFilter = controller.GetType().CustomAttributes.Any
        (x => x.AttributeType.Name == "VideoAdminAttribute");

    if (hasFilter == null)
        throw new Exception("VideoAdminAttribute not found");

    return controller;

B. var controller = base.CreateController
    (requestContext, controllerName) as Controller;

    var attributes = controller.GetType().Attributes.ToString();

    if (!attributes.Contains("VideoAdminAttribute"))
        throw new Exception("VideoAdminAttribute not found");

    return controller;

C. if (requestContext.HttpContext.Items["VideoAdmin"] == null)
    throw new Exception("VideoAdmin not found");

    return base.CreateController(requestContext, controllerName) as Controller;

D. if (requestContext.RouteData.Values["VideoAdmin"] == null)
    throw new Exception("VideoAdmin not found");

    return base.CreateController(requestContext, controllerName) as Controller;

```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Question: 8

Customers download videos by using HTTP clients that support various content encodings. You need to configure caching on the DownloadVideo action to maximize performance. Which attribute should you add?

- C A. [OutputCache(Location = OutputCacheLocation.Downstream, VaryByParam = "videoId", VaryByCustom = "browser")]
- C B. [OutputCache(Location = OutputCacheLocation.Any, VaryByCustom = "compressionMethod", VaryByContentEncoding = "all")]
- C C. [OutputCache(Location = OutputCacheLocation.ServerAndClient, VaryByHeader = "Cache-Control")]
- C D. [OutputCache(Location = OutputCacheLocation.Downstream, VaryByContentEncoding = "gzip;q=1.0, compress; q=0.5, *;q=0")]
- C E. [OutputCache(Location = OutputCacheLocation.Any, VaryByParam = "videoId", VaryByContentEncoding = "gzip;q=1.0, compress; q=0.5, *;q=0")]

- A. Option A
B. Option B
C. Option C
D. Option D
E. Option E

Answer: E

Question: 9

You need to ensure that all the MVC controllers are secure.

Which code segment should you use as the body for the CreateController method in AdminVerifierFactory.es?

```

C A. varcontroller = base.CreateController(requestContext, controllerName) asController;
varattributes = controller.GetType().Attributes.ToString();
if(!attributes.Contains("VideoAdminAttribute"))
    thrownewException("Not an Administrator");
returncontroller;

C B. if(requestContext.HttpContext.Items["Administrator"] == null)
    thrownewException("Not an Administrator");
returnbase.CreateController(requestContext, controllerName) asController;

C C. varcontroller = base.CreateController(requestContext, controllerName) asController;
varhasFilter = controller.GetType().CustomAttributes.Any
(x => x.AttributeType.Name == "VideoAdminAttribute");
if(hasFilter == null)
    thrownewException("Not an Administrator");
returncontroller;

C D. if(requestContext.RouteData.Values["Administrator"] == null)
    thrownewException("Not an Administrator");
returnbase.CreateController(requestContext, controllerName) asController;

```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Question: 10

HOTSPOT

The designer for the website gave you the following image as the design for the page.



The normal color for the tab is *2da4c2, and the color when the mouse is over the tab is #ffd800.
The HTML that implements the navigation tab is as follows.

```
<ul id="nav">
  <li><a href="/">Home</a></li>
  <li><a href="/">About</a></li>
  <li><a href="/">Contact</a></li>
</ul>
```

You need to implement the design.

What should you do? (To answer, select the appropriate options in the answer area.)

Work Area

```
ul#nav {
  font-size: 1.3em;
  font-weight: 600;
}
```

```
ul#nav li {
```



```
  text-align: center;
```

```
}
```

```
ul#nav li a {
```



```
  border-radius: 12px 12px 0 0;
  padding: 0 12px 0 12px;
  margin: 0 4px 0 4px;
}
```

```
ul#nav li a:hover {
```



```
}
```

Work Area

```
ul#nav {  
    font-size: 1.3em;  
    font-weight: 600;  
}  
  
ul#nav li {  
    float: left;  
    background-color: #ffd800;  
    background-color: #2da4c2  
    text-decoration: none;  
}  
  
ul#nav li {  
    text-decoration: none;  
    list-style: none;  
    border-radius: 15px;  
    word-wrap: break-word;  
    text-align: center;  
}  
  
ul#nav li a {  
    background-clip: border-box;  
    background-color: #2da4c2  
    border-radius: 15px;  
    word-wrap: break-word;  
}  
  
ul#nav li a {  
    color: #FFF;  
}  
  
ul#nav li a {  
    background-clip: padding-box;  
    text-decoration: none;  
    background-color: #ffd800;  
    float: left;  
}  
  
ul#nav li a {  
    border-radius: 12px 12px 0 0;  
    padding: 0 12px 0 12px;  
    margin: 0 4px 0 4px;  
}  
  
ul#nav li a:hover {  
    color: #333;  
}  
  
ul#nav li a {  
    float: left;  
    background-color: #ffd800;  
    background-color: #2da4c2  
    list-style: none;  
}  
  
ul#nav li a {  
    cursor: pointer;  
    background-clip: border-box;  
    text-decoration: none;  
    background-origin: border-box;  
}  
}
```

Answer:

Work Area

```
ul#nav {  
    font-size: 1.3em;  
    font-weight: 600;  
}  
  
ul#nav li {  
    float: left;  
    background-color: #ffd800;  
    background-color: #2da4c2  
    text-decoration: none;  
  
    text-decoration: none;  
    list-style: none;  
    border-radius: 15px;  
    word-wrap: break-word;  
    text-align: center;  
}  
  
ul#nav li a {  
    background-clip: border-box;  
    background-color: #2da4c2  
    border-radius: 15px;  
    word-wrap: break-word;  
  
    color: #FFF;  
  
    background-clip: padding-box;  
    text-decoration: none;  
    background-color: #ffd800;  
    float: left;  
  
    border-radius: 12px 12px 0 0;  
    padding: 0 12px 0 12px;  
    margin: 0 4px 0 4px;  
}  
  
ul#nav li a:hover {  
    color: #333;  
  
    float: left;  
    background-color: #ffd800;  
    background-color: #2da4c2  
    list-style: none;  
  
    cursor: pointer;  
    background-clip: border-box;  
    text-decoration: none;  
    background-origin: border-box;  
}
```

Question: 11

You need to ensure that all customers can delete videos regardless of their browser capability.
Which code segment should you use as the body of the SendAsync method in the DeleteHandler class?

C A. `var response = base.SendAsync(request, cancellationToken);
if(request.Headers.Contains("X-Delete"))
{
 response.Result.StatusCode = HttpStatusCode.NotImplemented;
}
return response;`

C B. `if(request.Headers.Contains("X-Delete"))
{
 request.Method = new HttpMethod("DELETE");
}
returnbase.SendAsync(request, cancellationToken);`

C C. `var response = base.SendAsync(request, cancellationToken);
if(response.Result.Headers.Contains("X-Delete"))
{
 request.Method = new HttpMethod("DELETE");
}
return response;`

C D. `if(request.Method == HttpMethod.Delete)
{
 request.Headers.Add("X-Delete", "true");
}
returnbase.SendAsync(request, cancellationToken);`

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

Case Study: 2

Scenario ASP.NET MVC application

Background

You are developing an ASP.NET MVC application in Visual Studio 2012 that will be used by Olympic marathon runners to log data about training runs.

Business Requirements

The application stores date, distance, and duration information about a user's training runs. The user can view, insert, edit, and delete records.

The application must be optimized for accessibility.

All times must be displayed in the user's local time.

Technical Requirements

Data Access:

Database access is handled by a public class named RunnerLog.DataAccess.RunnerLogDb.

All data retrieval must be done by HTTP GET and all data updates must be done by HTTP POST.

Layout:

All pages in the application use a master layout file named \Views\Shared_Layout.cshtml.

Models:

The application uses the \Models\LogModel.cs model.

Views:

All views in the application use the Razor view engine.

Four views located in \Vtews\RunLog are named:

- _CalculatePace.cshtml
- EditLog.cshtml
- GetLog.cshtml
- InsertLog.cshtml

The application also contains a \Views\Home\Index.cshtml view.

Controllers:

The application contains a \Controllers\RunLogController.cs controller.

Images:

A stopwatch.png image is located in the \Images folder.

Videos:

A map of a runner's path is available when a user views a run log. The map is implemented as an Adobe Flash application and video. The browser should display the video natively if possible, using H264, Ogg, or WebM formats, in that order. If the video cannot be displayed, then the Flash application should be used.

Security:

You have the following security requirements

- The application is configured to use forms authentication.
- Users must be logged on to insert runner data.
- Users must be members of the Admin role to edit or delete runner data.
- There are no security requirements for viewing runner data.
- You need to protect the application against cross-site request forgery.
- Passwords are hashed by using the SHA1 algorithm.

RunnerLog.Providers.RunLogRoleProvider.es contains a custom role provider.

Relevant portions of the application files follow. (Line numbers are included for reference only.)

Application Structure

Controllers\RunLogController.cs

```
RC01  public class RunLogController : Controller
RC02  {
RC03      public ActionResult GetLog()
RC04      {
RC05          List<LogModel> log = RunnerLogDb.GetLogsFromDatabase();
RC06          return View(log);
RC07      }
RC08
RC09      public ActionResult InsertLog()
RC10      {
RC11          LogModel log = new LogModel();
RC12          log.RunDate = DateTime.Now;
RC13          return View(log);
RC14      }
RC15
RC16      [HttpPost]
RC17      public ActionResult InsertLog(LogModel log)
RC18      {
RC19          RunnerLogDb.InsertLog(log);
RC20          return RedirectToAction("GetLog");
RC21      }
RC22
RC23      public ActionResult DeleteLog(int id)
RC24      {
RC25          RunnerLogDb.DeleteLog(id);
RC26          return RedirectToAction("GetLog");
RC27      }
RC28
RC29      public ActionResult EditLog(int id)
RC30      {
RC31          LogModel log = RunnerLogDb.GetRunnerLog(id);
RC32          return View(log);
RC33      }
RC34 }
```

Models\LogModel.cs

```
LM01  public class LogModel
LM02  {
LM03      [Required]
LM04      public int Id { get; set; }
LM05
LM06      [Required]
LM07      public DateTime RunDate { get; set; }
LM08
LM09      [Required]
LM10      [Range (0.01, 1000.00)]
LM11      public double Distance { get; set; }
LM12
LM13      [Required]
LM14      public TimeSpan Time { get; set; }
LM15
LM16      public string ShortDate
LM17      {
LM18          get
LM19          {
LM20              return RunDate.ToLocalTime().ToString("yyyy-MM-dd");
LM21          }
LM22      }
LM23 }
```

Views\RunLog_CalculatePace.cshtml

```
CP01 @model RunnerLog.Models.LogModel
CP02 @(Convert.ToInt32(Model.Time.TotalMinutes / Model.Distance)) Min
CP03 @(Convert.ToInt32(Model.Time.TotalSeconds % 60 / Model.Distance)) Seconds
```

Views\RunLog>EditLog.cshtml

```
EL01 @model RunnerLog.Models.LogModel
EL02 <h2>Edit Log Item</h2>
EL03 <script src="@Url.Content("~/Scripts/jquery.validate.min.js")"></script>
EL04 <script src="@Url.Content("~/Scripts/jquery.validate.unobtrusive.min.js")"></
script>
EL05 @using (Html.BeginForm()) {
EL06     @Html.AntiForgeryToken()
EL07     @Html.ValidationSummary(true)
EL08     <fieldset>
EL09         <legend>LogModel</legend>
EL10         <h3>
EL11             Log Id: @Model.Id
EL12         </h3>
EL13         <div>
EL14             @Html.LabelFor(model => model.Distance)
EL15         </div>
EL16         <div>
EL17             @Html.EditorFor(model => model.Distance)
EL18             @Html.ValidationMessageFor(model => model.Distance)
EL19         </div>
EL20         <div>
EL21             @Html.LabelFor(model => model.Time)
EL22         </div>
EL23         <div>
EL24             @Html.EditorFor(model => model.Time)
EL25             @Html.ValidationMessageFor(model => model.Time)
EL26         </div>
EL27         <p>
EL28             <input type="submit" value="Save" />
EL29         </p>
EL30     </fieldset>
EL31 }
```

Views\RunLog\GetLog.cshtml

