












Task 1: Deploy zone-resilient Azure virtual machines by using the Azure portal and an Azure Resource Manager template

In this task, you will deploy Azure virtual machines into different availability zones by using the Azure portal and an Azure Resource Manager template.

Showing 1 to 11 of 11 records.

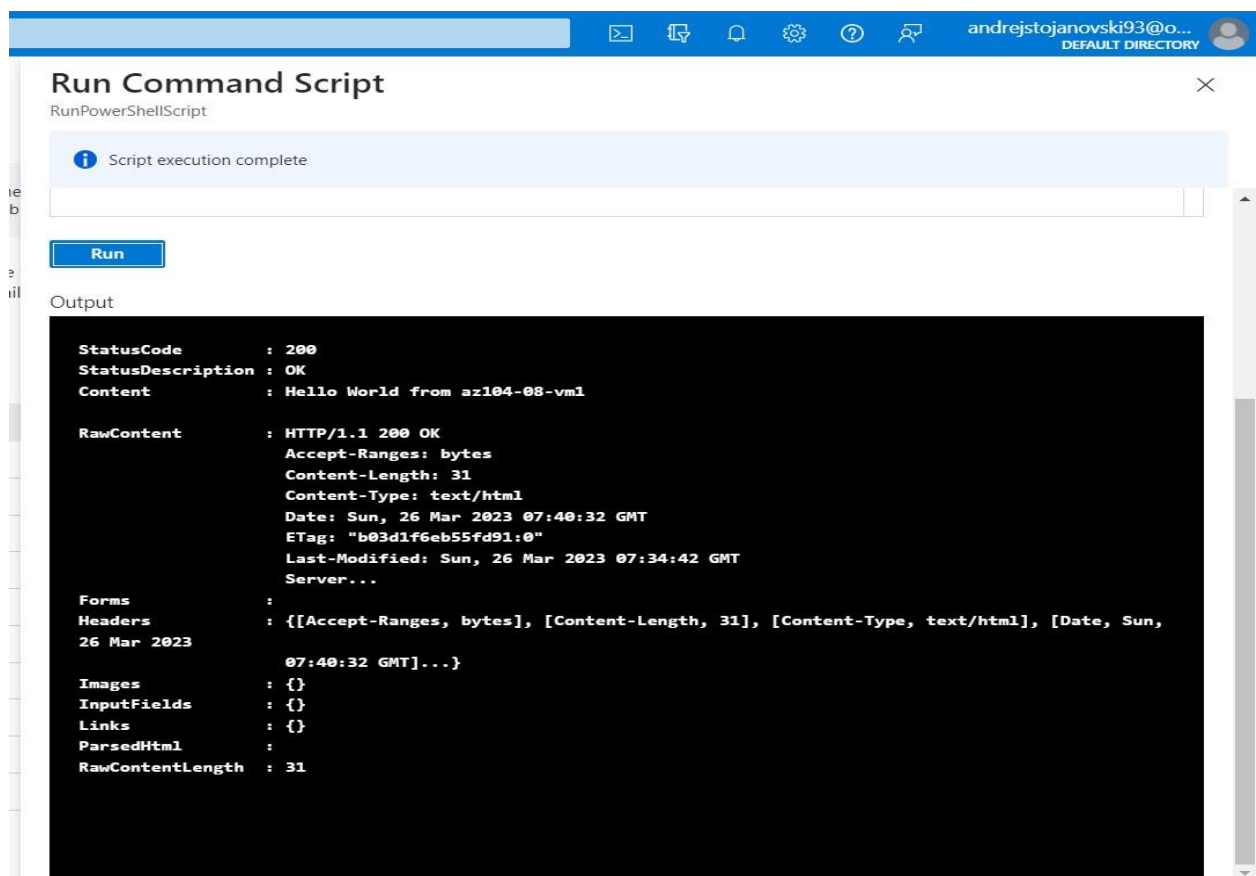
<input type="checkbox"/> Name ↑↓	Type ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓	
<input type="checkbox"/>  az104-08-rg01-vnet	Virtual network	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm0	Virtual machine	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm0-ip	Public IP address	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm0-nsg	Network security group	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm0155_z1	Network Interface	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm0_OsDisk_1_36fcc7978d2349a48b5cc34f6642158c	Disk	AZ104-08-RG01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm1	Virtual machine	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm1-ip	Public IP address	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm1-nic1	Network Interface	az104-08-rg01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az104-08-vm1_OsDisk_1_fc4698f245714d7cbf79fc9e02fdb6c5	Disk	AZ104-08-RG01	East US	Azure Pass - Sponsorship	***
<input type="checkbox"/>  az10408rg01andrej01diag	Storage account	az104-08-rg01	East US	Azure Pass - Sponsorship	***

Task 2: Configure Azure virtual machines by using virtual machine extensions

In this task, you will install Windows Server Web Server role on the two Azure virtual machines you deployed in the previous task by using the Custom Script virtual machine extension.

