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File Version: 24.5

**Exam Code:70-487**

**Exam Name:Developing Windows Azure and Web Services**



## General

### QUESTION 1

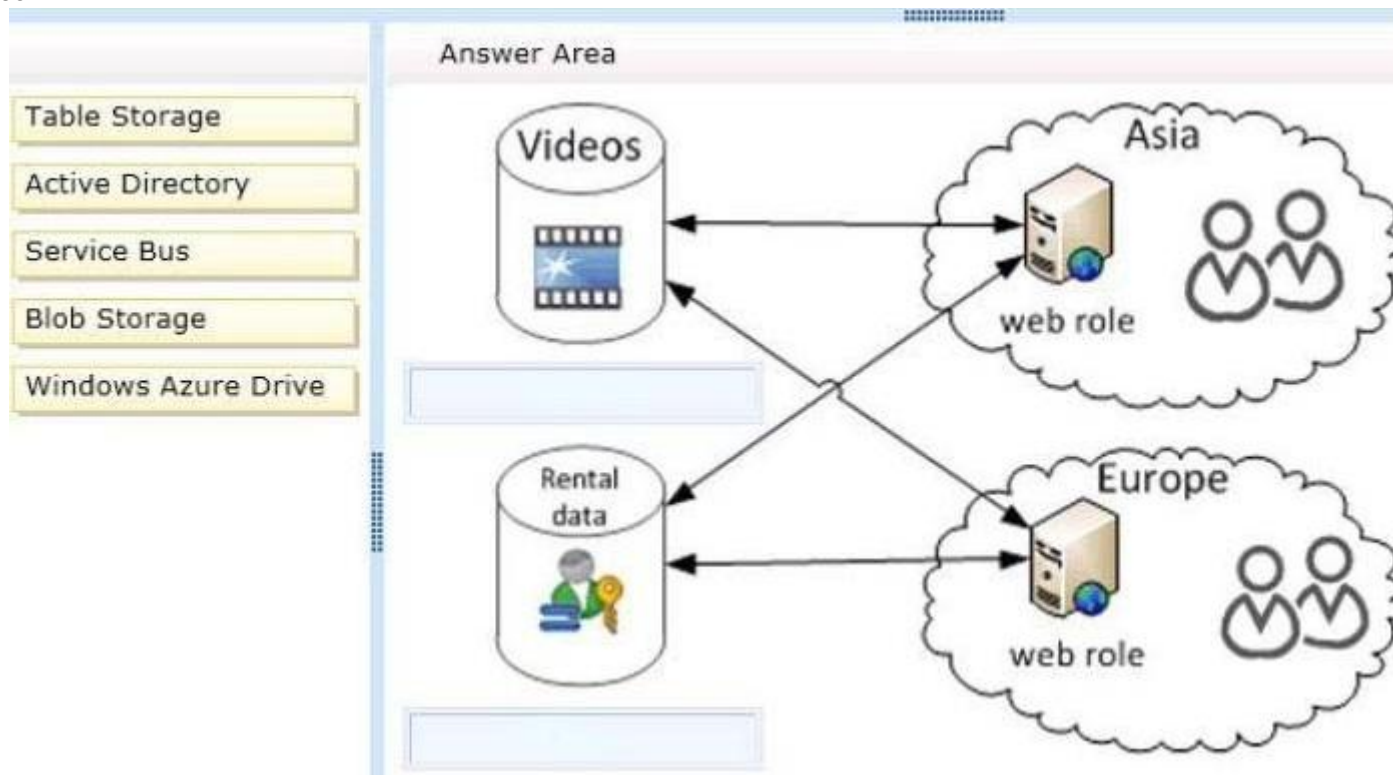
You are developing a Windows Azure based web application that provides users the ability to rent training videos. The application is deployed to hosted services in Asia and Europe.

The web application must meet the following requirements:

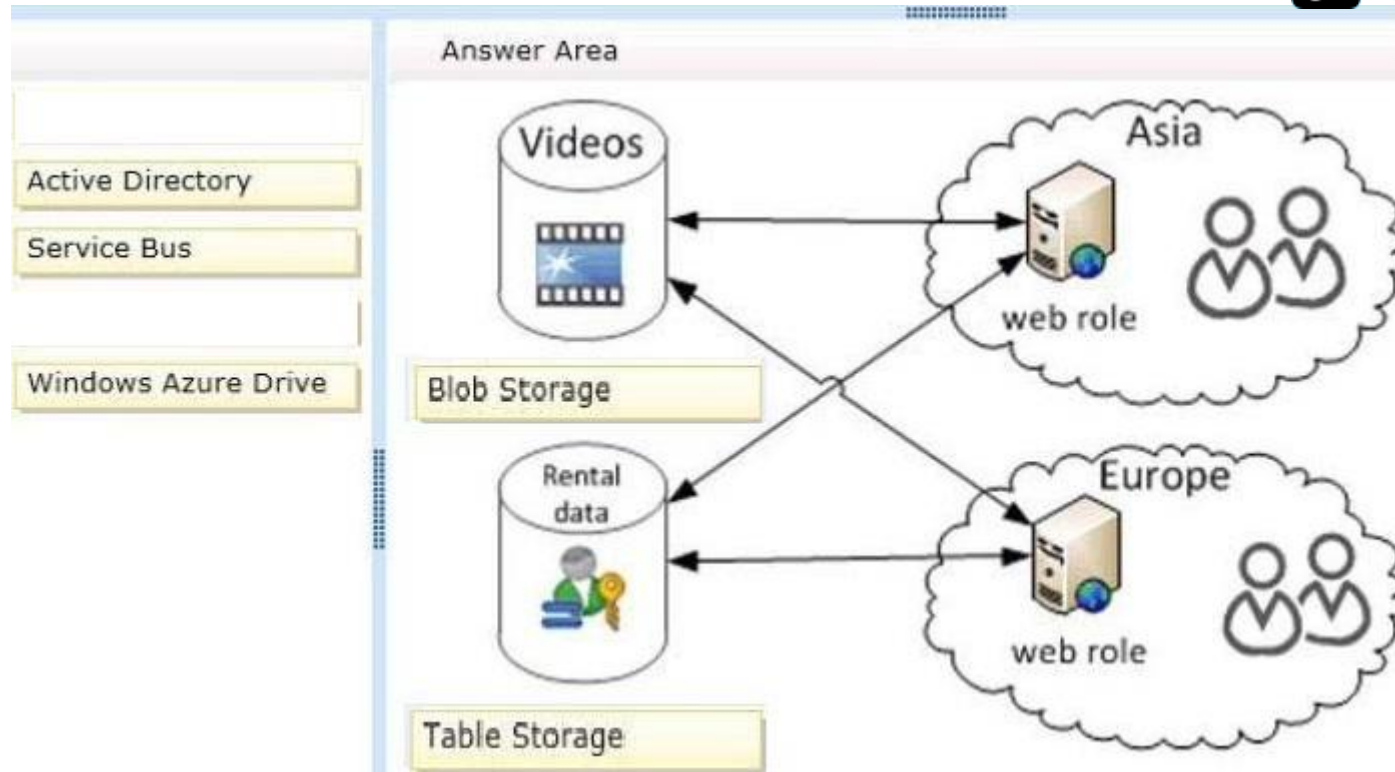
- Video files are large and must be able to be streamed.
- Streaming videos requires low latency network connections.
- Rental data contains structured information about the user and the video.
- Rental permissions are checked every five seconds during video playback.

You need to recommend storage architecture for the application. What should you do?

Select and Place:



Correct Answer:



Section: (none)

Explanation

Explanation/Reference:

## QUESTION 2

You need to configure the Windows Azure service definition to enable Consolidated Messenger to upload files. What should you do? (To answer, drag the appropriate configuration items to the correct location or locations. Each configuration item 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.)