```
GL01 @model List<RunnerLog.Models.LogModel>
GL02 <h2>View Runs </h2>
GL03 <table>
GL04   <tr>
GL05     <th>Id </th>
GL06     <th>Date </th>
GL07     <th>Distance </th>
GL08     <th>Duration </th>
GL09     <th>Avg Mile Pace </th>
GL10   </tr>
GL11   @foreach (RunnerLog.Models.LogModel log in Model)
GL12   {
GL13     <tr>
GL14       <td>
GL15         @Html.DisplayFor(model => log.Id)
GL16       </td>
GL17       <td>
GL18         </td>
GL19       <td>
GL20         @Html.DisplayFor(model => log.Distance)
GL21       </td>
GL22       <td>
GL23         @Html.DisplayFor(model => log.Time)
GL24       </td>
GL25       <td>
GL26         </td>
GL27
GL28       </td>
GL29       <td>
GL30         @Html.ActionLink("Edit", "EditLog", new { id = log.Id })
GL31       </td>
GL32       <td>
GL33         @Html.ActionLink("Delete", "DeleteLog", new { id = log.Id })
GL34       </td>
GL35     </tr>
GL36   }
GL37 </table>
```

Views\RunLog\InsertLog.cshtml

```

IL01  @model RunnerLog.Models.LogModel
IL02  <script src="@Url.Content("~/Scripts/jquery.validate.min.js")"></script>
IL03  <script src="@Url.Content("~/Scripts/jquery.validate.unobtrusive.min.js")"></
script>
IL04  @using (Html.BeginForm())
IL05  {
IL06      @Html.ValidationSummary(true)
IL07      <fieldset>
IL08          <legend>LogModel</legend>
IL09
IL10         <div>
IL11             @Html.LabelFor(model => model.RunDate)
IL12         </div>
IL13         <div>
IL14             @Html.EditorFor(model => model.RunDate)
IL15             @Html.ValidationMessageFor(model => model.RunDate)
IL16         </div>
IL17         <div>
IL18             @Html.LabelFor(model => model.Distance)
IL19         </div>
IL20         <div>
IL21             @Html.EditorFor(model => model.Distance)
IL22             @Html.ValidationMessageFor(model => model.Distance)
IL23         </div>
IL24         <div>
IL25             @Html.LabelFor(model => model.Time) HH:MM:SS
IL26         </div>
IL27         <div>
IL28             @Html.EditorFor(model => model.Time)
IL29             @Html.ValidationMessageFor(model => model.Time)
IL30         </div>
IL31         <p>
IL32             <input type="submit" value="Create" />
IL33         </p>
IL34     </fieldset>
IL35 }

```

Views\Shared_Layout.cshtml

```

LO01  <!DOCTYPE html>
LO02  <html lang="en">
LO03  <head>
LO04  ...
LO05  </head>
LO06  <body>
LO07  ...
LO08  <footer>
LO09
LO10     <script type="text/javascript">
LO11         var c = document.getElementById('myCanvas');
LO12         var ctx = c.getContext('2d');
LO13         ctx.font = '30pt Calibri';
LO14         ctx.strokeStyle = 'gray';
LO15         ctx.lineWidth = 3;
LO16         ctx.strokeText('London 2012', 80, 30);
LO17     </script>
LO18 </footer>
LO19 </body>
LO20 </html>

```

Question: 1

DRAG DROP

You need to implement security according to the requirements.

How should you modify RunLogController? (To answer, drag the appropriate code segment to the correct location or locations. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

[Authorize(Roles = "Admin")]
[Authorize]
[Authorize(Users = "Admin")]
[AllowAnonymous]
[Authorize(Users = "*")]

```
public class RunLogController : Controller  
{  
    public ActionResult GetLog()  
    ...  
  
    public ActionResult InsertLog()  
    ...  
  
    public ActionResult DeleteLog(int id)  
    ...  
  
    public ActionResult EditLog(int id)  
    ...  
}
```

Answer:

[Authorize(Roles = "Admin")]
[Authorize(Users = "Admin")]
[Authorize(Users = "*")]

```
[Authorize]
public class RunLogController : Controller
{
    [AllowAnonymous]
    public ActionResult GetLog()
    ...

    public ActionResult InsertLog()
    ...
    [Authorize(Roles = "Admin")]
    public ActionResult DeleteLog(int id)
    ...
    [Authorize(Roles = "Admin")]
    public ActionResult EditLog(int id)
    ...
}
```

Question: 2

You need to make all of the rows in the table bold in the Views/RunLog/GetLog.cshtml view.
Which code segment should you use?

- A. table>tr{ font-weight: bold; }
- B. table>th:last-child{ font-weight: bold; }
- C. table+first-child{ font-weight: bold; }
- D. table>tr>th:nth-child(2){ font-weight: bold; }

Answer: A**Question: 3**

If the canvas element is supported by the client browser, the application must display "London 2012" in the footer as text formatted by JavaScript at the end of the _Layout.cshtml file.

You need to modify the layout to ensure that "London 2012" is displayed as either formatted text or as plain text, depending on what the client browser supports.

Which code segment should you add?

- A. <canvas id="myFooter">London 2012</canvas>
- B. <canvas id="myFooter">
@(Request.Browser.JavaApplets ? new HtmlString("London 2012") : null)
</canvas>
- C. <canvas id="myCanvas"></canvas>
<p>London 2012</p>
- D. <canvas id="myCanvas">London 2012</canvas>
- A. Option A
B. Option B
C. Option C
D. Option D

Answer: D

Question: 4

The date of the run must be displayed in Views\Runlog\GetLog.cshtml. The timestamp must not be displayed. You need to display the date of the run according to the business requirements.
Which code segment should you use?

- A. @Html.DisplayFor(model => log.RunDate)
B. @log.RunDate.ToShortDateString()
C. @log.RunDate.ToString()
D. @Html.DisplayFor(model => log.ShortDate)

Answer: D

Question: 5

You need to add an action to RunLogController to validate the users' passwords.
Which code segment should you use?

```

A. public ActionResult Login(string username, string password)
{
    byte[] buffer = Encoding.UTF8.GetBytes(password + username);
    byte[] hash = MD5.Create().ComputeHash(buffer);
    ComparePassword(username, hash);
    return ContextDependentView();
}

B. public ActionResult Login(string username, string password)
{
    byte[] buffer = Encoding.UTF8.GetBytes(password + username);
    byte[] hash = SHA1.Create().ComputeHash(buffer);
    ComparePassword(username, hash);
    return ContextDependentView();
}

C. [RequireHttps]
public ActionResult Login(string username, string password)
{
    byte[] buffer = Encoding.UTF8.GetBytes(password + username);
    byte[] hash = SHA1.Create().ComputeHash(buffer);
    ComparePassword(username, hash);
    return ContextDependentView();
}

D. [RequireHttps]
public ActionResult Login(string username, string password)
{
    byte[] buffer = Encoding.UTF8.GetBytes(password + username);
    byte[] hash = MD5.Create().ComputeHash(buffer);
    ComparePassword(username, hash);
    return ContextDependentView();
}

```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Question: 6

DRAG DROP

You need to implement the Views\RunLog_CalculatePace.cshtml partial view from Views\Runlog \GetLog.cshtml to display the runner's average mile pace.

How should you implement the view? (To answer, drag the appropriate code segments to the correct location or locations. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```
@Html.Partial(
    @Html.Action(
        "_CalculatePace.cshtml", log
    ) _CalculatePace", log)
    "_CalculatePace")
```

```
<td>
    @Html.DisplayFor(model => log.Time)
</td>
<td>
    @Html.Partial(
        "_CalculatePace", log)
    </td>
    <td>
        @Html.ActionLink(
            "Delete", "DeleteLog",
            new { id = log.Id })
    </td>
```

```
@Html.Action(
    "_CalculatePace.cshtml", log
) _CalculatePace")
    "_CalculatePace")
```

```
<td>
    @Html.DisplayFor(model => log.Time)
</td>
<td>
    @Html.Partial(
        "_CalculatePace", log)
    </td>
    <td>
        @Html.ActionLink(
            "Delete", "DeleteLog",
            new { id = log.Id })
    </td>
```

Question: 7

You need to make the "Distance" header of the table bold in the Views/RunLog/GetLog.cshtml view. Which code segment should you use?

- A. table>tr{ font-weight: bold; }
- B. table>th:last-child{ font-weight: bold; }
- C. table>first-child{ font-weight: bold; }
- D. table>tr>th:nth-child (2) { font-weight: bold; }

Answer: D

Question: 8

You need to extend the edit functionality of RunLogController.
Which code segment should you use?

- A.

```
[HttpGet]
[ActionName("EditLog")]
[ValidateAntiForgeryToken]
public ActionResult EditLog(LogModel log)
{
    ...
}
```
- B.

```
[HttpPost]
[ActionName("EditLog")]
public ActionResult EditLogValidated(LogModel log)
{
    ...
}
```
- C.

```
[HttpPost]
[ActionName("EditLog")]
[ValidateAntiForgeryToken]
public ActionResult EditLogValidated(LogModel log)
{
    ...
}
```
- D.

```
[HttpPost]
[ActionName("EditLog")]
[RequireHttps]
public ActionResult EditLogValidated(LogModel log)
{
    ...
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Question: 9

HOTSPOT

You need to implement the map of the runners' paths.
How should you build the video viewer? (To answer, select the appropriate options in the answer area.)

Work Area

```
<video width="320" height="240">
<[ ]>
<[ ]>
<[ ]>
<[ ] width="320" height="240">
<[ ] name="movie" value="map.swf" />
<[ ] src="map.swf" />
</[ ]>
</video>
```

Work Area

```
<video width="320" height="240">
  <source src="map.mp4" type="video/mp4">
  <source src="map.ogv" type="video/ogg">
  <source src="map.webm" type="video/webm">
<source src="map.mp4" type="video/mp4">
  <source src="map.ogv" type="video/ogg">
  <source src="map.webm" type="video/webm">
<source src="map.mp4" type="video/mp4">
  <source src="map.ogv" type="video/ogg">
  <source src="map.webm" type="video/webm">
<embed width="320" height="240">
  embed
  object
  video
  canvas
  <object name="movie" value="map.swf" />
    object
    param
    option
    embed
    <video src="map.swf" />
      video
      param
      embed
      source
    </embed>
  embed
  object
  video
  canvas
</video>
```

Answer:

Work Area

```
<video width="320" height="240">
  <source src="map.mp4" type="video/mp4">
  <source src="map.ogv" type="video/ogg">
  <source src="map.webm" type="video/webm">

  <source src="map.mp4" type="video/mp4">
  <source src="map.ogv" type="video/ogg">
  <source src="map.webm" type="video/webm">

  <source src="map.mp4" type="video/mp4">
  <source src="map.ogv" type="video/ogg">
  <source src="map.webm" type="video/webm">

<object width="320" height="240">
  embed
  <object name="movie" value="map.swf" />
    <param object="map.swf" />
    <option object="map.swf" />
    <embed object="map.swf" />
    <source object="map.swf" />

  </object>
  embed
  <object>
    <param name="movie" value="map.swf" />
    <option>
      <embed src="map.swf" />
      <source src="map.swf" />
    </option>
  </object>
</object>
```

Question: 10

HOTSPOT

You need to ensure that only valid parameters are passed to the EditLog action.
How should you build the route? (To answer, select the appropriate options in the answer area.)

Work Area

```
routes.MapRoute(  
    name: "EditLog",  
    controller = "RunLog",  
    );
```

Work Area

```
routes.MapRoute(  
    name: "EditLog",  
    id = @"\d+"  
    url: "RunLog/EditLog/{id}",  
    action = "EditLog",  
    defaults: new  
    constraints: new  
  
    id = @"\d+"  
    url: "RunLog/EditLog/{id}",  
    action = "EditLog",  
    defaults: new  
    constraints: new  
  
{  
    controller = "RunLog",  
    id = @"\d+"  
    url: "RunLog/EditLog/{id}",  
    action = "EditLog",  
    defaults: new  
    constraints: new  
  
},  
id = @"\d+"  
url: "RunLog/EditLog/{id}",  
action = "EditLog",  
defaults: new  
constraints: new  
{  
    id = @"\d+"  
    url: "RunLog/EditLog/{id}",  
    action = "EditLog",  
    defaults: new  
    constraints: new  
  