1. on the storage account blade displaying the list of containers, click **scripts**.
2. On the **scripts** blade, click **Upload**.
3. On the **Upload blob** blade, click the folder icon, in the **Open** dialog box, navigate to the **\Allfiles\Labs\08** folder, select **az104-08-install_IIS.ps1**, click **Open**, and back on the **Upload blob** blade, click **Upload**.

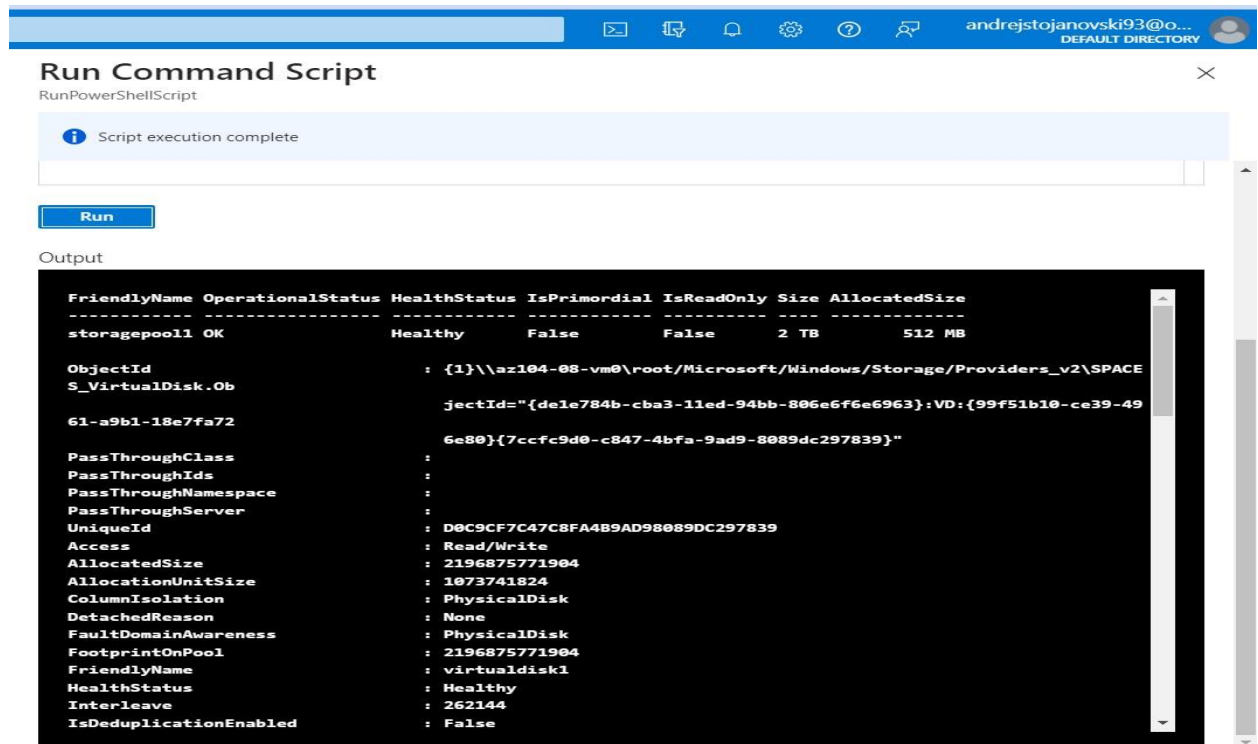
-To verify that the Custom Script extension-based configuration was successful, navigate back on the **az104-08-vm1** blade, in the **Operations** section, click **Run command**, and, in the list of commands, click **RunPowerShellScript**.



Task 3: Scale compute and storage for Azure virtual machines

In this task you will scale compute for Azure virtual machines by changing their size and scale their storage by attaching and configuring their data disks.

