Relativity Dev VM

Create Windows Base Machine

Documentation

[August 12, 2019]

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# Creating the VM

1. Create the following folders on host machine
   1. **S:\Hyper-V**
   2. **S:\ISO**
2. Download **Windows Server 2016** ISO file at this link - <https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2016>
3. Copy the downloaded ISO file to **S:\ISO** folder
4. Enable Hyper-V on the host machine.
5. Create an **External Hyper-V Virtual Switch** on the host machine. Name the switch as **Default Switch.**
6. Set **PowerShell** to always open with ‘**Run as Administrator**’ permissions.
7. Run the following commands in PowerShell

$vm = New-VM -Name DevVmBase -MemoryStartupBytes 12GB -NewVHDPath "S:\Hyper-V\DevVmBase\Virtual Hard Disks\DevVmBase.vhdx" -NewVHDSizeBytes 256GB -Path "S:\Hyper-V" -SwitchName “Default Switch”

$vm | Add-VMDvdDrive -Path "S:\ISO\Windows\_Server\_2016\_Datacenter\_EVAL\_en-us\_14393\_refresh.ISO "

$vm | Set-VM -AutomaticStartAction StartIfRunning -AutomaticStopAction ShutDown

$vm | Start-VM

1. Choose the **Windows Server 2016 Standard Evaluation (Desktop Experience)** option for windows installation.
2. Eject the OS disk.
3. Share the host machine internet connection with the VM. (share it to **Default Switch**)

# Windows Server Settings

1. Change Computer Name and Description to **DevVmBase**
2. **Windows Explorer**
   1. Show hidden files
   2. Show extension for known file types
3. **Taskbar**
   1. Set to Never combine labels
4. In **Server Manager** application
   1. Turn off **Firewall** (for Domain, Private and Public profiles)
   2. Enable **Remote Management**
   3. Enable **Remote Desktop** connections
      1. Add current user (DevVmBase/Administrator) under **Select Users** button
   4. Remove **IPV6** for the **Ethernet** Network Adapter.
      1. Right click on the Ethernet Adapter and uncheck **Internet Protocol Version 6 (TCP/IPv6)**
   5. Turn **IE Enhanced Security Configuration** Off.
      1. Both for Administrators and Users
   6. Change **Windows Time zone** to **Central (US & Canada)** and turn **On** the **Set time zone automatically** setting.
5. Change PowerShell Execution Policy to **Unrestricted** by running the following command in PowerShell

Set-ExecutionPolicy Unrestricted

1. Set **PowerShell** to always **Run as Administrator**
2. Change **User Account Control** settings to **Never Notify**.
3. **Windows Updates**
   1. Turn on Automatic Updates.
   2. Install all available updates
4. Delete any Install files from the **C:\Software\_Install** (except for **Ninite** file) and **Recycle Bin** folders.
5. In Hyper-V Manager, turn off **Enable Dynamic Memory** settings
6. Setup **WinRM**
   1. Run the following commands in PowerShell

Get-NetFirewallPortFilter | ?{$\_.LocalPort -eq 5985 } | Get-NetFirewallRule | ?{ $\_.Direction -eq "Inbound" -and $\_.Profile -eq "Public" -and $\_.Action -eq "Allow"} | Set-NetFirewallRule -RemoteAddress "Any"

winrm quickconfig -q

winrm set winrm/config/winrs '@{MaxMemoryPerShellMB="512"}'

winrm set winrm/config '@{MaxTimeoutms="1800000"}'

winrm set winrm/config/service '@{AllowUnencrypted="true"}'

winrm set winrm/config/service/auth '@{Basic="true"}'

Start-Service WinRM

set-service WinRM -StartupType Automatic

1. Login into SQL Server Management Studio with **sa** login and save Credentials
2. Create a Relativity Login page Bookmark in Chrome
3. Delete all Desktop icons except for Recycle Bin.