}  
);
```

Answer:

Work Area

```
routes.MapRoute(
    name: "EditLog",
    id = @"\d+"
    url: "RunLog/EditLog/{id}",
    action = "EditLog",
    defaults: new
    constraints: new

    id = @"\d+"
    url: "RunLog/EditLog/{id}",
    action = "EditLog",
    defaults: new
    constraints: new

    controller = "RunLog",
    id = @"\d+"
    url: "RunLog/EditLog/{id}",
    action = "EditLog",
    defaults: new
    constraints: new

    id = @"\d+"
    url: "RunLog/EditLog/{id}",
    action = "EditLog",
    defaults: new
    constraints: new

    {
        id = @"\d+"
        url: "RunLog/EditLog/{id}",
        action = "EditLog",
        defaults: new
        constraints: new
    }

    );
);
```

Question: 11

DRAG DROP

You need to ensure that the application uses RunLogRoleProvider custom role provider.

How should you modify the web.config file? (To answer, drag the appropriate line of code to the correct location or locations. Each line of code may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```
"RunnerLog.Providers.RunLogRoleProvider"
"System.Web.Providers.RunLogRoleProvider"
"System.Web.Providers.DefaultRoleProvider"
defaultProvider="DefaultProvider"
defaultProvider="RLRoleProvider"
```

```
<roleManager enabled="true" >
<providers>
<add name="RLRoleProvider"
      type="RunnerLog.Providers.RunLogRoleProvider"
      Application="RunnerLog"/>
</providers>
</roleManager>
```

Answer:

```
"System.Web.Providers.RunLogRoleProvider"
"System.Web.Providers.DefaultRoleProvider"
defaultProvider="DefaultProvider"
```

```
<roleManager defaultProvider="RLRoleProvider"
             enabled="true" >
<providers>
<add name="RLRoleProvider"
      type="RunnerLog.Providers.RunLogRoleProvider"
      Application="RunnerLog"/>
</providers>
</roleManager>
```

Question: 12

DRAG DROP

You need to ensure that only valid parameters are passed to the EditLog action.

How should you build the route? (To answer, drag the appropriate code segments to the correct location or locations. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```
id = @"\\d+"

url: "RunLog/EditLog/{id}",

action = "EditLog",

defaults: new

constraints: new
```

```
routes.MapRoute(
    name: "EditLog",
    [REDACTED]
    [REDACTED]
{
    controller = "RunLog",
    [REDACTED]
},
[REDACTED]
{
    [REDACTED]
}
)
};
```

Answer:

```

routes.MapRoute(
    name: "EditLog",
    url: "RunLog/EditLog/{id}",
    defaults: new
    {

        controller = "RunLog",
        action = "EditLog",
    },
    constraints: new
    {
        id = @"\d+"
    }
);

```

Question: 13

You need to display the "miles" unit description after the distance in the GetLog view.

Which line of code should you use to replace line GL21? (Each correct answer presents a complete solution. Choose all that apply.)

- A. @log.Distance miles
- B. @Html.DisplayFor(model => log.Distance) miles
- C. @log.Distance.ToString() @Html.TextArea ("miles")
- D. @Html.DisplayFor(model => log.Distance.ToString() + " miles")

Answer: A, B

Case Study: 3

Online Shopping

Background

You are developing an online shopping web application.

Business Requirements

- A user is not required to provide an email address. If a user enters an email address, it must be verified to be a valid email address.
- Information about the first product on the product page must fade out over time to encourage the user to continue browsing the catalog.
- Administrators must be able to edit information about existing customers.

- Administrators also must be able to specify a default product on the product page.

Technical Requirements

General:

- The web store application is in a load-balanced web farm. The load balancer is not configured to use server affinity.
- The web store application is an ASP.NET MVC application written in Visual Studio 2012.

Products:

- The value of the productId property must always be greater than 0.
- The Products page for mobile devices must display to mobile users. The Products page for desktop devices must display to desktop users.

Storage:

- The data must be stored in a serialized XML data format.
- Serialized objects must be schema-independent.

Exception handling:

- Exceptions originating from IIS must display a page with support contact information.
- Some page links expire, and users who access these links encounter 404 errors.
- Exceptions must be logged by using the WriteLog method of the Utility class.

Browser and device support:

- The application must support image format conversions from .bmp to .jpeg for mobile devices.
- The application must support image format conversions from .bmp to .png for desktop devices.

Application Structure

MvcApplication / Global.asax

```
public class MvcApplication : HttpApplication
{
    public static string DefaultProduct { get; set; }

    public static void RegisterRoutes(RouteCollection routes)
    {
        routes.IgnoreRoute("{resource}.axd/{*pathInfo}");

        routes.MapRoute(
            "",
            "{controller}/{action}/{productName}",
            new { action = "Show", productName = DefaultProduct });
    }
}
```

ProductController.cs

```
public class ProductController : Controller
{
    [HttpGet]
    public Product GetDealPrice(int productId)
    {
        ...
    }

    public ActionResult Show(string productName)
    {
        var price = DataLoader.GetProductPrice(productName);
        return View(new { productName, price });
    }
}
```

DataLoader.cs

```
public class DataLoader
{
    public static string GetProductPrice(string productName)
    {
        var currencySymbol = CultureInfo.CurrentCulture.NumberFormat.CurrencySymbol;
        var product = InternalLoad().FirstOrDefault(x => x.Name == productName);
        return currencySymbol + product.Price;
    }

    private static IEnumerable<Product> InternalLoad()
    {
        ...
    }
}
```

Customer.cs

```
public class Customer
{
    const string EmailRegex = @"(^|([A-Za-z0-9_\.-])*@[A-Za-z0-9-]*\.[A-Za-z]*)";
    const string EmailErrorMessage = "Please enter a valid email address";

    public string Email { get; set; }
    public string Name { get; set; }
}
```

Product.cs

```
public class Product
{
    public string ProductId { get; set; }
    public string Name { get; set; }
    public decimal Price { get; set; }
}
```

ImageConverter.cs

```
public class ImageConverter : MvcHandler
{
    private void WriteImage(HttpResponse response, string format)
    {
        ...
    }
}
```

web.config

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <appSettings>
    <add key="PreserveLoginUrl" value="true" />
    <add key="ClientValidationEnabled" value="true" />
    <add key="UnobtrusiveJavaScriptEnabled" value="true" />
  </appSettings>
  <system.web>
    <compilation debug="true" targetFramework="4.5" />
    <httpRuntime targetFramework="4.5" />
    encoderType="System.Web.Security.AntiXss.AntiXssEncoder,
    System.Web, Version=4.0.0.0, Culture=neutral, PublicKeyToken=b03f5f7f11d50a3a" />
    <machineKey compatibilityMode="Framework45" />
    <sessionState mode="..." customProvider="DefaultSessionProvider">
      <providers>
        <add name="DefaultSessionProvider"
        type="System.Web.Providers.DefaultSessionStateProvider,
        System.Web.Providers, Version=1.0.0.0, Culture=neutral, PublicKeyToken=31bf3856ad364e35
        " connectionStringName="DefaultConnection" applicationName="/" />
      </providers>
    </sessionState>
  </system.web>
  <system.webServer>
    <validation validateIntegratedModeConfiguration="false" />
    <modules runAllManagedModulesForAllRequests="true" />
  </system.webServer>
</configuration>
```

Question: 1

You need to implement client-side animations according to the business requirements.

Which line of code should you use? (Each correct answer presents a complete solution. Choose all that apply.)

- A. \$("body h1:nth-child(1)").fadeIn(1000);
- B. \$("body h1:nth-child(1)").fadeOut(1000);
- C. \$("body h2:nth-child(1)").animate({ opacity: 0 });
- D. \$("body h1:nth-child(1)").animate({ opacity: 1 });

Answer: B, C

Question: 2

You are designing a Windows Communication Foundation (WCF) service that uses the Product class. You need to update the class to meet the storage requirement.

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

- A. Mark the Product class with the DataContract attribute.
- B. Mark the public members of the Product class with theDataContractFormat attribute.
- C. Mark the Product class with the CollectionDataContract attribute.
- D. Mark the public members of the Product class with the DataMember attribute.

Answer: AD

Question: 3

You need to add a method to the ProductController class to meet the exception handling requirements for logging. Which code segment should you use?

- A.

```
protected override void OnException(ExceptionContext filterContext)
{
    Utility.WriteLine(filterContext.Exception);

    if (System.Diagnostics.Debugger.IsAttached)
    {
        filterContext.ExceptionHandled = true;
        this.View("Error").ExecuteResult(this.ControllerContext);
    }
}
```
- B.

```
protected override void OnException(ExceptionContext filterContext)
{
    Utility.WriteLine(filterContext.Exception);

    if (filterContext.HttpContext.IsDebuggingEnabled)
    {
        filterContext.ExceptionHandled = true;
        this.View("Error").ExecuteResult(this.ControllerContext);
    }
}
```
- C.

```
protected override void OnException(ExceptionContext filterContext)
{
    Utility.WriteLine(filterContext.Exception);

    if (filterContext.HttpContext.IsCustomErrorEnabled)
    {
        filterContext.ExceptionHandled = true;
        this.View("Error").ExecuteResult(this.ControllerContext);
    }
}
```
- D.

```
protected override void OnException(ExceptionContext filterContext)
{
    if (!System.Diagnostics.Debugger.IsLogging())
    {
        Utility.WriteLine(filterContext.Exception);
        filterContext.ExceptionHandled = true;
        this.View("Error").ExecuteResult(this.ControllerContext);
    }
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Question: 4

You need to modify the application to meet the productId requirement.

What should you do?

- A. Modify the **RegisterGlobalFilters** method of the Global.asax.cs file as follows.

```
Contract.Requires<ArgumentException>(productId > 0);
```

- B. Modify the **GetDealPrice** method of **ProductController** as follows.

```
Contract.Requires<ArgumentException>(productId != 0);
```

- C. Modify the **GetDealPrice** method of **ProductController** as follows.

```
Contract.Assume<ArgumentException>(productId > 0);
```

- D. Modify the **RegisterGlobalFilters** method of the Global.asax.cs file as follows.

```
Contract.Assume<ArgumentException>(productId != 0);
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: B

Explanation:

The Contract.Requires(Of TException) method specifies a precondition contract for the enclosing method or property, and throws an exception if the condition for the contract fails.

Syntax:

```
'Declaration
Public Shared Sub Requires(Of TException As Exception) ( _
    condition As Boolean _
)
```

Type Parameters

TException

The exception to throw if the condition is false.

Parameters

condition

Type: System.Boolean

The conditional expression to test.

Reference: Contract.Requires(Of TException) Method (Boolean)

Question: 5

The GetDealPrice method must be called by using Ajax.

You need to get the price of a product by using the GetDealPrice method of the ProductController.

Which code segment should you use? (Each correct answer presents a complete solution. Choose all that apply.)

A. `$ajax({
 type: "POST",
 dataType: "json",
 contentType: "application/json",
 url: "Product/GetDealPrice",
 data: {"productId': '" + productId + "'},
 success: function (data) {
 $(".price").html(data.d);
 }
});`

B. `$load({
 dataType: "json",
 contentType: "application/json",
 url: "Product/GetDealPrice/" + productId,
 success: function (data) {
 $(".price").html(data.d);
 }
});`

C. `$ajax({
 type: "GET",
 dataType: "json",
 contentType: "application/json",
 url: "Product/GetDealPrice/" + productId,
 success: function (data) {
 $(".price").html(data.d);
 }
});`

D. `$getJSON("Product/GetDealPrice/" + productId
 function (data) {
 $(".price").html(data.d);
 }
);`

- A. Option A
- B. Option B
- C. Option C

D. Option D

Answer: CD

Question: 6

You need to implement the requirements for handling IIS errors.

What should you do?

- A. Update the **customErrors** attribute in the app.config file as follows.

```
<customErrors mode="On" defaultRedirect="CustomErrorView" >
  <error statusCode="401" redirect="Error/Error401" />
</customErrors>
```

- B. Update the **customErrors** attribute in the web.config file as follows.

```
<customErrors mode="On" defaultRedirect="CustomErrorView" >
  <error statusCode="404" redirect="Error/Error404" />
</customErrors>
```

- C. Update the **customErrors** attribute in the app.config file as follows.

```
<customErrors mode="Off" defaultRedirect="CustomErrorView" >
  <error statusCode="404" redirect="Error/Error404" />
</customErrors>
```

- D. Update the **customErrors** attribute in the web.config file as follows.

```
<customErrors mode="On" defaultRedirect="CustomErrorView" >
  <error statusCode="403" redirect="Error/Error403" />
</customErrors>
```

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: B

Question: 7

When users attempt to retrieve a product from the product page, a run-time exception occurs if the product does not

exist.