1. On the **az104-08-vm0** blade, in the **Operations** section, click **Run command**, and, in the list of commands, click **RunPowerShellScript**.
2. On the **Run Command Script** blade, type the following and click **Run** to create a drive Z: consisting of the two newly attached disks with the simple layout and fixed provisioning:



Run Command Script
RunPowerShellScript

Script execution complete

Run

Output

```
FriendlyName OperationalStatus HealthStatus IsPrimordial IsReadOnly Size AllocatedSize
-----
storagepool1 OK Healthy False False 2 TB 512 MB

ObjectId
S_VirtualDisk.Ob
61-a9b1-18e7fa72
: {1}\\az104-08-vm0\root\Microsoft\Windows\Storage\Providers_v2\SPACE
jectId="{de1e784b-cba3-11ed-94bb-806e6f6e6963}:VD:{99f51b10-ce39-49
6e80}{7ccfc9d0-c847-4bfa-9ad9-8089dc297839}"

PassThroughClass
PassThroughIds
PassThroughNamespace
PassThroughServer
UniqueId
Access
AllocatedSize
AllocationUnitSize
ColumnIsolation
DetachedReason
FaultDomainAwareness
FootprintOnPool
FriendlyName
HealthStatus
Interleave
IsDeduplicationEnabled
:
:
:
:
: D0C9CF7C47C8FA489AD98089DC297839
: Read/Write
: 2196875771904
: 1073741824
: PhysicalDisk
: None
: PhysicalDisk
: 2196875771904
: virtualdisk1
: Healthy
: 262144
: False
```

1. on the **az104-08-vm1** blade, in the **Operations** section, click **Run command**, and, in the list of commands, click **RunPowerShellScript**.
2. On the **Run Command Script** blade, type the following and click **Run** to create a drive Z: consisting of the two newly attached disks with the simple layout and fixed provisioning:

Run Command Script
RunPowerShellScript

Script execution complete

Run

Output

```

FriendlyName OperationalStatus HealthStatus IsPrimordial IsReadOnly Size AllocatedSize
-----
storagepool1 OK Healthy False False 2 TB 512 MB

ObjectId
S_VirtualDisk.Ob
jectId="{ba0f66cb-cba4-11ed-94bb-806e6f6e6963}:VD:{dc45b906-10d9-40
15-aa63-f097aeb
ec07}{450a37bc-e50a-461c-8f23-fb2d1e1042ba}"

PassThroughClass
:
PassThroughIds
:
PassThroughNamespace
:
PassThroughServer
:
UniqueId
: BC370A450AE51C468F23FB2D1E1042BA
Access
: Read/Write
AllocatedSize
: 2196875771904
AllocationUnitSize
: 1073741824
ColumnIsolation
: PhysicalDisk
DetachedReason
: None
FaultDomainAwareness
: PhysicalDisk
FootprintOnPool
: 2196875771904
FriendlyName
: virtualdisk1
HealthStatus
: Healthy
Interleave
: 262144
IsDeduplicationEnabled
: False

```

Task 4: Register the Microsoft.Insights and Microsoft.AlertsManagement resource providers

```
PS /home/andrej> Register-AzResourceProvider -ProviderNamespace Microsoft.Insights

ProviderNamespace : microsoft.insights
RegistrationState  : Registering
ResourceTypes     : {components, components/query, components/metadata, components/metrics...}
Locations         : {East US, South Central US, North Europe, West Europe...}

PS /home/andrej> Register-AzResourceProvider -ProviderNamespace Microsoft.AlertsManagement

ProviderNamespace : Microsoft.AlertsManagement
RegistrationState  : Registering
ResourceTypes     : {alerts, alertsSummary, smartGroups, smartDetectorAlertRules...}
Locations         : {global, North Central US, East US, East US 2...}

PS /home/andrej> 
```

Task 5: Deploy zone-resilient Azure virtual machine scale sets by using the Azure portal

The screenshot shows the Azure portal interface for a deployment named "CreateVmss-MicrosoftWindowsServer.WindowsServer-2-20230326115615". The deployment is complete, and the status is "Succeeded". The deployment details table lists the resources created, including virtual machines, load balancers, network security groups, virtual networks, and storage accounts. The next steps section includes a "Go to resource" button. The right sidebar contains links to Cost Management, Microsoft Defender for Cloud, Free Microsoft tutorials, and Work with an expert.

