



# Reference Solution for RealTest.70-486.104.QA 70-486

70-486

Developing ASP.NET MVC 4 Web Applications

Added Explanations and Exhibits most of the questions.

I only used these questions and got 480 marks with this. Perfect Show.

These are the most accurate study questions. Just focus on these and sit in your exam.

Fixed the Exhibit size and Drag drops/hot spot questions.

Still valid , Hurry up guys study and pass this one.

Score:	800/1000
Version:	12.01
Time Limit:	120 Minutes

## Olympic Marathon

### **Case Study (5 questions)**

Olympic Marathon

#### Background

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

### **Business Requirements**

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

The application must be optimized for accessibility.

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

### **Technical Requirements**

#### Data Access:

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

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

#### Layout:

All pages in the application use a master layout file named `\Views\Shared\_Layout.cshtml`.

#### Models:

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

#### Views:

All views in the application use the Razor view engine.

Four views located in `\Views\RunLog` are named:

`_CalculatePace.cshtml`

`EditLog.cshtml`

`GetLog.cshtml`

`InsertLog.cshtml`

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

**Controllers:**

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

**Images:**

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

**Videos:**

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

**Security:**

You have the following security requirements:

The application is configured to use forms authentication.

Users must be logged on to insert runner data.

Users must be members of the Admin role to edit or delete runner data.

There are no security requirements for viewing runner data.

You need to protect the application against cross-site request forgery.

Passwords are hashed by using the SHA1 algorithm.

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

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

## ***Application Structure***

**Controllers\RunLogController.cs**

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

**Models\LogModel.cs**

```

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

```

**Views\RunLog\\_CalculatePace.cshtml**

```

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

```

## Views\RunLog\EditLog.cshtml

```

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

```

**Views\RunLog\GetLog.cshtml**

```

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

```



**Views\Shared\\_Layout.cshtml**

```

L001 <!DOCTYPE html>
L002 <html lang="en">
L003 <head>
L004 ...
L005 </head>
L006 <body>
L007 ...
L008 <footer>
L009
L010     <script type="text/javascript">
L011         var c = document.getElementById('myCanvas');
L012         var ctx = c.getContext('2d');
L013         ctx.font = '30pt Calibri';
L014         ctx.strokeStyle = 'gray';
L015         ctx.lineWidth = 3;
L016         ctx.strokeText('London 2012', 80, 30);
L017     </script>
L018 </footer>
L019 </body>
L020 </html>

```

**Question 1**

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

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

<pre>@Html.Partial( @Html.Action(     "_CalculatePace.cshtml", log)     "_CalculatePace", log)     "_CalculatePace")</pre>	<pre>&lt;td&gt;     @Html.DisplayFor(model =&gt; log.Time) &lt;/td&gt; &lt;td&gt;     &lt;td&gt;         @Html.ActionLink(             "Delete", "DeleteLog",             new { id = log.Id })         &lt;/td&gt;     &lt;/td&gt; &lt;/td&gt;</pre>
--	--

Solution:

<pre>@Html.Partial( @Html.Action(     "_CalculatePace.cshtml", log)     "_CalculatePace", log)     "_CalculatePace")</pre>	<pre>&lt;td&gt;     @Html.DisplayFor(model =&gt; log.Time) &lt;/td&gt; &lt;td&gt;     @Html.Partial(         "_CalculatePace", log)     &lt;/td&gt; &lt;td&gt;     @Html.ActionLink(         "Delete", "DeleteLog",         new { id = log.Id })     &lt;/td&gt;</pre>
--	--

## Question 2

You need to implement security according to the business requirements.

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

The interface shows a list of code segments on the left and a code editor on the right.