You need to route the exception to the CustomException.aspx page.

Which method should you add to MvcApplication?

- A.

```
public static void RegisterGlobalFilters(GlobalFilterCollection filters)
{
    filters.Add(new HandleErrorAttribute
    {
        ExceptionType = typeof(IndexOutOfRangeException),
        View = "CustomException",
    });
}
```

- B.

```
public static void RegisterGlobalFilters(GlobalFilterCollection filters)
{
    filters.Add(new HandleErrorAttribute
    {
        ExceptionType = typeof(IndexOutOfRangeException),
        Handler = "CustomException",
    });
}
```

- C.

```
public static void RegisterGlobalFilters(GlobalFilterCollection filters)
{
    filters.Add(new HandleErrorAttribute
    {
        ExceptionType = typeof(NullReferenceException),
        View = "CustomException",
    });
}
```

- D.

```
public static void RegisterGlobalFilters(GlobalFilterCollection filters)
{
    filters.Add(new HandleErrorAttribute
    {
        ExceptionType = typeof(NullReferenceException),
        Handler = "CustomException",
    });
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Question: 8

You need to implement the business requirements for managing customer data.

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

- A. Add a class named Customer-Controller to the Controllers folder. Then add a method named Edit to the class.
- B. Create a new controller named Administration in the Controllers folder. Add an action named EditCustomer to the controller.

- C. Add a folder named Customer to the Views folder. Then create a view inside this folder named Edit.aspx.
D. Create a new folder named EditCustomer to the Views folder. In the new folder, create a new file named Administration.aspx.

Answer: A, C

Question: 9

You need to ensure that new customers enter a valid email address.

Which code should you use? (Each correct answer presents part of the solution. Choose all that apply.)

- A. `[RegularExpression (emailPattern, ErrorMessage = EmailErrorMessage)]
[DataType(DataType.EmailAddress)]
public string Email { get; set; }`
- B. `[RegularExpression(EmailRegex, ErrorMessage = EmailErrorMessage,
ErrorMessageResourceType = DataType.EmailAddress)]
[ComplexType]
public string Email { get; set; }`
- C. `<%: Html.Raw(m => m.Email) %>`
- D. `<%: Html.TextBoxFor(m => m.Email) %>`

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: A, D

Question: 10

An advertising campaign was recently launched. Some of the ads contain a link to products that no longer exist or have IDs that have changed.

You need to ensure that all product links display a product.

Which code segment should you use to configure the route?

- A.

```
routes.MapRoute(
    "Product",
    "Product/{action}/{productName}",
    new { action = "Show", productName = DefaultProduct }
);
```
- B.

```
routes.MapRoute(
    "Product",
    "{productName}/{action}/{id}",
    new { action = "Show", productName = DefaultProduct }
);
```
- C.

```
routes.MapPageRoute(
    "Product",
    "{ProductName}/{action}/{id}",
    "~/product.aspx",
    false,
    new RouteValueDictionary { { "action", "Show" }, { "productName",
DefaultProduct } });
});
```
- D.

```
routes.MapPageRoute(
    "Product",
    "Product/{action}/{productName}",
    "~/product.aspx",
    false,
    new RouteValueDictionary { { "action", "Show" }, { "productName",
DefaultProduct } });
});
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Question: 11

You updated the web.config file with the HTTP run-time value required to display an alternative version of the site. You need to ensure that the correct page displays to the users. Which code segment should you use to update the controller?

- A. If (Request.IsTabletDevice)
- B. If (Request.Browser.IsBrowser("Mobile"))
- C. If (Request.UserAgent["Tablet"])
- D. If (Request.Browser.IsMobileDevice)

Answer: D

Question: 12

You need to configure session storage in the web.config file to meet the technical requirements for scalability. Which SessionState mode should you use? (Each correct answer presents a complete solution. Choose all that apply.)

- A. StateServer
- B. InProc
- C. AutoDetect
- D. SqlServer

Answer: A, D

Question: 13

You need to update the routes to ensure that a product is always displayed on the product page. Which code segment should you use?

- A.

```
routes.MapRoute(
    "Product",
    "{productName}/{action}/{id}",
    new { action = "Show", productName = DefaultProduct }
);
```
 - B.

```
routes.MapRoute(
    "Product",
    "Product/{action}/{productName}",
    new { action = "Show", productName = DefaultProduct }
);
```
 - C.

```
routes.MapPageRoute(
    "Product",
    "Product/{action}/{productName}",
    "~/product.aspx",
    false,
    new RouteValueDictionary { { "action", "Show" }, { "productName", DefaultProduct } });
};
```
 - D.

```
routes.MapPageRoute(
    "Product",
    "{ProductName}/{action}/{id}",
    "~/product.aspx",
    false,
    new RouteValueDictionary { { "action", "Show" }, { "productName", DefaultProduct } });
};
```
- A. Option A
 - B. Option B
 - C. Option C
 - D. Option D

Answer: B

Question: 14

HOTSPOT

You need to implement the mobile device support requirements.

How should you build the ProcessRequest method? (To answer, select the appropriate options in the answer area.)

```
Work Area  
protected override void ProcessRequest(HttpContext httpContext)  
{  
    var response = httpContext.Response;  
    var mobileFormat = ;  
    var normalFormat = ;  
    if (httpContext..ContentType == )  
    {  
        if (httpContext.. )  
        {  
            WriteImage(response, mobileFormat);  
        }  
        else  
        {  
            WriteImage(response, normalFormat);  
        }  
    }  
    else  
    {  
        base.ProcessRequest(httpContext);  
    }  
}
```

Work Area

```

protected override void ProcessRequest(HttpContext httpContext)
{
    var response = httpContext.Response;
    var mobileFormat = "image/png";
    var normalFormat = "image/png";

    if (httpContext.Response.ContentType == "image/png")
    {
        if (httpContext.Browser.IsMobileDevice || httpContext.Browser.IsBrowser("MobileDevice") ||
            Mobile == "android|ip(hone|od)" || Mobile == "+mobile|tablet")
        {
            WriteImage(response, mobileFormat);
        }
        else
        {
            WriteImage(response, normalFormat);
        }
    }
    else
    {
        base.ProcessRequest(httpContext);
    }
}

```

Answer:

Work Area

```

protected override void ProcessRequest(HttpContext httpContext)
{
    var response = httpContext.Response;
    var mobileFormat = "image/png";
    var normalFormat = "image/png";

    if (httpContext.Response.ContentType == "image/png")
    {
        if (httpContext.Request.Browser.IsMobileDevice ||
            httpContext.Request.Browser.IsBrowser("MobileDevice") ||
            httpContext.Request.Browser.Mobile == "android|iPhone|iPod" ||
            httpContext.Request.Browser.Mobile == "+mobile|tablet")
        {
            WriteImage(response, mobileFormat);
        }
        else
        {
            WriteImage(response, normalFormat);
        }
    }
    else
    {
        base.ProcessRequest(httpContext);
    }
}

```

Case Study: 4**ASP.NET MVC application in Visual Studio 2012****Background**

You are developing an ASP.NET MVC application in Visual Studio 2012 that will be used to process orders.

Business Requirements

The application contains the following three pages.

- A page that queries an external database for orders that are ready to be processed. The user can then process the order.
- A page to view processed orders.
- A page to view vendor information.

The application consumes three WCF services to retrieve external data.

Technical Requirements

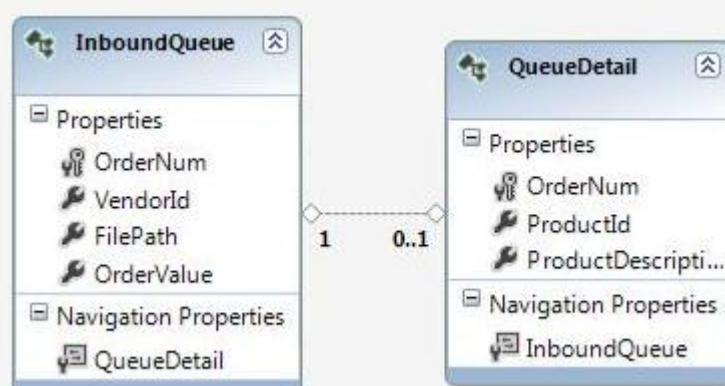
Visual Studio Solution:

The solution contains the following four projects.

- **ExternalQueue:** A WCF service project used to communicate with the external order database.
- **OrderProcessor:** An ASP.NET MVC project used for order processing and logging order metadata.
- **OrderUpload:** A WCF service project used to submit order data to an external data source.
- **Shipping:** A WCF service project used to acquire shipping information.

ExternalQueue Project:

Entity Framework is used for data access. The entities are defined in the ExternalOrders.edmx file as shown in the following diagram.



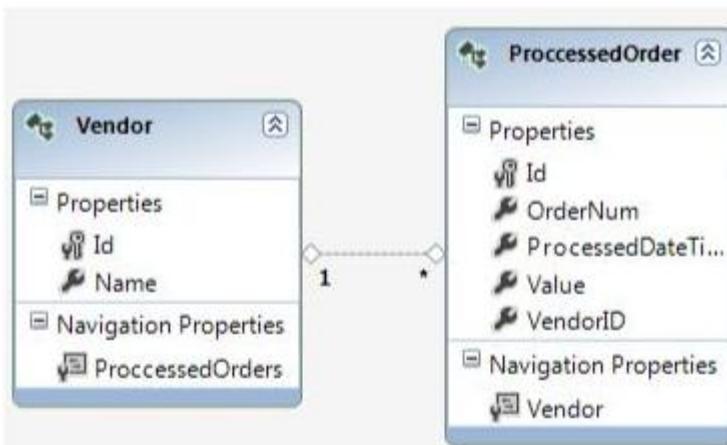
The project contains two services defined in the following files.

- **IExternalQueueService.es**
- **ExternalQueueService.svc.**

The **ExternalQueue.Helpers** namespace contains a definition for a class named **OrderNotFoundException**.

OrderProcessor Project:

Entity Framework is used for data access. The entities are defined in the ProcessedOrders.edmx file as shown in the following diagram.



The classes are contained in the **OrderProcessor.Entities** namespace.

The project contains the following two controllers.

- **InboundQueueController.es**
- **ProcessedOrderController.es**

WCF service proxies to the ExternalQueue, Shipping and OrderUpload services have been generated by using the command prompt. The ExecuteCommandProcedure() method in the ExternalQueueService.svc file must run asynchronously.

The ProcessedOrderController controller has the following requirements.

- The **GetVendorPolicy()** method must enforce a 10 minute absolute cache expiration policy.
- The **GetProcessedOrders()** method must return a view of the 10 most recently processed orders.

OrderUpload Project:

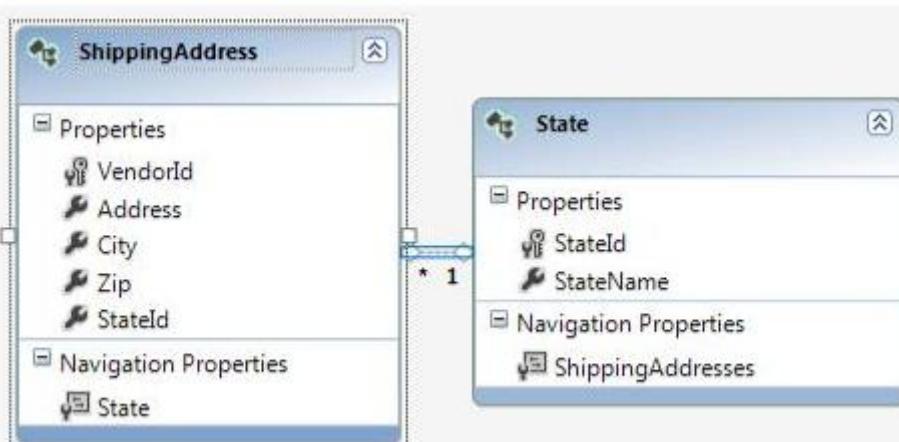
The project contains two services defined in the following files.

- **IUploadCallbackService.es**
- **UploadCallbackService.svc**

Data Access is maintained in a file named **UploadOrder.es**.

