

## LAB 9 – HYPER – V

### 1. Cài đặt hyper-V và máy ảo trong Hyper-V

+ chuẩn bị máy windows server 2012 nâng cấp domain cài dịch vụ Hyper – V

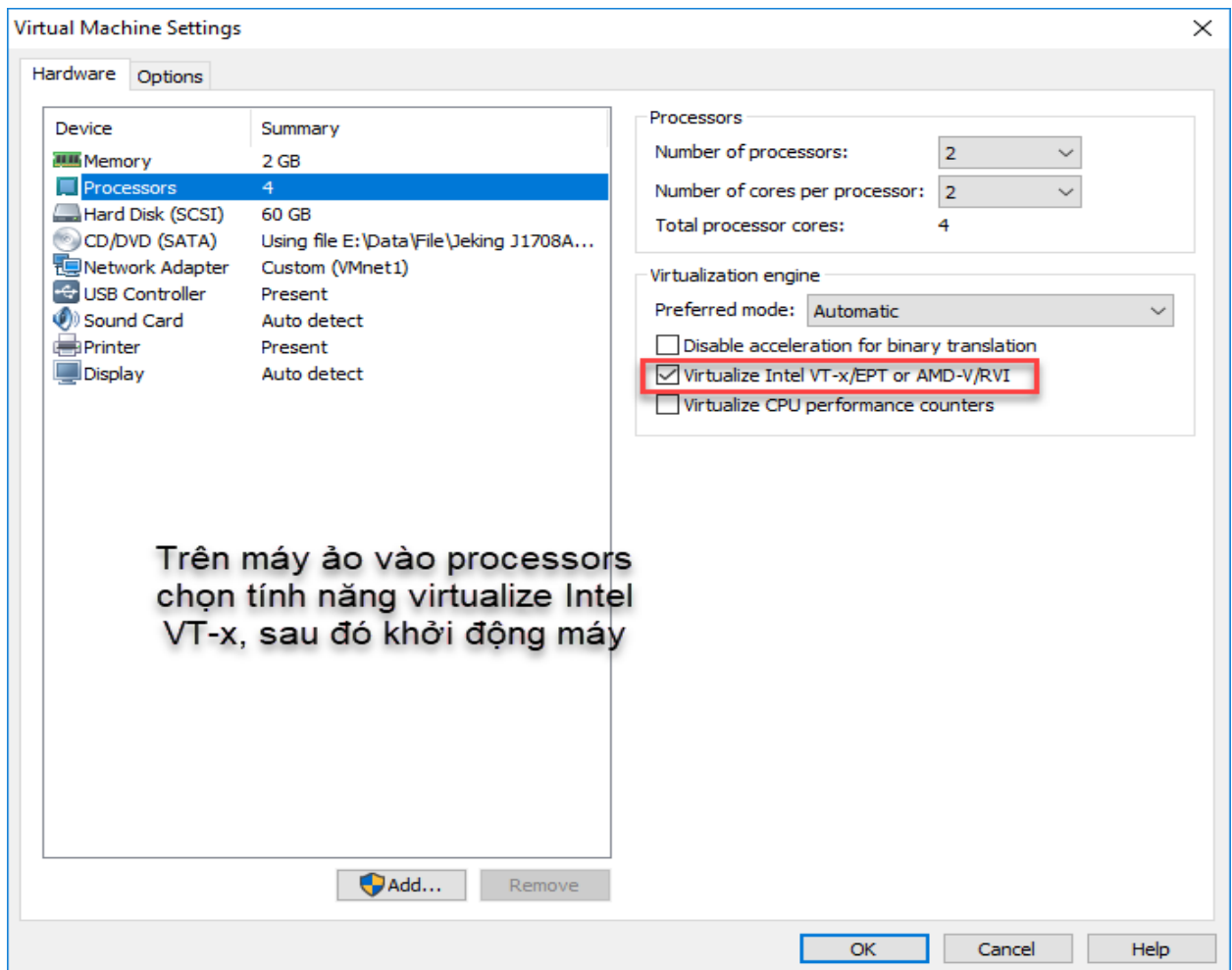
- Trước khi cài dịch vụ hyper-v trên máy DC, ta mở file .vmx của máy ảo DC bằng notepad và thêm một số dòng sau vào file:
- `hypervisor.cpuid.v0 = "FALSE"`
- `mce.enable = "TRUE"`
- `vhv.enable = "TRUE"`
- Sau đó ta bật tính năng Virtualize Intel VT-x của CPU

Name	Date modified	Type	Size
caches	9/25/2018 11:39 PM	File folder	
WS12-BDC.vmx.lck	9/25/2018 11:46 PM	File folder	
vmware	9/20/2018 3:34 PM	Text Document	343 KB
vmware-0	9/18/2018 5:27 PM	Text Document	403 KB
vmware-1	9/18/2018 3:06 PM	Text Document	238 KB
vmware-2	9/18/2018 12:19 AM	Text Document	337 KB
WS12-BDC	9/20/2018 3:34 PM	VMware Virtual M...	9 KB
WS12-BDC	8/22/2018 3:34 PM	VMware virtual dis...	8,195,136 KB
WS12-BDC	9/18/2018 3:06 PM	VMware snapshot ...	1 KB
WS12-BDC	9/25/2018 11:47 PM	VMware virtual m...	4 KB
WS12-BDC	9/18/2018 3:06 PM	VMware Team Me...	4 KB
WS12-BDC-0	9/13/2018 3:58 PM	VMware virtual dis...	7,744 KB
WS12-BDC-000001	8/30/2018 4:04 PM	VMware virtual dis...	1,111,424 KB
WS12-BDC-1	9/13/2018 5:10 PM	VMware virtual dis...	212,992 KB
WS12-BDC-2	9/13/2018 4:43 PM	VMware virtual dis...	138,816 KB
WS12-BDC-000003	9/20/2018 3:34 PM	VMware virtual dis...	868,800 KB
WS12-BDC-3	9/13/2018 4:45 PM	VMware virtual dis...	60,032 KB
WS12-BDC-4	9/13/2018 5:15 PM	VMware virtual dis...	217,728 KB
WS12-BDC-5	9/13/2018 5:15 PM	VMware virtual dis...	24,064 KB
WS12-BDC-6	9/13/2018 5:30 PM	VMware virtual dis...	60,608 KB
WS12-BDC-7	9/13/2018 5:30 PM	VMware virtual dis...	62,656 KB

