

## Testkings

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**70-532**

### Developing Microsoft Azure Solutions

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## Testlet 1

### Topic 1, Web-based Solution

#### Background

You are developing a web-based solution that students and teachers can use to collaborate on written assignments. Teachers can also use the solution to detect potential plagiarism, and they can manage assignments and data by using locally accessible network shares.

#### Business Requirements

The solution consists of three parts: a website where students work on assignments and where teachers view and grade assignments, the plagiarism detection service, and a connector service to manage data by using a network share.

The system availability agreement states that operating hours are weekdays between midnight on Sunday and midnight on Friday.

#### Plagiarism Service

The plagiarism detection portion of the solution compares a new work against a repository of existing works. The initial dataset contains a large database of existing works. Teachers upload additional works. In addition, the service itself searches for other works and adds those works to the repository.

#### Technical Requirements

##### Website

The website for the solution must run on an Azure web role.

##### Plagiarism Service

The plagiarism detection service runs on an Azure worker role. The computation uses a random number generator. Certain values can result in an infinite loop, so if a particular work item takes longer than one hour to process, other instances of the service must be able to process the work item. The Azure worker role must fully utilize all available CPU cores. Computation results are cached in local storage resources to reduce computation time.

##### Repository of Existing Works

The plagiarism detection service works by comparing student submissions against a repository of existing works by using a custom matching algorithm. The master copies of the works are stored in Azure blob storage. A daily process synchronizes files between blob storage and a file share on a virtual machine (VM). As part of this synchronization, the ExistingWorkRepository object adds the files to Azure Cache to improve the display performance of the website. If a student's submission is overdue, the Late property is set to the number of days that the work is overdue. Work files can be downloaded by using the Work action of the TeacherController object.

##### Network Connector

Clients can interact with files that are stored on the VM by using a network share. The network permissions are configured in a startup task in the plagiarism detection service.

##### Service Monitoring

The CPU of the system on which the plagiarism detection service runs usually limits the plagiarism detection service. However, certain combinations of input can cause memory issues, which results in decreased performance. The average time for a given computation is 45 seconds. Unexpected results

during computations might cause a memory dump. Memory dump files are stored in the Windows temporary folder on the VM that hosts the worker role.

### Security

Only valid users of the solution must be able to view content that users submit. Privacy regulations require that all content that users submit must be retained only in Azure Storage. All documents that students upload must be signed by using a certificate named DocCert that is installed in both the worker role and the web role.

### Solution Development

You use Microsoft Visual Studio 2013 and the Azure emulator to develop and test both the compute component and the storage component. New versions of the solution must undergo testing by using production data.

### Scaling

During non-operating hours, the plagiarism detection service should not use more than 40 CPU cores. During operating hours, the plagiarism detection service should automatically scale when 500 work items are waiting to be processed. To facilitate maintenance of the system, no plagiarism detection work should occur during non-operating hours. All ASP.NET MVC actions must support files that are up to 2 GB in size.

### Biographical Information

Biographical information about students and teachers is stored in a Microsoft Azure SQL database. All services run in the US West region. The plagiarism detection service runs on Extra Large instances.

### Solution Structure

Relevant portions of the solution files are shown in the following code segments. Line numbers in the code segments are included for reference only and include a two-character prefix that denotes the specific file to which the line belongs.

#### Diagnostics.wadcfg

```
DG01 <?xml version="1.0" encoding="utf-8" ?>
DG02 <DiagnosticMonitorConfiguration
DG03   xmlns="http://schemas.microsoft.com/ServiceHosting/2010/10/DiagnosticsConfiguration"
DG04   configurationChangePollInterval="PT1M"
DG05   overallQuotaInMB="4096">
DG06   <PerformanceCounters bufferQuotaInMB="0" scheduledTransferPeriod="PT30M">
DG07     <PerformanceCounterConfiguration counterSpecifier="\System\Context Switches/
sec" sampleRate="PT30S" />
DG08   </PerformanceCounters>
DG09 </DiagnosticMonitorConfiguration>
```

**ExistingWorkRepository.cs**

```
EW01 public static class ExistingWorkRepository
EW02 {
EW03     public static void PopulateCache(string subject, string workId)
EW04     {
EW05         var account = Storage.Account();
EW06         var container = account.CreateCloudBlobClient().GetContainerReference("work" + subject);
EW07         var body = container.GetBlockBlobReference(workId).DownloadText();
EW08         var cache = new DataCacheFactory().GetCache(subject);
EW09         cache.Add(workId, body);
EW10     }
EW11 }
```

**PlagiarismCalculation.ps1**

```
PC01 public class PlagiarismCalculation
PC02 {
PC03     public double Compute(Work essay)
PC04     {
PC05         var score = default(double);
PC06         var account = Storage.Account();
PC07         var cloudTableClient = account.CreateCloudTableClient();
PC08         var cloudBlobClient = account.CreateCloudBlobClient();
PC09         var existingWorks = cloudTableClient.GetTableReference("library").CreateQuery<Work>();
PC10         var container = cloudBlobClient.GetContainerReference("work" + subject);
PC11         foreach (var work in existingWorks.Execute())
PC12         {
PC13             work.Body = container.GetBlockBlobReference(work.PartitionKey).DownloadText();
PC14             score = GetMaxScore(essay, work, score);
PC15         }
PC16         return score;
PC17     }
PC18
PC19     private double GetMaxScore(Work work, Work previousWork, double previous)
PC20     {
PC21         var rootPath = RoleEnvironment.GetLocalResource("ComputeResults").RootPath;
PC22         ...
PC23         return score;
PC24     }
PC25 }
```

**SetupNetworkAccess.ps1**

```
SN01 $acl = New-AzureAclConfig
SN02 Set-AzureAclConfig -AddRule -ACL $acl -Order 400 -Action permit `
    -RemoteSubnet "192.168.5.1/24" -Description "Access for Northwood"
SN03 Set-AzureAclConfig -AddRule -ACL $acl -Order 200 -Action permit `
    -RemoteSubnet "10.181.11.1/16" -Description "Access for Contoso, Ltd"
SN04 Get-AzureVM -ServiceName "FileService" -Name "FS" | `
    Add-AzureEndpoint -Name "Files" -Protocol tcp -Localport 445 `
    -PublicPort 445 -ACL $acl | Update-AzureVM
```

**TeacherController.cs**

```
TC01 public class TeacherController : Controller
TC02 {
TC03     public ActionResult Work(string workId, string subject)
TC04     {
TC05     }
TC06 }
TC07     public ActionResult Upload(string workId, string subject)
TC08     {
TC09     }
TC10 }
TC11     private static bool CheckDay(DateTime dt)
TC12     {
TC13         if ((dt.DayOfWeek == DayOfWeek.Saturday) || (dt.DayOfWeek == DayOfWeek.Sunday))
TC14             return true;
TC15         return false;
TC16     }
TC17     private static CloudQueueMessage BuildMessage(params string[] args)
TC18     {
TC19         return new CloudQueueMessage(string.Join("/", args));
TC20     }
TC21 }
```

**Work.cs**

```
WK01 public class Work : TableEntity
WK02 {
WK03     public string Body { get; set; }
WK04     public string Author { get; set; }
WK05     public bool IsReference { get; set; }
WK06     public int Late { get; set; }
WK07     [IgnoreProperty]
WK08     public string Subject
WK09     {
WK10         get { return RowKey; }
WK11         set { RowKey = value; }
WK12     }
WK13     [IgnoreProperty]
WK14     public string WorkId
WK15     {
WK16         get { return PartitionKey; }
WK17         set { PartitionKey = value; }
WK18     }
WK19 }
```

**WorkerRole.cs**

```
WR01 public class WorkerRole : RoleEntryPoint
WR02 {
WR03     public override void Run()
WR04     {
WR05         var account = Storage.Account();
WR06         var queue = account.CreateCloudQueueClient().GetQueueReference("checkwork");
WR07         var service = new PlagiarismCalculation();
WR08         foreach (var queueMessage in GetWork(queue))
WR09         {
WR10             var parts = queueMessage.AsString.Split(new[] { "/" }, StringSplitOptions.None);
WR11             service.Compute(parts[0], parts[1]);
WR12         }
WR13     }
WR14     private IEnumerable<CloudQueueMessage> GetWork(CloudQueue queue)
WR15     {
WR16     }
WR17 }
WR18 }
```

**QUESTION 1**



You are deploying the web-based solution in the West Europe region.

You need to copy the repository of existing works that the plagiarism detection service uses. You must achieve this goal by using the least amount of time.

What should you do?

- A. Copy the files from the source file share to a local hard disk. Ship the hard disk to the West Europe data center by using the Azure Import/Export service.
- B. Create an Azure virtual network to connect to the West Europe region. Then use Robocopy to copy the files from the current region to the West Europe region.
- C. Provide access to the blobs by using the Microsoft Azure Content Delivery Network (CDN).  
Modify the plagiarism detection service so that the files from the repository are loaded from the CDN.
- D. Use the Asynchronous Blob Copy API to copy the blobs from the source storage account to a storage account in the West Europe region.

**Correct Answer:** D

**Section:** [none]

**Explanation**

**Explanation/Reference:**

Ref: <http://blogs.msdn.com/b/windowsazurestorage/archive/2012/06/12/introducing- asynchronous-cross-account-copy-blob.aspx>

## QUESTION 2

You need to find all existing works about World History that are overdue and are stored in the repository.

How should you complete the relevant code? To answer, select the appropriate option or options in the answer area.

**Hot Area:**

**Answer Area**

```
var root = Storage.Account().TableStorageUri;  
var query = root + "library()?$filter=" +
```

"  "

late%20gt%20
late%20lt%20
late%20ne%20true
late%20eq%20true

"%20and%20  %20eq%20'World History'";

RowKey
WorkID
Subject
PartitionKey

**Correct Answer:**

**Answer Area**

```
var root = Storage.Account().TableStorageUri;  
var query = root + "library()?$filter=" +
```

"  "

late%20gt%20
late%20lt%20
late%20ne%20true
late%20eq%20true

"%20and%20  %20eq%20'World History'";

RowKey
WorkID
Subject
PartitionKey

**Section: [none]**  
**Explanation**



**Explanation/Reference:****QUESTION 3**

You need to insert code at line WR16 to implement the GetWork method.

How should you complete the relevant code? To answer, drag the appropriate code segment to the correct location. 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:**

**Code Segments**

numOfMessages:4

numOfMessages:8

GetMessages

PeekMessages

visibilityTimeout:

operationContext:

**Answer Area**

```
while (true)
{
    var messages = queue.
    (
        ,
        TimeSpan.FromHours(1));
    foreach (var message in messages)
        yield return message;
}
```

**Correct Answer:**

**Code Segments**

numOfMessages:4

PeekMessages

operationContext:

**Answer Area**

```
while (true)
{
    var messages = queue. 
    (  , 
    TimeSpan.FromHours(1));
    foreach (var message in messages)
        yield return message;
}
```

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 4

The Compute method in the PlagiarismCalculation class takes a significant amount of time to load existing works from blob storage. To improve performance, the service must load existing works from the cache.

You need to modify the Compute method in the class PlagiarismCalculation.

How should you modify the method? To answer, select the appropriate option or options in the answer area.

**Hot Area:**

**Answer Area**

```
var existingWorks =  
  
cloudTableClient.GetTableReference("library").CreateQuery<Work>();  
  
var cache = new DataCache(essay.Author);  
var cache = new DataCache(essay.Subject);  
var cache = new DataCacheItemKey(essay.Author, "body");  
var cache = new DataCacheItemKey(essay.Subject, "body");  
  
foreach (var work in existingWorks.Execute())  
{  
  
work.Body = cache.Get(work.Body).ToString();  
work.Body = cache.Get(work.RowKey).ToString();  
work.Body = cache.Get(work.Author).ToString();  
work.Body = cache.Get(work.PartitionKey).ToString();  
  
score = compute(essay, work, score);  
}
```

**Correct Answer:**

**Answer Area**

```
var existingWorks =  
  
cloudTableClient.GetTableReference("library").CreateQuery<Work>();  
  
var cache = new DataCache(essay.Author);  
var cache = new DataCache(essay.Subject);  
var cache = new DataCacheItemKey(essay.Author, "body");  
var cache = new DataCacheItemKey(essay.Subject, "body");  
  
foreach (var work in existingWorks.Execute())  
{  
  
work.Body = cache.Get(work.Body).ToString();  
work.Body = cache.Get(work.RowKey).ToString();  
work.Body = cache.Get(work.Author).ToString();  
work.Body = cache.Get(work.PartitionKey).ToString();  
  
score = compute(essay, work, score);  
}
```

**Section: [none]****Explanation****Explanation/Reference:****QUESTION 5**

You need to configure storage for the solution.