Select and Place:

### Answer Area

http

tcp

https

InternalEndpoint

InputEndpoint

80

22

3389

```
<Binding name="Website" endpointName="Website" />
<Binding name="Transfer" endpointName="Transfer" />
</Bindings>
</Site>
</Sites>
<Endpoints>

<  name="Website"

    protocol="  "
    port="  " />

<  name="Transfer"

    protocol="  "
    port="  " />

</Endpoints>
</WebRole>
```

Correct Answer:

### Answer Area

http

tcp

https

InternalEndpoint

InputEndpoint

80

22

3389

```
<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>
```

Section: (none)

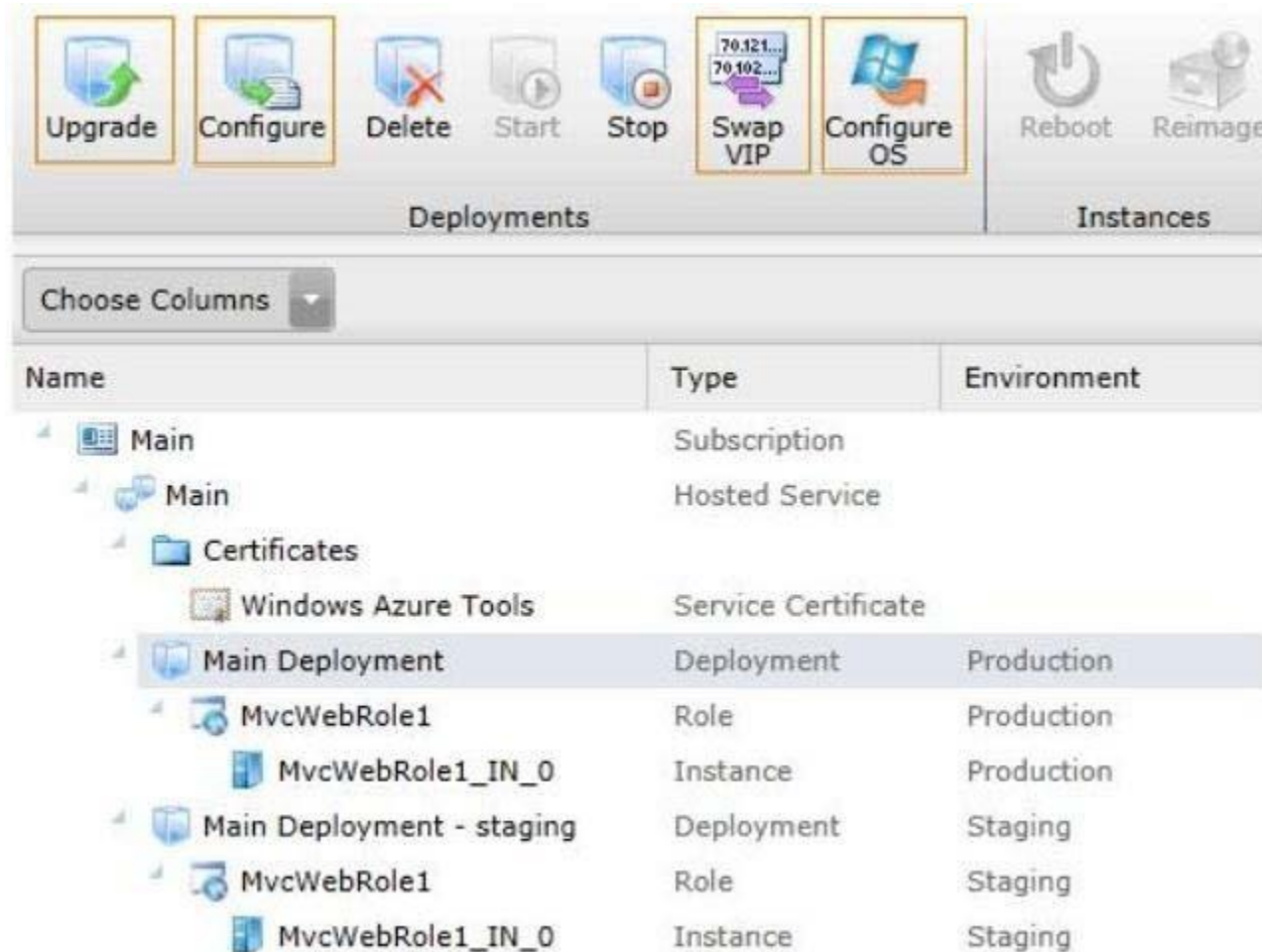
Explanation

Explanation/Reference:

### QUESTION 3 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.)

Hot Area:

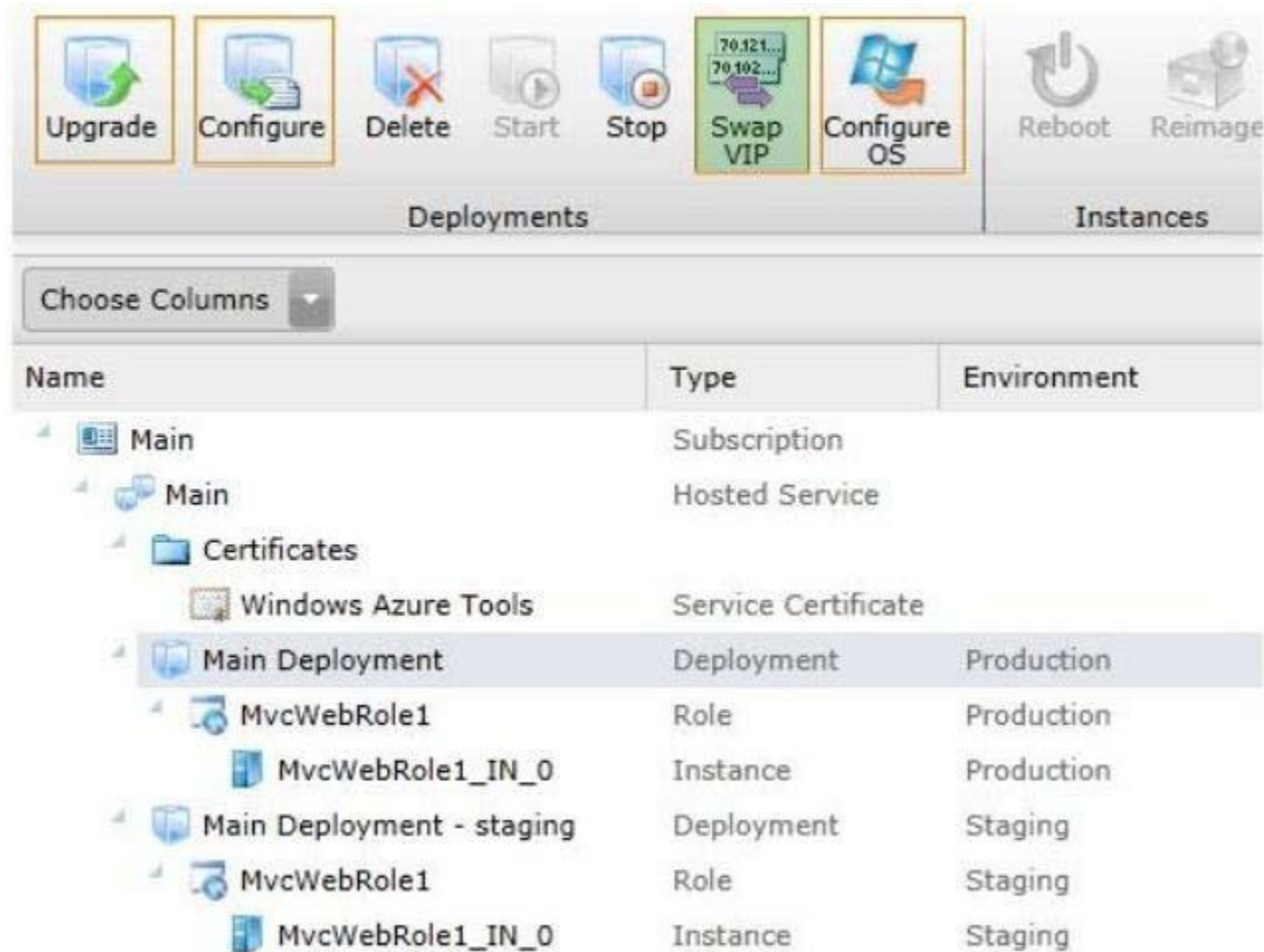


The screenshot shows the Windows Azure Management Portal interface. At the top, there are two main sections: 'Deployments' and 'Instances'. The 'Deployments' section contains buttons for 'Upgrade', 'Configure', 'Delete', 'Start', 'Stop', 'Swap VIP', and 'Configure OS'. The 'Instances' section contains buttons for 'Reboot' and 'Reimage'. Below these buttons is a 'Choose Columns' dropdown menu. The main table displays a list of resources with columns for 'Name', 'Type', and 'Environment'.

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



Correct Answer:



The screenshot shows the VCE Plus interface with two main sections: Deployments and Instances. The Deployments section includes icons for Upgrade, Configure, Delete, Start, Stop, Swap VIP, and Configure OS. The Instances section includes icons for Reboot and Reimage. Below these sections is a table with columns for Name, Type, and Environment.

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

Section: (none)

Explanation

Explanation/Reference:

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 answer area. 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.)

### Select and Place:



```
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>
```

```
</ >
```

**Correct Answer:**

```
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
```

```
< 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
```

```
>
```

Section: (none)

**Explanation****Explanation/Reference:****QUESTION 5**

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

**Correct Answer:** AB

**Section:** (none)

**Explanation****Explanation/Reference:**

EdmGen.exe (<http://msdn.microsoft.com/en-us/library/cc716721.aspx>)

ADO.Net Entity Data Model Designer ([http://msdn.microsoft.com/en-us/library/vstudio/cc716685\(v=vs.100\).aspx](http://msdn.microsoft.com/en-us/library/vstudio/cc716685(v=vs.100).aspx))

The Entity Data Model wizard creates the .edmx files. It does not validate the CSDL, SSDL or MSL files.

The Update Model wizard updates the .edmx file after changes have been made. It does not validate the CSDL, SSDL or MSL files.