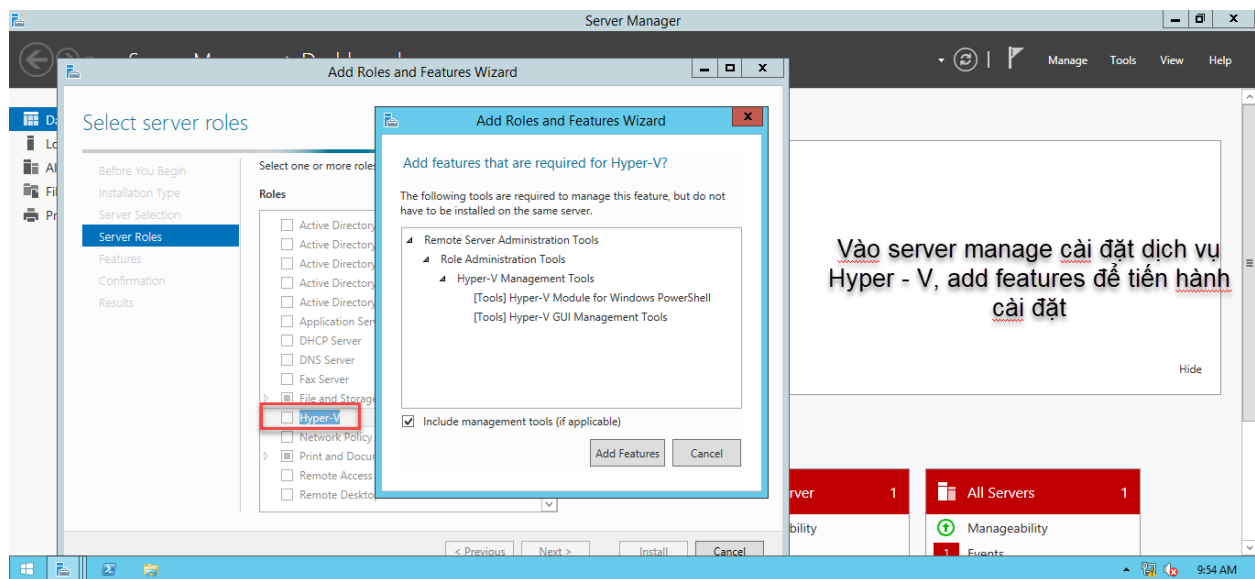
Mở file .vmx bằng notepad

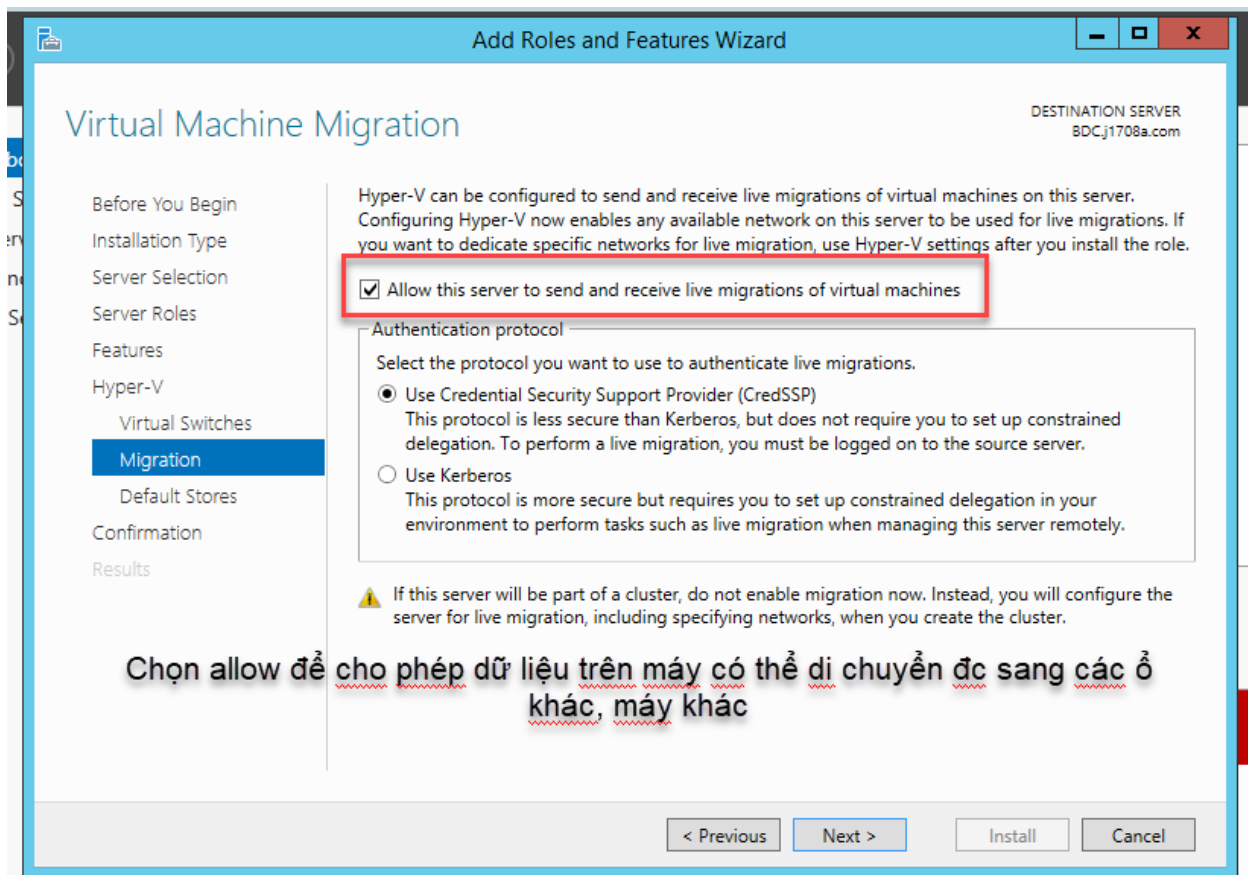
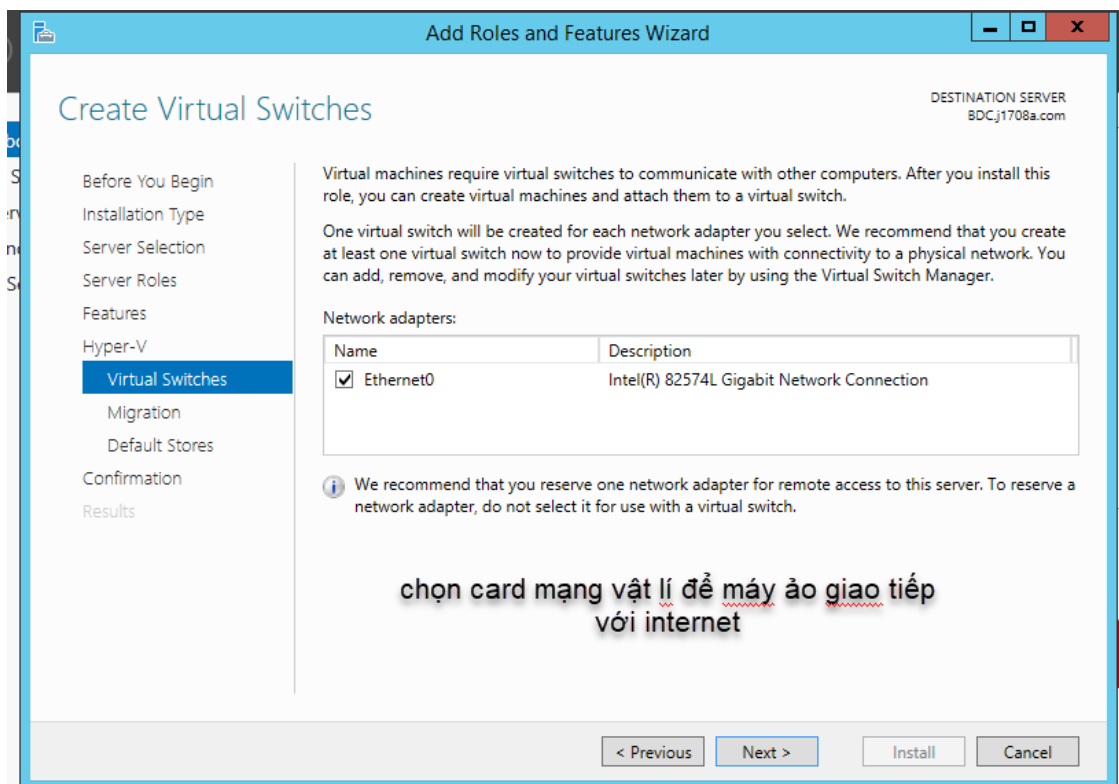
```
tools.syncTime = "FALSE"
sata0:1.startConnected = "TRUE"
svga.guestBackedPrimaryAware = "TRUE"
tools.remindInstall = "FALSE"
toolsInstallManager.updateCounter = "1"
toolsInstallManager.lastInstallError = "0"
checkpoint.vmState.readOnly = "FALSE"
checkpoint.vmState = ""
vm.genid = "3322304391645086434"
vm.genidX = "136804364330698834"
cleanShutdown = "TRUE"
usb_xhci:4.present = "TRUE"
usb_xhci:4.deviceType = "hid"
usb_xhci:4.port = "4"
usb_xhci:4.parent = "-1"
unity.wasCapable = "TRUE"
hypervisor.cpuid.v0 = "FALSE"
mce.enable = "TRUE"
vhv.enable = "TRUE"
vhv.enable = "TRUE"
floppy0.present = "FALSE"
hypervisor.cpuid.v0 = "FALSE"
mce.enable = "TRUE"
vhv.enable = "TRUE"
```