What should you do? To answer, drag the appropriate XML segments to the correct locations. Each XML 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:**

Markup Segments

LocalStorage

ComputeResults

Content

ignoreRoleInstanceStatus

cleanOnRoleRecycle

TemporaryData

LocalResources

Answer Area

<

>

<

name="

"

= "true"

Status = "true"

sizeInMB = "123"

/>

<

/>

Correct Answer:

Markup Segments

LocalStorage

ComputeResults

Content

ignoreRoleInstanceStatus

cleanOnRoleRecycle

TemporaryData

LocalResources

Answer Area

```
< LocalResources >
  < LocalStorage
    name=" ComputeResults "
    cleanOnRoleRecycle ="true"
    Status ="true"
    sizeInMB="123"
  />
< LocalResources />
```

Section: [none]  
Explanation

Explanation/Reference:



## Testlet 1

### Topic 2, Contoso, Ltd

#### Background

Contoso, Ltd. is developing a patient monitoring solution for a hospital. The solution consists of an Azure website and a set of mobile applications that health care providers use to monitor patients remotely.

Monitoring devices that run the embedded version of Windows will be attached to patients. The devices will collect information from patients and will transmit real-time continuous data to a service that runs on Azure. The service collects and distributes data. The data that the service provides must be accessible by the website and by the mobile applications.

#### Business Requirements

##### Patients

All patient data must be stored securely on Azure. Data security must meet or exceed Health Insurance Portability and Accountability Act of 1996 (HIPAA) standards in the United States and must meet or exceed ISO/IEC 27002 data security standards in the rest of the world.

##### Contractors

Third-party contractors will develop the mobile applications. All contractors must develop the applications by using virtual machines (VMs) that are hosted on Azure. Only authorized contractors and authorized IP addresses are permitted to access the VMs. The contractors can use Near Field Communication (NFC) tags to launch Remote Desktop (RD) connections to the VMs from NFC-enabled devices. For testing purposes, contractors must be able to run multiple instances of mobile applications within the VMs.

##### Data Collection and Distribution Service

The service must monitor the patient data and send out alerts to health care providers when specific conditions are detected. The service must send the alerts to mobile applications and to the website in real time so that doctors, nurses, and caregivers can attend to the patient. Partner organizations and diagnostic laboratories must be able to securely access the data and the website from remote locations.

##### Current Issues

A partner that is testing a prototype of the website reports that after signing in to the website, the partner is redirected to the settings page instead of to the home page.

The data from the patient devices is slow to appear on the website and does not always appear. All patient devices online have active connections to the data collection service.

#### Technical Requirements

##### Contractors

All contractors will use virtual machines that are initially configured as size A3. Contractors must sign in to the assigned VM by using IP addresses from a list of preapproved addresses.

##### Data Collection and Distribution Service

The service runs Node.js in a worker role.

The service must use at least 2048-bit encryption and must use port 8888.

All patient information must be encrypted and stored by using a NoSQL data store.  
Data must be stored and retrieved securely by using RESTful endpoints.  
Data must NOT be stored within a virtual machine.

All deployed services must send an alert email to [watchguard@contoso.com](mailto:watchguard@contoso.com) when any of the following conditions is met:

- The CPU Percentage metric is at or above 85 percent for at least 10 minutes.
- The Network In metric is at or above 2 KB for at least 10 minutes.
- The Network Out metric is at or above 2 KB for at least 10 minutes.
- The Disk Write metric is at or above 1 KB/sec for at least 30 minutes.
- The Disk Read metric is at or above 1 KB/sec for at least 30 minutes.

### **Website and Mobile Devices**

The website must be secure and must be accessible only within the hospital's physical grounds. All mobile applications and websites must be responsive. All websites must produce error logs that can be viewed remotely.

### **Virtual Machines**

- All Azure instances must be deployed and tested on staging instances before they are deployed to production instances.
- All deployed instances must scale up to the next available CPU instance at a CPU usage threshold of 90 percent and scale down when the usage is below 10 percent.

### **Application Structure**

Relevant portions of the application files are shown in the following code segments. Line numbers in the code segments are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

**ControllerFile.cs:**

```
CF01 using System;
CF02 using System.Collections.Generic;
CF03 using System.Linq;
CF04 using System.Web;
CF05 using System.Web.Mvc;
CF06 namespace WebApplication1.Controllers
CF07 {
CF08     public class HomeController : Controller
CF09     {
CF10         public ActionResult Index()
CF11         {
CF12             ViewBag.Message = "Welcome to Contoso Patient Monitor.";
CF13
CF14             return View();
CF15         }
CF16         ...
CF17     }
CF18 }
```

**Web.config**

```
WC01 <?xml version="1.0" encoding="utf-8"?>
WC02 <configuration>
WC03     <appSettings>
WC04         <add key="webpages:Version" value="3.0.0.0" />
WC05         <add key="webpages:Enabled" value="false" />
WC06         <add key="ClientValidationEnabled" value="true" />
WC07         <add key="UnobtrusiveJavaScriptEnabled" value="true" />
WC08
WC09     </appSettings>
WC10     <system.web>
WC11         <authentication mode="None" />
WC12         <compilation debug="true" targetFramework="4.5" />
WC13         <httpRuntime targetFramework="4.5" />
WC14
WC15     </system.web>
WC16 </configuration>
```

**QUESTION 1**

The website does not receive alerts quickly enough.

You need to resolve the issue.

What should you do?

- A. Enable automatic scaling for the website.
- B. Manually Increase the instance count for the worker role.
- C. Increase the amount of swap memory for the VM instance.
- D. Set the monitoring level to Verbose for the worker role.
- E. Enable automatic scaling for the worker role.

**Correct Answer:** B

**Section:** [none]

**Explanation**

**Explanation/Reference:**

## QUESTION 2

You need to implement data storage for patient information.

What should you do?

- A. Use the Update Entity operation of the Table Service REST API.
- B. Use the Put Blob operation of the Blob Service REST API.
- C. Use the Put Message operation of the Create Queue REST API.
- D. Use the Set Share Metadata operation of the File Service REST API.

**Correct Answer:** A

**Section:** [none]

**Explanation**

**Explanation/Reference:**

## QUESTION 3

You create a VM named cVM\_005 for a newly hired contractor.

The contractor reports that the VM runs out of memory when the contractor attempts to test the mobile applications. You need to double the memory that is available for the VM.

Which Windows PowerShell command should you use?

- ☐ A. `SetAzureVMSize -ServiceName "cVM_005" -VMSize "A4"`
- ☐ B. `Add-DataDisksToVM.ps1 -ServiceName "cVM 005" -VMName "MyVM" -Location "West US" -NumberOfDisks 2 -DiskSizeInGB 16`
- ☐ C. `SetAzureVMSize -ServiceName "cVM_005" -VMSize "Medium"`
- ☐ D. `SetAzureVMSize -ServiceName "cVM_005" -VMSize "A6"`

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

**Correct Answer:** A

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 4

You need to configure a VM for a new contractor.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

**Select and Place:**

Actions	Answer Area
Copy the endpoint port addresses to an NFC tag for the contractor.	
Add the contractor's user names and remote IP addresses to the list of permitted users and addresses in the ACL.	
Obtain the radio frequency identification (RFID) information from the contractor and import the secure key from the RFID device.	
Create an endpoint and configure the ports that the VM will use.	
Select the endpoints that the VM will access.	

**Correct Answer:**



Actions	Answer Area
Copy the endpoint port addresses to an NFC tag for the contractor.	Create an endpoint and configure the ports that the VM will use.
	Obtain the radio frequency identification (RFID) information from the contractor and import the secure key from the RFID device.
	Add the contractor's user names and remote IP addresses to the list of permitted users and addresses in the ACL.
Select the endpoints that the VM will access.	

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 5

You run the following Windows PowerShell script. Line numbers are included for reference only.

```
01 Get-AzureSubscription -SubscriptionName ContosoPt1
02 Switch-AzureWebsiteSlot -Name ContosoPt1_2
03 Remove-AzureWebsite -Name ContosoPt1_2 -Slot staging
04 Get-AzureDeployment -ServiceName ContosoPt1_2 -Slot Production | Get-AzureDNS
05 $MyAzureCert = Get-AzureCertificate -ServiceName ContosoPT | Remove-AzureCertificate
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

**Hot Area:**

Answer Area	Yes	No
After you run this script, a new certificate will be applied to the web site.	<input type="radio"/>	<input type="radio"/>
After you run this script, you must update the custom domain names.	<input type="radio"/>	<input type="radio"/>
After you run this script, you must recreate the staging slot.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

Answer Area	Yes	No
After you run this script, a new certificate will be applied to the web site.	<input type="radio"/>	<input checked="" type="radio"/>
After you run this script, you must update the custom domain names.	<input type="radio"/>	<input checked="" type="radio"/>
After you run this script, you must recreate the staging slot.	<input checked="" type="radio"/>	<input type="radio"/>

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 6

You need to implement the worker role to support the real-time continuous data-collection service.

How should you complete the relevant code? To answer, select the appropriate option or options in the answer area.

**Hot Area:**

**Answer Area**

```
var https = require('  ');

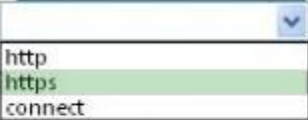
var fs = require('fs');
var options = {
  pfx: fs.readFileSync('cert.pfx'),
   : "password"
};


var port = process.env.Port ||  ;

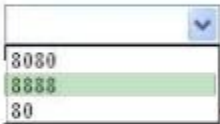
https.createServer(options, function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/plain'});
  res.end('Server Active\n');
}).listen(port);
```

**Correct Answer:**

**Answer Area**

```
var https = require('  ');

var fs = require('fs');
var options = {
  pfx: fs.readFileSync('cert.pfx'),
   : "password"
};

var port = process.env.Port ||  ;