Shipping Project:

Entity Framework is used for data access. The entities are defined in the **ExternalOrders.edmx** file as shown in the following diagram.



The Custom Tool property for **ExternalOrders.edmx** has been removed.

POCO classes for the Entity Model are located in the **ShippingAddress.es** file. The POCO entity must be loaded by using lazy loading.

The project contains two services defined in the following files.

- **IShippingService.es**
- **ShippingService.svc.**

The IShippingService contract must contain an operation that receives an order number as a parameter. The operation must return a class named ShippingInfo that inherits from a class named State.

Application Structure

ExternalQueue\IExternalQueueService.cs

```
IQ01  using System.Collections.Generic;
IQ02  using System.ServiceModel;
IQ03  using ExternalQueue.Helpers;
IQ04
IQ05  namespace ExternalQueue
IQ06  {
IQ07      [ServiceContract]
IQ08      public interface IExternalQueueService
IQ09      {
IQ10          [OperationContract]
IQ11          List<Entities.InboundQueue> GetExternalOrders();
IQ12
IQ13          [FaultContract(typeof(OrderNotFoundException))]
IQ14          [OperationContract]
IQ15          void DeleteExternalOrder(int orderNum);
IQ16
IQ17          [OperationContract]
IQ18          Entities.InboundQueue GetExternalOrder(int orderNum);
IQ19      }
IQ20 }
```

OrderProcessor\IExternalQueueService.svc

```

EQ01  using System;
EQ02  using System.Collections.Generic;
EQ03  using System.Linq;
EQ04  using System.Data.EntityClient;
EQ05  using System.Data;
EQ06  using ExternalQueue.Entities;
EQ07  using System.Data.Objects;
EQ08  using ExternalQueue.Helpers;
EQ09  using System.ServiceModel;
EQ10  using System.Threading.Tasks;
EQ11
EQ12 namespace ExternalQueue
EQ13 {
EQ14     public class ExternalQueueService : IExternalQueueService
EQ15     {
EQ16         public List<Entities.InboundQueue> GetExternalOrders()
EQ17         {
EQ18             List<InboundQueue> queueItems = new List<InboundQueue>();
EQ19             return queueItems;
EQ20         }
EQ21
EQ22         public void DeleteExternalOrder(int orderNum)
EQ23         {
EQ24             using (var context = new ExternalOrdersEntities())
EQ25             {
EQ26                 var orders = context.InboundQueues.Where(i => i.OrderNum == orderNum).ToList();
EQ27                 if (orders.Count() > 0)
EQ28                 {
EQ29                     using (EntityCommand cmd = new EntityCommand())
EQ30                     {
EQ31                         cmd.CommandText = "ExternalOrdersEntities.uspInboundQueueDelete";
EQ32                         cmd.CommandType = CommandType.StoredProcedure;
EQ33                         EntityParameter param = new EntityParameter();
EQ34                         param.Value = orderNum;
EQ35                         param.ParameterName = "orderNum";
EQ36                         cmd.Parameters.Add(param);
EQ37                         ExecuteCommandProcedure(cmd);
EQ38                     }
EQ39                 }
EQ40                 else
EQ41                 {
EQ42                     OrderNotFoundException ex = new OrderNotFoundException();
EQ43                     ex.OrderNum = orderNum;
EQ44                     ex.ExceptionMessage = "Order not found...Cannot delete";
EQ45                 }
EQ46             }
EQ47         }
EQ48     }
EQ49
EQ50     private void ExecuteCommandProcedure(EntityCommand command)
EQ51     {
EQ52         using (EntityConnection connection = new EntityConnection("name=ExternalOrdersEntities"))
EQ53         {
EQ54             command.Connection = connection;

```

```
EQ55     connection.Open();
EQ56     command.ExecuteNonQuery();
EQ57 }
EQ58 }
EQ59
EQ60     public InboundQueue GetExternalOrder(int orderNum)
EQ61 {
EQ62         using (var context = new ExternalOrdersEntities())
EQ63         {
EQ64             string queryString = string.Empty;
EQ65             ObjectQuery<InboundQueue> query = context.CreateQuery<InboundQueue>
EQ66                 (queryString, new ObjectParameter("orderNum", orderNum));
EQ67             return query.First();
EQ68         }
EQ69     }
EQ70 }
EQ71 }
```

ExternalQueue\ProcessedOrderController.cs

```

PC01 using System;
PC02 using System.Collections.Generic;
PC03 using System.Linq;
PC04 using System.Runtime.Caching;
PC05 using System.Web.Mvc;
PC06 using OrderProcessor.Entities;
PC07 using OrderProcessor.Helpers;
PC08 using System.Configuration;
PC09
PC10 namespace OrderProcessor.Controllers
PC11 {
PC12     public class ProcessedOrderController : Controller
PC13     {
PC14         public ActionResult GetProcessedOrders()
PC15         {
PC16             using (var context = new ProcessedOrders())
PC17             {
PC18                 List<Entities.ProcessedOrder> orders = new List<ProcessedOrder>();
PC19                 return View(orders);
PC20             }
PC21         }
PC22
PC23         private ObjectCache cache {get { return MemoryCache.Default; }}
PC24
PC25         public ActionResult GetVendors()
PC26         {
PC27             List<Entities.Vendor> vendors = cache.Get
("vendorKey") as List<Entities.Vendor>;
PC28             if (vendors == null)
PC29             {
PC30                 using (var context = new ProcessedOrders())
PC31                 {
PC32                     vendors = context.Vendors.ToList();
PC33                 }
PC34             }
PC35         }
PC36         return View(vendors);
PC37     }
PC38
PC39         private CacheItemPolicy GetVendorPolicy()
PC40     {
PC41         CacheItemPolicy vendorPolicy = new CacheItemPolicy();
PC42
PC43         return vendorPolicy;
PC44     }
PC45
PC46         private List<string> GetTriggerPaths()
PC47     {
PC48         List<string> triggerPath = new List<string>();
PC49         triggerPath.Add(@"c:\triggers\vendortrigger.txt");
PC50         return triggerPath;
PC51     }
PC52 }
PC53 }
```

OrderProcessor\InboundQueueController.cs

```

IC01 using System;
IC02 using System.Collections.Generic;
IC03 using System.Web.Mvc;
IC04 using OrderProcessor.Entities;
IC05 using ExternalQueue.Entities;
IC06 using System.ServiceModel;
IC07 using System.Collections;
IC08 using ExternalQueue.Helpers;
IC09 using OrderProcessor.Helpers;
IC10 using System.Linq;
IC11
IC12 namespace OrderProcessor.Controllers
IC13 {
IC14     public class InboundQueueController : Controller
IC15     {
IC16         public ActionResult GetQueueItems()
IC17         {
IC18             IEnumerable<InboundQueue> inboundOrders = Enumerable.Empty<InboundQueue>();
IC19             return View(inboundOrders);
IC20         }
IC21
IC22         public ActionResult ProcessOrder(int orderNum)
IC23         {
IC24             ExternalQueueServiceClient qService = new ExternalQueueServiceClient();
IC25             InboundQueue externalOrder = qService.GetExternalOrder(orderNum);
IC26             if (externalOrder != null)
IC27             {
IC28                 using (var context = new ProcessedOrders())
IC29                 {
IC30                     ProcessedOrder order = new ProcessedOrder();
IC31                     order.OrderNum = externalOrder.OrderNum;
IC32                     order.Value = Convert.ToDouble(externalOrder.OrderValue);
IC33                     order.VendorID = Convert.ToInt32(externalOrder.VendorId);
IC34                     order.ProcessedDateTime = DateTime.Now;
IC35                     context.ProcessedOrders.Add(order);
IC36                     context.SaveChanges();
IC37                 }
IC38                 qService.DeleteExternalOrder(orderNum);
IC39             }
IC40             return RedirectToAction("GetQueueItems");
IC41         }
IC42
IC43         public ActionResult ViewShippingInfo(int orderNum)
IC44         {
IC45             ShippingServiceClient shipService = new ShippingServiceClient();
IC46             var info = shipService.GetShippingInfo(orderNum);
IC47             return View(info);
IC48         }
IC49     }
IC50 }
```

OrderUpload\IUploadCallbackService.cs

```
IU01 using System.ServiceModel;
IU02
IU03 namespace OrderUpload
IU04 {
IU05     [ServiceContract(CallbackContract = typeof(IUploadCallback))]
IU06     public interface IUploadCallbackService
IU07     {
IU08         [OperationContract]
IU09         void UploadOrder(int orderNum);
IU10     }
IU11
IU12     public interface IUploadCallback
IU13     {
IU14         [OperationContract]
IU15         decimal GetOrderValue(int orderNum);
IU16     }
IU17 }
```

OrderUpload\UploadCallbackService.svc

```
US01 using System.ServiceModel;
US02
US03 namespace OrderUpload
US04 {
US05     public class UploadCallbackService : IUploadCallbackService
US06     {
US07         public void UploadOrder(int orderNum)
US08         {
US09         }
US10     }
US11 }
```

Shipping\IShippingService.cs

```
IS01 using System.Runtime.Serialization;
IS02 using System.ServiceModel;
IS03
IS04 namespace Shipping
IS05 {
IS06     public interface IShippingService
IS07     {
IS08
IS09     }
IS10 }
```

Shipping\ShippingAddress.cs

```

SA01 using System.Collections.Generic;
SA02 using System.Data.Objects;
SA03
SA04 namespace Shipping.POCO
SA05 {
SA06     public class ShippingAddress
SA07     {
SA08         public int VendorId { get; set; }
SA09         public string Address { get; set; }
SA10         public string City { get; set; }
SA11         public int StateId { get; set; }
SA12         public string Zip { get; set; }
SA13         public State State { get; set; }
SA14     }
SA15
SA16     public class State
SA17     {
SA18         public int StateId { get; set; }
SA19         public string StateName { get; set; }
SA20         public List<ShippingAddress> ShippingAddresses { get; set; }
SA21     }
SA22 }
```

Question: 1

DRAG DROP

The GetQueueItems() action in the InboundQueueController controller is not populating the view with data. The action must populate the view with data by calling the GetExternalOrders() method in the ExternalQueueService service using the ChannelFactory class.

You need to modify the action to populate the view with data.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answer area. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

InboundQueue
IExternalQueueService
BasicHttpBinding
GetExternalOrders
CreateChannel

Answer Area

```
ChannelFactory< IExternalQueueService > qFactory =
    new ChannelFactory< IExternalQueueService >(
        new BasicHttpBinding(),
        new EndpointAddress(
            "http://localhost:62965/ExternalQueueService.svc"));

IExternalQueueService qService =
    qFactory.CreateChannel();

IEnumerable< InboundQueue > inboundOrders =
    qService.GetExternalOrders();

return View(inboundOrders);
```

Answer:

```
ChannelFactory< IExternalQueueService > qFactory =
    new ChannelFactory< IExternalQueueService >(
        new BasicHttpBinding(),
        new EndpointAddress(
            "http://localhost:62965/ExternalQueueService.svc"));

IExternalQueueService qService =
    qFactory.CreateChannel();

IEnumerable< InboundQueue > inboundOrders =
    qService.GetExternalOrders();

return View(inboundOrders);
```

Question: 2

DRAG DROP

You add a class named ShippingInfo.

You need to modify the IShippingService interface and the ShippingInfo class to meet the technical requirements.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

```
public interface IShippingService
{
    [DataMember]
    ShippingInfo GetShippingInfo(int orderNum);
}

public class State
{
    [DataMember]
    public string StateName { get; set; }
}

public class ShippingInfo : State
{
    [DataMember]
    public string StreetAddress { get; set; }

    [DataMember]
    public string ZipCode { get; set; }
}
```

[DataMember]

[CollectionDataContract]

[DataContract]

[ServiceContract]

[OperationContract]

Answer:

Answer Area

[DataMember]	[ServiceContract]
[CollectionDataContract]	public interface IShippingService
[DataContract]	{ [OperationContract]
[ServiceContract]	ShippingInfo GetShippingInfo(int orderNum);
[OperationContract]	}

[DataContract]	[DataMember]
public class State	public string StateName { get; set; }
{	}

[DataContract]	[DataMember]
public class ShippingInfo : State	public string StreetAddress { get; set; }
{	[DataMember]
	public string ZipCode { get; set; }
}	}

Explanation:

<http://msdn.microsoft.com/en-us/library/system.servicemodel.servicecontractattribute.aspx>

Question: 3

DRAG DROP

The UploadOrder() method in the UploadCallbackService service is not implementing the callback behavior defined in the IUploadCallBackService interface.