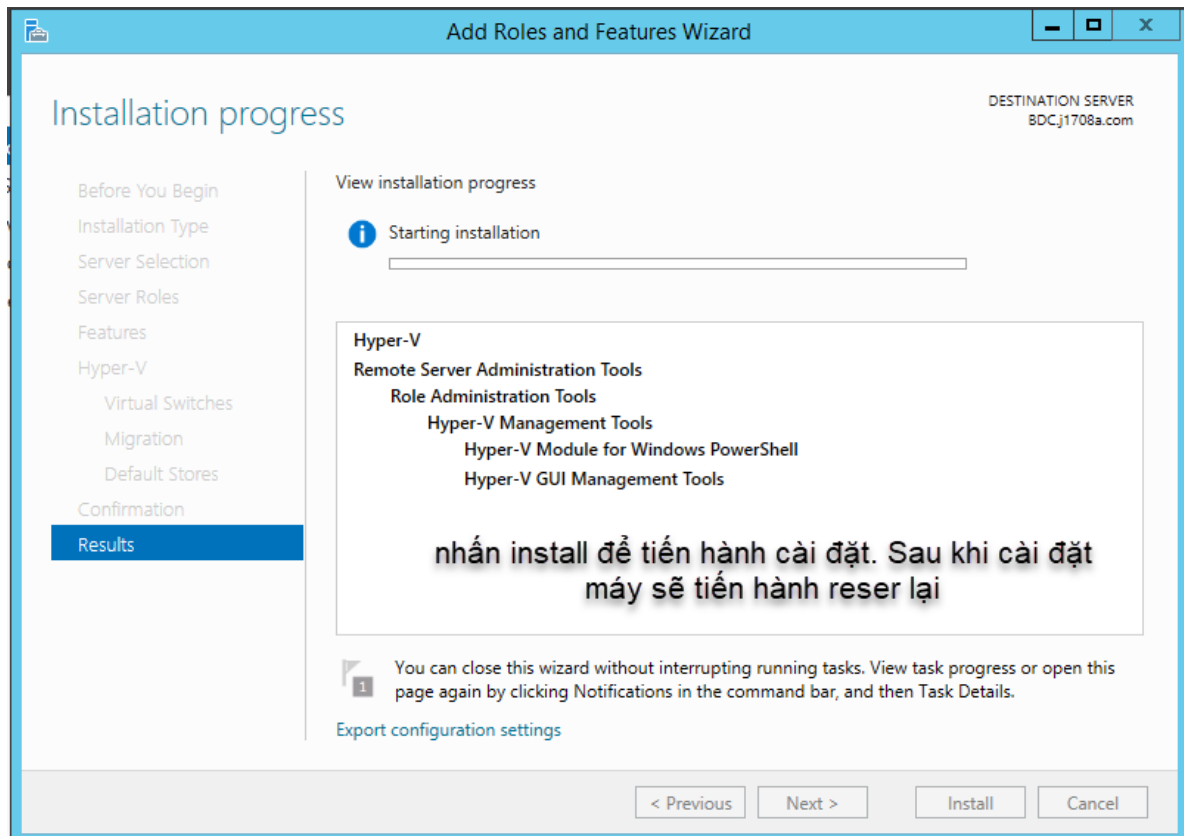
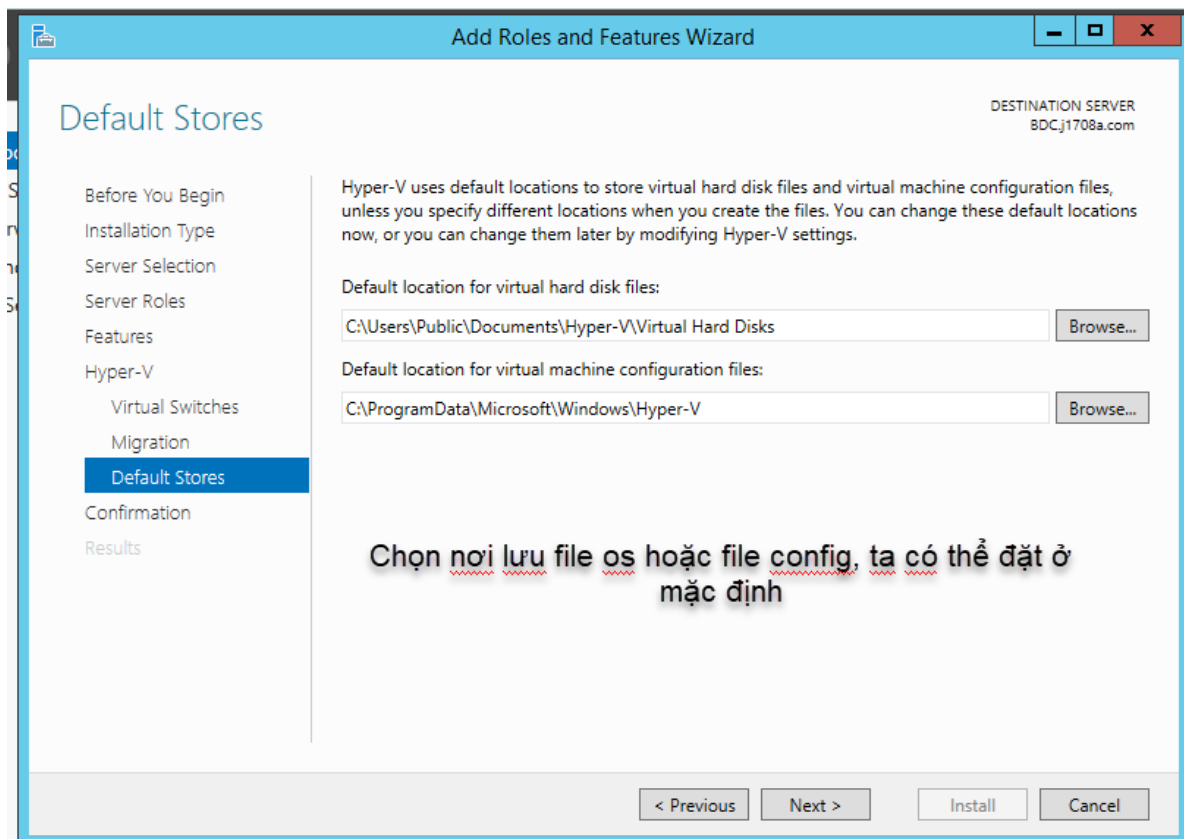
Thêm nội dung vào cuối file và lưu lại