**QUESTION 6**

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

**Correct Answer:** B

**Section:** (none)

**Explanation****Explanation/Reference:**

### QUESTION 7

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.

**Correct Answer:** BEFG

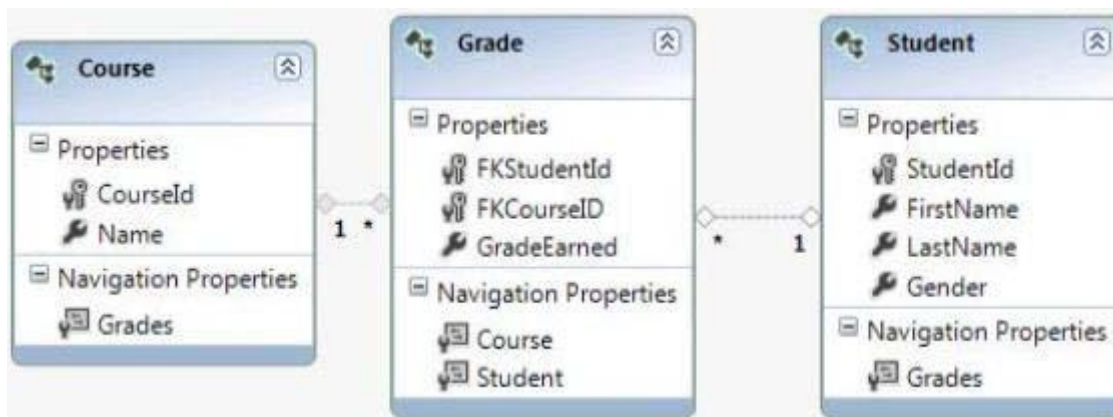
**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 8

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 9

You are developing a WCF service that compares 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. One Way
- B. Streaming
- C. Duplex
- D. Request/Reply

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 10

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

WCF Instancing Modes (<http://msdn.microsoft.com/en-us/library/ms731193.aspx>)

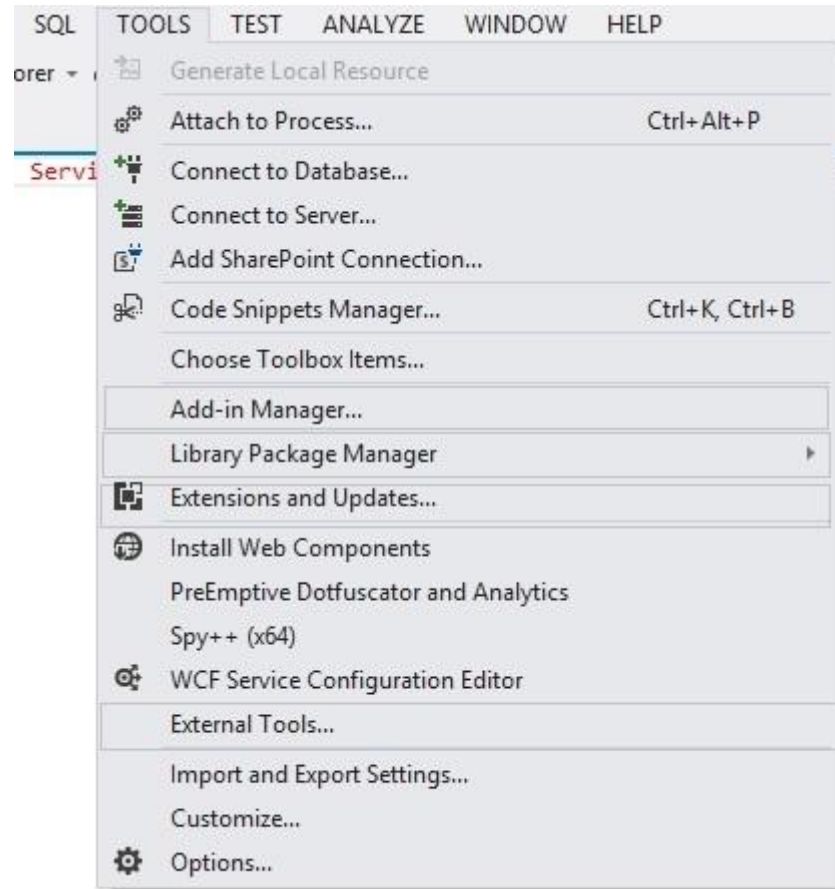
#### **QUESTION 11**

##### **HOTSPOT**

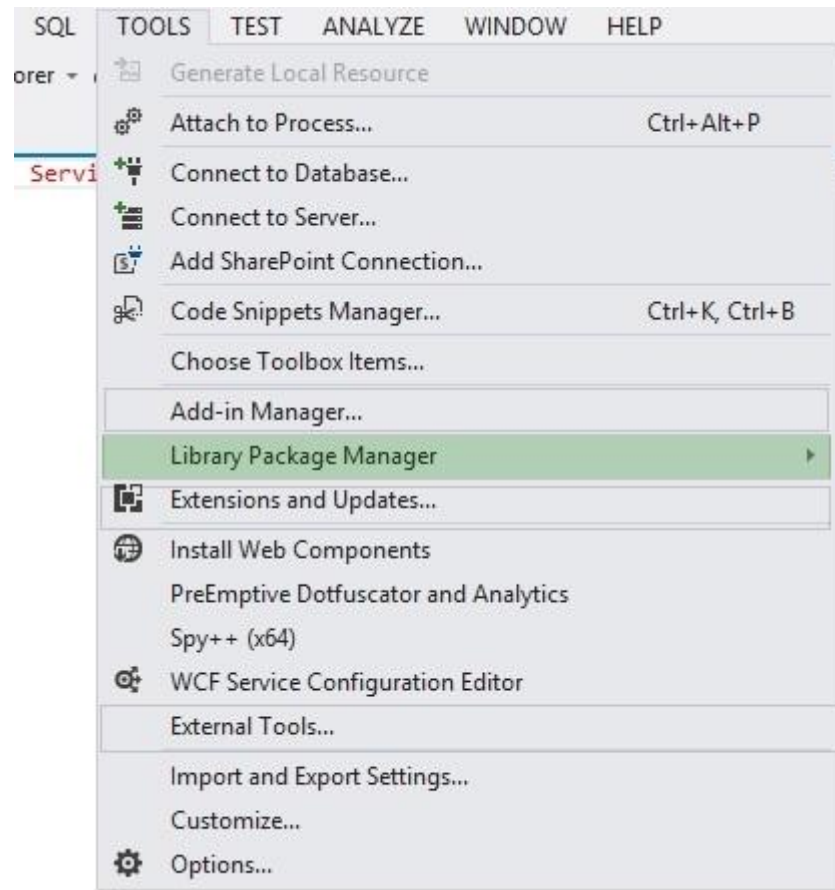
You are supporting an application that uses the ADO.NET Entity Framework to query and access data. The latest version of Entity Framework contains bug fixes that will improve performance. You need to update Entity Framework. Which Visual Studio 2012 menu item should you choose? (To answer, select the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

**Hot Area:**





**Correct Answer:**



**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 12**

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 13

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. Change the sliding expiration of the cache item to 12 hours.
- C. Use the SqlCacheDependency type configured with a connection string to the database file.
- D. Use the CacheDependency type configured to monitor the SFTP target folder.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

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

**Hot Area:**

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

Correct Answer:

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

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 15

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Case 1

### QUESTION 1

Case Study: 1

#### Scenario 1

#### 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();
    }
}
```

- A. THIS IS JUST THE CASE STUDY. PICK THIS
- B.
- C.
- D.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 2**

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. Which code segment should you use as the body of the SaveChanges() method in the FlightInfoContext.es file?

**Hot Area:**

☐ A. 

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

☐ B. 

```
var exception = new EntitySqlException();
while (exception.Data != 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))
        {
            break;
        }
    }
}
```



**Correct Answer:**

☐ A. 

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

☐ B. 

```
var exception = new EntitySqlException();
while (exception.Data != 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))
        {
            break;
        }
    }
}
```

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 3**

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

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 4**

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?

**Hot Area:**

- ☐ 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,
};
```
- ☐ 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. 

```
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)),
};
```
- ☐ 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),
};
```

**Correct Answer:**

- ☐ 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,
};
```
- ☐ 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. 

```
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)),
};
```
- ☒ 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),
};
```

Section: (none)  
Explanation

**Explanation/Reference:**

**QUESTION 5**

You need to load flight information provided by Consolidated Messenger. What should you use?

- A. Office Open XML
- B. COM interop
- C. OleDbConnection and OleDbDataReader
- D. EntityConnection and EntityDataReader

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 6**

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.

**Correct Answer: EF**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 7**

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.cs` file?

**Hot Area:**

- ☐ 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 XElement("Flights", ConvertToHistoricalFlight(x).Descendants()));
data[airline].WriteTo(responseWriter);
```
- ☐ D. 

```
var flights = new XElement("Flights",
    from flight in RemoteDataStream()
    where GetAirline(flight.Element("FlightName")) == airline
    select ConvertToHistoricalFlight(flight));
flights.WriteTo(responseWriter);
```

**Correct Answer:**

- ☐ 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 XElement("Flights", ConvertToHistoricalFlight(x).Descendants()));
data[airline].WriteTo(responseWriter);
```
- ☒ D. 