You need to modify the class to implement the required callback behavior.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segments may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

Multiple
 Single
 GetOrderValue
 UploadCallbackService
 IUploadCallback

```
[ServiceBehaviorConcurrencyMode =
ConcurrencyMode. Single )]

public class UploadCallbackService : IUploadCallbackService
{
  public void UploadOrder(int orderNum)
  {
    IUploadCallback callback = OperationContext
      .Current.GetCallbackChannel< IUploadCallback >();
    decimal value = callback. GetOrderValue(orderNum);

    UploadDB.UploadOrder.Upload(orderNum, value);
  }
}
```

Answer:

```
[ServiceBehaviorConcurrencyMode =
ConcurrencyMode. Single )]

public class UploadCallbackService : IUploadCallbackService
{
  public void UploadOrder(int orderNum)
  {
    IUploadCallback callback = OperationContext
      .Current.GetCallbackChannel< IUploadCallback >();
    decimal value = callback. GetOrderValue(orderNum);

    UploadDB.UploadOrder.Upload(orderNum, value);
  }
}
```

Question: 4

The DeleteExternalOrder() method in the ExternalQueueService service is not throwing a FaultException exception as defined by the FaultContractAttribute attribute in the IExternalQueueService.cs file.

You need to throw the FaultException exception.

Which code segments can you insert at line EQ45 to achieve this goal? (Each correct answer presents a complete solution. Choose all that apply.)

- A. `throw new FaultException
 (new OrderNotFoundException(new Exception(ex.ExceptionMessage)), "Order not
 found.");`
- B. `throw new FaultException<OrderNotFoundException>(ex.ExceptionMessage);`
- C. `throw new FaultException<OrderNotFoundException>(ex);`
- D. `throw new FaultException<OrderNotFoundException>(ex, new
 FaultReason("Order not found."));`
- A. Option A
 B. Option B
 C. Option C
 D. Option D

Answer: CD

Question: 5

DRAG DROP

The GetVendorPolicy() private method in the ProcessedOrderController controller is returning a CacheItemPolicy object with default values. The returned policy must expire if the external file located at C:\Triggers\VendorTrigger.txt has been modified or the timeout outlined in the technical requirements is reached. You need to return the policy.

How should you build the method? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```

private CacheItemPolicy GetVendorPolicy()
{
    CacheItemPolicy vendorPolicy = new CacheItemPolicy();

    vendorPolicy. [redacted]
        = [redacted] (10);

    vendorPolicy. [redacted]

        .Add(new HostFileChangeMonitor(GetTriggerPaths()));

    return vendorPolicy;
}

```

Answer:

```

private CacheItemPolicy GetVendorPolicy()
{
    CacheItemPolicy vendorPolicy = new CacheItemPolicy();

    vendorPolicy. AbsoluteExpiration
        = DateTime.Now.AddMinutes (10);

    vendorPolicy. ChangeMonitors
        .Add(new HostFileChangeMonitor(GetTriggerPaths()));

    return vendorPolicy;
}

```

Question: 6

The GetVendors() action in the ProcessedOrderController controller is querying the database each time it is run. The GetVendors() action must query the database only if the cache is null.

You need to add code to the action at line PC33 to cache the data.

Which code segment can you use? (Each correct answer presents a complete solution. Choose all that apply.)

- A. `cache.AddOrGetExisting("vendorKey", context, new CacheItemPolicy());`
 - B. `cache.Add("vendors", vendors, new CacheItemPolicy());`
 - C. `cache.Add(new CacheItem("vendorKey", vendors), GetVendorPolicy());`
 - D. `cache.Set(new CacheItem("vendorKey", vendors), GetVendorPolicy());`
- A. Option A
 - B. Option B
 - C. Option C
 - D. Option D

Answer: CD**Question: 7**

DRAG DROP

The GetVendorPolicy() private method in the ProcessedOrderController controller is returning a CacheItemPolicy object with default values. The returned policy must expire if the external file located at C:\Triggers\VendorTrigger.txt has been modified or the timeout outlined in the technical requirements is reached. You need to return the policy.

How should you build the method? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Priority

ChangeMonitors

AbsoluteExpiration

Expiration

DateTime.AddMinutes

DateTime.Now.AddMinutes

Answer Area

```

private CacheItemPolicy GetVendorPolicy()
{
    CacheItemPolicy vendorPolicy = new CacheItemPolicy();

    vendorPolicy.   =  (10);

    vendorPolicy.  

    .Add(new HostFileChangeMonitor(GetTriggerPaths()));

    return vendorPolicy;
}

```

Answer:

```

private CacheItemPolicy GetVendorPolicy()
{
    CacheItemPolicy vendorPolicy = new CacheItemPolicy();

    vendorPolicy. AbsoluteExpiration =  DateTime.Now.AddMinutes (10);

    vendorPolicy. ChangeMonitors

    .Add(new HostFileChangeMonitor(GetTriggerPaths()));

    return vendorPolicy;
}

```

Explanation:

<http://msdn.microsoft.com/en-us/library/system.runtime.caching.cacheitempolicy.aspx>

Question: 8

The GetExternalOrder() method in the ExternalQueueService service is throwing a runtime error. The method must query the database for a record that matches the orderNum parameter passed to the method.

You need to modify the queryString string to retrieve the record.

With which code segment should you replace line EQ64?

- C A. `string queryString = @"SELECT VALUE q FROM ExternalOrdersEntities.InboundQueues AS q WHERE q.OrderNum = @orderNum";`
- C B. `string queryString = @"SELECT VALUE * FROM ExternalOrdersEntities.InboundQueues WHERE OrderNum = @orderNum";`
- C C. `string queryString = @"SELECT q.OrderNum, q.VendorId, q.FilePath, q.OrderValue FROM ExternalOrdersEntities AS q WHERE q.OrderNum = @orderNum";`
- C D. `string queryString = @"SELECT q FROM ExternalOrdersEntities.InboundQueues WHERE q.OrderNum = @orderNum";`
- A. Option A
 B. Option B
 C. Option C
 D. Option D

Answer: A

Question: 9

DRAG DROP

You need to create the `ShippingContext` class in the `ShippingAddress.es` file to meet the requirements.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

```
public class ShippingContext : ObjectSet<ShippingAddress>
{
    public ShippingContext()
        : base("name=ShippingAddressEntities")
    {
        this.ContextOptions.
    }

    public ObjectResult<ShippingAddress> ShippingAddresses
    {
        get { return CreateObjectSet<ShippingAddress>(); }
    }

    public ObjectResult<State> States
    {
        get { return CreateObjectSet<State>(); }
    }
}
```

ObjectSet

ObjectContext

ObjectResult

LazyLoadingEnabled = true;

LazyLoadingEnabled = false;

Answer:

```
public class ShippingContext : ObjectContext
{
    public ShippingContext()
        : base("name=ShippingAddressEntities")
    {
        this.ContextOptions.LazyLoadingEnabled = true;
    }
    public ObjectSet<ShippingAddress> ShippingAddresses
    {
        get { return CreateObjectSet<ShippingAddress>(); }
    }
    public ObjectSet<State> States
    {
        get { return CreateObjectSet<State>(); }
    }
}
```

Question: 10

You need to modify the ExecuteCommandProcedure() method to meet the technical requirements. Which code segment should you use?

C A. private async Task ExecuteCommandProcedure(EntityCommand command)
 {
 using (EntityConnection connection = new EntityConnection
 ("name=ExternalOrdersEntities"))
 {
 command.Connection = connection;
 await connection.OpenAsync();
 await command.ExecuteNonQueryAsync();
 }
 }

C B. private void ExecuteCommandProcedure(EntityCommand command)
 {
 using (EntityConnection connection = new EntityConnection
 ("name=ExternalOrdersEntities"))
 {
 command.Connection = connection;
 command.ExecuteNonQueryAsync();
 }
 }

C C. private void ExecuteCommandProcedure(EntityCommand command)
 {
 using (EntityConnection connection = new EntityConnection
 ("name=ExternalOrdersEntities"))
 {
 command.Connection = connection;
 connection.OpenAsync();
 command.ExecuteNonQueryAsync();
 }
 }

C D. private async Task ExecuteCommandProcedure(EntityCommand command)
 {
 using (EntityConnection connection = new EntityConnection
 ("name=ExternalOrdersEntities"))
 {
 command.Connection = connection;
 connection.OpenAsync();
 command.ExecuteNonQueryAsync();
 }
 }

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Question: 11

DRAG DROP

You need to complete the GetProcessedOrders() action in the ProcessedOrderController controller to meet the

requirements.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

```

public ActionResult GetProcessedOrders()
{
    using (var context = new ProcessedOrders())
    {
        List<Entities.ProcessedOrder> orders =
            context
                .ProcessedOrders
                .OrderByDescending
                .Take
                .ProcessedDateTime
                .(i => ProcessedDateTime)
                .(10)

        .ToList();
        return View(orders);
    }
}

```

Answer:

```

public ActionResult GetProcessedOrders()
{
    using (var context = new ProcessedOrders())
    {
        List<Entities.ProcessedOrder> orders =
            context
                .ProcessedOrders
                .OrderByDescending
                .(i => ProcessedDateTime)
                .Take
                .(10)

        .ToList();
        return View(orders);
    }
}

```

Question: 12

DRAG DROP

The GetExternalOrders() method must use members of the EntityClient namespace to query the database for all records in the InboundQueue entity.

You need to modify the GetExternalOrders() method to return the correct data.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the

answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

ExecuteReader
ExecuteScalar
SequentialAccess
KeyInfo
ExternalOrders
ExternalOrdersEntities

Answer Area

```
public List<Entities.InboundQueue> GetExternalOrders()
{
    EntityConnection connection =
        new EntityConnection("name= " + ExternalOrdersEntities);

    connection.Open();
    EntityCommand cmd = connection.CreateCommand ();
    cmd.CommandText = @"select q.OrderNum, q.VendorId,
        q.FilePath, q.OrderValue
        from " + ExternalOrdersEntities + ".InboundQueues as q";

    EntityDataReader rdr =
        cmd.ExecuteReader(CommandBehavior.SequentialAccess);

    List<InboundQueue> queueItems = new List<InboundQueue>();
    while (rdr.Read ())
    {
        InboundQueue queueItem = new InboundQueue();
        queueItem.OrderNum = Convert.ToInt32(rdr["OrderNum"]);
        queueItem.VendorId = Convert.ToInt32(rdr["VendorId"]);
        queueItem.FilePath = rdr["FilePath"].ToString();
        queueItem.OrderValue = Convert.ToDecimal(rdr["OrderValue"]);
        queueItems.Add(queueItem);
    }
    rdr.Close();
    connection.Close();
    return queueItems;
}
```

Answer:

```
public List<Entities.InboundQueue> GetExternalOrders()
{
    EntityConnection connection =
        new EntityConnection("name= " + ExternalOrdersEntities);

    connection.Open();
    EntityCommand cmd = connection.CreateCommand ();
    cmd.CommandText = @"select q.OrderNum, q.VendorId,
        q.FilePath, q.OrderValue
        from " + ExternalOrdersEntities + ".InboundQueues as q";