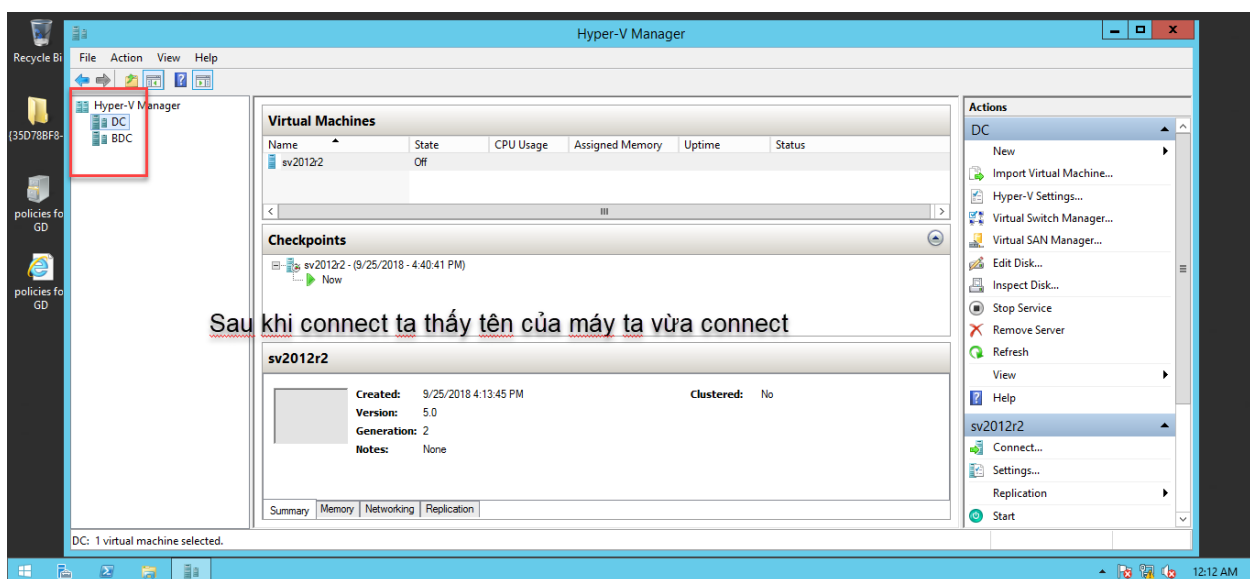
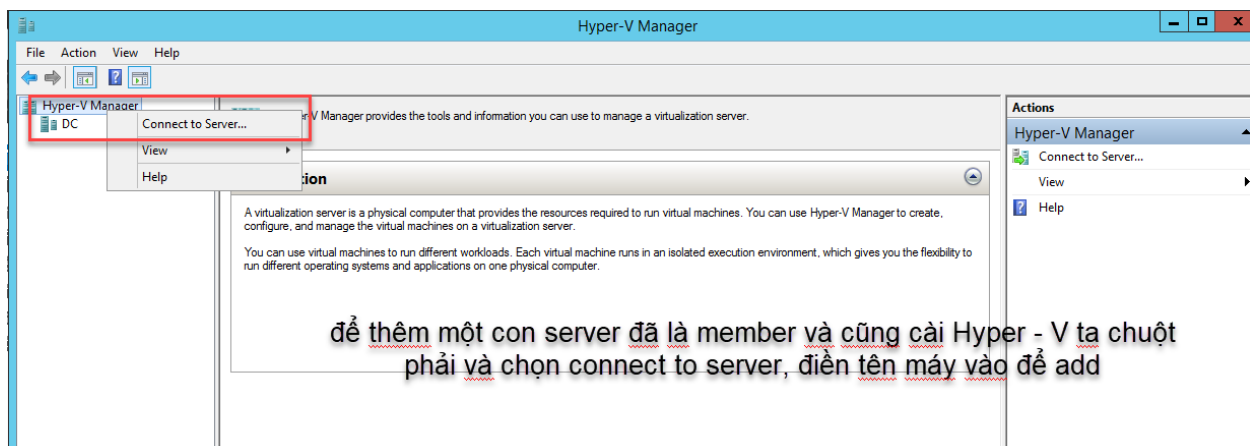
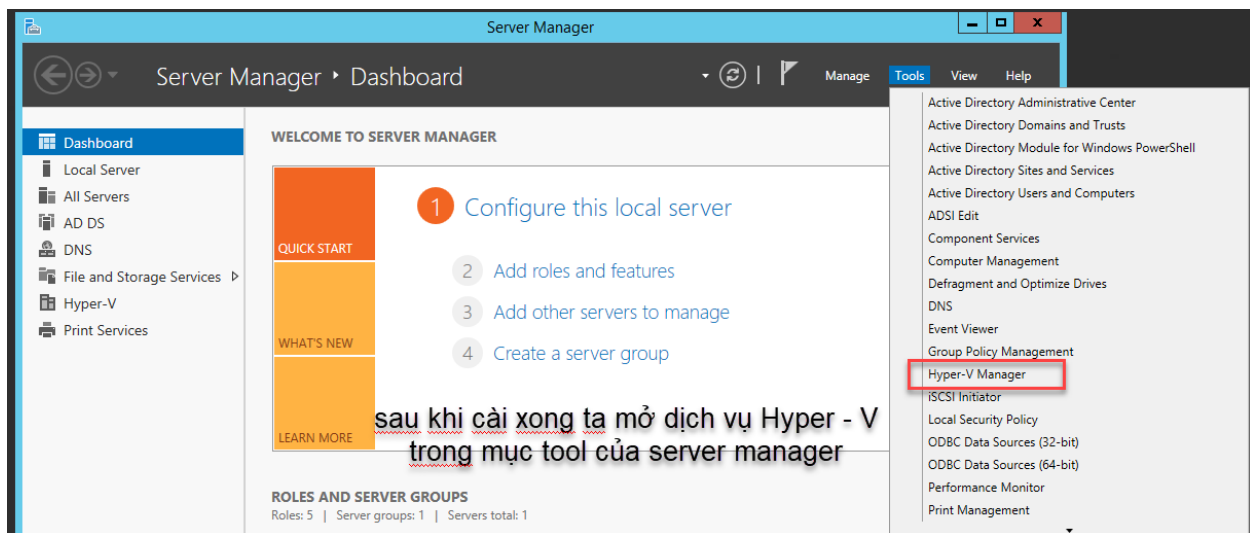