https.createServer(options, function (req, res) {
  res.writeHead(200, {'Content-Type': 'text/plain'});
  res.end('Server Active\n');
}).listen(port);
```

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 7**

Users report that after periods of inactivity the website is slow to render pages and to process sign-in attempts.

You need to ensure that the website is always responsive.

What should you do?

- A. Add the following markup at line WC14:  
<sessionState timeout="86400" />
- B. Add the following markup at line WC08:  
<add key="timeout" value="null" />
- C. Add the following markup at line WC14:  
<sessionState timeout="fl" />
- D. In the Azure management portal, enable Always On support for the website.
- E. In the Azure management portal, disable Always On support for the website.

**Correct Answer:** A

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 8

You need to implement tracing for the website after the website is deployed.

Which code segment should you insert at line CF13?

- ☐ A. `System.Diagnostics.Trace.WriteLine(false, username + " is on page at " + DateTime.UtcNow.ToShortDateString(), "Error");`
- ☐ B. `System.Diagnostics.Trace.TraceInformation(username + " is on page at " + DateTime.UtcNow.ToShortDateString());`
- ☐ C. `System.Diagnostics.Trace.TraceError(username + " is on page at " + DateTime.UtcNow.ToShortDateString());`
- ☐ D. `System.Diagnostics.Trace.WriteLineIf(false, username + " is on page at " + DateTime.UtcNow.ToShortDateString(), "Verbose");`

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

**Correct Answer:** C

**Section:** [none]

**Explanation**

**Explanation/Reference:**



## Testlet 1

### Topic 3, Mortgage Loan

#### Background

A company is developing a website that supports mortgage loan processing. You use the Azure management portal to create a website. You initially configure the website to use the Basic hosting plan. You register a custom domain for the website with a valid registrar.

Customers complete mortgage applications and upload supporting documents to the website. A custom executable named FileProcessor.exe processes all of the information received. An on-premises server that runs Windows Server hosts the executable.

You create a virtual hard disk (VHD) image of the on-premises server. You plan to use this VHD to replace the on-premises server with a new virtual machine (VM) that is hosted in Azure.

#### Business Requirements

Business stakeholders have identified the following requirements for the mortgage loan processing website:

- The website must provide a secure mortgage application process for the customer.
- Business users must validate new versions of the website before you publish them to the production site. You must be able to revert to the previous version easily when issues arise.
- The website must remain available to users while new features and bug fixes are deployed.
- Network traffic must be monitored on all ports that the website uses.

#### Technical Requirements

##### General:

- You must develop the website by using Microsoft Visual Studio 2013.
- The website must be stateless. Subsequent requests from a user might or might not be routed back to the website instance that the user initially connected to.

##### Security:

You must secure the custom domain and all subdomains by using SSL.

##### Storage:

- The custom executable must use native file system APIs to share data between different parts of the website.
- The custom executable must continue to use a network file share to access files.

##### Monitoring:

The website must use port 6000 with UDP to submit information to another process. This port must be actively monitored by using the same external port number.

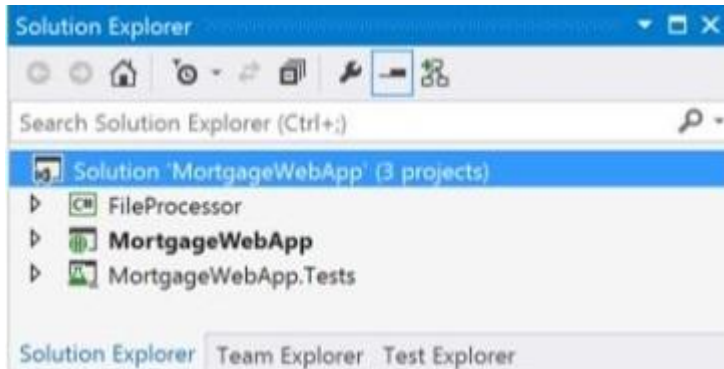
##### Deployment:

- You must deploy the VM and the associated VHD. You will need to move this VM to a different Azure subscription after deployment.

- You must establish a continuous deployment process that uses staged publishing.
- The custom domain must handle requests for multiple subdomains.
- The custom domain must use a www CNAME record that points to the domain's @ A record.
- The custom executable must run continuously and must be deployed as an Azure web job named FileProcessor
- Application Request Routing (ARR) affinity must be disabled for the website.

## Solution Structure

The solution structure for the website is shown in the following exhibit.



## QUESTION 1

You need to create the VM to replace the on-premises server.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

**Select and Place:**

Actions	Answer Area
<p>Generalize the on-premises server by using the Sysprep utility. Create an Azure storage account. Create a container in the storage account.</p>	
<p>Connect Windows PowerShell to Azure, and upload the VHD.</p>	
<p>Use the Azure management portal to create a new VM.</p>	
<p>Create a new VHD.</p>	

**Correct Answer:**

Actions	Answer Area
<div></div> <div></div> <div></div> <div></div> <div>Create a new VHD.</div>	<div>Generalize the on-premises server by using the Sysprep utility. Create an Azure storage account. Create a container in the storage account.</div> <div>Connect Windows PowerShell to Azure, and upload the VHD.</div> <div>Use the Azure management portal to create a new VM.</div>

**Section:** [none]

**Explanation**

**Explanation/Reference:**

## QUESTION 2

You need to secure the website.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

**Select and Place:**

**Actions**

Configure the website to use the **Standard** hosting plan.

Add the SSL settings to the **web.config** file of the website.

Configure the website to use the **Shared** hosting plan.

Select the name of the domain that the SSL certificate secures.

Upload a wildcard SSL certificate.

Upload a basic SSL certificate.

**Answer Area**

**Correct Answer:**

Actions	Answer Area
	Configure the website to use the <b>Standard</b> hosting plan.
Add the SSL settings to the <b>web.config</b> file of the website.	Upload a wildcard SSL certificate.
Configure the website to use the <b>Shared</b> hosting plan.	Select the name of the domain that the SSL certificate secures.
Upload a basic SSL certificate.	

Section: [none]

Explanation

Explanation/Reference:

<http://azure.microsoft.com/en-us/documentation/articles/web-sites-configure-ssl-certificate/>

### QUESTION 3

You need to deploy the FileProcessor.exe program.

How should you update the project configuration file for the program? To answer, select the appropriate option or options in the answer area.

Hot Area:



**Answer Area**

<Target Name="  ">  
<Copy  
AfterBuild  
BeforeBuild  
BeforeCompile  
AfterCompile

DestinationFolder="  "  
..\MortgageWebApp\App\_Data\jobs\continuous\FileProcessorWebJob  
..\MortgageWebApp\App\_Data\jobs\triggered\FileProcessor  
..\MortgageWebApp\App\_Data\jobs\triggered\FileProcessorWebJob

SourceFiles="\$(OutputPath)\FileProcessor.exe"  
/>  
</Target>

**Correct Answer:**

**Answer Area**

<Target Name="  ">  
<Copy

AfterBuild  
BeforeBuild  
BeforeCompile  
AfterCompile

DestinationFolder="  ">  
..\MortgageWebApp\App\_Data\jobs\continuous\FileProcessorWebJob  
..\MortgageWebApp\App\_Data\jobs\triggered\FileProcessor  
..\MortgageWebApp\App\_Data\jobs\triggered\FileProcessorWebJob

SourceFiles="\$(OutputPath)\FileProcessor.exe"

/>

</Target>

**Section: [none]**

**Explanation**

**Explanation/Reference:**

**QUESTION 4**

You need to implement endpoint monitoring.

What should you do? To answer, configure the appropriate options in the dialog box in the answer area.

**Hot Area:**

Answer Area

ADD ENDPOINT

Specify the details of the endpoint

NAME

MonitorinEndpoint

PROTOCOL

TCP  
UDP

PUBLIC PORT

80  
443  
3389  
6000

PRIVATE PORT

21  
80  
5986  
6000

☐ CREATE A LOAD-BALANCED SET ?

☐ ENABLE DIRECT SERVER RETURN ?

← ✓

Correct Answer:

**Answer Area**

ADD ENDPOINT

Specify the details of the endpoint

NAME

MonitorinEndpoint

PROTOCOL

TCP

UDP

PUBLIC PORT

80

443

3389

6000

PRIVATE PORT

21

80

5986

6000

☐ CREATE A LOAD-BALANCED SET ?

☐ ENABLE DIRECT SERVER RETURN ?

← ✓

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 5**

You need to complete the domain configuration for the website.

Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Select and Place:

Actions	Answer Area
<p>Create a CNAME resource record that points from the custom domain to:</p> <p><b>&lt;website name&gt;.azurewebsites.net.</b></p>	
<p>In the Azure management portal, create a new virtual network.</p>	
<p>Point the DNS root domain record IP address to the website.</p>	
<p>In the Azure management portal, configure the website to use the custom domain.</p>	
<p>On the Azure dashboard page for websites, obtain the IP address.</p>	

Correct Answer:

Actions	Answer Area
	On the Azure dashboard page for websites, obtain the IP address.
In the Azure management portal, create a new virtual network.	Point the DNS root domain record IP address to the website.
	Create a CNAME resource record that points from the custom domain to:
In the Azure management portal, configure the website to use the custom domain.	<b>&lt;website name&gt;.azurewebsites.net</b>

**Section:** [none]

**Explanation**

**Explanation/Reference:**

<http://azure.microsoft.com/en-gb/documentation/articles/web-sites-custom-domain-name/>

## Testlet 1

### Topic 4, File Tax-Related Document

#### Background

You are developing an Azure solution that individuals and small businesses will use to prepare and file tax-related documents.

#### Business Requirements

##### General

The solution must provide a way for customers to enter personal and demographic information. Customers must be able to upload income documents and related documents to the solution. The solution must provide reports and summary documents for customers in PDF format.

##### Scope and Device Accessibility

The solution must support two operational modes: On-Peak and Off-Peak. On-Peak is defined as the first quarter of a year. Off-Peak is defined as the other three quarters of a year. Customers must be able to access the solution by using desktop computers, laptop computers, mobile devices, and tablets.

##### High Availability and Business Continuity

The solution must be available at all times. When the solution transitions between Off-Peak mode and On-Peak mode, solution availability must not be affected. Disaster recovery must be established for the customers' stored data.

##### Diagnostics

The solution must log relevant diagnostic data that can be used to troubleshoot the cloud service.

##### Scalability

The solution must scale out while transitioning from Off-Peak mode to On-Peak mode.

##### Cost

The solution must use cloud resources optimally to minimize operating costs.

##### Storage and Security

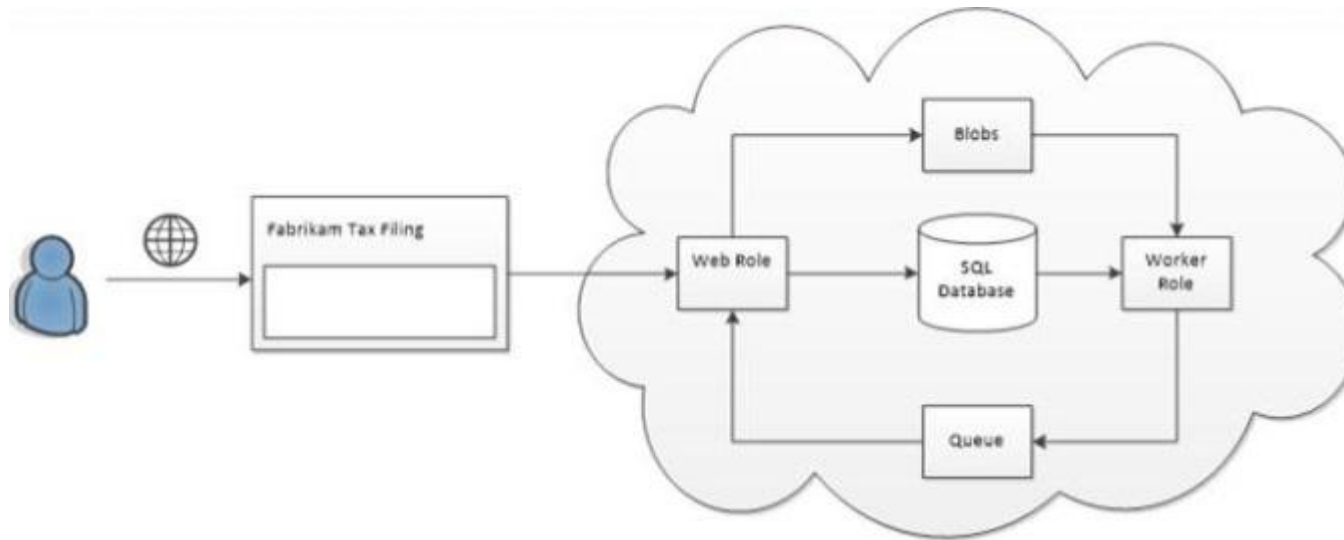
The solution must be secure to prevent any anonymous access (including read access) to the customers' tax documents.

##### Cross-Premises Networking

The solution must extend the developers' on-premises network into Azure

#### Technical Requirements

The logical design for the solution is shown in the following exhibit.



### Platform-as-a-Service (PaaS)

The solution must have two roles: a web role and worker role. The web interface of the solution uses a web role to accept and send user input and any related documents. The worker role must access the stored data and prepare the tax documents in the background.

### Compute

The solution must support a minimum of 10 role instances. When the solution is in On-Peak mode, each role instance must be allocated at least 6 GB of memory. The memory can be scaled down to 3 GB when the solution is in Off-Peak mode.

The solution must cache documents locally. The cache does not need to be refreshed during the lifecycle of the worker role.

Role instances that are running should not be affected by topology changes such as an increase in instance count.

### Storage

The web role must store documents in blob storage. A SQL database is used to store customer information. The worker role must use queues to process the final tax documents.

### Performance and Scalability

When the solution is in Off-Peak mode, it must support at least 150 concurrent database sessions, and the maximum size of the database is 50 GB. When the solution is in On-Peak mode, it must support 750 concurrent database sessions, and the maximum size of the database is 300 GB. Geo-replication must be enabled and must be configurable by using the Azure management portal.

### Software Prerequisites

The solution must install the software that is necessary to generate PDF documents on the server. The software will be provided as a Windows Installer package.



**Debugging**

Solution errors and warnings that occur in a web role must be logged. The worker role must log any crash dump files. Detailed information about errors and their context must be collected so that the environment in which errors occurred can be simulated locally.

**Security**

At the time that a customer's tax information and documents are accepted, the solution must send an email to the customer. The email contains a secure hyperlink that the customer can use to upload any additional necessary documents. The customer is asked to upload these documents within 48 hours. If the customer does not upload the documents within 48 hours, the solution should not issue a new hyperlink. The solution must send an email to the customer to remind the customer to use the original hyperlink to upload any additional necessary documents.

**Network Services**

The solution must use a cross-premises secure network. The network must be configurable by using the Azure management portal.

**Social Structure**

Relevant portions of the solution files are shown in the following code segments. Line numbers in the code segments are included for reference only and include a two-character prefix that denotes the specific file to which they belong.

**InstallPrereqs.cmd**

```
IP01  msixexec.exe /i pdfwriter.msi /qb
IP02  EXIT /B 0
```

**ServiceDefinition.csdef**