# Software to Install

1. Create **C:\Software\_Install** folder.
2. Ninite
   * Use **Ninite.com** for the following
     + Java Runtime
     + Notepad++
     + Chrome
     + Visual Studio Code
     + 7 zip
     + WinDirStat
   * **Rename** the exe to Ninite.exe
   * **Copy** the Ninite.exe to this path on the VM - **"C:\Software\_Install\Ninite.exe"**
   * Also set Ninite to update software using Task Scheduler (<https://www.groovypost.com/howto/ninite-install-update-programs-automatically/>)
     + Set it to **run automatically** when the user **Logs in to the system**.
3. Download the following installers and copy to the **C:\Software\_Install** folder on the VM and install them.
   * Adobe Reader - Latest
4. SQL Server Management Studio - Latest
5. Visual Studio 2015 Remote Debugger - Latest and x64
6. Visual Studio 2017 Remote Debugger - Latest and x64
7. Visual Studio 2019 Remote Debugger - Latest and x64
8. Office 2010 Service Pack 2 (Install Office 2010 first)
9. Check the **PowerShell version** on the VM by running the following command

Get-Host | Select-Object Version

* + If the installed PowerShell version is not 5.1.x.x, Install **PowerShell 5.1**
    - Download and install [Win8.1AndW2K12R2-KB3191564-x64.msu](https://go.microsoft.com/fwlink/?linkid=839516) file at this link - <https://www.microsoft.com/en-us/download/details.aspx?id=54616>
    - Restart VM.

1. Check the .NET version **installed** on the VM is **.NET 4.6.2** by running the following command in PowerShell. The value should be **True**.

Get-ChildItem 'HKLM:\SOFTWARE\Microsoft\NET Framework Setup\NDP\v4\Full\' | Get-ItemPropertyValue -Name Release | Foreach-Object { $\_ -ge 394802 }

Reference: <https://docs.microsoft.com/en-us/dotnet/framework/migration-guide/how-to-determine-which-versions-are-installed#ps_a>

* + If the installed .NET version is not .NET 4.6.2 or higher, Install **.NET 4.6.2**
    - Download and install - <https://www.microsoft.com/en-us/download/details.aspx?id=53344>
    - Restart VM.

1. Install .Net 4.6.2 Developer Pack
   * Download link - <https://www.microsoft.com/en-us/download/details.aspx?id=53321>

# Pin Applications to Taskbar

1. Server Manager
2. PowerShell
3. Windows Explorer
4. Chrome
5. Visual Studio 2015 Remote Debugger
6. Visual Studio 2017 Remote Debugger
7. Visual Studio 2019 Remote Debugger
8. Services
9. Task Manager
10. SQL Server Management Studio
11. Notepad++

# Chef Recipes to Run

1. Chef - pre\_windows\_create\_default\_folders
2. Chef - pre\_windows\_install\_nuget\_provider
3. Chef - pre\_windows\_change\_computer\_name
4. Chef - windows\_disable\_firewall
5. Chef - windows\_set\_explorer\_properties
6. Chef - windows\_give\_background\_processes\_priority
7. Chef - windows\_set\_auto\_login
8. Chef - windows\_install\_software
9. Chef - windows\_add\_programs\_to\_taskbar
10. Chef - pre\_relativity\_install\_windows\_features\_and\_services
11. Chef - pre\_relativity\_create\_shared\_folders
12. Chef - pre\_relativity\_install\_sqlserver
13. Chef - pre\_relativity\_install\_servicebus

# Creating Base Image Box file

1. Reset Windows Server License to 180 days
2. Change Hardware resources to 2 cores and 8GB RAM before exporting
3. Export VM
4. Convert to .box file

# When Upgrading Base Image

1. Reset the Windows Server 6-month trial license
2. Install Latest Windows Updates
3. Run Latest Ninite from this path - **"C:\Software\_Install\Ninite.exe"**