Dennis Tikhomirov. DevOps Spring’19.

Task 3. Hyper-V

1. Using the GUI, create the following VM without a network connection:

• Windows 7 (comp1)

• Windows Server 2016 (server)

• Ubuntu 18.04 (comp2)

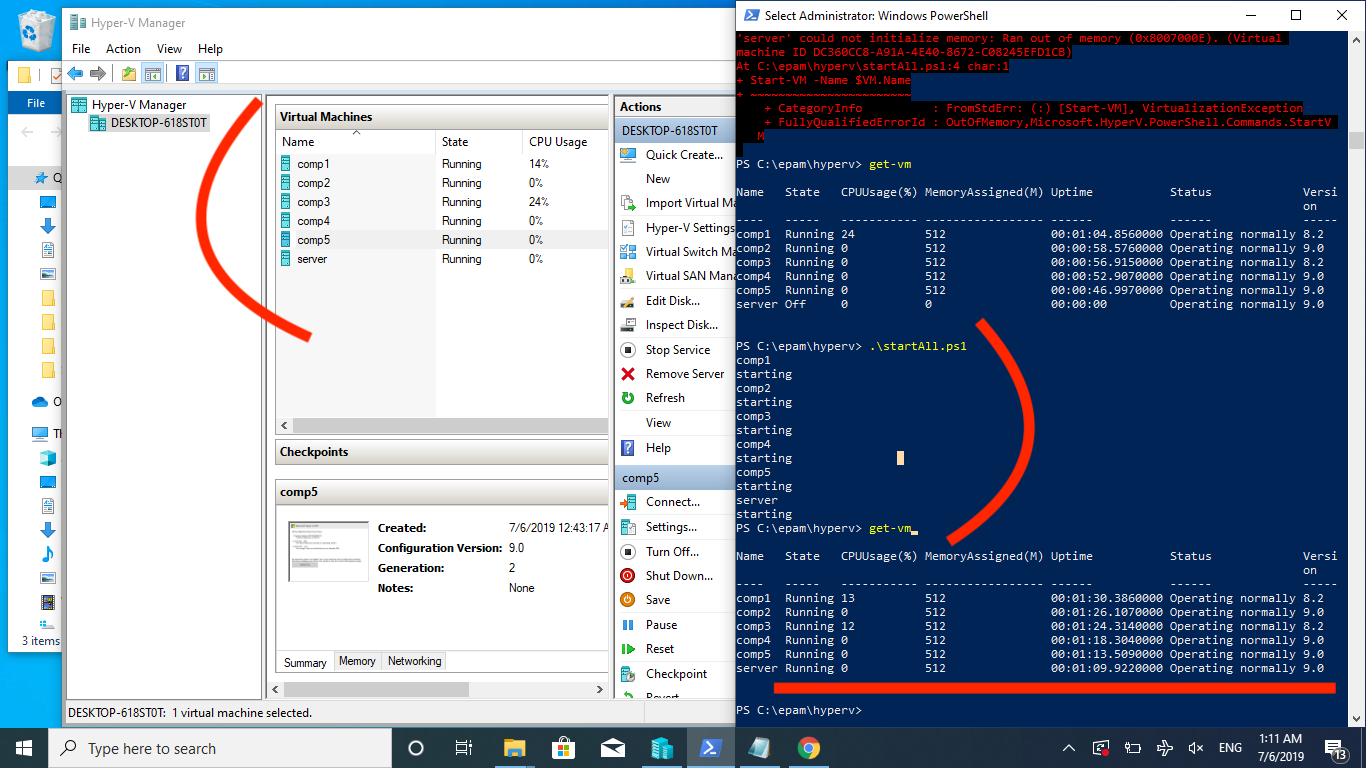
1. Using the PowerShell, create the following VM without a network connection:

• Windows 7 (comp3)

• Windows 10 (comp4)

• Ubuntu 19.04 (comp5)

Screenshot #1. Hyper-V manager, deployed VMs



I have created bunch of scripts for managing VMs on Hyper-V host.

