

Deploy Windows Server & Windows 10 VMs in Azure

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NTW216: Foundations of System Administration

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Deploy Windows Server & Windows 10 VMs in Azure

This assignment focused on deploying two virtual machines (VMs) in Microsoft Azure: one running **Windows Server 2016 Datacenter** and the other running **Windows 10 Pro (21H2)**. The goal was to become familiar with the Azure portal interface, VM provisioning, disk configuration, and cost management practices such as auto-shutdown.

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Windows Server:

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ Azure subscription 1

Resource group * ⓘ (New) NTW216.UAT Azure
[Create new](#)

Instance details

Virtual machine name * ⓘ ServerNTW216-Lopez ✓

Region * ⓘ (US) East US ✓

Availability options ⓘ Availability zone ✓

Availability zone * ⓘ Zones 1 ✓
✓ You can now select multiple zones. Selecting multiple zones will create one VM per zone. [Learn more](#)

Security type ⓘ Trusted launch virtual machines ✓
[Configure security features](#)

Image * ⓘ Windows Server 2016 Datacenter - x64 Gen2 ✓
[See all images](#) | [Configure VM generation](#)

VM architecture ⓘ
☐ Arm64
☒ x64
! Arm64 is not supported with the selected image.

Run with Azure Spot discount ⓘ ☐

! You are in the free trial period. Costs associated with this VM can be covered by any remaining credits on your subscription. [Learn more](#) ⓘ

Size * ⓘ Standard_B1s - 1 vcpu, 1 GiB memory (\$10.22/month) (free services eligible) ✓
[See all sizes](#)

Administrator account

Username * ⓘ RamonLopez/r23 ✓

Password * ⓘ
✓

Confirm password * ⓘ
✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ⓘ
☐ None
☒ Allow selected ports

Select inbound ports * ⓘ RDP (3389) ✓

⚠ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.




In the image you see on the left, this is the first step of setting up the server in Azure. The resource group I put it in was in the NTW216.UAT.Azure. From here I gave it the name “ServerNTW216.Lopez” and assigned it the east coast region of the United States. Now I need to give it a security type, this will allow the VM to be secured. For the image, I gave it the Windows Server 2016 Datacenter with a x64 architecture. For the final piece, I gave the VM a username and a password.

<p>Encryption at host ⓘ</p> <div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;"> <p>i Encryption at host is not registered for the selected subscription. Learn more about enabling this feature ⓘ</p> </div> <p>OS disk</p> <p>OS disk type * ⓘ Premium SSD (locally-redundant storage) ▼</p> <p>Delete with VM ⓘ <input checked="" type="checkbox"/></p> <p>Key management ⓘ Platform-managed key ▼</p> <p>Enable Ultra Disk compatibility ⓘ <input type="checkbox"/> Ultra disk is not supported with selected security type.</p> <p>Data disks for ServerNTW216-Lopez</p> <p>You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.</p> <table border="1"> <thead> <tr> <th>LUN</th> <th>Name</th> <th>Size (GiB)</th> <th>Disk type</th> <th>Host caching</th> <th>Delete with VM ⓘ</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>ServerNTW216-Lopez_...</td> <td>64</td> <td>Premium SSD LRS</td> <td>None ▼</td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table> <p>Create and attach a new disk Attach an existing disk</p>	LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM ⓘ	0	ServerNTW216-Lopez_...	64	Premium SSD LRS	None ▼	<input checked="" type="checkbox"/>	<p>For this step, the only thing I did was assign data disks for the server, the size was 64 (GiB) with a premium SSD LRS. Then it was assigned to be deleted with the VM.</p>
LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM ⓘ								
0	ServerNTW216-Lopez_...	64	Premium SSD LRS	None ▼	<input checked="" type="checkbox"/>								