```
var flights = new XElement("Flights",
    from flight in RemoteDataStream()
    where GetAirline(flight.Element("FlightName")) == airline
    select ConvertToHistoricalFlight(flight));
flights.WriteTo(responseWriter);
```

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 8**

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?

**Hot Area:**

☐ A. 

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

☐ B. 

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

☐ C. 

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

☐ D. 

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

**Correct Answer:**

☐ A. 

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

☐ B. 

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

☒ C. 

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

☐ D. 

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



**Section: (none)**

**Explanation**

**Explanation/Reference:**

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 9**

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?

**Hot Area:**

- ☐ 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);
```
- ☐ B. 

```
var historical = LoadHistorical();  
var query = _Context.FlightInfo.AsEnumerable()  
    .Where(x => historical.All(y => y.WasLate && x.Flight == y.Flight))  
    .Select(x => x);
```
- ☐ 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);
```
- ☐ 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);
```

Correct Answer:

- ☐ 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);
```
- ☐ B. 

```
var historical = LoadHistorical();  
var query = _Context.FlightInfo.AsEnumerable()  
    .Where(x => historical.All(y => y.WasLate && x.Flight == y.Flight))  
    .Select(x => x);
```
- ☐ 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);
```
- ☒ 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);
```

**Section: (none)**

**Explanation**

**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 work.

A will break at runtime.

Credits to Rem

### QUESTION 10

#### 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 answer area. 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.)

**Select and Place:**

```
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;
```

**Correct Answer:**



```
var flights = feed.Elements(  
    feed.Root.GetPrefixOfNamespace("{urn:CFI}") + "Flight");
```

```
var flights = feed.Descendants().Where(x =>  
    x.NodeType != XmlNodeType.XmlDeclaration && (string)x ==  
    "Flight");
```

```
fi.Arrival = DateTimeOffset.Parse(arrivalRaw,  
    null, System.Globalization.DateTimeStyles.AdjustToUniversal);
```

```
fi.Arrival = XmlConvert.ToDateTimeOffset(arrivalRaw,  
    new[] { "Local", "Universal" });
```

```
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);
```

**Section: (none)**  
**Explanation**

**Explanation/Reference:**

**QUESTION 11**  
**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 answer area. 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.)

**Select and Place:**

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

**Correct Answer:**



Answer Area	
	Use the <b>Airline</b> property as the partition key.
<b>WasLate</b>	
	Use the <b>Flight</b> property as the row key.
<b>Arrival</b>	

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 12**

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 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.)

**Select and Place:**

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,  )
}
                
```

Correct Answer:

XmlReadMode.Fragment

XmlReadMode.InferSchema

XmlWriteMode.IgnoreSchema

Answer Area

```

public void Sync()
{
    var sendStream = SendStream();
    var receiveStream = ReceiveStream();
    var local = LoadLocal();

    local.WriteXml(sendStream, XmlWriteMode.DiffGram );
    local.ReadXml(receiveStream, XmlReadMode.DiffGram )
}
                
```

Section: (none)

Explanation

Explanation/Reference:

**QUESTION 13**

Flight Information Consolidation

Technical Requirements

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 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?

- A. Use the ILMerge.exe tool to merge the Trey Research assemblies without stipulating a key pair.
- B. 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.
- C. 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.
- D. 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.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Case 2

### QUESTION 1

Case Study: 2

#### Scenario 2

#### 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

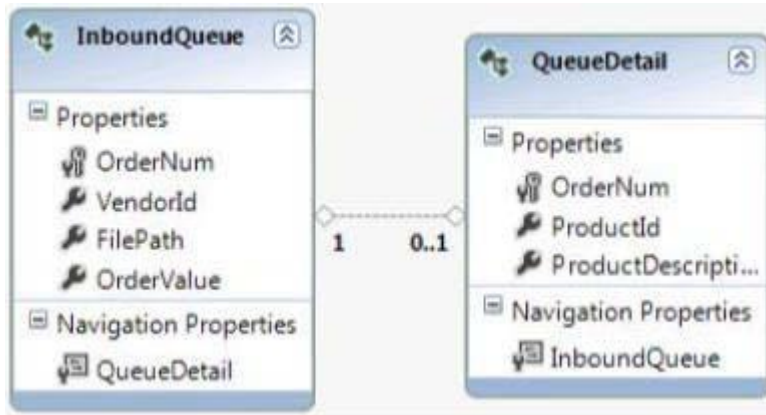
#### Visual Studio Solution:

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.



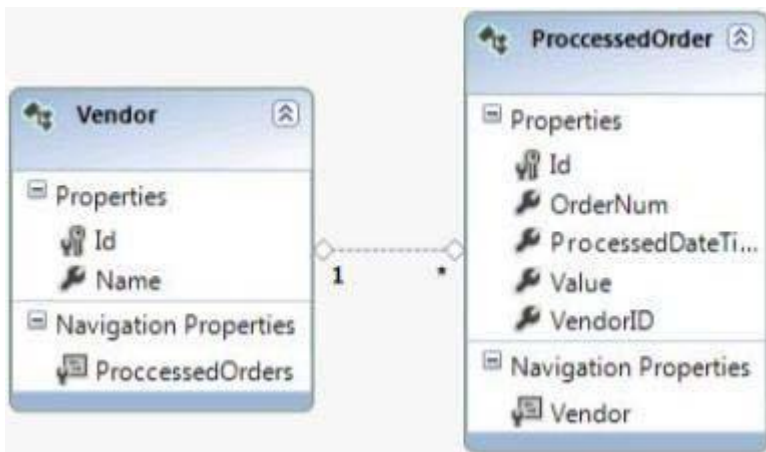
The project contains two services defined in the following files.

- IExternalQueueService.cs
- ExternalQueueService.svc.

The ExternalQueue.Helpers namespace contains a definition for a class named OrderNotFound Exception.

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.cs
- ProcessedOrderController.cs

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:

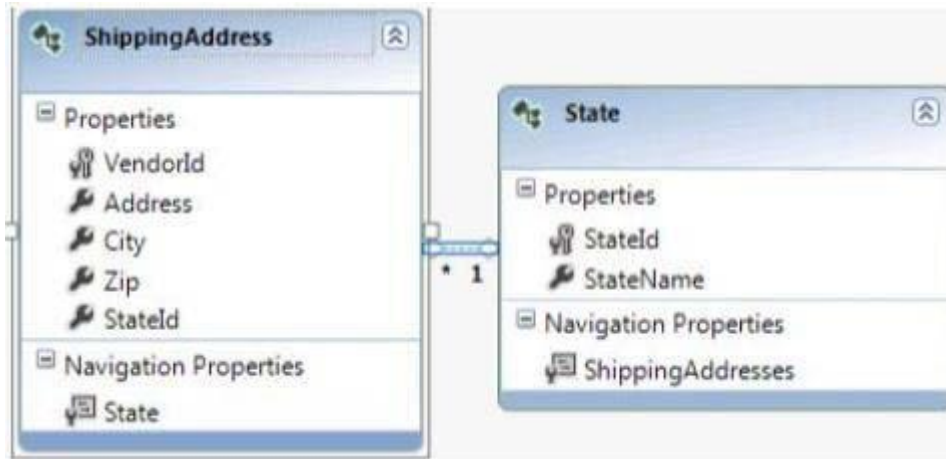
The project contains two services defined in the following files.

- IUploadCallbackService.cs
- 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.cs file. The POCO entity must be loaded by using lazy loading. The project contains two services defined in the following files.

- IShippingService.cs
- 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 ==
EQ27                 orderNum).ToList();
EQ28                 if (orders.Count() > 0)
EQ29                 {
EQ30                     using (EntityCommand cmd = new EntityCommand())
EQ31                     {
EQ32                         cmd.CommandText = "ExternalOrdersEntities.uspInboundQueueDelete";
EQ33                         cmd.CommandType = CommandType.StoredProcedure;
EQ34                         EntityParameter param = new EntityParameter();
EQ35                         param.Value = orderNum;
EQ36                         param.ParameterName = "orderNum";
EQ37                         cmd.Parameters.Add(param);
EQ38                         ExecuteCommandProcedure(cmd);
EQ39                     }
EQ40                 }
EQ41                 else
EQ42                 {
EQ43                     OrderNotFoundException ex = new OrderNotFoundException();
EQ44                     ex.OrderNum = orderNum;
EQ45                     ex.ExceptionMessage = "Order not found...Cannot delete";
EQ46                 }
EQ47             }
```

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
PC28             ("vendorKey") as List<Entities.Vendor>;
PC29             if (vendors == null)
PC30             {
PC31                 using (var context = new ProcessedOrders())
PC32                 {
PC33                     vendors = context.Vendors.ToList();
PC34                 }
PC35             }
PC36             return View(vendors);
PC37         }
PC38
PC39         private CacheItemPolicy GetVendorPolicy()
PC40         {
PC41             CacheItemPolicy vendorPolicy = new CacheItemPolicy();
PC42             return vendorPolicy;
```

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);
```

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 }
```

- A. THIS IS JUST THE CASE STUDY. PICK THIS
- B.
- C.
- D.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## QUESTION 2

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.