```
SD01 <ServiceDefinition name="Fabrikam"
      xmlns=http://schemas.microsoft.com/ServiceHosting/2008/10/ServiceDefinition
      schemaVersion="2014-01.2.3">
SD02   <WorkerRole name="WorkerRole" vmSize="Small">
SD03     <Imports>
SD04       <Import moduleName="Diagnostics" />
SD05     </Imports>
SD06
SD07   </WorkerRole>
SD08   <WebRole name="WebRole" vmSize="Small">
SD09     <Sites>
SD10       <Site name="Web">
SD11         <Bindings>
SD12           <Binding name="Endpoint1" endpointName="Endpoint1" />
SD13         </Bindings>
SD14       </Site>
SD15     </Sites>
SD16     <Endpoints>
SD17       <InputEndpoint name="Endpoint1" protocol="http" port="80" />
SD18     </Endpoints>
SD19     <Imports>
SD20       <Import moduleName="Diagnostics" />
SD21     </Imports>
SD22
SD23   </WebRole>
SD24 </ServiceDefinition>
```

**QUESTION 1**

You need to configure diagnostics for the Azure solution.

Which two types of diagnostic data should you collect? Each correct answer presents part of the solution.

- A. Application logs
- B. Event logs
- C. Crash dumps
- D. Infrastructure logs
- E. IIS logs
- F. Performance counters

**Correct Answer:** BC

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 2

You need to configure the virtual network.

What are two possible ways to achieve this goal? Each correct answer presents a complete solution.

- A. Configure a point-to-site virtual network.
- B. Configure a site-to-site virtual network.
- C. Configure a multi-site virtual network.
- D. Configure a cloud-only virtual network.

**Correct Answer:** AB

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 3

You need to insert markup at line SD22 to install the software that generates PDF documents.

How should you complete the relevant markup? To answer, drag the appropriate code segments to the correct 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.

**Select and Place:**

Code Segments	
Startup	
Runtime	
msiexec.exe /i pdfwriter.msi /qb	
InstallPrereqs.cmd	
elevated	
limited	
simple	
background	

Answer Area	
<	<input type="text"/>
<Task	
commandLine="	<input type="text"/>
taskType="	<input type="text"/>
executionContext="	<input type="text"/>
/>	
</	<input type="text"/>
>	

**Correct Answer:**

Code Segments

Startup

Runtime

msiexec.exe /i pdfwriter.msi /qb

InstallPrereqs.cmd

elevated

limited

simple

background

Answer Area

```

< Startup >
<Task
  CommandLine=" InstallPrereqs.cmd "
  taskType=" simple "
  executionContext=" elevated "
/>
</ Startup >

```

Section: [none]

Explanation

Explanation/Reference:

#### QUESTION 4

You need to insert code at line SB17 to create the hyperlink that customers use to upload additional necessary documents.

How should you complete the relevant code? To answer, drag the appropriate code segments to the correct 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.

Select and Place:

**Code Segments****Answer Area**

```
private string GetSASContainerURI(CloudBlobContainer blobContainer)
{
    string token = blobContainer.  (null, "DocumentBlob");

    return String.Format("{0}{1}",  );
}

private CloudBlobContainer GetBlobContainer()
{
    CloudStorageAccount storageAccount =
        CloudStorageAccount.Parse (CloudConfigurationManager.GetSetting("StorageConnectionString"));

    CloudBlobClient blobClient = storageAccount.  ();

    CloudBlobContainer blobContainer
        = blobClient.GetContainerReference("blobContainerSAS");

    blobContainer.  ();
}
```

**Correct Answer:**

**Code Segments**

Token, blobContainer.Uri

GetSharedAccessBlobPolicy

**Answer Area**

```
private string GetSASContainerURI(CloudBlobContainer blobContainer)
{
    string token = blobContainer. GetSharedAccessSignature (null, "DocumentBlob");
    return String.Format("{0}{1}", blobContainer.Uri, token );
}
private CloudBlobContainer GetBlobContainer()
{
    CloudStorageAccount storageAccount =
        CloudStorageAccount.Parse (CloudConfigurationManager.GetSetting("StorageConnectionString"));

    CloudBlobClient blobClient = storageAccount. CreateCloudBlobClient ();

    CloudBlobContainer blobContainer
        = blobClient.GetContainerReference("blobContainerSAS");

    blobContainer. CreateIfNotExists ();
}
```

**Section:** [none]**Explanation****Explanation/Reference:****QUESTION 5**

You need to insert markup at line SD06 to cache the client documents.

How should you complete the relevant markup? To answer, select the appropriate option or options in the answer area.

**Hot Area:**

**Answer Area**

<  >

LocalResources
LocalStorage
Contents
Endpoints

<  >

LocalResources
LocalStorage
Contents
Endpoints

10"

name="workerCache" sizeInMB="10

>

/>

cleanOnRoleRecycle="false"
cleanOnRoleRecycle="true"

</>

LocalResources
LocalStorage
Contents
Endpoints

**Correct Answer:**



**Answer Area**

<  >

LocalResources  
LocalStorage  
Contents  
Endpoints

<  >

LocalResources  
LocalStorage  
Contents  
Endpoints

10"

name="workerCache" sizeInMB="10

>

/> cleanOnRoleRecycle="false"  
cleanOnRoleRecycle="true"

</>

LocalResources  
LocalStorage  
Contents  
Endpoints

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 6**

You need to configure role instances.

Which size should you specify for the VM?

- A. Use Small for Off-Peak mode.
- B. Use Large for On-Peak mode.
- C. Use Extra Large for On-Peak mode.
- D. Use Extra Small for Off-Peak mode.

**Correct Answer:** B

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### **QUESTION 7**

You need to meet the performance and scalability requirements.

Which SQL Database configuration should you use?

- A. Use the S1 performance level for On-Peak mode.
- B. Use the P2 performance level for On-Peak mode.
- C. Use the S2 performance level for On-Peak mode.
- D. Use the P1 performance level for On-Peak mode.

**Correct Answer:** D

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### **QUESTION 8**

You need to debug the Azure solution.

Which tool should you use?

- A. Compute emulator
- B. Remote debugging
- C. Emulator Express
- D. IntelliTrace
- E. Profiling

**Correct Answer:** C

**Section:** [none]

**Explanation**

**Explanation/Reference:**



**Testlet 1****Topic 5, Mix Questions****QUESTION 1**

You create a software-as-a-service (SaaS) application. Websites, cloud services, and virtual machines (VMs) read common data values from the database for the application.

The application does not scale efficiently. All VMs, websites, and cloud services must read from the same data source.

You need to design a cache solution for the SaaS application.

What should you do?

- A. Deploy a cache by using Azure Redis Cache. Access the cache from the websites, cloud services, and VMs.
- B. Configure a cache by using ASP.NET. Access the cache from the websites, cloud services, and VMs.
- C. Use Azure Redis Cache to deploy one cache for each website, one cache for each cloud service, and one cache for each VM. Configure each cache to ensure that data is consistent in all the cache instances.
- D. Deploy a cache by using Azure Redis Cache. Configure the cache to use database connection strings.

**Correct Answer:** A

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 2**

You host an application on an Azure virtual machine (VM) that uses a data disk. The application performs several input and output operations per second.

You need to disable disk caching for the data disk.

Which two actions will achieve the goal? Each answer presents a complete solution.

- A. Use the Azure Resource Manager REST API
- B. Use the Service Management REST API.
- C. Run the following Windows PowerShell cmdlet:  
Remove-AzureDataDisk
- D. Run the following Windows PowerShell cmdlet:  
Set-AzureDataDisk

**Correct Answer:** AD

**Section:** [none]

**Explanation**

**Explanation/Reference:**

Ref: <http://msdn.microsoft.com/en-us/library/azure/jj157190.aspx>

### QUESTION 3

You are developing a REST API service that provides data about products. The service will be hosted in an Azure virtual machine (VM).

The product data must be stored in Azure tables and replicated to multiple geographic locations.

API calls that use the HTTP GET operation must continue to function when the data tables at the primary Azure datacenter are not accessible.

You need to configure storage for the service.

Which type of replication should you choose?

- A. Locally Redundant Storage replication
- B. Geo-Redundant Storage replication
- C. Zone-Redundant Storage replication
- D. Read-Access Geo-Redundant Storage replication

**Correct Answer:** D

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 4

You are migrating an existing solution to Azure. The solution includes a user interface tier and a database tier. The user interface tier runs on multiple virtual machines (VMs). The user interface tier has a website that uses Node.js. The user interface tier has a background process that uses Python. This background process runs as a scheduled job. The user interface tier is updated frequently. The database tier uses a self-hosted MySQL database. The user interface tier requires up to 25 CPU cores. You must be able to revert the user interface tier to a previous version if updates to the website cause technical problems. The database requires up to 50 GB of memory. The database must run in a single VM.

You need to deploy the solution to Azure.

What should you do first?

- A. Deploy the entire solution to an Azure website. Use a web job that runs continuously to host the database.
- B. Deploy the database to a VM that runs Windows Server on the Standard tier.
- C. Deploy the entire solution to an Azure website. Run the database by using the Azure data management services.
- D. Deploy the user interface tier to a VM. Use multiple availability sets to continuously deploy updates from Microsoft Visual Studio Online.

**Correct Answer:** C

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 5

You store data in an Azure blob. Data accumulates at a rate of 0.10 GB per day.

You must use storage analytics data to verify that the service level agreement (SLA) has been met and to analyze the performance of VHDs, including the pattern of usage.

Analytics data must be deleted when it is older than 100 days or when the total amount of data exceeds 10 GB.

You need to configure storage analytics and access the storage analytics data.

Which two approaches will achieve the goal? Each correct answer presents part of the solution.

- A. Disable the data retention policy.
- B. Access analytics data by using the Service Management REST API.
- C. Access analytics data by using the APIs used to read blob and table data.
- D. Configure a data retention policy of 100 days.

**Correct Answer:** CD

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 6

You develop a web application that will use the Azure Table service. The web application will store entities in the form of XML data within a single table.

The web application must support high traffic throughput.

You need to avoid exceeding the throttle limit for the table.

Which two actions should you take? Each correct answer presents part of the solution.

- A. Add additional partition keys to the table.
- B. Batch transactions for entities that are in the same partition group in the table.
- C. Compress the entities before storing them in the table.
- D. Store the entities in JSON format.

**Correct Answer:** BD

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 7

You are managing an application. The application uses data that is stored in an Azure SQL database.

You must be able to reset the application to the state that existed on any day in the previous 35 days.

You need to choose a backup solution.

What should you do?

- A. Run SQL replication on the SQL database once a day.
- B. Use Microsoft Azure SQL Database Point in Time Restore
- C. Use the SQL Server Data-Tier Application Framework to build a data-tier application (DAC) file once a day.
- D. Use the bcp utility to export data to an Azure page blob once a day.

**Correct Answer:** B

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 8

You develop a web application that uses table storage in Azure.

You create a storage account named Contoso that stores a table named CityPopulationData.

The web application stores entities in this table.

You need to query the table data by using OData.

Which URL should you use?

- A. <http://contoso.table.core.windows.net/citypopulationdata>
- B. <http://contoso.table.core.windows.net/odata/citypopulationdata>
- C. <http://azurestorage.table.core.windows.net/contoso>
- D. <http://microsoft.table.core.windows.net/contoso>
- E. <http://azure.table.core.windows.net/contoso/citypopulationdata>

**Correct Answer:** A

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 9

A company maintains an Azure storage account. The storage account uses blobs and tables.

Customers access the storage account by using shared access signatures (SASs).

You need to monitor the usage of the storage services. You need to do the following:

Understand which storage areas perform operations that incur a fee. Understand which requests are denied because of insufficient permissions. Validate that the performance of the storage account meets the service level agreement (SLA) for the Azure Storage service.

Which three data analysis tasks should you perform? Each correct answer presents part of the solution.

- A. Use data from the logs of the storage services to find individual storage access attempts that do not comply with the SLA.
- B. Use data from the logs of the storage services to calculate aggregate server latency across individual requests. Determine whether the results of this calculation indicate that the Azure Storage service is in compliance with the SLA.
- C. Analyze the logs of the storage services to determine which storage services were inaccessible because of permissions issues.
- D. Review the Azure documentation to determine which storage operations are billable. Then find records of those operations in the logs of the storage services.
- E. Analyze the logs of the storage services to find records of operations that are marked as billable.
- F. Correlate the data logged from the storage service with the permissions to store data in the individual blobs and containers. Determine which storage services were inaccessible because of permissions issues.



**Correct Answer:** BCD

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### **QUESTION 10**

You are creating virtual machines (VMs) that are hosted on Azure. You must be able to change the Remote Desktop access settings for the VMs. You must also be able to change the password for the built-in administrator account on all VMs. You identify the VMAccess VM extensions that have the required capabilities.

You need to enable the VMAccess VM extensions.

Which approach should you use?

- A. Download and install the Microsoft Installer file to enable the VM Agent on each VM.
- B. Use the Azure management portal to restart each VM.
- C. When you configure the new VMs, use the Azure management portal to install the VM Agent.
- D. For each VM, use Windows PowerShell cmdlets to enable the VM Agent and the VMAccess VM extensions.

**Correct Answer:** D

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### **QUESTION 11**

You connect to an existing service over the network by using HTTP. The service listens on HTTP port 80. You plan to create a test environment for this existing service by using an Azure virtual machine (VM) that runs Windows Server.

The service must be accessible from the public Internet over HTTP port 8080.

You need to configure the test environment.

Which two actions should you take? Each correct answer presents part of the solution.

- A. Configure an endpoint to route traffic from port 8080 to port 80.
- B. Configure an endpoint to route traffic from port 80 to port 8080.
- C. Ensure that the public IP address is configured as a static IP address.

- D. Configure the Windows Server firewall to allow incoming and outgoing traffic on port 8080.
- E. Configure the Windows Server firewall to allow incoming and outgoing traffic on port 80.

**Correct Answer:** AE

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 12

An application sends Azure push notifications to a client application that runs on Windows Phone, iOS, and Android devices.

Users cannot use the application on some devices. The authentication mechanisms that the application uses are the source of the problem.

You need to monitor the number of notifications that failed because of authentication errors.

Which three metrics should you monitor? Each correct answer presents part of the solution.

- A. Microsoft Push Notification Service (MPNS) authentication errors
- B. External notification system errors
- C. Apple Push Notification Service (APNS) authentication errors
- D. Channel errors
- E. Windows Push Notification Services (WNS) authentication errors
- F. Google Cloud Messaging (GCM) authentication errors

**Correct Answer:** ACF

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 13

You deploy an application as a cloud service in Azure.

The application consists of five instances of a web role.

You need to move the web role instances to a different subnet.

Which file should you update?

- A. Service definition
- B. Diagnostics configuration
- C. Service configuration
- D. Network configuration

**Correct Answer:** C

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 14

You plan to deploy an application as a cloud service. The application uses a virtual network to extend your on-premises network into Azure. You need to configure a site-to-site VPN for cross-premises network connections.

Which two objects should you configure? Each correct answer presents part of the solution.

- A. Dynamic routing gateway
- B. VPN gateway
- C. External-facing IPv6 address
- D. External-facing IPv4 address

**Correct Answer:** BD

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 15

A company creates an API and makes it accessible on an Azure website. External partners use the API occasionally. The website uses the Standard web hosting plan.

Partners report that the first API call in a sequence of API calls occasionally takes longer than expected to run. Subsequent API calls consistently perform as expected.

You need to ensure that all API calls perform consistently.

What should you do?

- A. Configure the website to use the Basic web hosting plan.
- B. Enable Always On support.
- C. Configure the website to automatically scale.
- D. Add a trigger to the web.config file for the website that causes the website to recycle periodically.

**Correct Answer:** B

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### **QUESTION 16**

The Azure Queue service hosts a queue named userRegistrationQueue. You are developing a web job to process messages from the queue. You create a new console application by using Microsoft Visual Studio. You also create an Azure storage connection string and store the connection string in the application configuration file.

All trigger listeners and jobs must run on the current thread.

You need to ensure that the web job processes the messages from the queue.

How should you complete the relevant code? 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.

**Select and Place:**

**Code Segments**