**Code Segments (Left):**

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

**Code Editor (Right):**

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

    public ActionResult InsertLog()
    ...
    [ ]
    public ActionResult DeleteLog(int id)
    [ ]
    public ActionResult EditLog(int id)
    ...
}
```

Solution:

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

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

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

**Question 3**

You need to implement the map of the runners' paths.

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

Work Area

&lt;video width="320" height="240"&gt;

&lt; [v] &gt;

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

&lt; [v] &gt;

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

&lt; [v] &gt;

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

&lt; [v] width="320" height="240"&gt;

embed  
 object  
 video  
 canvas

&lt; [v] name="movie" value="map.swf"

object  
 param  
 option  
 embed

&lt; [v] src="map.swf" /&gt;

video  
 param  
 embed  
 source

&lt;/ [v] &gt;

embed  
 object  
 video  
 canvas

&lt;/video&gt;

Solution:

Work Area

```

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



**Question 4**

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

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

Work Area

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



Work Area

Work Area

```

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

```

Work Area

Work Area

```

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

```

### Question 5

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

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

"RunnerLog.Providers.RunLogRoleProvider"	<roleManager
"System.Web.Providers.RunLogRoleProvider"	enabled="true" >
"System.Web.Providers.DefaultRoleProvider"	<providers>
defaultProvider="DefaultProvider"	<add name="RLRoleProvider"
defaultProvider="RLRoleProvider"	type=
	Application="RunnerLog"/>
	</providers>
	</roleManager>

Solution:

"RunnerLog.Providers.RunLogRoleProvider"	<roleManager
"System.Web.Providers.RunLogRoleProvider"	defaultProvider="RLRoleProvider"
"System.Web.Providers.DefaultRoleProvider"	enabled="true" >
defaultProvider="DefaultProvider"	<providers>
defaultProvider="RLRoleProvider"	<add name="RLRoleProvider"
	type= "RunnerLog.Providers.RunLogRoleProvider"
	Application="RunnerLog"/>
	</providers>
	</roleManager>

## Web Application

### **Case Study (5 questions)**

Web Application

#### Background

You are developing an online shopping web application.

#### Business Requirements

A user is not required to provide an email address. If a user enters an email address, it must be verified to be a valid email address.

Information about the first product on the product page must fade out over time to encourage the user to continue browsing the catalog.

Administrators must be able to edit information about existing customers.

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

### **Technical Requirements**

#### General:

The web store application is in a load-balanced web farm. The load balancer is not configured to use server affinity.

The web store application is an ASP.NET MVC application written in Visual Studio 2012.

#### Products:

The value of the productId property must always be greater than 0.

The Products page for mobile devices must display to mobile users. The Products page for desktop devices must display to desktop users.

#### Storage:

The data must be stored in a serialized XML data format.

Serialized objects must be schema-independent.

#### Exception handling:

Exceptions originating from IIS must display a page with support contact information.

Some page links expire, and users who access these links encounter 404 errors.

Exceptions must be logged by using the WriteLog method of the Utility class.

#### Browser and device support:

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

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

## ***Application Structure***

**MvcApplication / Global.asax**

```

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

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

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

```

**ProductController.cs**

```

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

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

```

**DataLoader.cs**

```

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

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

```

**Customer.cs**

```

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

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

```



**Customer.cs**

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

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

**Product.cs**

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

**ImageConverter.cs**

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

**web.config**

```
<?xml version="1.0" encoding="utf-8"?>
```

**web.config**

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

**Question 13**

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

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

- ☐ `$("#body h1:nth-child(1)").fadeIn(1000);`
- ☒ `$("#body h1:nth-child(1)").fadeOut(1000);`
- ☒ `$("#body h2:nth-child(1)").animate({ opacity: 0 });`
- ☐ `$("#body h1:nth-child(1)").animate({ opacity: 1 });`

Explanation:

answer is valid.

### Question 14

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

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

- ☒ `$("#h1: first") .animate ({ opacity: 0 });`
- ☐ `$("#h1:first").fadeIn(1000);`
- ☐ `$("#h1:first").animate({ opacity: 1 });`
- ☒ `$("#h1:first").fadeOut(1000);`

### Question 15

You need to configure session storage in the web.config file to meet the technical requirements for scalability.

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

- ☒ StateServer
- ☐ InProc
- ☐ AutoDetect
- ☒ SqlServer



**Question 16**

You need to update the routes to ensure that a product is always displayed on the product page.

Which code segment should you use?

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

- ☐ Option A
- ☒ Option B
- ☐ Option C
- ☐ Option D

**Question 17**

The GetDealPrice method must be called by using Ajax.