**Correct Answer:** BCDE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 3

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

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 4

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

**Hot Area:**

- ☐ A. 

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

```
private void ExecuteCommandProcedure(EntityCommand command)
{
    using (EntityConnection connection = new EntityConnection
("name=ExternalOrdersEntities"))
    {
        command.Connection = connection;
        command.ExecuteNonQuery();
    }
}
```
- ☐ C. 

```
private void ExecuteCommandProcedure(EntityCommand command)
{
    using (EntityConnection connection = new EntityConnection
("name=ExternalOrdersEntities"))
    {
        command.Connection = connection;
        connection.OpenAsync();
        command.ExecuteNonQuery();
    }
}
```
- ☐ D. 

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



**Correct Answer:**

- ☒ A. 

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

```
private void ExecuteCommandProcedure(EntityCommand command)
{
    using (EntityConnection connection = new EntityConnection
("name=ExternalOrdersEntities"))
    {
        command.Connection = connection;
        command.ExecuteNonQuery();
    }
}
```
- ☐ C. 

```
private void ExecuteCommandProcedure(EntityCommand command)
{
    using (EntityConnection connection = new EntityConnection
("name=ExternalOrdersEntities"))
    {
        command.Connection = connection;
        connection.OpenAsync();
        command.ExecuteNonQuery();
    }
}
```
- ☐ D. 

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

**Section: (none)**

**Explanation**

**Explanation/Reference:**

**QUESTION 5**

**DRAG DROP**

You need to create the ShippingContext class in the ShippingAddress.cs file 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.)

**Select and Place:**

ObjectSet

ObjectContext

ObjectResult

LazyLoadingEnabled = true;

LazyLoadingEnabled = false;

Answer Area

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

Correct Answer:

ObjectSet

ObjectContext

ObjectResult

LazyLoadingEnabled = true;

LazyLoadingEnabled = false;

Answer Area

```

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>(); }
    }
}
        
```

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 6

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 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.)

Select and Place:

[DataMember]

[CollectionDataContract]

[DataContract]

[ServiceContract]

[OperationContract]

Answer Area

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

```
public class State
{
    public string StateName { get; set; }
}
```

```
public class ShippingInfo : State
{
    public string StreetAddress { get; set; }

    public string ZipCode { get; set; }
}
```

Correct Answer:

Answer Area

[DataMember]

[DataContract]

[DataMember]

[ServiceContract]

[OperationContract]

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

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

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

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

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 7

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.)

**Select and Place:**

InboundQueue

IExternalQueueService

BasicHttpBinding

GetExternalOrders

CreateChannel

Answer Area

```
ChannelFactory<[ ]> qFactory =  
    new ChannelFactory<[ ]>(  
        new [ ](),  
        new EndpointAddress(  
            "http://localhost:62965/ExternalQueueService.svc"));  
  
IExternalQueueService qService =  
    qFactory.[ ]();  
  
IEnumerable<[ ]> inboundOrders =  
    qService.GetExternalOrders();  
  
return View(inboundOrders);
```

**Correct Answer:**



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);
```

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 8

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 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.)

**Select and Place:**

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;
}
```

**Correct Answer:**

Priority

Expiration

DateTime.AddMinutes

Answer Area

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

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

    vendorPolicy.ChangeMonitors

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

    return vendorPolicy;
}
```

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 9

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 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.)

Select and Place:

OrderByDescending

OrderBy

Take

ProcessedOrders

ProcessedDateTime

Answer Area

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

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

Correct Answer:

Answer Area

OrderBy

```

public ActionResult GetProcessedOrders()
{
    using (var context = new ProcessedOrders())
    {
        List<Entities.ProcessedOrder> orders =
            context

                . ProcessedOrders

                . OrderByDescending (i => ProcessedDateTime )

                . Take (10)

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

```

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 10

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 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.)

Select and Place:

## Answer Area

ExecuteReader

ExecuteScalar

SequentialAccess

KeyInfo

ExternalOrders

ExternalOrdersEntities

```
public List<Entities.InboundQueue> GetExternalOrders()
{
    EntityConnection connection =

        new EntityConnection("name=" + );

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

                        from .InboundQueues as q";

    EntityDataReader rdr =

        cmd. (CommandBehavior.);

    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;
}
```



Correct Answer:

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;  
}
```

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 11

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?

Hot Area:

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

Correct Answer:



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

Section: (none)  
Explanation

Explanation/Reference:

#### QUESTION 12

DRAG DROP

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

Select and Place:

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

Correct Answer:

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

Section: (none)  
Explanation

**Explanation/Reference:**

## MVC

### QUESTION 1

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

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

SQL Server Isolation Levels

([http://msdn.microsoft.com/en-us/library/ms189122\(v=sql.105\).aspx](http://msdn.microsoft.com/en-us/library/ms189122(v=sql.105).aspx))

(<http://msdn.microsoft.com/en-us/library/ms173763.aspx>)

### QUESTION 2

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

**Correct Answer: B**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 3

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?

Hot Area:

- ☐ 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());
}
```

Correct Answer:

- ☒ 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());
}
```

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 4

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

SQL Server Isolation Levels

([http://msdn.microsoft.com/en-us/library/ms189122\(v=sql.105\).aspx](http://msdn.microsoft.com/en-us/library/ms189122(v=sql.105).aspx))

(<http://msdn.microsoft.com/en-us/library/ms173763.aspx>)

### QUESTION 5

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.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 6

You are developing an ASP.NET MVC Web API 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 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? continuous

Select and Place:

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 * 2;

        [ ] . [ ] = 1024 * 1024;

        [ ] .TransferMode =

        TransferMode. [ ] ;

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

[ ] . [ ] = 1024 \* 1024 \* 2;

[ ] . [ ] = 1024 \* 1024;

[ ] .TransferMode =

TransferMode. [ ] ;

var server = new HttpSelfHostServer(config);

server.OpenAsync().Wait();

}

}

Correct Answer:



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 }
        );

        config
            .MaxBufferSize = 1024 * 1024 * 2;
            .MaxReceivedMessageSize = 1024 * 1024;
            .TransferMode =
                TransferMode.Streamed
                ;

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

```

Section: (none)

Explanation

Explanation/Reference:

QUESTION 7

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?

**Select and Place:**

Answer Area

Action	HTTP method	Relative URI
Retrieve a list of all customers	<input style="width: 100%;" type="text"/>	/api/customers
Retrieve a customer by id	<input style="width: 100%;" type="text"/>	/api/customers/ <i>id</i>
Retrieve a customer by category	<input style="width: 100%;" type="text"/>	/api/customer/?category= <i>category</i>
Create a new customer	<input style="width: 100%;" type="text"/>	/api/customers
Update a customer	<input style="width: 100%;" type="text"/>	/api/customers/ <i>id</i>
Remove a customer	<input style="width: 100%;" type="text"/>	/api/customers/ <i>id</i>

GET

POST

INSERT

DELETE

CREATE

READ

UPDATE

ADD

PUT/POST

**Correct Answer:**

Answer Area		
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/POST	/api/customers/ <i>id</i>
Remove a customer	DELETE	/api/customers/ <i>id</i>

Section: (none)

Explanation

**Explanation/Reference:**

Put is a correct answer, however if PUT is missing as an option, POST could also be valid if you consider "id" to be a parameter.

#### QUESTION 8

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

The application must meet the following requirements :

- It must sent 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?

#### Select and Place:

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();
    }

```

#### Correct Answer:

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 }
        );

        config
            .MaxBufferSize = 1024 * 1024 * 3;
        config
            .MaxReceivedMessageSize = 1024 * 1024 * 4;
        config
            .TransferMode =
                TransferMode.Streamed
            ;

