**Lesson 6 Demo 5**

**Azure Virtual Machine Scale Sets**

**Objective:** You were tasked with identifying different options for deploying and configuring Azure virtual machines and making it highly available using a VM Scale set. You need to investigate compute and storage resiliency and scalability options that are available when using Azure virtual machine scale sets. You also want to explore the ability to automatically configure virtual machines and virtual machine scale sets by using the Azure Virtual Machine Custom Script extension.

**Tools required:** Azure account with administrator access

**Prerequisites:** None

Steps to be followed:

1. Registering the Microsoft.Insights and Microsoft.AlertsManagement resource providers
2. Deploying zone-resilient Azure virtual machine scale sets by using the Azure portal
3. Configuring Azure virtual machine scale sets by using virtual machine extensions

**Step 1: Registering the Microsoft.Insights and Microsoft.AlertsManagement resource providers**

1. Sign in to the Azure portal at <https://portal.azure.com/>
2. Open the Cloud Shell by clicking on the first icon in the top right of the Azure Portal. If prompted, select **PowerShell** and then select **Create storage**Graphical user interface, application

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1. In the PowerShell session within the Cloud Shell pane, run the following command to register the Microsoft resource providers:

**Register-AzResourceProvider -ProviderNamespace Microsoft.Insights**

**Register-AzResourceProvider -ProviderNamespace Microsoft.AlertsManagement**

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**Step 2: Deploying zone-resilient Azure virtual machine scale sets by using the Azure portal**

1. Type **Virtual machine scale sets** in the search bar and select it

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1. Click on **+ Create**

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1. Specify the following settings (leave others as default values):

**Resource group** (create new) az305-08-rg02

**Name** az30508vmss0

**Availability zone** Zones 1, 2, 3

**Image** Windows Server 2019 Datacenter - Gen2

**Username**  Student

**Password** Pa55w.rd1234

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1. Click on **Networking**

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1. Click on Create a Virtual network and specify the following details:

**Name az305-08-rg02-vnet**

**Address range 10.82.0.0/20**

**Subnet name subnet0**

**Subnet range 10.82.0.0/24**

1. Select **OK**

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1. Click on the **Edit network interface** icon to the right of the network interface entry

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1. In the **NIC network security group** section, select **Advanced** and then click on **Create new**

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1. Provide the following name:

**Name az30508vmss0-nsg**

1. Click on **Add an inbound rule** and specify the following settings (leave others as default):

**Destination port 80**

**Protocol TCP**

**Name custom-allow-http**

1. Click on **Add** and then click on **OK**

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1. In the **Public IP address** section, click on **Enabled** and then click on **OK**

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1. Select **Use a load balancer** and then click on **Next : Scaling >**

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1. Under the Management section, select **Enable with custom storage account**
2. Click on **Review + Create**

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1. After the validation passes, click on **Create**Graphical user interface, text, application, email

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**Step 3: Configuring Azure virtual machine scale sets by using virtual machine extensions**

1. Type **Storage accounts** in the search bar and select it

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1. Locate the storage account that you created and open it

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1. Under the **Data Storage** section, click on **Containers** and then click on **+ Container**

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1. Provide the name and then click on **Create**

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1. Open the newly created container
2. Click on **Upload**

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1. Upload the **az305-08-install\_IIS.ps1 file**

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1. Navigate back to the **Virtual machine scale sets** blade and click on **az30508vmss0**

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1. Under the **Settings** section, click on **Extensions** and then click on **+ Add**

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1. Click on **Custom Script Extension** and then click on **Next**

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1. **Browse** and **select** the **az305-08-install\_IIS.ps1** script that was uploaded to the **scripts** container in the storage account earlier in this task and then click on **Create**

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1. Under the **Settings** section, click on **Instances**, select the checkboxes next to the two instances, and click on **Upgrade**

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1. Now, type **Load balancers** in the search bar and select it

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1. Select the load balancer that you created
2. Under Settings, select **Frontend IP Configuration**
3. Note the value of the **Public IP address** assigned

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1. Open a new browser tab and navigate to that IP address

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