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

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

- ☐ Option A
- ☐ Option B
- ☒ Option C
- ☒ Option D

## Video Transcoding Service

### ***Case Study (5 questions)***

Video Transcoding Service

#### Background

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

### ***Business Requirements***

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

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

Customers require support for Microsoft Internet Explorer 7 and later.

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

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

### ***Technical Requirements***

#### User Experience:

The front-end web application enables a user to view a list of videos.

The main view of the application is the web page that displays the list of videos.

HTML elements other than the list of videos are changed with every request requiring the page to reload.

#### Compatibility:

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

#### Transcoding:

The video transcoding occurs on a set of Windows Azure worker roles.

The transcoding is performed by a third-party command line tool named transcode.exe. When the tool is installed, an Environment variable named transcode contains the path to the utility.

A variable named license contains the license key. The license for the transcoding utility requires that it be unregistered when it is not in use.

The transcoding utility requires a significant amount of resources. A maximum of 10 instances of the utility can be running at any one time. If an instance of the role cannot process an additional video, it must not prevent any other roles from processing that video.

The utility logs errors to a Logs directory under the utilities path.

A local Azure directory resource named perf is used to capture performance data.

#### Development:

Developers must use Microsoft Remote Desktop Protocol (RDP) to view errors generated by the transcode.exe utility.

An x509 certificate has been created and distributed to the developers for this purpose.

Developers must be able to use only RDP and not any other administrative functions.

## ***Application Structure***

**TranscodeWorkerRole.cs**

```

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

    private string GetWorkItem()
    {
        ...
    }
}

```

**ThumbnailGenerator.cs**

```

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

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

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

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

```

**VideoController.cs**

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

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

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

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

    public ActionResult ListVideos()
    {
        return View();
    }
}
```

**DeleteHandler.cs**

```
public class DeleteHandler : DelegatingHandler
{
    protected override Task<HttpResponseBody> SendAsync(
        HttpRequestMessage request,
        CancellationToken cancellationToken)
    {
        ...
    }
}
```

**VideoAdminAttributes.cs**

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

**AdminVerifierFactory.cs**

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

**Question 28**

The transcode.exe utility activates its license online when it is installed. You need to ensure that the registration of the transcode utility is handled as specified in its license.

Which method should you add to the TranscodeWorkerRole class?

- ☐ A. 

```
public override void OnStop()
{
    RoleEnvironment.Stopping += (sender, args) =>
    {
        var task = Process.Start("transcode.exe", "unregister");
        if (task.HasExited)
            base.OnStop();
    };
}
```
- ☐ B. 

```
public override void OnStop()
{
    RoleEnvironment.Stopping += (sender, args) =>
    {
        Process.Start("transcode.exe", "unregister").WaitForExit();
        base.OnStop();
    };
}
```
- ☐ C. 

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

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

- ☐ Option A
- ☐ Option B
- ☐ Option C
- ☒ Option D

### Question 29

You need to ensure that all customers can delete videos regardless of their browser capability.

Which code segment should you use as the body of the SendAsync method in the DeleteHandler class?

- ☐ Option A
- ☒ Option B
- ☐ Option C
- ☐ Option D

Explanation:

Topic 4 Mixed Questions

**Question 30**

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



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

You need to implement the design.

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



## Work Area

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

```
ul#nav li {
```

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

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

```
    color: #FFF;
```

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

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

```
    color: #333;
```

```
}
```

## Work Area

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

```
ul#nav li {
```

```
float: left;
background-color: #ffd800;
background-color: #2da4c2;
text-decoration: none;
```

```
text-decoration: none;
list-style: none;
border-radius: 15px;
word-wrap: break-word;
```

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

```
}
```

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

```
background-clip: border-box;
background-color: #2da4c2;
border-radius: 15px;
word-wrap: break-word;
```

```
color: #FFF;
```

```
background-clip: padding-box;
text-decoration: none;
background-color: #ffd800;
float: left;
```

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

```
}
```

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

```
color: #333;
```

```
float: left;
background-color: #ffd800;
background-color: #2da4c2;
list-style: none;
```

## Work Area

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