Home > **CreateVmss-MicrosoftWindowsServer.WindowsServer-2-20230326115615** | Overview

Deployment

Search resources, services, and docs (G+)

andrejstojanovski@...
DEFAULT DIRECTORY (ANDREJSTOJANOVSKI@...)

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name: CreateVmss-MicrosoftWindowsServer.Windows... Start time: 3/26/2023, 12:00:33 PM
Subscription: Azure Pass - Sponsorship Correlation ID: 1e38f37d-5407-4465-b7ec-7ac39c417396
Resource group: az104-08-rg02

Deployment details

Resource	Type	Status	Operation details
az10408vmss0	Microsoft.Compute/virtualMachines	OK	Operation details
az10408vmss0-lb	Microsoft.Network/loadBalancers	Created	Operation details
az10408vmss0nsg503	Microsoft.Network/networkSecurityGroups	OK	Operation details
az10408rg02vnet715	Microsoft.Network/virtualNetworks	OK	Operation details
az10408vmss0-lb-publicip	Microsoft.Network/publicIPAddresses	OK	Operation details
az10408rg01andrej02diag	Microsoft.Storage/storageAccounts	OK	Operation details

Next steps

[Go to resource](#)

Cost Management
Get notified to stay within your budget and prevent unexpected charges on your bill.
[Set up cost alerts >](#)

Microsoft Defender for Cloud
Secure your apps and infrastructure
[Go to Microsoft Defender for Cloud >](#)

Free Microsoft tutorials
[Start learning today >](#)

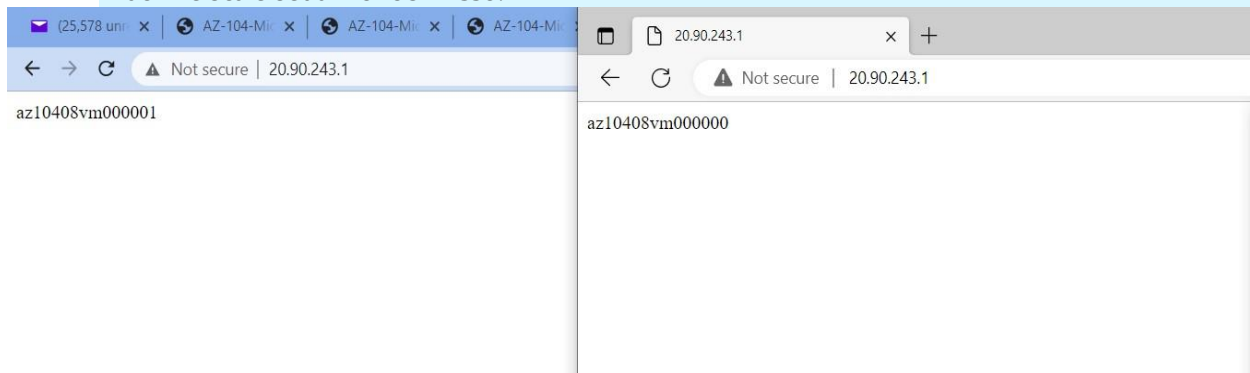
Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.

Task 6: Configure Azure virtual machine scale sets by using virtual machine extensions

In this task, you will install Windows Server Web Server role on the instances of the Azure virtual machine scale set you deployed in the previous task by using the Custom Script virtual machine extension.

1. In the Azure portal, search for and select **Load balancers** and, in the list of load balancers, click **az10408vmss0-lb**.
2. On the **az10408vmss0-lb** blade, note the value of the **Public IP address** assigned to the frontend of the load balancer, open a new browser tab, and navigate to that IP address.

Note: Verify that the browser page displays the name of one of the instances of the Azure virtual machine scale set **az10408vmss0**.