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

```

Section: (none)

Explanation

Explanation/Reference:

### QUESTION 9

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



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

**{"Name": "Fabrikam", "Vendor Id": 9823, "Items": ["Apples", "Oranges"]}**

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

What should you do?

Select and Place:

	Answer Area
<code>"Fabrikam", VendorNumber = 9823,</code>	<pre>public object Get() {     [ ]     {         Name = [ ]         Items = [ ]     }; }</pre>
<code>"Fabrikam", VendorNumber = "9823",</code>	
<code>new List&lt;string&gt; { "Apples", "Oranges" }</code>	
<code>new List&lt;string&gt; { "Apples, Oranges" }</code>	
<code>return new List&lt;string&gt;</code>	
<code>return new</code>	

Correct Answer:

	Answer Area
<code>"Fabrikam", VendorNumber = "9823",</code>	<pre>public object Get() {     return new     {         Name = "Fabrikam", VendorNumber = 9823,         Items = new List&lt;string&gt; { "Apples", "Oranges" }     }; }</pre>
<code>new List&lt;string&gt; { "Apples, Oranges" }</code>	
<code>return new List&lt;string&gt;</code>	
<code></code>	

Section: (none)

Explanation

**Explanation/Reference:**

**QUESTION 10**

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

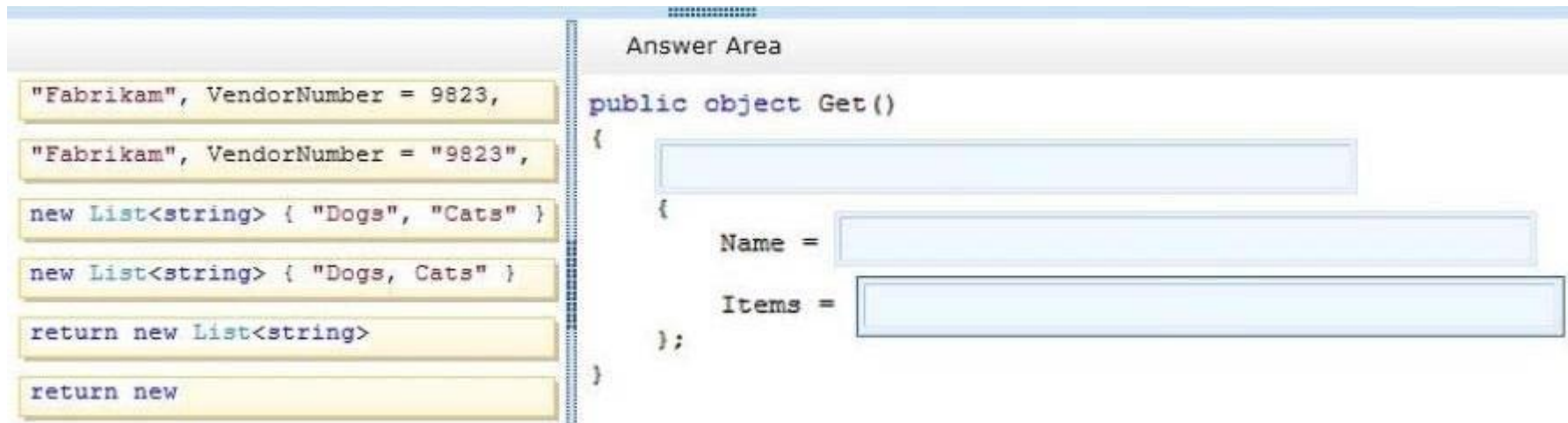
The action method must return the following JSON in the message body.

**{"Name": "Fabrikam", "Vendor Id": 9823, "Items": ["Dogs", "Cats"]}**

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

What should you do?

**Select and Place:**



The screenshot shows a code editor with a 'Select and Place' interface. On the left, a list of code snippets is provided for selection. On the right, the 'Answer Area' shows the implementation of the `Get()` method, with empty text boxes for placing the selected snippets.

**Available Snippets:**

- `"Fabrikam", VendorNumber = 9823,`
- `"Fabrikam", VendorNumber = "9823",`
- `new List<string> { "Dogs", "Cats" }`
- `new List<string> { "Dogs, Cats" }`
- `return new List<string>`
- `return new`

**Answer Area Code:**

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

**Correct Answer:**



Answer Area

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

```
"Fabrikam", VendorNumber = "9823",  
  
new List<string> { "Dogs", "Cats" }  
return new List<string>
```

**Section: (none)**

**Explanation**

**Explanation/Reference:**

#### QUESTION 11

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

**Correct Answer: D**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 13

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 14

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.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 15

You are developing an ASP.NET Web API application for currency conversion that will be consumed by a web browser by using 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 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.)

Select and Place:

	Answer Area
Access-Control-Allow-Origin	<code>&lt;httpProtocol&gt;</code>
Access-Control-Allow-Headers	<code>&lt;customHeaders&gt;</code>
Access-Control-Allow-Methods	<code>&lt;add name="Access-Control-Allow-Origin"</code>
Access-Control-Allow-Request-Method	<code>value="</code> <input type="text"/> <code>"/&gt;</code>
Access-Control-Allow-Request-Headers	<code>&lt;add name="</code> <input type="text"/> <code>"</code>
*	<code>value="PUT, DELETE"/&gt;</code>
POST, GET	<code>&lt;add name="</code> <input type="text"/> <code>"</code>
Content-Type	<code>value="</code> <input type="text"/> <code>"/&gt;</code>
	<code>&lt;/customHeaders&gt;</code>
	<code>&lt;/httpProtocol&gt;</code>

Correct Answer:

	Answer Area
Access-Control-Allow-Origin	<httpProtocol>
Access-Control-Allow-Headers	<customHeaders>
Access-Control-Allow-Methods	<add name="Access-Control-Allow-Origin"
Access-Control-Allow-Request-Method	value=" * "/>
Access-Control-Allow-Request-Headers	<add name=" Access-Control-Allow-Methods "
*	value="PUT, DELETE"/>
POST, GET	<add name=" Access-Control-Allow-Headers "
Content-Type	value=" Content-Type "/>
	</customHeaders>
	</httpProtocol>

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 16

You are developing an ASP.NET MVC web application that contains the following HTML.

```
<table id= "customer" ></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?

**Hot Area:**

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>
```

**Correct Answer:**



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>
```

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## WCF

### QUESTION 1

You are developing a WCF service. You need to implement transport security by using NTLM authentication and NetTcpBindings. Which configuration values should you use?

Select and Place:

	Answer Area
<code>binding="netTcpBinding"</code>	<code>&lt;system.serviceModel&gt;</code>
<code>binding="Duplex"</code>	<code>&lt;protocolMapping&gt;</code>
<code>binding="NtlmTcp"</code>	<code>&lt;add scheme="https" /&gt;</code>
<code>mode="netBindingTcp"</code>	<code>&lt;/protocolMapping&gt;</code>
<code>mode="Transport"</code>	<code>&lt;bindings&gt;</code>
<code>mode="Duplex"</code>	<code>&lt;wsHttpBinding&gt;</code>
<code>clientCredentialType="netTcpBinding"</code>	<code>&lt;binding&gt;</code>
<code>clientCredentialType="NtlmTcp"</code>	<code>&lt;security &gt;</code>
<code>clientCredentialType="Ntlm"</code>	<code>&lt;transport /&gt;</code>
	<code>&lt;/security&gt;</code>
	<code>&lt;/binding&gt;</code>
	<code>&lt;/wsHttpBinding&gt;</code>
	<code>&lt;/bindings&gt;</code>
	<code>&lt;/system.serviceModel&gt;</code>

Correct Answer:

binding="Duplex"

binding="NtlmTcp"

mode="netBindingTcp"

mode="Duplex"

clientCredentialType="netTcpBinding"

clientCredentialType="NtlmTcp"

Answer Area

```

<system.serviceModel>
  <protocolMapping>

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

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

        <security mode="Transport" >

          <transport clientCredentialType="Ntlm" />

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

```

**Section: (none)**

**Explanation**

**Explanation/Reference:**

### QUESTION 2

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. PerRequest
- C. PerCall

- D. Multiple
- E. PerSession

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 3

You are developing a 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?

**Select and Place:**

	Answer Area
<code>[DataContract(Validate = "Profile")]</code>	
<code>[DataContract(Identifier = "Profile")]</code>	
<code>[DataContract(Name = "Profile")]</code>	<pre>public class ProfileV1 {     [DataMember]     public string Username; }</pre>
<code>[DataContract(TypeID = "Profile")]</code>	
<code>[DataContract(ID = "Profile")]</code>	<pre>public class ProfileV2 {     [DataMember]     public string Username;      [DataMember]     public string Email; }</pre>

**Correct Answer:**

	Answer Area
<code>[DataContract(Validate = "Profile")]</code>	<code>[DataContract(Name = "Profile")]</code>
<code>[DataContract(Identifier = "Profile")]</code>	
<code>[DataContract(Name = "Profile")]</code>	<pre>public class ProfileV1 {     [DataMember]     public string Username; }</pre>
<code>[DataContract(TypeID = "Profile")]</code>	<code>[DataContract(Name = "Profile")]</code>
<code>[DataContract(ID = "Profile")]</code>	<pre>public class ProfileV2 {     [DataMember]     public string Username;      [DataMember]     public string Email; }</pre>

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 4

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?

Select and Place:



Answer Area	
issuerName	<services>
Contract	<service name="RestaurantService.MenuService">
issuerKey	<endpoint <input type="text"/> ="RestaurantService.IMenuService"
User	binding="netTcpRelayBinding"
issuerSecret	address="sb://RestaurantServiceBus.servicebus.windows.net/Menu"
	behaviorConfiguration="sbBehavior"/>
	</service>
	</services>
	<behaviors>
	<endpointBehaviors>
	<behavior name="sbBehavior">
	<transportClientEndpointBehavior>
	<tokenProvider>
	<sharedSecret
	<input type="text"/> ="owner"
	<input type="text"/> ="1oAFgNsbaN8+UIN737K="/>
	</tokenProvider>
	</transportClientEndpointBehavior>
	</behavior>
	</endpointBehaviors>
	</behaviors>

Correct Answer:



User

### Explanation

**Explanation/Reference:**

### QUESTION 5

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?