```
var host = new Microsoft.Azure.Jobs.JobHost();
```

```
var host = new Microsoft.Azure.Jobs.JobHostConfiguration();
```

```
host.RunOnBackgroundThread();
```

```
host.RunAndBlock();
```

```
host.GetService(typeof (CloudQueue));
```

```
host.NameResolver.Resolve("userRegistrationQueue");
```

**Answer Area**

```
static void Main()
{
    var cloudQueue = CreateCloudQueue();
    AddMessageToQueue(cloudQueue);
}

```

**Correct Answer:****Code Segments**

```
var host = new Microsoft.Azure.Jobs.JobHostConfiguration();
```

```
host.RunOnBackgroundThread();
```

```
host.GetService(typeof (CloudQueue));
```

```
host.NameResolver.Resolve("userRegistrationQueue");
```

**Answer Area**

```
static void Main()
{
    var cloudQueue = CreateCloudQueue();
    AddMessageToQueue(cloudQueue);
    var host = new Microsoft.Azure.Jobs.JobHost();
    host.RunAndBlock();
}

```

**Section: [none]****Explanation****Explanation/Reference:**

**QUESTION 17**

You create a new web application by using a single Azure website deployment. The deployment uses the shared web hosting plan. User activity varies significantly and unpredictably.

The application must automatically scale to a maximum of eight virtual machines based on CPU utilization.

You need to configure the environment.

In the Azure management portal, which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

**Select and Place:**

Actions	Answer Area
Change the value of the web hosting plan to <b>Standard</b> .	
Configure autoscaling to support scaling by metrics based on CPU utilization.	
Enable the <b>Scale by Metric</b> option.	
Configure autoscaling to <b>None</b> .	
Change the value of the web hosting plan to <b>Basic</b> .	

**Correct Answer:**

Actions	Answer Area
	Change the value of the web hosting plan to <b>Standard</b> .
	Enable the <b>Scale by Metric</b> option.
	Configure autoscaling to support scaling by metrics based on CPU utilization.
Configure autoscaling to <b>None</b> .	
Change the value of the web hosting plan to <b>Basic</b> .	

Section: [none]

Explanation

Explanation/Reference:

#### QUESTION 18

You use the storage client library to develop an application that manages Azure table storage data.

The application reports error codes when it saves data. You must use a custom retry policy to handle the error codes.

The custom retry policy must meet the following requirements:

- Retry when a conflict error code is encountered.
- Retry when a storage exception is encountered.
- Retry until the maximum number of retry attempts is reached.

You create the following code segment. Line numbers are included for reference only.

```
01 public class CustomRetryPolicy : IRetryPolicy
02 {
03     private readonly int _maxRetryAttempts = 10;
04     private readonly TimeSpan _defaultRetryInterval = TimeSpan.FromSeconds(5);
05     public CustomRetryPolicy(TimeSpan deltaBackoff, int retryAttempts)
06     {
07         _maxRetryAttempts = retryAttempts;
08         _defaultRetryInterval = deltaBackoff;
09     }
10     public IRetryPolicy CreateInstance()
11     {
12         return new CustomRetryPolicy(_defaultRetryInterval, _maxRetryAttempts);
13     }
14
15 }
```

You need to insert code at line 14 to implement the retry policy.

How should you complete the relevant code? To answer, select the appropriate option or options in the answer area.

**Hot Area:**



### Answer Area

```

public bool ShouldRetry(int currentRetryCount, int statusCode,
    Exception lastException, out TimeSpan retryInterval,
    OperationContext operationContext)
{
    retryInterval = _defaultRetryInterval;

    if (
        _maxRetryAttempts != currentRetryCount
        currentRetryCount &gt;= _maxRetryAttempts
        retryInterval &gt;= _defaultRetryInterval
        retryInterval == _defaultRetryInterval
    )
    {
        return false;
    }

    if (
        (HttpStatusCode) statusCode != HttpStatusCode.Conflict
        (HttpStatusCode) statusCode == HttpStatusCode.Moved
        (HttpStatusCode) statusCode != HttpStatusCode.ExpectationFailed
        (HttpStatusCode) statusCode != HttpStatusCode.Unauthorized
    )
    {
        return false;
    }

    if (
        lastException.GetType() == typeof(AccessViolationException)
        lastException.GetType() == typeof(ContextMarshalException)
        lastException.GetType() != typeof(UnauthorizedAccessException)
        lastException.GetType() != typeof(StorageException)
    )
    {
        return false;
    }

    return true;
}

```

**Correct Answer:**

**Answer Area**

```
public bool ShouldRetry(int currentRetryCount, int statusCode,
    Exception lastException, out TimeSpan retryInterval,
    OperationContext operationContext)
{
    retryInterval = _defaultRetryInterval;

    if (  )
    {
        return false;
    }

    if (  )
    {
        return false;
    }

    if (  )
    {
        return false;
    }
    return true;
}
```

Section: [none]  
Explanation

## Explanation/Reference:

### QUESTION 19

You plan to migrate a website named Contoso from one hosting plan to another hosting plan. The website is currently in a hosting plan named webhostingplan1. You create a resource group named ContosoGroup.

You create the following PowerShell script by using the Azure PowerShell tools. Line numbers are included for reference only.

```
01 $webhostingplan = @{"serverfarm" = "webhostingplan2"}
02 Set-AzureResource -name Contoso -ResourceGroupName ContosoGroup -ResourceType Microsoft.Web/sites `
  -apiversion 2014-04-01 -PropertyObject $webhostingplan
03 Get-AzureResource -name Contoso -ResourceGroupName ContosoGroup -ResourceType Microsoft.Web/sites `
  -apiversion 2014-04-01
```

## Hot Area:

### Answer Area

	Yes	No
The command in line 01 defines a variable that stores a hash table.	<input type="radio"/>	<input type="radio"/>
The command in line 02 assigns the website to the <b>ContosoGroup</b> resource group.	<input type="radio"/>	<input type="radio"/>
The command in line 02 assigns the website to a hosting plan named <b>webhostingplan2</b> .	<input type="radio"/>	<input type="radio"/>

## Correct Answer:

### Answer Area

	Yes	No
The command in line 01 defines a variable that stores a hash table.	<input type="radio"/>	<input checked="" type="radio"/>
The command in line 02 assigns the website to the <b>ContosoGroup</b> resource group.	<input type="radio"/>	<input checked="" type="radio"/>
The command in line 02 assigns the website to a hosting plan named <b>webhostingplan2</b> .	<input type="radio"/>	<input checked="" type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

### QUESTION 20

You are developing a web application that uses Azure push notifications to interact with users.

You need to send a text notification to users to alert them that the application is ready to test.

How should you complete the relevant code? To answer, drag the appropriate code segment to the correct location. 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:

Code Segments	Answer Area
<code>"toast"</code>	<code>var payload = new XElement( [ ] ,</code>
<code>"visual"</code>	<code>new XElement( [ ]</code>
<code>"binding"</code>	<code>new XElement( [ ]</code>
<code>"template"</code>	<code>new XAttribute( [ ] , "ToastText02"),</code>
<code>"text"</code>	<code>new XElement( [ ] , "System Ready"))));</code>
<code>"notification"</code>	<code>var message = new WindowsNotification(payload.ToString());</code>

Correct Answer:

Code Segments	Answer Area
<div></div> <div></div> <div></div> <div></div> <div>"notification"</div>	<pre> var payload = new XElement( "toast" ,     new XElement( "visual"     new XElement( "binding"     new XAttribute( "template" , "ToastText02" ),     new XElement( "text" , "System Ready" )))); var message = new WindowsNotification(payload.ToString()); </pre>

Section: [none]

Explanation

Explanation/Reference:

#### QUESTION 21

Tailspin Toys uses a website to manage its inventory. The website is hosted on Azure. You are writing a Windows Store app that uses data from the blob storage.

You need to retrieve an image from the following URI:

<https://tailspintoys.blob.core.windows.net/Trains/Caboose2.jpg>.

How should you complete the relevant code? To answer, select the appropriate code segments in the answer area.

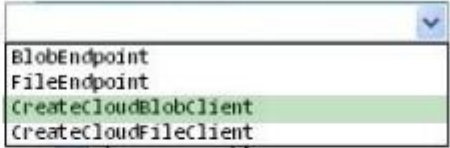
Hot Area:

Answer Area

```
CloudStorageAccount storageAccount = CloudStorageAccount.Parse(  
    CloudConfigurationManager.GetSetting("StorageConnectionString"));  
CloudBlobClient blobClient = storageAccount.  
    BlobEndpoint  
    FileEndpoint  
    CreateCloudBlobClient  
    CreateCloudFileClient  
    ();  
  
CloudBlobContainer blobContainer =  
    blobClient.  
    GetContainerReference  
    GetBlobReferenceFromServerAsync  
    ("trains");  
  
CloudBlockBlob myBlob =  
    blobContainer.  
    GetBlockBlobReference  
    GetDirectoryReference  
    ("Caboose2.jpg");  
  
using (var fileStream = System.IO.File.OpenWrite  
    (@"path\myfile"))  
    {  
        myBlob.DownloadToStream(fileStream);  
    }
```

Correct Answer:

Answer Area

```
CloudStorageAccount storageAccount = CloudStorageAccount.Parse(  
    CloudConfigurationManager.GetSetting("StorageConnectionString"));  
CloudBlobClient blobClient = storageAccount. ();  
  
CloudBlobContainer blobContainer =  
    blobClient. ("trains");  
  
CloudBlockBlob myBlob =  
    blobContainer. ("Caboose2.jpg");  
  
using (var fileStream = System.IO.File.OpenWrite  
    (@"path\myfile"))  
{  
    myBlob.DownloadToStream(fileStream);  
}
```

Section: [none]

Explanation

Explanation/Reference:

**QUESTION 22**

Your company works with trusted partners. These partners upload files into a storage account that you control.

Partners must be able to create, read, and write files. Partners must NOT be allowed to see files from other partners. You generate a shared access signature (SAS) for each partner.

You create the following Windows PowerShell script to create a new container for each partner. Line numbers are included for reference only.