<p>Delete public IP and NIC when VM is deleted ⓘ <input checked="" type="checkbox"/></p>	<p>For this portion, all I did was to checkmark the box that said to delete the public IP with the VM.</p>
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<p>Auto-shutdown</p> <p>Enable auto-shutdown ⓘ <input checked="" type="checkbox"/></p> <p>Shutdown time ⓘ 12:00:00 AM</p> <p>Time zone ⓘ (UTC-07:00) Mountain Time (US & Canada) ▼</p>	<p>Here I gave it an auto-shutdown phase, this will allow me to save money if I forget to shut it down.</p>
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<div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;"> <p>i Cost given below is an estimate and not the final price. Please use Pricing calculator for all your pricing needs.</p> </div> <p>Price</p> <p>1 X Standard B1s by Microsoft Terms of use Privacy policy</p> <p>Subscription credits apply ⓘ 0.0140 USD/hr Pricing for other VM sizes</p>	<p>The review page, has me check if everything is correct and how much it will cost.</p>
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<div> Your deployment is complete</div> <div><div></div><div><div>Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe...</div><div>Subscription: Azure subscription 1</div><div>Resource group: NTW216.UAT.Azure</div></div><div><div>Start time: 5/15/2023, 8:19:49 PM</div><div>Correlation ID: 244fbafd-2028-45d7-8eac-6fe198a2babe </div></div></div> <div><div>▼ Deployment details</div><div>^ Next steps</div><div><div>Setup auto-shutdown Recommended</div><div>Monitor VM health, performance and network dependencies Recommended</div><div>Run a script inside the virtual machine Recommended</div></div><div><div>Go to resource</div><div>Create another VM</div></div><div><div>Give feedback</div><div>Tell us about your experience with deployment</div></div></div>	<p>This is the page that shows me that VM has been successfully deployed.</p>
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Windows Client:

Project details	
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.	
Subscription *	Azure subscription 1
Resource group *	NTW216.UAT.Azure Create new
Instance details	
Virtual machine name *	ClientNTW216-Lopez ✓
Region *	(US) East US
Availability options	Availability zone
Availability zone *	Zones 1 <small>You can now select multiple zones. Selecting multiple zones will create one VM per zone. Learn more</small>
Security type	Trusted launch virtual machines Configure security features
Image *	Windows 10 Pro, version 21H2 - x64 Gen2 (free services eligible) See all images Configure VM generation
VM architecture	<input type="radio"/> Arm64 <input checked="" type="radio"/> x64 <small>Arm64 is not supported with the selected image.</small>
Run with Azure Spot discount	<input type="checkbox"/>
<small>i You are in the free trial period. Costs associated with this VM can be covered by any remaining credits on your subscription. Learn more</small>	
Size *	Standard_B1s - 1 vcpu, 1 GiB memory (\$7.59/month) (free services eligible) See all sizes
Administrator account	
Username *	RamonLopezr03 ✓
Password *	***** ✓
Confirm password *	***** ✓
Inbound port rules	
Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.	
Public inbound ports *	<input type="radio"/> None <input checked="" type="radio"/> Allow selected ports
Select inbound ports *	RDP (3389)

In the image you see on the left, this is the first step of setting up the client in Azure. The resource group I put it in was in the NTW216.UAT.Azure. From here I gave it the name “ClientNTW216.Lopez” and assigned it the east coast region of the United States. Now I need to give it a security type, this will allow the VM to be secured. For the image, I gave it the Windows 10 Pro, version 21H2 with a x64 architecture. For the final piece, I gave the VM a username and a password.