**Select and Place:**

## 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;
    }
}
```

**Correct Answer:**

ChangeInterceptor

"MovieEntities"

Filter

Answer Area

```
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;
    }
}
```

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 6

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?

Select and Place:

UdpDiscoveryEndpoint

DiscoveryEndpoint

ServiceBehaviorAttribute

ServiceDiscoveryBehavior

ServiceHost

Answer Area

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

    using ( [ ] host

        = new [ ] (mytype, StockURI)
        {
            host.AddServiceEndpoint(typeof(ISTockTickerService),
                new WSHttpBinding(), "");

            host.Description.Behaviors.Add(new [ ] ());

            host.AddServiceEndpoint(new [ ] ());

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

Correct Answer:



UdpDiscoveryEndpoint

DiscoveryEndpoint

ServiceBehaviorAttribute

ServiceDiscoveryBehavior

ServiceHost

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();
        }
    }
```

Section: (none)

Explanation

Explanation/Reference:

#### QUESTION 7

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?

Select and Place:

namedNetBinding

netTcpBinding

binHttpsBinding

httpBasicBinding

mode="Ignore"

mode="Transport"

mode="Direct"

Answer Area

```
<system.serviceModel>
  <bindings>

    <[ ]>

      <binding>
        <security [ ] />
      </binding>

    </[ ]>

  </bindings>
</system.serviceModel>
```

Correct Answer:



Answer Area

namedNetBinding

netTcpBinding

binHttpsBinding

httpBasicBinding

mode="Ignore"

mode="Transport"

mode="Direct"

```

<system.serviceModel>
  <bindings>
    < netTcpBinding >
      <binding>
        <security mode="Transport" />
      </binding>
    </ netTcpBinding >
  </bindings>
</system.serviceModel>

```

Section: (none)

Explanation

Explanation/Reference:

### QUESTION 8

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 answer area. 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.)

Select and Place:

Multiple

Single

GetOrderValue

UploadCallbackService

IUploadCallback

Answer Area

```
[ServiceBehavior(ConcurrencyMode =
ConcurrencyMode. )]

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

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

Correct Answer:

Multiple

Single

GetOrderValue

UploadCallbackService

IUploadCallback

Answer Area

```
[ServiceBehavior(ConcurrencyMode =
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);
    }
}
```

Section: (none)

Explanation

Explanation/Reference:

## Justin Exam F

### QUESTION 1

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

**Correct Answer:** BC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 2

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", "Vendor Id": 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 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

"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 = [ ]
    };
}

```

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

```

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

```

### QUESTION 3

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();
    }

```

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



```
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 4

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.

**Correct Answer:** D

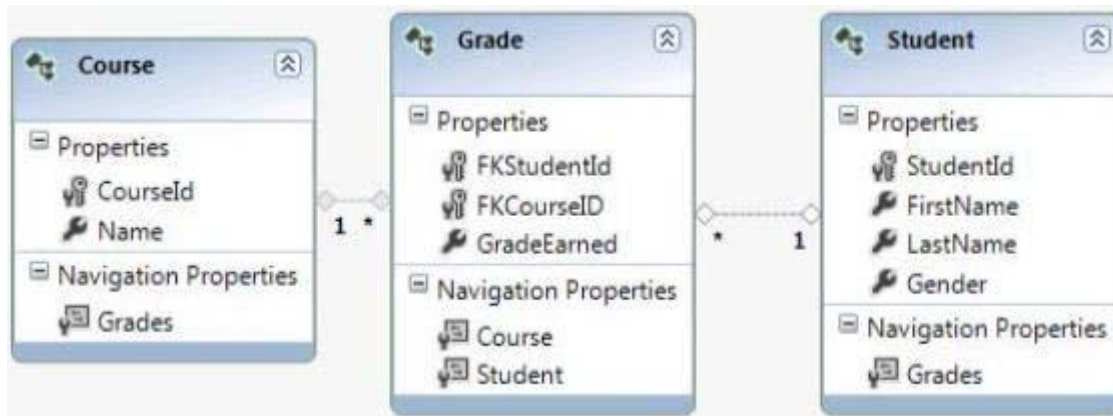
**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 5

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 6**

**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 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.)

UdpDiscoveryEndpoint

DiscoveryEndpoint

ServiceBehaviorAttribute

ServiceDiscoveryBehavior

ServiceHost

Answer Area

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

    using (  host

        = new  (mytype, StockURI))
    {

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

        host.Description.Behaviors.Add(new  ());

        host.AddServiceEndpoint(new  ());

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

A.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

```
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 DiscoveryEndpoint ());

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

#### QUESTION 7

You are developing a WCF service that compares 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. One Way
- B. Streaming

- C. Duplex
- D. Request/Reply

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### **QUESTION 8**

**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 answer area. 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.)

	Answer Area
<code>binding="netTcpBinding"</code>	<code>&lt;system.serviceModel&gt;</code>
<code>binding="Duplex"</code>	<code>&lt;protocolMapping&gt;</code>
<code>binding="NtlmTcp"</code>	<code>&lt;add scheme="https" /&gt;</code>
<code>mode="netBindingTcp"</code>	<code>&lt;/protocolMapping&gt;</code>
<code>mode="Transport"</code>	<code>&lt;bindings&gt;</code>
<code>mode="Duplex"</code>	<code>&lt;wsHttpBinding&gt;</code>
<code>clientCredentialType="netTcpBinding"</code>	<code>&lt;binding&gt;</code>
<code>clientCredentialType="NtlmTcp"</code>	<code>&lt;security &gt;</code>
<code>clientCredentialType="Ntlm"</code>	<code>&lt;transport /&gt;</code>
	<code>&lt;/security&gt;</code>
	<code>&lt;/binding&gt;</code>
	<code>&lt;/wsHttpBinding&gt;</code>
	<code>&lt;/bindings&gt;</code>
	<code>&lt;/system.serviceModel&gt;</code>

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**



```
<system.serviceModel>
  <protocolMapping>

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

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

        <security mode="Transport" />

        <transport clientCredentialType="Ntlm" />

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

**QUESTION 9**

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. PerRequest
- C. PerCall
- D. Multiple
- E. PerSession

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

## QUESTION 10

### 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 answer area. 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="Transport"

binding="Ntlm"

mode="netTcpBinding"

mode="Transport"

mode="Ntlm"

clientCredentialType="netTcpBinding"

clientCredentialType="Transport"

clientCredentialType="Ntlm"

Answer Area

```

<system.serviceModel>
  <protocolMapping>

    <add scheme="https" />

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

    </binding>

    <security>

    </security>

    <transport>

    </transport>

  </bindings>
</system.serviceModel>

```

A.

**Correct Answer: A**

**Section: (none)**

## Explanation

### Explanation/Reference:

```
<system.serviceModel>
  <protocolMapping>

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

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

        <security mode="Transport" >

          <transport clientCredentialType="Ntlm" />

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

## QUESTION 11

### 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 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 * 2;

        [ ] . [ ] = 1024 * 1024;

        [ ] .TransferMode =

        TransferMode. [ ] ;

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

```

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

```
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 \* 2;

config . MaxReceivedMessageSize = 1024 \* 1024;

config . TransferMode =

TransferMode. Streamed ;

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

```
}
```

**QUESTION 12****DRAG DROP**

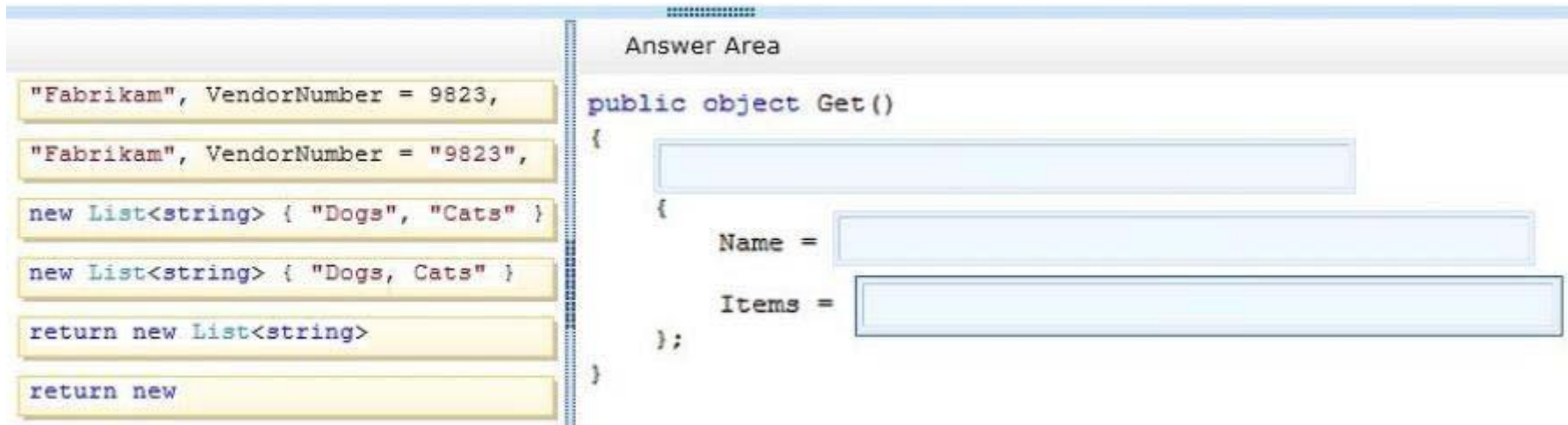
You are developing an ASP.NET Web API action method.

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.)



Available code segments:

- "Fabrikam", VendorNumber = 9823,
- "Fabrikam", VendorNumber = "9823",
- new List<string> { "Dogs", "Cats" }
- new List<string> { "Dogs, Cats" }
- return new List<string>
- return new

Answer Area:

```
public object Get()
{
    // Empty box for opening curly brace
    {
        Name = // Empty box for Name value
        Items = // Empty box for Items value
    };
}
```

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

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



**QUESTION 13**  
DRAG DROP

You are developing an ASP.NET Web API application for currency conversion that will be consumed by a web browser by using 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-Allow-Request-Method

Access-Control-Allow-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>
```

A.