+ Sau khi bật máy, ta tiến hành cài đặt dịch vụ Hyper-V trong server manage

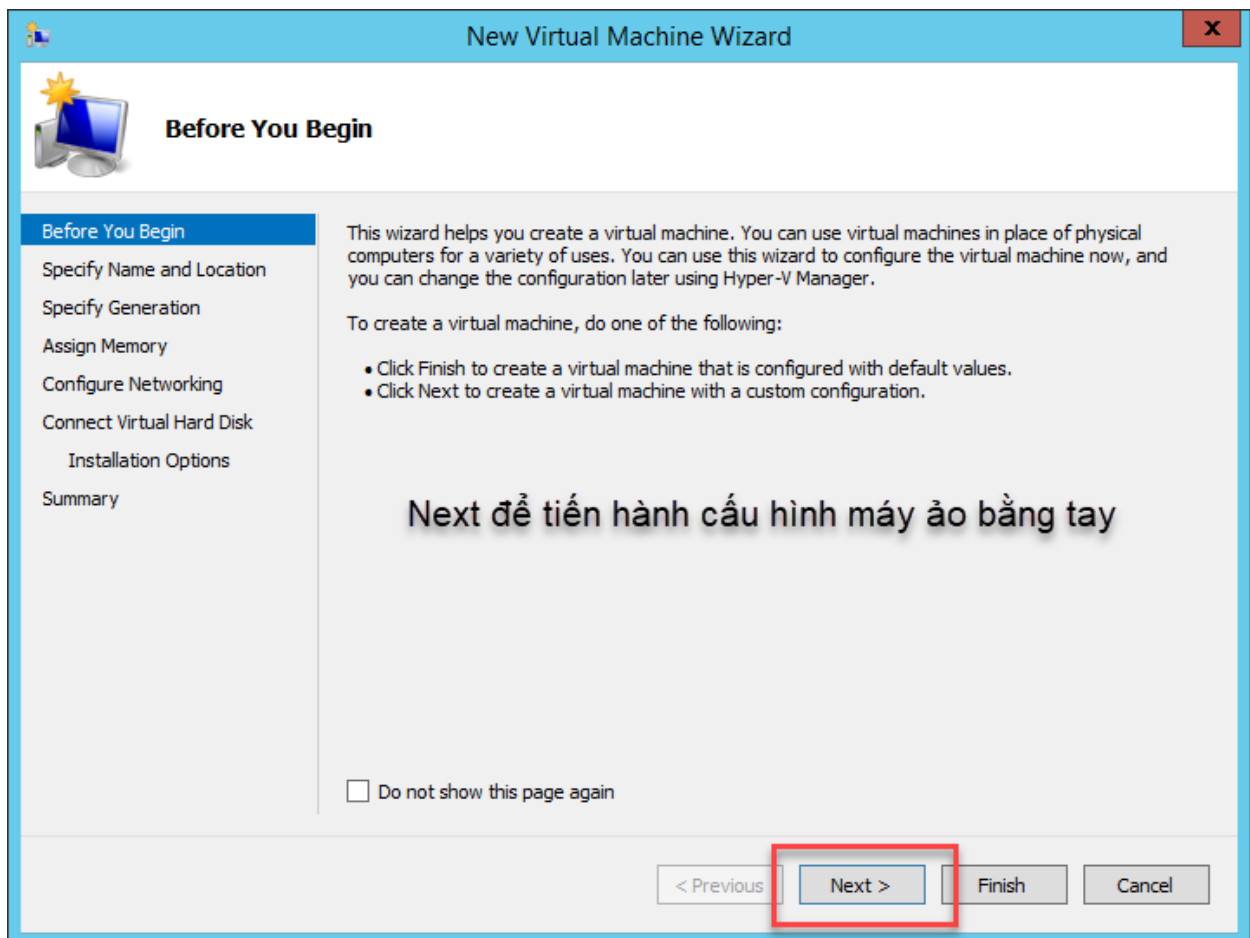
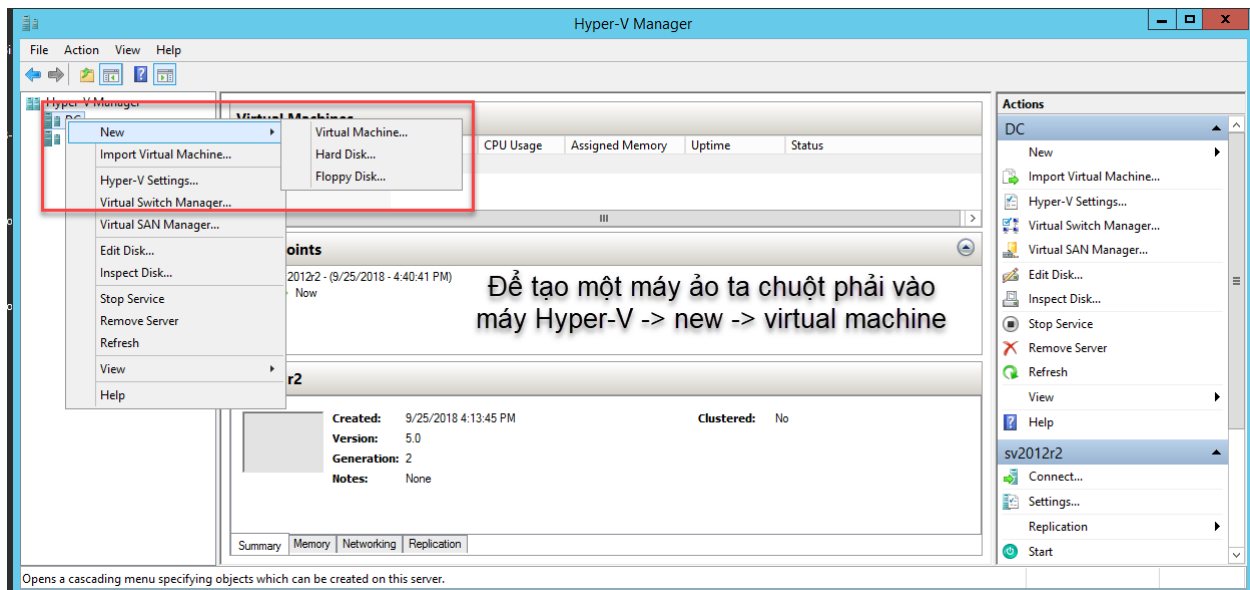