    EntityDataReader rdr =
        cmd.ExecuteReader(CommandBehavior.SequentialAccess);
```

Question: 13

You need to regenerate the service proxies to include task-based asynchronous method signatures. Which command should you use?

A. aspnet_regiis.exe /t:code http://localhost:62965/UploadCallbackService.svc

- B. svcutil.exe /t:code http://localhost:62965/UploadCallbackService.svc
- C. aspnet_compiler.exe /t:code http://localhost:62965/UploadCallbackService.svc
- D. aspnet_regiis.exe /t:code http://localhost:62965/UploadService.svc
- E. svcutil.exe /t:code http://localhost:62965/UploadService.svc

Answer: B

Explanation:
<http://msdn.microsoft.com/en-us/library/aa347733.aspx>

Question: 14

The DeleteExternalOrder() method in the ExternalQueueService service is not throwing a FaultException exception as defined by the FaultContractAttribute attribute in the IExternalQueueService.cs file.

You need to throw the FaultException exception.

Which code segment can you insert at line EQ45 to achieve this goal? (Each correct answer presents a complete solution. Choose all that apply.)

- A. `string queryString = @"SELECT q.OrderNum, q.VendorId, q.FilePath, q.OrderValue
FROM ExternalOrdersEntities.InboundQueues AS q WHERE q.OrderNum = @orderNum";`
- B. `string queryString = @"SELECT * FROM ExternalOrdersEntities.InboundQueues
WHERE OrderNum = @orderNum";`
- C. `string queryString = @"SELECT VALUE q FROM ExternalOrdersEntities.InboundQueues AS q
WHERE q.OrderNum = @orderNum";`
- D. `string queryString = @"SELECT VALUE FROM ExternalOrdersEntities.InboundQueues
WHERE OrderNum = @orderNum";`

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: C

Question: 15

DRAG DROP

You need to modify the ExecuteCommandProcedure() method to meet the technical requirements. Which code segment should you use?

<pre> await connection.OpenAsync(); await command.ExecuteNonQueryAsync(); connection.OpenAsync(); command.OpenAsync(); await command.QueryAsync(); </pre>	<p>Answer Area</p> <pre> private async Task ExecuteCommandProcedure(EntityCommand command) { using (EntityConnection connection = new EntityConnection("name=ExternalOrdersEntities")) { command.Connection = connection; await connection.OpenAsync(); await command.QueryAsync(); } } </pre>
---	---

Answer:

```

private async Task ExecuteCommandProcedure(EntityCommand command)
{
    using (EntityConnection connection
        = new EntityConnection("name=ExternalOrdersEntities"))
    {
        command.Connection = connection;
        await connection.OpenAsync();
        await command.QueryAsync();
    }
}

```

Question: 16

The QueueDetail entity type must inherit from the InboundQueue entity type in the ExternalQueue service project using table-per-type inheritance.

You need to modify the entities in the designer.

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

- A. Remove the OrderNum property in InboundQueue.
- B. Remove the OrderNum property in QueueDetail.
- C. Set the QueueDetail BaseType to InboundQueue.
- D. Remove the association between the entities.
- E. Right-click the entities and validate the table mapping.
- F. Set the InboundQueue BaseType to QueueDetail.

Answer: B, C, D, E

Explanation:

<http://www.robbagby.com/entity-framework/entity-framework-modeling-table-per-type-inheritance/>

Case Study: 5**Flight Information Consolidation****Background**

You are developing a flight information consolidation service. The service retrieves flight information from a

number of sources and combines them into a single data set. The consolidated flight information is stored in a SQL Server database. Customers can query and retrieve the data by using a REST API provided by the service.

The service also offers access to historical flight information. The historical flight information can be filtered and queried in an ad hoc manner.

The service runs on a Windows Azure Web Role. SSL is not used.

Business Requirements

- A new data source for historical flight information is being developed by a contractor located on another continent.
- If a time zone is not specified, then it should be interpreted as Coordinated Universal Time (UTC).
- When you upgrade a service from a staging deployment to a production deployment, the time that the service is unavailable must be minimized.
- The default port must be used for HTTP.

Technical Requirements

The existing sources of flight information and the mechanism of exchange are listed below.

- Blue Yonder Airlines provides flight information in an XML file.
- Consolidated Messenger provides flight information in a Microsoft Access database that is uploaded every 12 hours to the service using SFTP. The company uses port 22 for SFTP.
- Margie's Travel provides and consumes flight information using serialized ADO.NET DataSets.
- Data is periodically synced between the service and Margie's Travel.
- Trey Research provides data from multiple sources serialized in proprietary binary formats. The data must be read by using .NET assemblies provided by Trey Research. The assemblies use a common set of dependencies. The current version of the Trey Research assemblies is 1.2.0.0. All assemblies provided by Trey Research are signed with a key pair contained in a file named Trey.snk, which Trey Research also supplies.
- The application specification requires that any third-party assemblies must have strong names.

Application Structure**FlightInfo.cs**

```
public class FlightInfo
{
    string DataSource { get; set; }
    public string Airline { get; set; }
    public string Flight { get; set; }
    public DateTimeOffset Arrival { get; set; }
    public int Seats { get; set; }
    public bool WasLate { get; set; }
}
```

BlueYonderLoader.cs

```
public class BlueYonderLoader
{
    public IEnumerable<RawFlightData> LoadFlights(XDocument feed)
    {
        ...
    }

    private RawFlightData Parse(XElement flightElement)
    {
        ...
    }
}
```

HistoricalDataLoader.cs

```
public class HistoricalDataLoader
{
    public static IEnumerable<HistoricalFlightInfo> LoadHistoricalFlights()
    {
        ...
    }

    public void StreamHistoricalFlights(XmlWriter responseWriter, string airline)
    {
        ...
    }

    private XElement ConvertToHistoricalFlight(XElement flight)
    {
        return new XElement("Flight", flight);
    }

    private string GetAirline(XElement flightName)
    {
        return flightName.Value.Substring(0, 2);
    }

    IEnumerable<XElement> RemoteDataStream()
    {
        return XDocument.Load("").Elements();
    }
}
```

MargiesTravelSync.cs

```
public class MargiesTravelSync
{
    public void Sync()
    {
        ...
    }

    private DataSet LoadLocal()
    {
        var dataSet = new DataSet();
        dataSet.ReadXml("local");
        return dataSet;
    }

    private StreamWriter SendStream()
    {
        return new StreamWriter("SendStream");
    }

    private StreamReader ReceiveStream()
    {
        return new StreamReader("ReceiveStream");
    }
}
```

FlightInfoContext.cs

```
public class FlightInfoContext : DbContext
{
    public DbSet<FlightInfo> FlightInfo { get; set; }

    public override int SaveChanges()
    {
        return base.SaveChanges();
    }

    private bool IsTransient(int ex)
    {
        var errors = new[] { 10053, 10054, 64 };
        return errors.Contains(ex);
    }
}
```

FlightDataController.cs

```
public class FlightDataController : ApiController
{
    FlightInfoContext _Context;

    public FlightDataController()
    {
        _Context = new FlightInfoContext();
    }

    [HttpGet]
    public IEnumerable<FlightInfo> GetFlightInfo()
    {
        return _Context.FlightInfo.Select(x => x).AsEnumerable();
    }

    private IEnumerable<HistoricalFlightInfo> LoadHistorical()
    {
        return HistoricalDataLoader.LoadHistoricalFlights();
    }
}
```

Question: 1

The assemblies provided by Trey Research must be merged into a single assembly. You need to merge the assemblies provided by Trey Research and meet the application specification. What should you do?

- use the ILMerge.exe tool to merge the Trey Research assemblies without stipulating a key pair.
- in the post-build event, use the Assembly Linker (al.exe) tool to sign the application's primary output assembly with the Trey.snk key pair.
- use the sn.exe tool to generate a key pair file named TreyVendor.snk. Use the ILMerge.exe tool to merge the assemblies provided by Trey Research. Use the Assembly Linker (al.exe) tool to sign the application's primary output assembly with the TreyVendor.snk key pair.
- Use the ILMerge.exe tool to merge the assemblies provided by Trey Research, and then stipulate the output must be signed with the Trey.snk key pair.

Answer: D

Question: 2

HOTSPOT

You need to deploy the application to the Windows Azure production environment to meet the business requirements. What should you do? (To answer, select the appropriate button in the answer area.)



The screenshot shows the Windows Azure Management Portal. At the top, there are two tabs: "Deployments" and "Instances". Under "Deployments", there are buttons for "Upgrade", "Configure", "Delete", "Start", "Stop", and "Swap VIP". Under "Instances", there are buttons for "Reboot" and "Reimage". Below these tabs is a "Choose Columns" dropdown menu. The main area displays a hierarchical list of service components:

Name	Type	Environment
Main	Subscription	
Main	Hosted Service	
Certificates		
Windows Azure Tools	Service Certificate	
Main Deployment	Deployment	Production
MvcWebRole1	Role	Production
MvcWebRole1_IN_0	Instance	Production
Main Deployment - staging	Deployment	Staging
MvcWebRole1	Role	Staging
MvcWebRole1_IN_0	Instance	Staging

Answer:

The screenshot shows the Windows Azure Management Portal interface. At the top, there are several action buttons: Upgrade, Configure, Delete, Start, Stop, Swap VIP (which is highlighted with a red box), Configure OS, Reboot, and Reimage. Below these are two tabs: 'Deployments' and 'Instances'. The 'Deployments' tab is selected and displays a tree view of service components. The tree structure includes 'Main' (Subscription), 'Main' (Hosted Service), 'Certificates' (Service Certificate), 'Windows Azure Tools', 'Main Deployment' (Deployment, Production), 'MvcWebRole1' (Role, Production), 'MvcWebRole1_IN_0' (Instance, Production), 'Main Deployment - staging' (Deployment, Staging), 'MvcWebRole1' (Role, Staging), and 'MvcWebRole1_IN_0' (Instance, Staging). The 'Instances' tab is also visible.

Name	Type	Environment
Main	Subscription	
Main	Hosted Service	
Certificates	Service Certificate	
Windows Azure Tools		
Main Deployment	Deployment	Production
MvcWebRole1	Role	Production
MvcWebRole1_IN_0	Instance	Production
Main Deployment - staging	Deployment	Staging
MvcWebRole1	Role	Staging
MvcWebRole1_IN_0	Instance	Staging

Question: 3

DRAG DROP

Historical flight information data will be stored in Windows Azure Table Storage using the FlightInfo class as the table entity.

There are millions of entries in the table. Queries for historical flight information specify a set of airlines to search and whether the query should return only late flights. Results should be ordered by flight name.

You need to specify which properties of the FlightInfo class should be used at the partition and row keys to ensure that query results are returned as quickly as possible.

What should you do? (To answer, drag the appropriate properties to the correct location or locations in the answerarea. Each property may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

Answer Area

Airline	Use the <input type="text"/> property as the partition key.
WasLate	
Flight	Use the <input type="text"/> property as the row key.
Arrival	

Answer:

Answer Area

Airline

Use the **WasLate** property as the partition key.

Arrival

Use the **Flight** property as the row key.

Question: 4**DRAG DROP**

The service has been deployed to Windows Azure.

Trey Research has provided version 1.3.0.0 of the assembly to support a change in the serialization format. The service must remain available during the transition to the new serialization format.

You need to ensure that the service is using the new assembly.

Which configuration setting should you add to the web.config? (To answer, drag the appropriate configuration elements to the correct location or locations in the answerarea. Each configuration element may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```

codeBase version="1.3.0.0" href="Trey.Serialization.dll"
bindingRedirect oldVersion="1.2.5.0" newVersion="1.3.0.0"
bindingRedirect oldVersion="1.2.0.0" newVersion="1.3.0.0"
runtime
location
< >
<assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
  <dependentAssembly>
    <assemblyIdentity name="Trey.Serialization" />
    < >
  </dependentAssembly>
</assemblyBinding>
</ >

```

Answer:

```

< runtime >
<assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
  <dependentAssembly>
    <assemblyIdentity name="Trey.Serialization" />
    < bindingRedirect oldVersion="1.2.0.0" newVersion="1.3.0.0" >
  </dependentAssembly>
</assemblyBinding>
</ runtime >

```

Explanation:See: <http://msdn.microsoft.com/en-us/library/7wd6ex19.aspx>**Question: 5**

Errors occasionally occur when saving data using the FlightInfoContext ADO.NET Entity Framework context. Updates

to the data are being lost when an error occurs.

You need to ensure that data is still saved when an error occurs by retrying the operation. No more than five retries should be performed.

With which code segment should you replace the body of the SaveChanges() method in the FlightInfoContext.cs file?