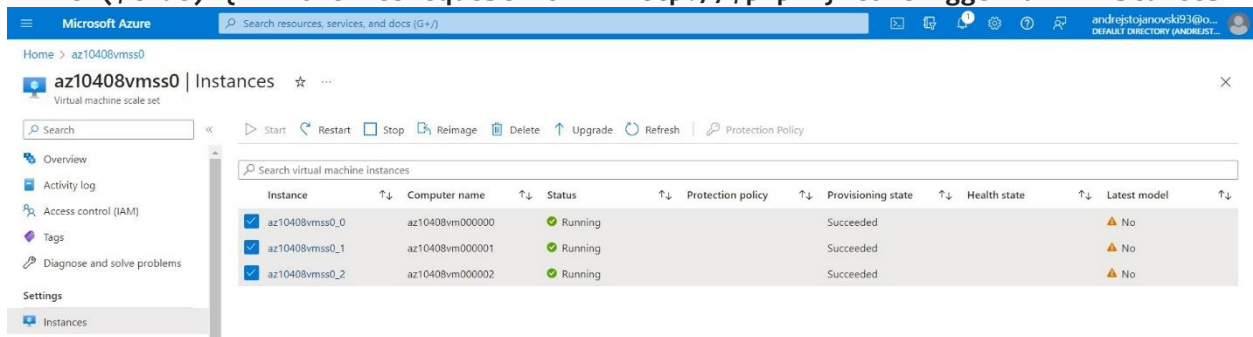


Task 7: Scale compute and storage for Azure virtual machine scale sets

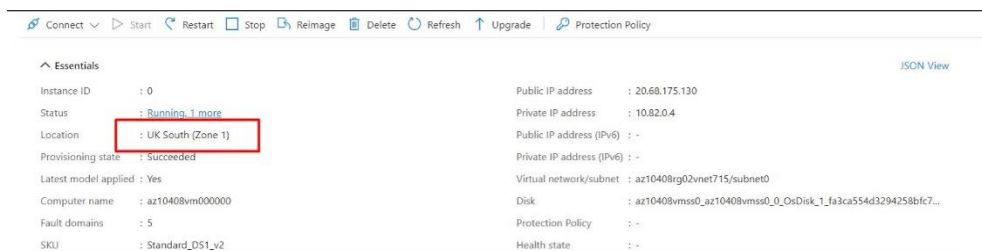
In this task, you will change the size of virtual machine scale set instances, configure their autoscaling settings, and attach disks to them.

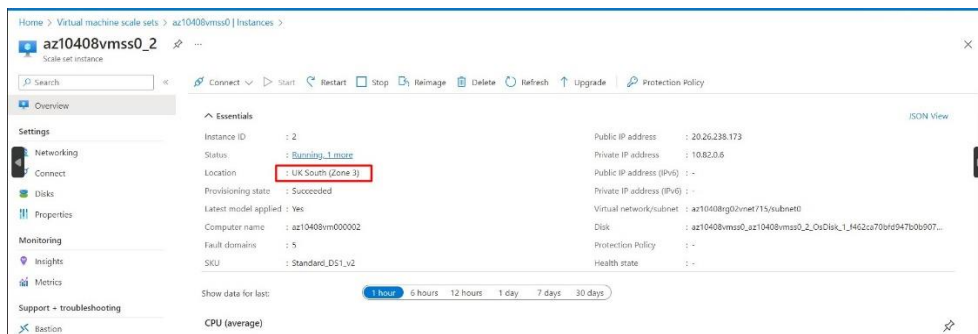
From the Cloud Shell pane, run the following to start an infinite loop that sends the HTTP requests to the web sites hosted on the instances of Azure virtual machine scale set az10408vmss0.

```
while ($true) { Invoke-WebRequest -Uri "http://$pip" } to trigger all instances
```



with different zone





In the toolbar of the Cloud Shell pane, click the Upload/Download files icon, in the drop-down menu, click Upload and upload the file \\Allfiles\\Labs\\08\\az104-08-configure_VMSS_disks.ps1 into the Cloud Shell home directory.

```
PowerShell
Connecting terminal...

MOTD: Azure Cloud Shell now includes Predictive IntelliSense! Learn more: https://aka.ms/CloudShell/IntelliSense

VERBOSE: Authenticating to Azure ...
VERBOSE: Building your Azure drive ...
PS /home/andrej> ls -l
total 8
-rw-r--r-- 1 andrej andrej 751 Mar 26 10:28 az104-08-configure_VMSS_disks.ps1
lrwxrwxrwx 1 andrej andrej 22 Mar 26 10:18 clouddrive -> /usr/csuser/clouddrive
drwxr-xr-x 3 andrej andrej 4096 Mar 26 08:05 Microsoft
PS /home/andrej>
```

1. From the Cloud Shell pane, run the following to execute the script and configure disks of Azure virtual machine scale set:

```
./az104-08-configure_VMSS_disks.ps1
```