```
01 $containerName = "partner123files"
02 $key = (Get-AzureStorageKey -StorageAccountName $storageAccountName).Primary
03 $context = New-AzureStorageContext -StorageAccountName $storageAccountName `
    -StorageAccountKey $key
05 New-AzureStorageContainer -Name $containerName -Context $context
06 $filepath = "welcome.txt"
07 $blobname = "welcome.txt"
08 Set-AzureStorageBlobContent -Container $containerName -File "$filepath" `
    -Blob $blobname -Context $context -Properties @{"ContentType"="text/plain"}
09 $oneYearFromNow = (Get-Date).AddYears(1)
10 $sasToken = New-AzureStorageContainerSASToken -Name $containerName `
    -Permission 'rwdl' -ExpiryTime $oneYearFromNow -Context $context
11 $sasBlobUri = New-AzureStorageBlobSASToken -Container $containerName `
    -Permission 'r' -ExpiryTime $oneYearFromNow -Context $context `
    -FullUri -Blob $blobname
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Hot Area:

**Answer Area**

	Yes	No
Running the command at line 10 a second time invalidates the previously generated SAS token.	<input type="radio"/>	<input type="radio"/>
Web browsers can open the welcome.txt file directly by using the full URI and the SAS token for the file.	<input type="radio"/>	<input type="radio"/>
If the primary storage key is regenerated, the SAS token is still valid until its expiration date is reached.	<input type="radio"/>	<input type="radio"/>

Correct Answer:



**Answer Area**

Yes

No

Running the command at line 10 a second time invalidates the previously generated SAS token.

☐☒

Web browsers can open the welcome.txt file directly by using the full URI and the SAS token for the file.

☒☐

If the primary storage key is regenerated, the SAS token is still valid until its expiration date is reached.

☐☒**Section: [none]****Explanation****Explanation/Reference:****QUESTION 23**

You are creating a set of load-balanced virtual machines (VMs) that are hosted on Azure.

You run the following Windows PowerShell script. Line numbers are included for reference only.

```
01 Add-AzureInternalLoadBalancer -ServiceName "Contoso-Chicago" -InternalLoadBalancerName "Data-LB"  
   -SubnetName "DataFarm1" -StaticVNetIPAddress 192.168.100.10  
02 Get-AzureVM -ServiceName "Contoso-Chicago" -Name "DATA1" | Add-AzureEndpoint -Name "DataFarm"  
   -Protocol "TCP" -LocalPort 1433 -PublicPort 1337 -DefaultProbe -InternalLoadBalancerName "Data-LB" | Update-AzureVM  
03 Get-AzureService -ServiceName "Contoso-Chicago" | Get-AzureInternalLoadBalancer
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

**Hot Area:**

**Answer Area**

	Yes	No
The internal IP address of the VM named <b>DATA1</b> is 192.168.100.10.	<input type="radio"/>	<input type="radio"/>
The endpoint named <b>DataFarm</b> can be accessed by using external port 1337.	<input type="radio"/>	<input type="radio"/>
The internal load balancer for the Contoso-Chicago service is named <b>Data-LB</b> .	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

**Answer Area**

	Yes	No
The internal IP address of the VM named <b>DATA1</b> is 192.168.100.10.	<input type="radio"/>	<input checked="" type="radio"/>
The endpoint named <b>DataFarm</b> can be accessed by using external port 1337.	<input checked="" type="radio"/>	<input type="radio"/>
The internal load balancer for the Contoso-Chicago service is named <b>Data-LB</b> .	<input type="radio"/>	<input checked="" type="radio"/>

**Section:** [none]  
**Explanation**

**Explanation/Reference:**

**QUESTION 24**

You use the Windows PowerShell Desired State Configuration (DSC) feature to configure your company's servers. Line numbers are included for reference only.

```
01 $ConfigurationData = @{
02     AllNodes = @(
03         @{NodeName = 'Server1';Role='Web'},
04         @{NodeName = 'Server2';Role='FileShare'}
05         @{NodeName = 'Server3';Role=@('FileShare','Web')}
06     )
07 }
08 configuration RoleConfiguration
09 {
10     param ($Roles)
11     switch ($Roles)
12     {
13         'FileShare'
14         {
15             WindowsFeature FileSharing
16             {
17                 Name = 'FS-FileServer'
18             }
19         }
20         'Web'
21         {
22             WindowsFeature Web
23             {
24                 Name = 'Web-Server'
25                 Ensure = 'Absent'
26             }
27         }
28     }
29 }
30 configuration MyFirstServerConfig
31 {
32     node $allnodes.NodeName
33     {
34         WindowsFeature snmp
35         {
36             Name = 'SNMP-Service'
37         }
38         RoleConfiguration MyServerRoles
39         {
40             Roles = $Node.Role
41             DependsOn = '[WindowsFeature]snmp'
42         }
43     }
44 }
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

**Hot Area:**

**Answer Area**

	Yes	No
The script configures SNMP service on all servers.	<input type="radio"/>	<input type="radio"/>
The script configures the Web Server (IIS) role on Server3.	<input type="radio"/>	<input type="radio"/>
Invoking the script within Windows PowerShell applies the desired state to all servers.	<input type="radio"/>	<input type="radio"/>

**Correct Answer:**

**Answer Area**

	Yes	No
The script configures SNMP service on all servers.	<input type="radio"/>	<input checked="" type="radio"/>
The script configures the Web Server (IIS) role on Server3.	<input type="radio"/>	<input checked="" type="radio"/>
Invoking the script within Windows PowerShell applies the desired state to all servers.	<input checked="" type="radio"/>	<input type="radio"/>

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 25**

You have an existing server that runs Windows Server. You plan to create a base image of this server. You will use this base image to prepare several virtual servers for future use. After the base image is prepared, you will capture it by using the Azure management portal.

You must use the System Preparation Tool (Sysprep) to prepare the server so that the base image can be captured.

You need to prepare the server so that the base image can be captured.

What should you do? To answer, configure the appropriate options in the dialog box in the answer area.

**Hot Area:**

**System Preparation Tool dialog box**

System Preparation Tool 3.14

System Preparation Tool (Sysprep) prepares the machine for hardware independence and cleanup.

**System Cleanup Action**

Enter System Out-of-Box Experience (OOBE)  
Enter System Audit Mode

☐ Generalize

**Shutdown Options**

Reboot  
Quit  
Shutdown

OK Cancel

**Correct Answer:**

System Preparation Tool dialog box

System Preparation Tool 3.14

System Preparation Tool (Sysprep) prepares the machine for hardware independence and cleanup.

**System Cleanup Action**

Enter System Out-of-Box Experience (OOBE)  
Enter System Audit Mode

☐ Generalize

**Shutdown Options**

Reboot  
Quit  
Shutdown

OK Cancel

Section: [none]

Explanation

Explanation/Reference:

#### QUESTION 26

A company creates an Azure worker role to manage products.

The number of customers who inquire about how many products are in inventory rapidly increases.

You need to ensure that the worker role can scale to accommodate the increased workload.

How should you complete the relevant code? To answer, select the appropriate option or options in the answer area.

Hot Area:

Answer Area

=  >();

();

Correct Answer:

Answer Area

=  >();

();

Section: [none]

Explanation

Explanation/Reference:

## QUESTION 27

You are developing a messaging solution for a financial services company named Adatum. The solution must integrate an application named Enrollment

and an application named Activation.

The Enrollment application is used to enroll new customers. The Activation application is used to activate accounts for new customers.

You need to ensure that each message that the Enrollment application sends is stored in a queue for ten minutes before the Activation application uses the message.

How should you complete the relevant code? To answer, select the appropriate option or options in the answer area.

**Hot Area:**

**Answer Area**

```
var address =
ServiceBusEnvironment.CreateServiceUri("
sb
msmq
adatum.servicebus.windows.net/activate
",
sb
adatum.activation
adatum.servicebus.windows.net/activate
", string.Empty);

var ns = new
Namespace
NamespaceManager
ServiceBusNamespaceSettings
(address, new NamespaceManagerSettings()

{
    OperationTimeout =
10
10000
new TimeSpan(0,10,0)
});
ns.CreateQueue("ActivationQueue");
```

**Correct Answer:**



**Answer Area**

```
var address =
ServiceBusEnvironment.CreateServiceUri("
sb
msmq
adatum.servicebus.windows.net/activate
",
"
sb
adatum.activation
adatum.servicebus.windows.net/activate
", string.Empty);

var ns = new
NamespaceManager
NamespaceManager
ServiceBusNamespaceSettings
(address, new NamespaceManagerSettings()

{
    OperationTimeout =
10
10000
new TimeSpan(0,10,0)
});
ns.CreateQueue("ActivationQueue");
```

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 28**

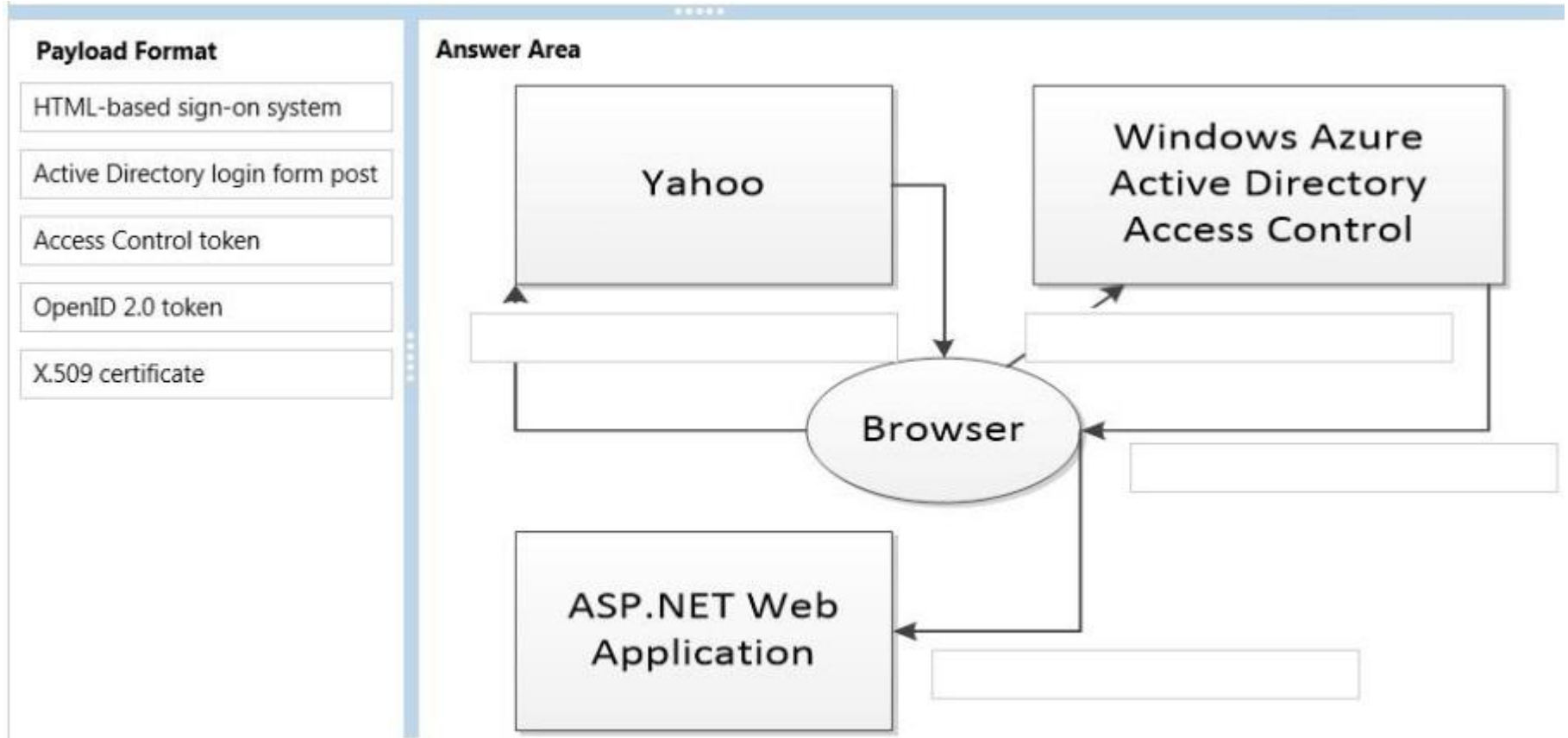
You are converting an existing ASP.NET web application to use the Azure Active Directory (AD) Access Control service for authentication. The application will authenticate users by using their Yahoo account credentials.

You need to determine the correct payload for each stage of the authentication process.