+ Tạo máy ảo trong Hyper-V:



New Virtual Machine Wizard

### Specify Name and Location

Before You Begin

Specify Name and Location

Specify Generation

Assign Memory

Configure Networking

Connect Virtual Hard Disk

Installation Options

Summary

Choose a name and location for this virtual machine.

The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the guest operating system or workload.

Name: VM-sv-1

You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server.

☒ Store the virtual machine in a different location

Location: C:\Hyper-V\Config\ Browse...

**!** If you plan to take checkpoints of this virtual machine, select a location that has enough free space. Checkpoints include virtual machine data and may require a large amount of space.

Đặt tên cho máy ảo và nơi lưu của máy ảo -> next để tiếp tục

< Previous Next > Finish Cancel

New Virtual Machine Wizard

### Specify Generation

Before You Begin

Specify Name and Location

Specify Generation

Assign Memory

Configure Networking

Connect Virtual Hard Disk

Installation Options

Summary

Choose the generation of this virtual machine.

☐ Generation 1

This virtual machine generation provides the same virtual hardware to the virtual machine as in previous versions of Hyper-V.

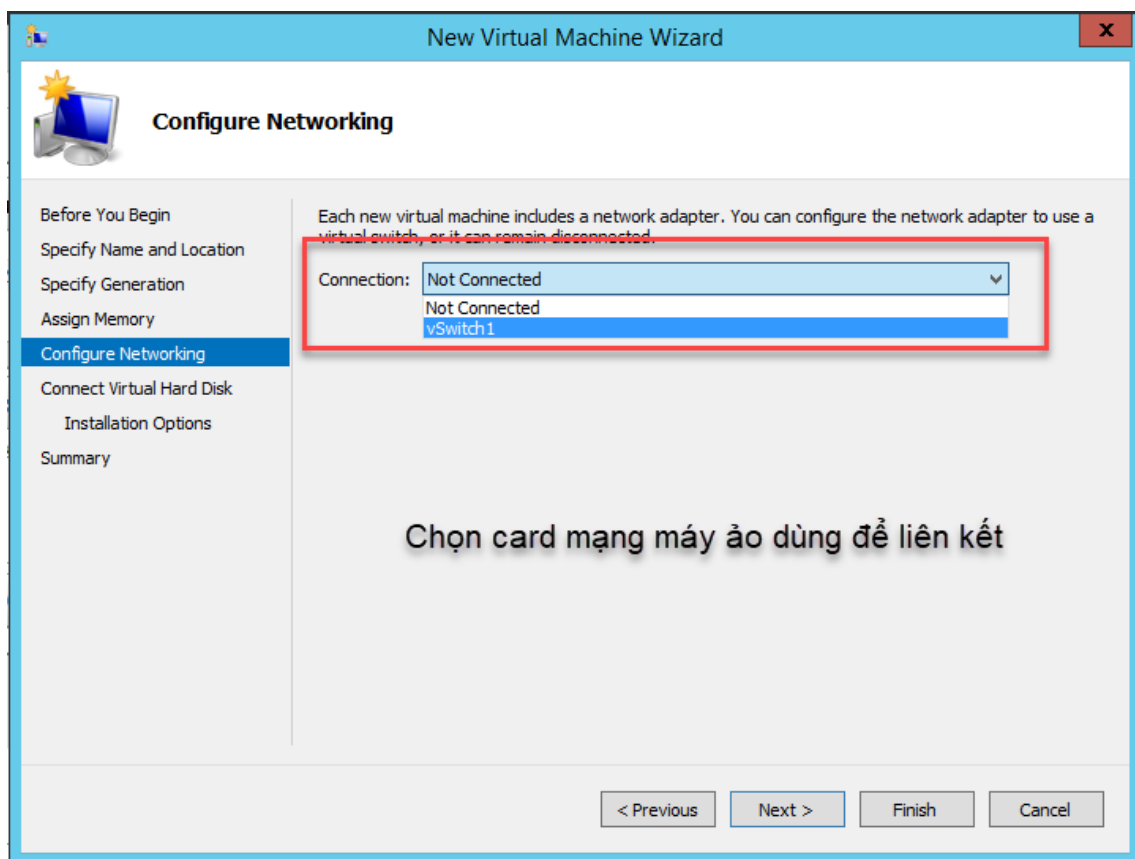
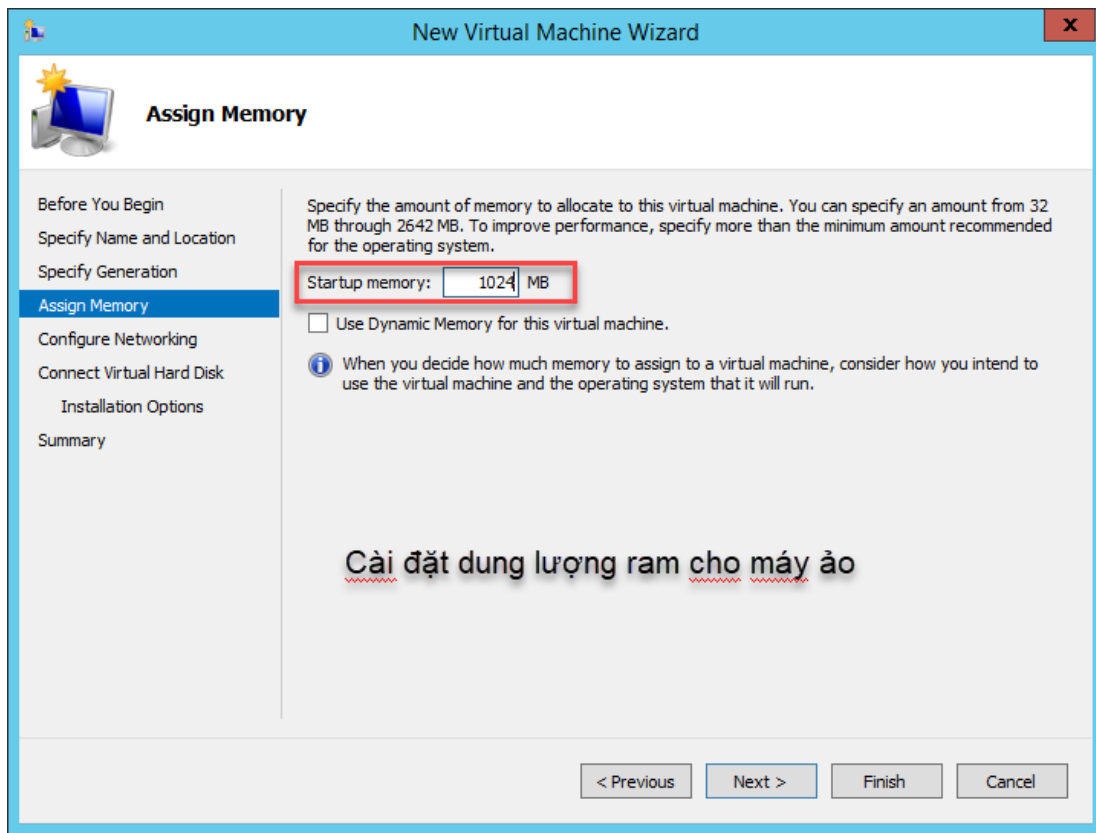
☒ Generation 2