- A.

```
var result = FlightInfo.SqlQuery("UPDATE WITH RETRY", FlightInfo, "IsTransient", 5);
if (result.Count() > 5)
{
    result.AsNoTracking();
    return -1;
}
return 0;
```
- B.

```
var exception = new EntitySqlException();
while (exception.HResult != 0 && exception.Data.Count < 5)
{
    try
    {
        return base.SaveChanges();
    }
    catch (EntitySqlException ex)
    {
        if (IsTransient(ex.HResult))
        {
            exception = ex;
        }
    }
}
return base.SaveChanges();
```
- C.

```
for (var i = 0; i < 5; i++)
{
    try
    {
        return base.SaveChanges();
    }
    catch (SqlException ex)
    {
        if (IsTransient(ex.Number))
        {
            continue;
        }
    }
}
return base.SaveChanges();
```
- D.

```
try
{
    return base.SaveChanges();
}
catch (EntityCommandExecutionException ex)
{
    if (ex.Data.Keys.Cast<int>().Any(x => IsTransient(x)))
    {
        return 5 & SaveChanges();
    }
    return -1;
}
```

- A. Option A
- B. Option B
- C. Option C

D. Option D

Answer: C

Explanation:

EntitySqlException: Represents errors that occur when parsing Entity SQL command text. This exception is thrown when syntactic or semantic rules are violated.
SQLException: The exception that is thrown when SQL Server returns a warning or error. This class cannot be inherited.
EntityCommandExecutionException : Represents errors that occur when the underlying storage provider could not execute the specified command. This exception usually wraps a provider-specific exception.

Question: 6

Data provided by Consolidated Messenger is cached in the `HttpContext.Cache` object.

You need to ensure that the cache is correctly updated when new data arrives.

What should you do?

- A. Ensure that the `EffectivePrivateBytesLimit` value is greater than the size of the database file,
- B. Use the `CacheDependency` type configured to monitor the SFTP target folder.
- C. Change the sliding expiration of the cache item to 12 hours.
- D. Use the `SqlCacheDependency` type configured with a connection string to the database file.

Answer: B

Question: 7

DRAG DROP

You need to parse flight information from Blue Yonder Airlines. The content of the XML file is shown below.

```
<?xml version="1.0" encoding="utf-8"?>
<AirlineFeed>
  <Flight xmlns="urn:CFI" name="AS515">
    <Seats>123</Seats>
    <Arrival>5/2/2011 12:01:13</Arrival>
  </Flight>
  <Flight name="UN24">
    <Seats>123</Seats>
    <Arrival>5/1/2012 10:17:57 PM +02:00</Arrival>
  </Flight>
  <FlightManifest>
    ...
  </FlightManifest>
</AirlineFeed>
```

Some airlines do not specify the timezone of the arrival time. If the timezone is not specified, then it should be interpreted per the business requirements.

You need to implement the `LoadFlights()` and `Parse()` methods of the `BlueYonderLoader` class.

What should you do? (To answer, drag the appropriate code segments to the correct location in the answerarea. Each segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

```

var flights = feed.Elements(
    feed.Root.GetPrefixOfNamespace("{urn:CFI}") + "Flight");

var flights = feed.Descendants().Where(x =>
    x.NodeType != XmlNodeType.XmlDeclaration && (string)x ==
    "Flight");

var flights = feed.Descendants("{urn:CFI}Flight")
    .Concat(feed.Descendants("Flight"));

fi.Arrival = DateTimeOffset.Parse(arrivalRaw,
    null, System.Globalization.DateTimeStyles.AssumeUniversal);

fi.Arrival = DateTimeOffset.Parse(arrivalRaw,
    null, System.Globalization.DateTimeStyles.AdjustToUniversal);

fi.Arrival = XmlConvert.ToDateTimeOffset(arrivalRaw,
    new[] { "Local", "Universal" });

public IEnumerable<FlightInfo> LoadFlights(XDocument feed)
{
    return flights.Select(x => Parse(x));
}

private FlightInfo Parse(XElement flightElement)
{
    var fi = new FlightInfo();
    fi.Flight = flightElement.Attribute("name").Value;
    var arrivalRaw = flightElement.Element("Arrival").Value;

    fi.Seats = XmlConvert.ToInt32(flightElement.Element("Seats").Value);
    return fi;
}

```

Answer:

```

public IEnumerable<FlightInfo> LoadFlights(XDocument feed)
{
    var flights = feed.Descendants("{urn:CFI}Flight")
        .Concat(feed.Descendants("Flight"));

    return flights.Select(x => Parse(x));
}

private FlightInfo Parse(XElement flightElement)
{
    var fi = new FlightInfo();
    fi.Flight = flightElement.Attribute("name").Value;
    var arrivalRaw = flightElement.Element("Arrival").Value;

    fi.Arrival = DateTimeOffset.Parse(arrivalRaw,
        null, System.Globalization.DateTimeStyles.AssumeUniversal);

    fi.Seats = XmlConvert.ToInt32(flightElement.Element("Seats").Value);
    return fi;
}

```

Question: 8**Answer Area**

```

<Binding name="Website" endpointName="Website" />
<Binding name="Transfer" endpointName="Transfer" />
</Bindings>
</Site>
</Sites>
<Endpoints>

<[ ]> name="Website"
    protocol="["[ ]"]"
    port="["[ ]"]" " />

<[ ]> name="Transfer"
    protocol="["[ ]"]"
    port="["[ ]"]" " />

</Endpoints>
</WebRole>

```

Answer:

```
<Binding name="Website" endpointName="Website" />
<Binding name="Transfer" endpointName="Transfer" />
</Bindings>
</Site>
</Sites>
<Endpoints>

< InputEndpoint name="Website"

    protocol=" http "
    port=" 80 "
    >

< InputEndpoint name="Transfer"

    protocol=" tcp "
    port=" 22 "
    >

</Endpoints>
</WebRole>
```

Question: 9

You need to recommend a data access technology to the contractor to retrieve data from the new data source. Which data access technology should you recommend?

- A. LINQ to XML
- B. ADO.NET Entity Framework
- C. ADO.NET DataSets
- D. WCF Data Services

Answer: D

Question: 10

DRAG DROP

Flight information data provided by Margie's Travel is updated both locally and remotely. When the data is synced, all changes need to be merged together without causing any data loss or corruption.

You need to implement the Sync() method in the MargiesTravelSync.es file.

What should you do? (To answer, drag the appropriate code segments to the correct location or locations in the answerarea. Each code segment may be used once, more than once, or not at all. You may need to drag the split bar between panes or scroll to view content.)

XmlReadMode.DiffGram
 XmlReadMode.Fragment
 XmlReadMode.InferSchema
 XmlWriteMode.DiffGram
 XmlWriteMode.IgnoreSchema

Answer Area

```

public void Sync()
{
  var sendStream = SendStream();
  var receiveStream = ReceiveStream();
  var local = LoadLocal();

  local.WriteXml(sendStream, [ ] );
  local.ReadXml(receiveStream, [ ] );
}
  
```

Answer:

```

public void Sync()
{
  var sendStream = SendStream();
  var receiveStream = ReceiveStream();
  var local = LoadLocal();

  local.WriteXml(sendStream, [ XmlWriteMode.DiffGram ] );
  local.ReadXml(receiveStream, [ XmlReadMode.DiffGram ] );
}
  
```

Explanation:

<http://msdn.microsoft.com/en-us/library/ms135424.aspx>

Question: 11

You are adding a new REST service endpoint to the FlightDataController controller. It returns flights from the consolidated data sources only for flights that are late.

You need to write a LINQ to Entities query to extract the required data.

Which code segment should you use?

- C A.

```
var historical = LoadHistorical();
var query = _Context.FlightInfo.AsQueryable()
    .Join(historical, x => x.Flight, y => y.Flight, (x, y) => new { Current = x,
Historical = y })
    .Where(x => x.Historical.WasLate)
    .Select(x => x.Current);
```
- C B.

```
var historical = LoadHistorical();
var query = _Context.FlightInfo.AsEnumerable()
    .Where(x => historical.All(y => y.WasLate && x.Flight == y.Flight))
    .Select(x => x);
```
- C C.

```
var historical = LoadHistorical();
var query = _Context.FlightInfo.AsQueryable()
    .Where(x => historical.Select(y => y.Flight).Contains(x.Flight))
    .Where(x => historical.Any(y => y.WasLate))
    .Select(x => x);
```
- C D.

```
var historical = LoadHistorical();
var query = _Context.FlightInfo.AsEnumerable()
    .Join(historical, x => x.Flight, y => y.Flight, (x, y) => new { Current = x,
Historical = y })
    .Where(x => x.Historical.WasLate)
    .Select(x => x.Current);
```

- A. Option A
B. Option B
C. Option C
D. Option D

Answer: D

Explanation/Reference:

D is right because you send result as REST so if you use “AsQueryable” the result is deferred to the next enumeration of your result.

D is not optimized but will works.

A will break at runtime.

Credits to Rem

Question: 12

You need to load flight information provided by Consolidated Messenger.
Which should you use?

- A. SQL Server Data Transformation Services (DTS)
B. EntityTransaction and EntityCommand
C. Office Open XML
D. OleDbConnection and OleDbDataReader

Answer: D

Question: 13

You are adding a new REST service endpoint to the FlightDataController controller that returns the total number of seats for each airline.

You need to write a LINQ to Entities query to extract the required data.

Which code segment should you use?

- C A.

```
var query = from flight in _Context.FlightInfo
            group flight by flight.Seats into agg
            let airline = agg.First()
            select new
            {
                TotalSeats = agg.Key,
                Airline = airline,
            };
```
- C B.

```
var query = from flight1 in _Context.FlightInfo
            from flight2 in _Context.FlightInfo
            where flight1.Airline == flight2.Airline
            select new
            {
                Airline = flight1.Airline,
                TotalSeats = Math.BigMul(flight1.Seats, flight2.Seats),
            };
```
- C C.

```
var query = from flight in _Context.FlightInfo
            from airline in flight.Airline
            group airline by airline into agg
            select new
            {
                Airline = agg.Key,
                TotalSeats = agg.Sum(x => Convert.ToInt32(x)),
            };
```
- C D.

```
var query = from flight in _Context.FlightInfo
            group flight by flight.Airline into agg
            select new
            {
                Airline = agg.Key,
                TotalSeats = agg.Sum(x => x.Seats),
            };
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

Question: 14

Historical flight information data will be stored in Windows Azure Table Storage using the FlightInfo class as the table entity.

There are millions of entries in the table. Queries for historical flight information specify a set of airlines to search and

whether the query should return only late flights. Results should be ordered by flight name. You need to specify which properties of the FlightInfo class should be used at the partition and row keys to ensure that query results are returned as quickly as possible.

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

- A. Use the WasLate property as the row key.
- B. Use the Airline property as the row key.
- C. Use the WasLate property as the partition key
- D. Use the Arrival property as the row key.
- E. Use the Airline property as the partition key.
- F. Use the Flight property as the row key.

Answer: C, F

Question: 15

Transformed historical flight information provided by the RemoteDataStream() method must be written to the response stream as a series of XML elements named Flight within a root element named Flights. Each Flight element has a child element named FlightName that contains the flight name that starts with the two-letter airline prefix. You need to implement the StreamHistoricalFlights() method so that it minimizes the amount of memory allocated. Which code segment should you use as the body of the StreamHistoricalFlights() method in the HistoricalDataLoader.es file?

- A.

```
responseWriter.WriteStartElement("Flights");
var flights = RemoteDataStream()
    .OrderBy(x => GetAirline(x.Element("FlightName")));
var filteredFlights = flights
    .SkipWhile(x => GetAirline(x.Element("FlightName")) != airline);
foreach (var f in filteredFlights)
{
    var flight = ConvertToHistoricalFlight(f);
    flight.WriteTo(responseWriter);
}
responseWriter.WriteEndElement();
```
- B.

```
responseWriter.WriteStartElement("Flights");
var flights = RemoteDataStream().Select(x =>
{
    if (GetAirline(x) == airline)
    {
        return ConvertToHistoricalFlight(x);
    }
    return null;
});
flights.TakeWhile(x =>
{
    x.WriteTo(responseWriter);
    return x != null;
});
responseWriter.WriteEndElement();
```
- C.

```
var data = RemoteDataStream().ToDictionary(x =>
    GetAirline(x.Element("FlightName")),
    x => new XStreamingElement("Flights", ConvertToHistoricalFlight(x).Descendants()));
data[airline].WriteTo(responseWriter);
```
- D.

```
var flights = new XStreamingElement("Flights",
    from flight in RemoteDataStream()
    where GetAirline(flight.Element("FlightName")) == airline
    select ConvertToHistoricalFlight(flight));
flights.WriteTo(responseWriter);
```

- A. Option A
 B. Option B
 C. Option C
 D. Option D

Answer: D

Explanation:

<http://msdn.microsoft.com/en-us/library/system.xml.linq.xstreamingelement.aspx> and
<http://msdn.microsoft.com/en-us/library/bb551307.aspx>