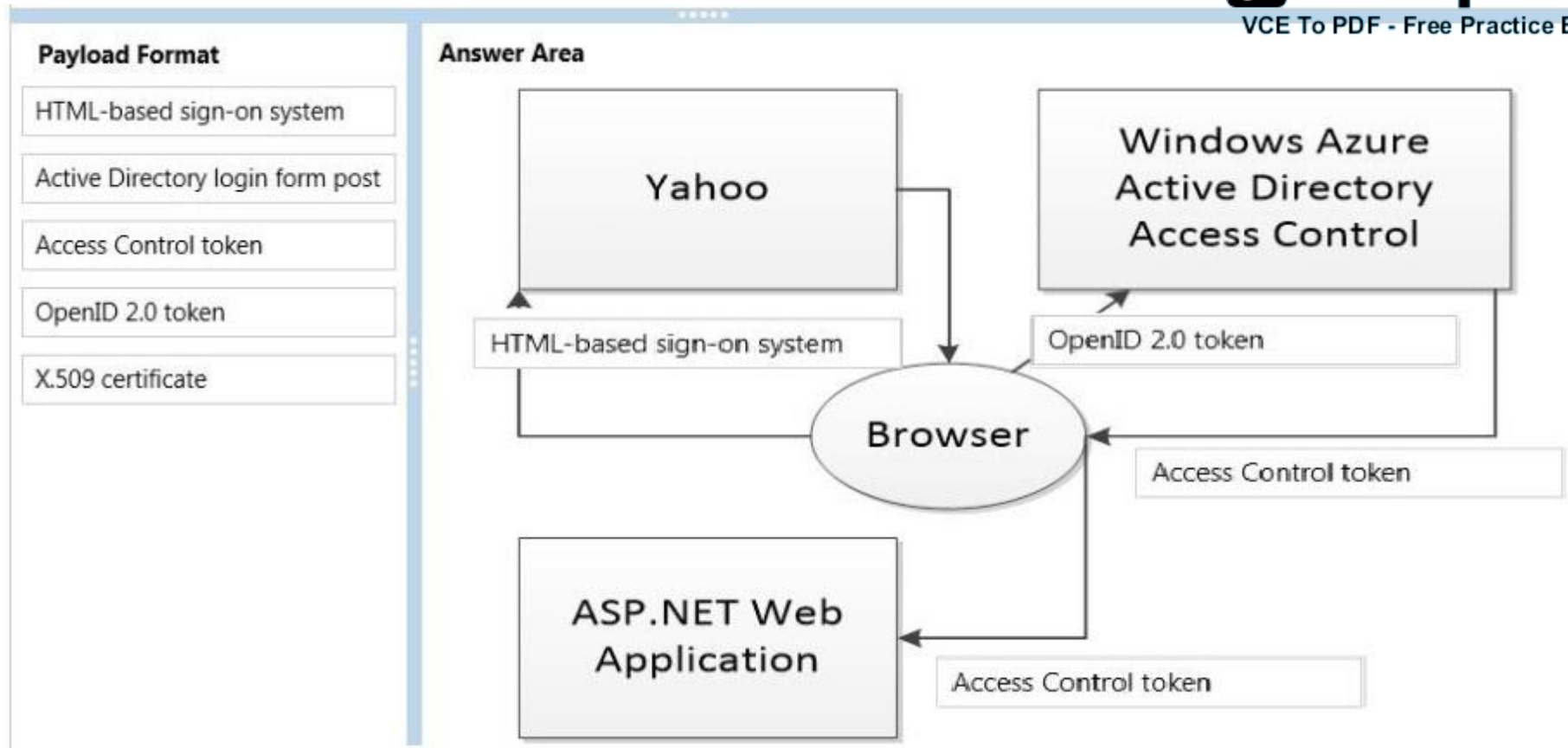
What should you do? To answer, drag the appropriate payload format to the correct location on the dialog box. Each payload format may be used once,

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:**



**Correct Answer:**



Section: [none]

Explanation

Explanation/Reference:

#### QUESTION 29

You have a WebJob object that runs as part of an Azure website. The WebJob object uses features from the Azure SDK for .NET. You use a well-formed but invalid storage key to create the storage account that you pass into the UploadDataToAzureStorage method.

The WebJob object contains the following code segment. Line numbers are included for reference only.

```
01 void UploadDataToAzureStorage(CloudStorageAccount storageAccount,
    string storageContainerName, string blobpath, string localpath)
02 {
03     var blobClient = storageAccount.CreateCloudBlobClient();
04     var container = blobClient.GetContainerReference(storageContainerName);
05     CloudBlockBlob blockBlob = container.GetBlockBlobReference(blobpath);
06     blockBlob.UploadFromFile(localpath, FileMode.Open);
07 }
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Hot Area:

**Answer Area**

	Yes	No
If the storage container does not already exist when the code runs, a file can still be uploaded successfully.	<input type="radio"/>	<input type="radio"/>
If a transient fault occurs when the code segment on line 06 runs, the Azure SDK will attempt to upload the file again.	<input type="radio"/>	<input type="radio"/>
The code segment at line 06 will fail when the code runs.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

**Answer Area**

	Yes	No
If the storage container does not already exist when the code runs, a file can still be uploaded successfully.	<input type="radio"/>	<input checked="" type="radio"/>
If a transient fault occurs when the code segment on line 06 runs, the Azure SDK will attempt to upload the file again.	<input checked="" type="radio"/>	<input type="radio"/>
The code segment at line 06 will fail when the code runs.	<input checked="" type="radio"/>	<input type="radio"/>

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 30**

You create a web application. You publish the source code of the web application to a GitHub repository by using Microsoft Visual Studio. You create a website by using the Azure management portal.

You must continuously deploy the web application from the GitHub repository website to the Azure website.

You need to deploy the source code of the web application.

Which four actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

**Select and Place:**

**Actions**

Select the repository and the branch from which to deploy the Azure website.

Select **GitHub** as the source control method.

Configure the Azure website to use the **Always On** option.

In the Azure management portal, configure web endpoint monitoring.

In the Azure management portal, choose the option to set up deployment from source control.

Sign in to GitHub by using your deployment credentials.

**Answer Area**

**Correct Answer:**

Actions	Answer Area
	In the Azure management portal, choose the option to set up deployment from source control.
	Select <b>GitHub</b> as the source control method.
Configure the Azure website to use the <b>Always On</b> option.	Sign in to GitHub by using your deployment credentials.
In the Azure management portal, configure web endpoint monitoring.	Select the repository and the branch from which to deploy the Azure website.

Section: [none]

Explanation

Explanation/Reference:

### QUESTION 31

You have a cloud service that runs an external process that is named MyStartupTask.cmd. The cloud service runs this external process when the web role starts. The external process writes information to the Windows registry. You set the value of an environment variable named MyID to the deployment ID for the current web role instance.

The external process must complete writing the information to the Windows registry before the web role starts to accept web traffic.

You need to configure the cloud service.

How should you complete the relevant markup? To answer, select the appropriate option or options in the answer area.

Hot Area:

**Answer Area**

```
<Startup>
  <Task commandLine="MyStartupTask.cmd"
    executionContext="elevated" taskType="simple"
    executionContext="limited" taskType="foreground"
    executionContext="elevated" taskType="foreground"
    executionContext="elevated" taskType="background"

  <Environment>
    <Variable name="MyId">
      <RoleInstancevalue xpath="/RoleEnvironment/Deployment/@id"/>
      <RoleInstancevalue xpath="/DeploymentId"/>
      <RoleEnvironment.DeploymentId </value>
      <Value>@DeploymentId</value>
    </Variable>
  </Environment>
</Task>
</Startup>
```

**Correct Answer:**



**Answer Area**

```

<Startup>
  <Task commandLine="MyStartupTask.cmd"
    executionContext="elevated" taskType="simple"
    executionContext="limited" taskType="foreground"
    executionContext="elevated" taskType="foreground"
    executionContext="elevated" taskType="background"

  <Environment>
    <Variable name="MyId">
      <RoleInstanceValue xpath="/RoleEnvironment/Deployment/@id"/>
      <RoleInstanceValue xpath="/DeploymentId"/>
      <RoleEnvironment.DeploymentId />
      <Value>@DeploymentId</Value>
    </Variable>
  </Environment>
</Task>
</Startup>

```

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 32**

You deploy an application as a cloud service to Azure. The application contains a web role to convert temperatures between Celsius and Fahrenheit.

The application does not correctly convert temperatures. You must use Microsoft Visual Studio to determine why the application does not correctly convert temperatures.

You need to debug the source code in Azure.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

**Select and Place:**

**Actions**

Attach the debugger to the role instance of the cloud service.

Publish the application.

In the Microsoft Azure Publish Settings dialog, set the build configuration to **Release** and enable the remote debugger for all roles.

In the Windows Azure Publish Settings dialog, set the build configuration to **Debug**.

In the Microsoft Azure Publish Settings dialog, enable Remote Desktop for cloud configuration and enable the remote debugger for all roles.

**Answer Area**

**Correct Answer:**

Actions	Answer Area
	Publish the application.
	In the Microsoft Azure Publish Settings dialog, set the build configuration to <b>Release</b> and enable the remote debugger for all roles.
	Attach the debugger to the role instance of the cloud service.
In the Windows Azure Publish Settings dialog, set the build configuration to <b>Debug</b> .	
In the Microsoft Azure Publish Settings dialog, enable Remote Desktop for cloud configuration and enable the remote debugger for all roles.	

Section: [none]

Explanation

Explanation/Reference:

### QUESTION 33

Your team uses a proprietary source control product. You use FTP to manually deploy an Azure website.

You must move your source code from the proprietary source control product to a secure on-premises Git versioning system. Instead of deploying the website by using FTP, the website must automatically deploy to Azure each time developers check-in source files.

You need to implement the new deployment strategy.

Which three actions should you perform in sequence? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

**Select and Place:**

Actions	Answer Area
In the Azure management portal, configure websites to support deployment from the local Git repository.	
In the Azure management portal, configure websites to support deployment from external repository sources.	
In the Azure management portal, configure websites to support deployment from Microsoft Visual Studio Online.	
Commit the website to Azure.	
Create the website and add it to the local Git repository.	

**Correct Answer:**

**Actions**

In the Azure management portal, configure websites to support deployment from external repository sources.

In the Azure management portal, configure websites to support deployment from Microsoft Visual Studio Online.

**Answer Area**

Create the website and add it to the local Git repository.

In the Azure management portal, configure websites to support deployment from the local Git repository.

Commit the website to Azure.

**Section: [none]**

**Explanation**

**Explanation/Reference:**

**QUESTION 34**

You are developing an Azure cloud service for a company. The cloud service monitors a queue for incoming messages and then processes invoices based on the contents of these messages.

Some messages are formed incorrectly and cause exceptions. There is no time limit for how long the service takes to process an individual message.

All messages must be processed at least once by using the ProcessMessage method. Messages must not be processed more than twice by using the ProcessMessage method. Messages that fail normal processing must be processed by using the ProcessPoisonMessage method.

You need to configure message processing.

How should you complete the relevant code? To answer, select the appropriate option or options in the answer area.

Hot Area:

### Answer Area

```
private bool ProcessNextQueueMessage(CloudQueue cloudQueue)
{
    var msg = cloudQueue.GetMessage();

    if (msg == null) return false;
    if (msg.DequeueCount > 0) return false;
    if (msg.PopReceipt == null) return false;
    if (msg.ExpirationTime.HasValue) return false;

    ProcessPoisonMessage(msg);
else
    ProcessMessage(msg);

    cloudQueue.Delete();
    cloudQueue.DeleteMessage(msg);
    cloudQueue.EndAddMessage(null);
    cloudQueue.DeleteMessage(null);

    return true;
}
```

Correct Answer:

### Answer Area

```
private bool ProcessNextQueueMessage(CloudQueue cloudQueue)
{
    var msg = cloudQueue.GetMessage();

    if (msg == null) return false;
    if (msg.DequeueCount > 0) return false;
    if (msg.PopReceipt == null) return false;
    if (msg.ExpirationTime.HasValue) return false;

    ProcessPoisonMessage(msg);
    else
        ProcessMessage(msg);

    cloudQueue.Delete();
    cloudQueue.DeleteMessage(msg);
    cloudQueue.EndAddMessage(null);
    cloudQueue.DeleteMessage(null);

    return true;
}
```

Section: [none]

Explanation

Explanation/Reference:

### QUESTION 35

You deploy a new version of a cloud-service application to a staging slot. The application consists of one web role. You prepare to swap the new version of the application into the production slot. Your Azure account has access to multiple Azure subscriptions. You load the Azure PowerShell cmdlets into the Windows PowerShell command shell. The command shell is NOT configured for certificate-based authentication.

You must use the Windows PowerShell command window to configure the application.

You need to create five instances of the web role.

How should you configure the relevant Windows PowerShell script? To answer, select the appropriate option or options in the answer area.

**Hot Area:**

**Answer Area**

```
$subscription = 'mysubscription'  
$service = 'myservice'  
$rolename = 'myrole'
```

<input type="checkbox"/>	Add-AzureAccount
<input type="checkbox"/>	Get-AzureAccount -Name \$subscription
<input type="checkbox"/>	Get-AzureAccount

<input type="checkbox"/>	Select-AzureSubscription -SubscriptionName \$subscription
<input type="checkbox"/>	Set-AzureSubscription -SubscriptionName \$subscription
<input type="checkbox"/>	Set-AzureSubscription -SubscriptionId \$subscription

<input type="checkbox"/>	Set-AzureRole -ServiceName \$service -Slot Staging -RoleName \$rolename -Count 5
<input type="checkbox"/>	Set-AzureRole -ServiceName \$service -RoleName \$rolename -Count 5
<input type="checkbox"/>	Set-AzureRole -ServiceName \$service -Slot Production -RoleName \$rolename -Count 5
<input type="checkbox"/>	Add-AzureWebRole -Name \$service -Instances 5

**Correct Answer:**



**Answer Area**

```
$subscription = 'mysubscription'  
$service = 'myservice'  
$rolename = 'myrole'
```

```
Add-AzureAccount  
Get-AzureAccount -Name $subscription  
Get-AzureAccount
```

```
Select-AzureSubscription -SubscriptionName $subscription  
Set-AzureSubscription -SubscriptionName $subscription  
Set-AzureSubscription -SubscriptionId $subscription
```

```
Set-AzureRole -ServiceName $service -Slot Staging -RoleName $rolename -Count 5  
Set-AzureRole -ServiceName $service -RoleName $rolename -Count 5  
Set-AzureRole -ServiceName $service -Slot Production -RoleName $rolename -Count 5  
Add-AzureWebRole -Name $service -Instances 5
```

**Section:** [none]

**Explanation**

**Explanation/Reference:**

**QUESTION 36**

You develop a service that runs on a worker role in Azure. The service caches a large amount of data from a database at startup. The service has a configuration file that includes two settings named `ConnectionString` and `SleepInterval`.

The service must restart when the value of the `ConnectionString` setting changes. The service must NOT restart when the value of the `SleepInterval` setting changes.

You have the following code. Line numbers are for reference only.