**Correct Answer: A**  
**Section: (none)**  
**Explanation**

**Explanation/Reference:**



```
<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 14

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

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 15**

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 16**

You are developing an ASP.NET MVC application. Deployment administrators do not have access to Visual Studio 2102, 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

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## Justin Case 1

### QUESTION 1

Case Study: 1

#### Scenario 1

#### 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();
    }
}
```

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 2

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

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 3

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. Change the sliding expiration of the cache item to 12 hours.
- C. Use the SqlCacheDependency type configured with a connection string to the database file.
- D. Use the CacheDependency type configured to monitor the SFTP target folder.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 4****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 answer area. 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" });
```

xxxxxxxxxxxx

```
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;
```

A.

**Correct Answer:**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

```
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 5

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.

**Correct Answer:** CF

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 6**

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?

C A. 

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

C B. 

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

C C. 

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

C D. 

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



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

**Correct Answer:** C

**Section:** (none)

**Explanation**

**Explanation/Reference:**

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.

## Justin Case 2

### QUESTION 1

Case Study: 2

#### Scenario 2

#### 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

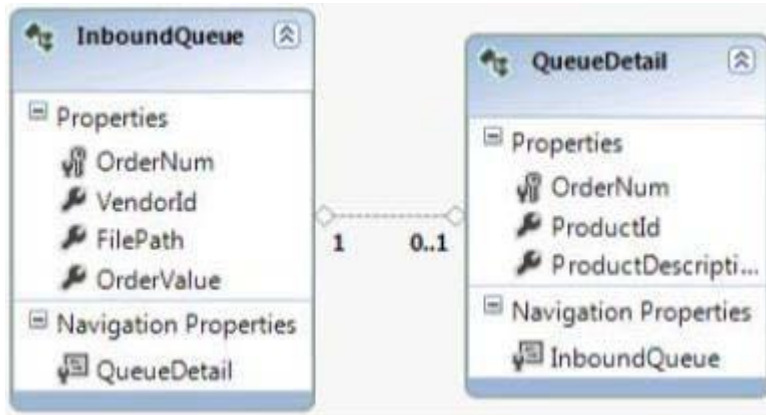
#### Visual Studio Solution:

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.



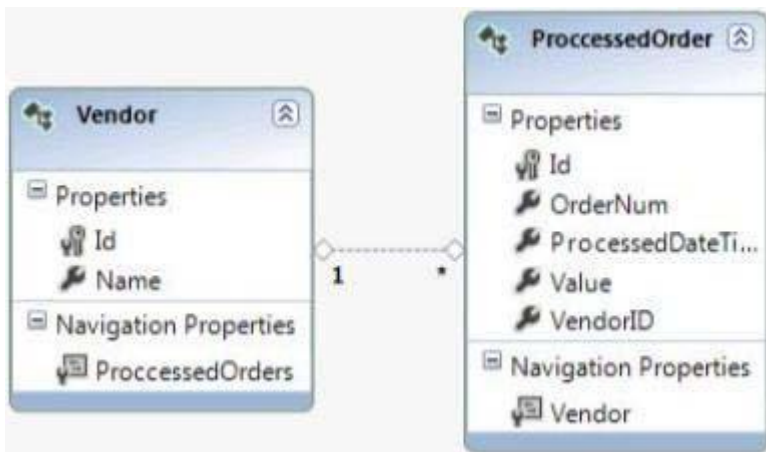
The project contains two services defined in the following files.

- IExternalQueueService.cs
- ExternalQueueService.svc.

The ExternalQueue.Helpers namespace contains a definition for a class named OrderNotFound Exception.

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.cs
- ProcessedOrderController.cs

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:

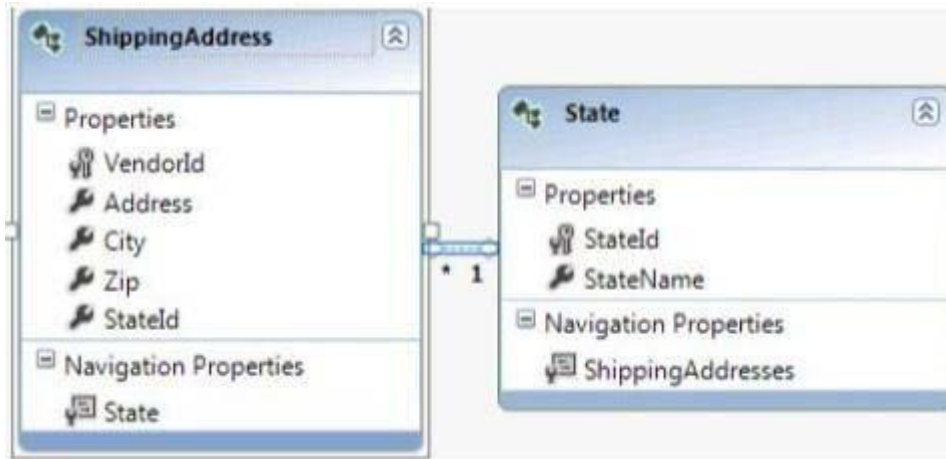
The project contains two services defined in the following files.

- IUploadCallbackService.cs
- 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.cs file. The POCO entity must be loaded by using lazy loading. The project contains two services defined in the following files.

- IShippingService.cs
- 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 ==
EQ27 orderNum).ToList();
EQ28                 if (orders.Count() > 0)
EQ29                 {
EQ30                     using (EntityCommand cmd = new EntityCommand())
EQ31                     {
EQ32                         cmd.CommandText = "ExternalOrdersEntities.uspInboundQueueDelete";
EQ33                         cmd.CommandType = CommandType.StoredProcedure;
EQ34                         EntityParameter param = new EntityParameter();
EQ35                         param.Value = orderNum;
EQ36                         param.ParameterName = "orderNum";
EQ37                         cmd.Parameters.Add(param);
EQ38                         ExecuteCommandProcedure(cmd);
EQ39                     }
EQ40                 }
EQ41                 else
EQ42                 {
EQ43                     OrderNotFoundException ex = new OrderNotFoundException();
EQ44                     ex.OrderNum = orderNum;
EQ45                     ex.ExceptionMessage = "Order not found...Cannot delete";
EQ46                 }
EQ47             }
```



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
PC28             ("vendorKey") as List<Entities.Vendor>;
PC29             if (vendors == null)
PC30             {
PC31                 using (var context = new ProcessedOrders())
PC32                 {
PC33                     vendors = context.Vendors.ToList();
PC34                 }
PC35             }
PC36             return View(vendors);
PC37         }
PC38
PC39         private CacheItemPolicy GetVendorPolicy()
PC40         {
PC41             CacheItemPolicy vendorPolicy = new CacheItemPolicy();
PC42             return vendorPolicy;
```

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);
```

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 }
```

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

## 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 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.)





[DataMember]

[CollectionDataContract]

[DataContract]

[ServiceContract]

[OperationContract]

Answer Area

```

public interface IShippingService
{
    
    ShippingInfo GetShippingInfo(int orderNum);
}


public class State
{
    
    public string StateName { get; set; }
}


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

    
    public string ZipCode { get; set; }
}

```

A.

Correct Answer: A

Section: (none)

Explanation

Explanation/Reference:

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

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

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

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

### QUESTION 3

DRAG DROP

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



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

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Second answer is wrong, it should be "await command.ExecuteNonQuery();" "

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

        await connection.OpenAsync();

        await command.QueryAsync();
    }
}
```

Credits to Rem

#### QUESTION 4

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

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### QUESTION 5

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 answer area. 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

```

[ServiceBehavior(ConcurrencyMode =
    ConcurrencyMode. [ ] )]

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

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

A.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

```
[ServiceBehavior(ConcurrencyMode =  
    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);  
    }  
}
```