#1. List of VMs <https://github.com/dennis00010011b/epam-devops-training/blob/master/Task3HyperV/VMs.xml>

<?xml version="1.0"?>  
<VMs>  
 <VM>  
 <Name>comp1</Name>  
 <SourcePath>C:\ISOs\IE11.Win7.HyperV\Virtual Machines\106A06B0-0DE9-4997-A87C-3760FFBEC837.vmcx</SourcePath>  
 <IsImport>true</IsImport>  
 <Memory>536870912</Memory>  
 <VHDPath>./</VHDPath>  
 <OS>Wni7</OS>  
 </VM>  
  
 <VM>  
 <Name>comp2</Name>  
 <SourcePath>C:\ISOs\ubuntu-18.04.2-desktop-amd64.iso</SourcePath>  
 <Memory>536870912</Memory>  
 <VHDPath>./</VHDPath>  
 <OS>Ubuntu18.04</OS>  
 </VM>  
  
 <VM>  
 <Name>comp3</Name>  
 <SourcePath>C:\ISOs\IE11.Win7.HyperV\Virtual Machines\106A06B0-0DE9-4997-A87C-3760FFBEC837.vmcx</SourcePath>  
 <IsImport>true</IsImport>  
 <Memory>536870912</Memory>  
 <VHDPath>./</VHDPath>  
 <OS>Wni7</OS>  
 </VM>  
  
 <VM>  
 <Name>comp4</Name>  
 <SourcePath>C:\ISOs\Win10\_1809Oct\_v2\_English\_x64.iso</SourcePath>  
 <Memory>536870912</Memory>  
 <VHDPath>./</VHDPath>  
 <OS>Wni10</OS>  
 </VM>  
  
 <VM>  
 <Name>comp5</Name>  
 <SourcePath>C:\ISOs\ubuntu-19.04-desktop-amd64.iso</SourcePath>  
 <Memory>536870912</Memory>  
 <VHDPath>./</VHDPath>  
 <OS>Ubuntu19.04</OS>  
 </VM>  
  
 <VM>  
 <Name>server</Name>  
 <SourcePath>C:\ISOs\Windows\_Server\_2016\_Datacenter\_EVAL\_en-us\_14393\_refresh.ISO</SourcePath>  
 <Memory>1036870912</Memory>  
 <VHDPath>./</VHDPath>  
 <OS>Ubuntu19.04</OS>  
 </VM>  
</VMs>

#2. PS script for creating VMs <https://github.com/dennis00010011b/epam-devops-training/blob/master/Task3HyperV/createVM.ps1>

$VMName = $args[0]  
$ISO = $args[1]  
$Memory = $args[2]  
$VHDPath = $args[3]  
 $VM = @{  
 Name = $VMName  
 MemoryStartupBytes = $Memory  
 Generation = 2  
 NewVHDPath = "$VHDPath$VMName.vhdx"  
 NewVHDSizeBytes = 53687091200  
   
 }  
 echo Creating $VMName $ISO $Memory $VHDPath  
 New-VM @VM  
  
 Add-VMDvdDrive -VMName $VMName -Path $ISO  
  
 $firmw = Get-VMFirmvare $VMName  
 Set-VMFirmvare -VMName $VMName -BootOrder $firmw.BootOrder[2]

#3. PS script for deploying VMs <https://github.com/dennis00010011b/epam-devops-training/blob/master/Task3HyperV/deploy.ps1>

[xml]$XmlDoc = Get-Content VMs.xml  
  
foreach ($VM in $XmlDoc.VMs.VM) {  
 if ($VM.isImport) {  
 Import-VM -Path $VM.SourcePath -VhdDestinationPath $VM.VHDPath -Copy -GenerateNewId  
 }  
 else{  
 .\createVM.ps1 $VM.Name $VM.SourcePath $VM.Memory $VM.VHDPath  
 }  
}

#3. PS script for removing VMs <https://github.com/dennis00010011b/epam-devops-training/blob/master/Task3HyperV/removeAll.ps1>

[xml]$XmlDoc = Get-Content VMs.xml  
foreach ($VM in $XmlDoc.VMs.VM) {  
 remove-vm $VM.Name -force  
 if (-Not($VM.isImport)) {  
 remove-item "$(Join-Path $VM.VHDPath $VM.Name).vhdx"  
 }  
}

3. Using the PowerShell for computers “comp1”, “comp4”, “comp5” configure NAT and Internet access

4. Check your settings from the command line (terminal)

5. Using the PowerShell, add the remaining VM into a network by creating a new vSwitch

6. Configure DHCP on “server”

7. Configure the LAN and Internet access

8. Check your settings from the command line (terminal)

9. Configure remote desktop connection to each VM

10. On the VM "server" install Hyper-V, which install 2 VM with Windows 7 ("comp6" and "comp7”)

11. Demonstrate file transfer and editing from Host to Guest and back

12. Create a report with screenshots and attach script files that demonstrate the solution of tasks