```
01 public class WorkerRole : RoleEntryPoint
02 {
03     int _sleepInterval = 10000;
04     string _connString = "Server=tcp:contoso.database.windows.net;Database=db1;
        User ID=sa@contoso;Password=password123!;
        Trusted_Connection=True;Encrypt=True;";
05     public override void Run()
06     {
07         CacheTableData(_connString);
08         while (true)
09         {
10             Thread.Sleep(10000);
11             ProcessQueueMessages();
12         }
13     }
14     public override bool OnStart()
15     {
16         RoleEnvironment.Changing += RoleEnvironment_Changing;
17         return base.OnStart();
18     }
19     void RoleEnvironment_Changing(object sender, RoleEnvironmentChangingEventArgs e)
20     {
21     }
22 }
23 }
```

You need to configure the service.

Which code segment should you insert at line 21?

- ☐ A `var settingChanges = e.Changes.OfType<RoleEnvironmentConfigurationSettingChange>();  
if (settingChanges.Any(chg => chg.ConfigurationSettingName == "ConnectionString"))  
{  
 e.Cancel = true;  
}`
- ☐ B `var newValue = RoleEnvironment.GetConfigurationSettingValue("ConnectionString");  
if (newValue == _connString)  
{  
 e.Cancel = false;  
}`
- ☐ C `var settingChanges = e.Changes.OfType<RoleEnvironmentConfigurationSettingChange>();  
if (settingChanges.Any(chg => chg.ConfigurationSettingName == "ConnectionString"))  
{  
 e.Cancel = false;  
}`
- ☐ D `var newValue = RoleEnvironment.GetConfigurationSettingValue("ConnectionString");  
if (newValue == _connString)  
{  
 e.Cancel = true;  
}`

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

**Correct Answer:** A

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 37

You have an ASP.NET application that runs in a cloud service. A new version of the application is ready for release. The new version contains code changes and new SSL certificates. The application consists of six instances of a web role and four instances of a worker role.

The application performs at or near full capacity. The cloud service uses the default number of fault domains and upgrade domains.

You plan to deploy the new version of the application. The performance and capacity of the web roles must not degrade during the deployment. Temporary degradation of the worker roles is acceptable. The deployment must take a maximum of six hours.

You need to deploy the new version of the ASP.NET application to the cloud service.

Which two approaches will achieve the goal? Each correct answer presents a complete solution.

- A. Increase the number of web role instances to eight, and then deploy the new version of the application by using an in-place update. Reduce the number of web role instances to six after the upgrade is completed.
- B. Deploy the new version of the application by using an in-place update. Use upgrade domains to ensure that there is sufficient capacity during the upgrade.
- C. Deploy the new version of the application into the staging slot for the cloud service. Then activate the new version of the application by swapping virtual IP (VIP) addresses.
- D. Delete the old version of the application, and deploy the new version of the application.

**Correct Answer:** BC

**Section:** [none]

**Explanation**

**Explanation/Reference:**

### QUESTION 38

You have a website that is hosted on Azure. You connect to the site by using the URI <http://www.contoso.com>. You plan to publish a new version of the website.

You need to acquire the publishing profile for the website.

Which two actions will achieve the goal? Each correct answer presents a complete solution.

- A. Run the following Windows PowerShell cmdlet:  
Get-AzurePublishSettingsFile
- B. Run the following Windows PowerShell cmdlet:  
Get-AzureSubscription
- C. Navigate to the following URI: <https://www.contoso.com/download/publishprofile.aspx>
- D. Navigate to the following URI: <https://windows.azure.com/download/publishprofile.aspx>

**Correct Answer:** AD

**Section:** [none]

**Explanation**

## Explanation/Reference:

### QUESTION 39

Your company runs existing applications on virtual machines (VMs) that are hosted on Azure.

You are preparing additional Azure services to support the existing applications.

You run the following script. Line numbers are provided for reference only.

```

01 Add-AzureAccount
02 Select-AzureSubscription -SubscriptionName (Get-AzureSubscription)[0].SubscriptionName
03 New-AzureStorageAccount -Location "East US" -StorageAccountName "store314159265"
04 Set-AzureSubscription -CurrentStorageAccountName "store314159265" -SubscriptionName $subscriptionName
05 $vmImageNameDb = 'c290a6b031d841e09f2da759bbabe71f__Oracle-Database-121010.v3-SE-Lnx'
06 $vmImageNameApp = 'a699494373c04fc0bc8f2bb1389d6106__Windows-Server-2012-R2-201405.01-en.us-127GB.vhd'
07 $cs = New-AzureService -ServiceName "myService27182" -Location "East US"
08 $vmConfigDb = New-AzureVMConfig -Name "MyDb" -InstanceSize Large -ImageName $vmImageNameDb | `
    Add-AzureProvisioningConfig -Linux -LinuxUser 'dbadmin314' -Password 'ou812?_159265' | `
    Add-AzureDataDisk -CreateNew -DiskSizeInGB 250 -DiskLabel 'dbdata' -LUN 0
09 $vmConfigDb | New-AzureVM -ServiceName "myService27182"
10 $vmConfigApp = New-AzureVMConfig -Name "MyApp" -InstanceSize Medium -ImageName $vmImageNameApp | `
    Add-AzureProvisioningConfig -Windows -AdminUsername 'winadm314' -Password 'W!3d03_K05t07'
11 $vmConfigApp | New-AzureVM -ServiceName "myService27182"
  
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

### Hot Area:

#### Answer Area

	Yes	No
The command in line 11 creates a new VM that has one local data disk that uses Azure blob storage.	<input type="radio"/>	<input type="radio"/>
The VM that runs Linux and the VM that runs Windows can communicate with each other by using internal IP addresses.	<input type="radio"/>	<input type="radio"/>
The VM that runs Windows can accept HTTP requests from the public Internet.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Answer Area

	Yes	No
The command in line 11 creates a new VM that has one local data disk that uses Azure blob storage.	<input type="radio"/>	<input checked="" type="radio"/>
The VM that runs Linux and the VM that runs Windows can communicate with each other by using internal IP addresses.	<input checked="" type="radio"/>	<input type="radio"/>
The VM that runs Windows can accept HTTP requests from the public Internet.	<input checked="" type="radio"/>	<input type="radio"/>

Section: [none]

Explanation

Explanation/Reference:

#### QUESTION 40

You store JSON data in a blob by using the Azure Blob service. Web applications access the JSON data by using client-side JavaScript calls.

JSON data is stored in a container that is configured to allow anonymous access. Web applications that are allowed to make updates to the data have access to any necessary shared access signatures (SASs) and storage keys.

You configure one Cross-Origin Resource Sharing (CORS) rule for the <https://fabrikam.com> domain and then run the following method. Line numbers are provided for reference only.



```
01 void ConfigureBlobCorsRules(CloudBlobClient blobClient)
02 {
03     var blobServiceProperties = blobClient.GetServiceProperties();
04     var partnerCorsRule = new CorsRule();
05     partnerCorsRule.AllowedOrigins.Add("https://contoso.com");
06     partnerCorsRule.AllowedMethods = CorsHttpMethods.Post | CorsHttpMethods.Put;
07     partnerCorsRule.ExposedHeaders.Add("");
08     partnerCorsRule.AllowedHeaders.Add("");
09     blobServiceProperties.Cors.CorsRules.Add(partnerCorsRule);
10     var publicCorsRule = new CorsRule();
11     publicCorsRule.AllowedOrigins.Add("");
12     publicCorsRule.AllowedMethods = CorsHttpMethods.Get;
13     publicCorsRule.ExposedHeaders.Add("");
14     publicCorsRule.AllowedHeaders.Add("");
15     blobServiceProperties.Cors.CorsRules.Add(publicCorsRule);
16     blobClient.SetServiceProperties(blobServiceProperties);
17 }
```

For each of the following statements, select Yes if the statement is true. Otherwise, select No.

Hot Area:

**Answer Area**

	Yes	No
The CORS rule that was previously configured for https://fabrikam.com is no longer in effect after this method runs.	<input type="radio"/>	<input type="radio"/>
Partners from the https://contoso.com domain can access the configured storage by using the <b>HTTP HEAD</b> operation.	<input type="radio"/>	<input type="radio"/>
Partners from the https://contoso.com domain can access the configured storage service by using the <b>HTTP GET</b> operation.	<input type="radio"/>	<input type="radio"/>

Correct Answer:

Yes No

**Answer Area**

The CORS rule that was previously configured for https://fabrikam.com is no longer in effect after this method runs.

☒ Yes ☐ No

Partners from the https://contoso.com domain can access the configured storage by using the **HTTP HEAD** operation.

☐ Yes ☒ No

Partners from the https://contoso.com domain can access the configured storage service by using the **HTTP GET** operation.

☐ Yes ☒ No**Section: [none]****Explanation****Explanation/Reference:****QUESTION 41**

You are modifying a web application so that it uses Azure Active Directory to manage users. You create a security group named Users and a security group named Administrators. The Administrators security group is a member of the Users security group.

You create the following code segment. Line numbers are included for reference only.

```
01 function canAccessUserResources(userId) {  
02  
03 }  
04 function getGroupId(groupName) {  
05 ...  
06 }  
07 function domain() {  
08 ...  
09 }
```

You need to implement the canAccessUserResources function.

Which code segment should you insert at line 02?



- ☐ A. 

```
var groupId = getGroupId("Users");  
var link = domain().concat("/users/", userId, "/memberOf?api-version=2013-04-05");  
var json = $.getJSON(link);  
for (entry in json.Value)  
    if (entry.objectId == groupId)  
        return true;  
return false;
```
- ☐ B. 

```
var groupId = getGroupId("Users");  
var link = domain().concat("/isMemberOf?api-version=2013-04-05");  
var json = $.post(link, { groupId: groupId, memberId: userId });  
return json.value;
```
- ☐ C. 

```
var groupId = getGroupId("User");  
var link = domain().concat("/roles/", groupId, "?api-version=2013-04-05");  
var json = $.getJSON(link);  
return json.value;
```
- ☐ D. 

```
var groupId = getGroupId("Users");  
var link = domain().concat("/groups/", groupId, "/members?api-version=2013-04-05");  
var json = $.getJSON(link);  
for (entry in json.Value)  
    if (entry.objectId == userId)  
        return true;  
return false;
```

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

**Correct Answer:** C

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 42

You are developing a messaging solution to integrate two applications named WeatherSummary and WeatherDetails. The WeatherSummary application displays a summary of weather information for major cities. The WeatherDetails application displays weather details for a specific city.

You need to ensure that the WeatherDetails application displays the weather details for the city that the user selects in the WeatherSummary application.

What should you do?

- A. Create an Azure Service Bus Queue communication. In the WeatherDetails application, implement the PeekLock method.
- B. Create an Azure Service Bus Topics object. In the WeatherDetails application, create a filter.
- C. Create an Azure Service Bus Relay object. In the WeatherDetails application, create a filter.
- D. Create an Azure Service Bus Queue communication. In the WeatherDetails application, implement the ReceiveAndDelete method.

**Correct Answer:** B

**Section:** [none]

**Explanation**

**Explanation/Reference:**

#### QUESTION 43

You store data by using table storage in Azure.

The storage analytics logs do not contain any data.

You must configure the Azure storage account to retain logs for the maximum length of time that Azure permits.

In the Azure management portal, what should you do?

- A. Set the monitoring level to Minimal, and set the number of days the data in the logs is retained to 0.
- B. Set the monitoring level to Verbose, and set the number of days the data in the logs is retained to 365.
- C. Set the monitoring level to Minimal, and set the number of days the data in the logs is retained to 99.
- D. Set the monitoring level to Verbose, and set the number of days the data in the logs is retained to 30.

**Correct Answer:** A

**Section:** [none]

**Explanation**

**Explanation/Reference:**

Ref: <http://azure.microsoft.com/en-gb/documentation/articles/storage-monitor-storage-account/>