<p>Encryption at host </p> <div> Encryption at host is not registered for the selected subscription. Learn more about enabling this feature </div> <p>OS disk</p> <p>OS disk type * Premium SSD (locally-redundant storage) ▼</p> <p>Delete with VM <input checked="" type="checkbox"/></p> <p>Key management Platform-managed key ▼</p> <p>Enable Ultra Disk compatibility <input type="checkbox"/> Ultra disk is not supported with selected security type.</p> <p>Data disks for ClientNTW216-Lopez</p> <p>You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.</p> <table border="1"> <thead> <tr> <th>LUN</th> <th>Name</th> <th>Size (GiB)</th> <th>Disk type</th> <th>Host caching</th> <th>Delete with VM </th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ClientNTW216-Lopez_...</td> <td>64</td> <td>Premium SSD LRS</td> <td>None ▼</td> <td><input checked="" type="checkbox"/> </td> </tr> </tbody> </table> <p>Create and attach a new disk Attach an existing disk</p>	LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM	1	ClientNTW216-Lopez_...	64	Premium SSD LRS	None ▼	<input checked="" type="checkbox"/>	<p>For this step, the only thing I did was assign data disks for the client, the size was 64 (GiB) with a premium SSD LRS. Then it was assigned to be deleted with the VM.</p>
LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM								
1	ClientNTW216-Lopez_...	64	Premium SSD LRS	None ▼	<input checked="" type="checkbox"/>								

<p>Delete public IP and NIC when VM is deleted <input checked="" type="checkbox"/></p>	<p>For this portion, all I did was to checkmark the box that said to delete the public IP with the VM.</p>
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<p>Auto-shutdown</p> <p>Enable auto-shutdown <input checked="" type="checkbox"/></p> <p>Shutdown time 12:00:00 AM</p> <p>Time zone (UTC-07:00) Mountain Time (US & Canada) ▼</p> <p>Notification before shutdown <input checked="" type="checkbox"/></p>	<p>Here I gave it an auto-shutdown phase, this will allow me to save money if I forget to shut it down.</p> <p>Update: I assigned the client VM to shutdown at 10:00:00 PM.</p>
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<p> Cost given below is an estimate and not the final price. Please use Pricing calculator for all your pricing needs.</p> <p>Price</p> <p>1 X Standard B1s by Microsoft Terms of use Privacy policy</p> <p>Subscription credits apply </p> <p>0.0104 USD/hr Pricing for other VM sizes</p>	<p>The review page, has me check if everything is correct and how much it will cost.</p>
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<p> Your deployment is complete</p> <p> Deployment name: CreateVm-MicrosoftWindowsDesktop.Windows... Start time: 5/15/2023, 8:44:48 PM Subscription: Azure subscription 1 Correlation ID: 681ad2df-1605-4407-ab80-f0bfe0754a6 Resource group: NTW216.UAT.Azure</p> <p>▼ Deployment details</p> <p>^ Next steps</p> <p>Setup auto-shutdown Recommended</p> <p>Monitor VM health, performance and network dependencies Recommended</p> <p>Run a script inside the virtual machine Recommended</p> <p>Go to resource Create another VM</p> <p>Give feedback</p> <p> Tell us about your experience with deployment</p>	<p>This is the page that shows me that VM has been successfully deployed.</p>
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<input type="checkbox"/>	ClientNTW216-Lopez	Virtual machine	Azure subscription 1	NTW216.UAT.Azure	East US	Stopped (deallocated)	Windows	Standard_B1s	20.84.91.244
<input type="checkbox"/>	ServerNTW216-Lopez	Virtual machine	Azure subscription 1	NTW216.UAT.Azure	East US	Stopped (deallocated)	Windows	Standard_B1s	20.51.223.13

On this page, this shows me the most important information on my VMs, In this case, I would like to see the status of my VMs, which are stopped to save myself some money.

This hands-on exercise provided a comprehensive introduction to Azure VM deployment. It demonstrated how to configure both server and client virtual machines, assign resource groups, attach storage, implement networking best practices, and reduce costs through automation. These are essential skills for modern system administrators and cloud engineers working in enterprise environments.

References:

cynthn, et al. "Quickstart - Create a Windows vm in the Azure Portal - Azure Virtual Machines."

Learn.microsoft.com, 1 Sept. 2022, learn.microsoft.com/en-us/azure/virtual-machines/windows/quick-create-portal.