```
ul#nav li {
```

```
float: left;
background-color: #ffd800;
background-color: #2da4c2;
text-decoration: none;
```

```
text-decoration: none;
list-style: none;
border-radius: 15px;
word-wrap: break-word;
```

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

```
}
```

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

```
background-clip: border-box;
background-color: #2da4c2;
border-radius: 15px;
word-wrap: break-word;
```

```
color: #FFF;
```

```
background-clip: padding-box;
text-decoration: none;
background-color: #ffd800;
float: left;
```

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

```
}
```

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

```
color: #333;
```

```
float: left;
background-color: #ffd800;
background-color: #2da4c2;
list-style: none;
```

### Question 31

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

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

```
<Startup>
  <Task commandLine="msiexec transcode.msi" taskType=" " >
    <
  <
    < name="license" value="825534"></
  </
</Task>
</Startup>
```

Solution:

The screenshot shows a software configuration interface with a left sidebar and a main code editor. The sidebar contains five buttons: 'Variable', 'Environment', 'foreground', 'background', and 'simple'. The 'simple' button is currently selected. The main editor displays XML code for a task startup configuration. The code is as follows:

```
<Startup>  
  <Task commandLine="msiexec transcode.msi" taskType="simple" >  
    < Environment >  
      < Variable name="license" value="825534"></ Variable >  
    </ Environment >  
  </ Task >  
</ Startup>
```

**Question 32**

You need to ensure that developers can connect to a Windows Azure role by using RDP.

What should you do?

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

## Mixed Questions

### Case Study (5 questions)

#### TESTLET OVERVIEW

Title: Case Study

The following testlet will present a Case Study followed by [count] multiple choice question(s), [count] create a tree question(s), [count] build list and reorder question(s) and [count] drop and connect question(s).

You will have [count] minutes to complete the testlet.

For help on how to answer the questions, click the Instructions button on the question screen.

### Question 37

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

The application must be compatible with multiple browsers. You must track the page number that the user is viewing in search results.

You need to program the location for storing state information.

Where should you persist state information?

- ☐ Session
- ☒ QueryString
- ☐ Application
- ☐ TempData

### Question 38

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

You detect performance issues when the application starts.

You need to resolve the performance issues.

What should you do?

- ☐ Enable compression in IIS.
- ☐ Move the content to a second server.
- ☒ Combine the content files by using ASP.NET MVC bundling.
- ☐ Implement HTTP caching in IIS.

**Question 39**

You are designing an HTML5 website.

You need to design the interface such that the content is viewable in all types of browsers, including screen readers.

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

- ☐ Ensure that content elements have valid and descriptive names.
- ☐ Use Resource Description Framework (RDF) to describe content elements.
- ☐ Convert HTML forms to XForms.
- ☒ Use HTML5 semantic markup elements.
- ☒ Annotate content elements with Accessible Rich Internet Application (ARIA) attributes.



**Question 40**

You are developing an ASP.NET MVC application in Visual Studio 2012. The application supports multiple cultures.

The application contains three resource files in the Resources directory:

ProductDictionary.resx

ProductDictionary.es.resx

ProductDictionary.fr.resx

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

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

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

You need to set ViewBag.LocalizedCurrency to the localized currency contained in the resource files. Which code segment should you add to the action at line 03?

- ☒ ViewBag.LocalizedCurrency = Resources.ProductDictionary.Currency;
- ☐ ViewBag.LocalizedCurrency =  
HttpContext.GetGlobalResourceObject("ProductDictionary", "Currency", new  
System.Globalization.CultureInfo(Men));
- ☐ ViewBag.LocalizedCurrency =  
HttpContext.GetLocalResourceObject("ProductDictionary", "Currency");
- ☐ ViewBag.LocalizedCurrency =  
HttpContext.GetGlobalResourceObject("ProductDictionary", "Currency");

**Question 41**

You are developing an ASP.NET MVC application.

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

Which authentication method should you implement?

- ☐ Kerberos
- ☒ Forms
- ☐ Basic
- ☐ Windows

Explanation:

answer is modified.