This virtual machine generation provides support for features such as Secure Boot, SCSI boot, and PXE boot using a standard network adapter. Guest operating systems must be running at least Windows Server 2012 or 64-bit versions of Windows 8.

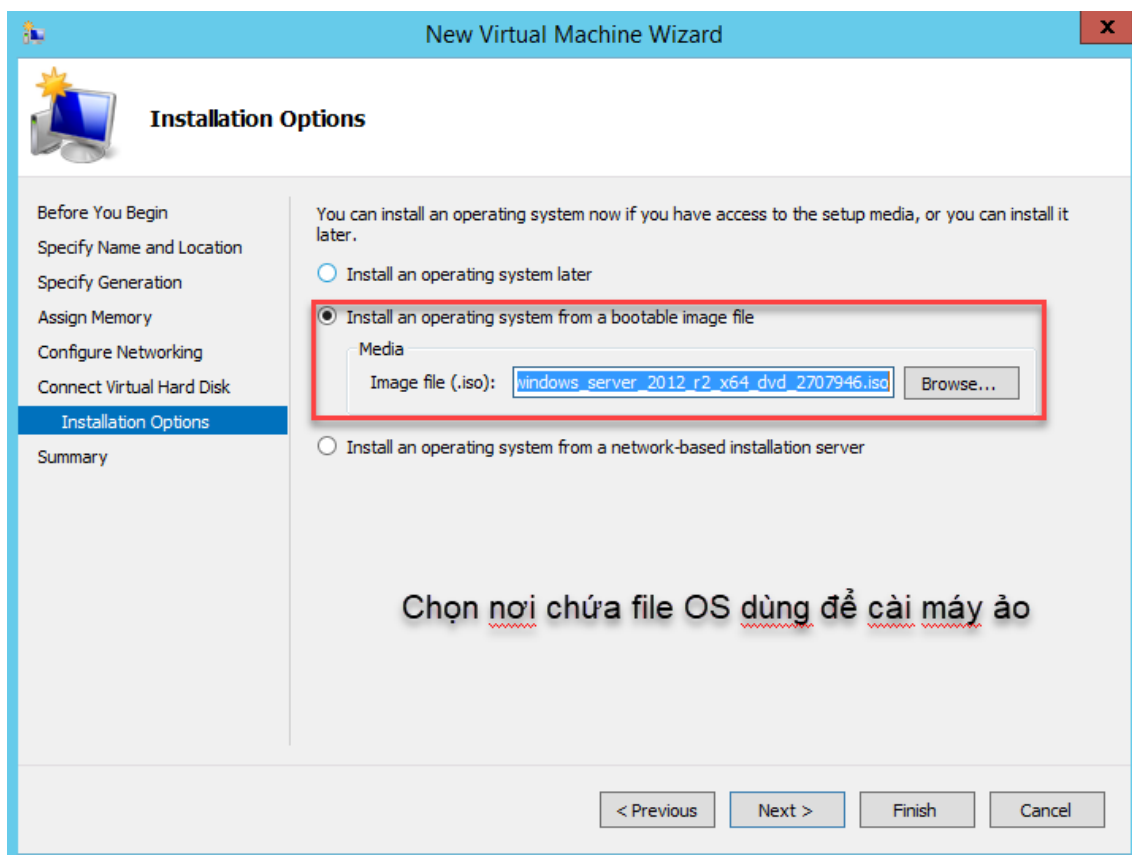
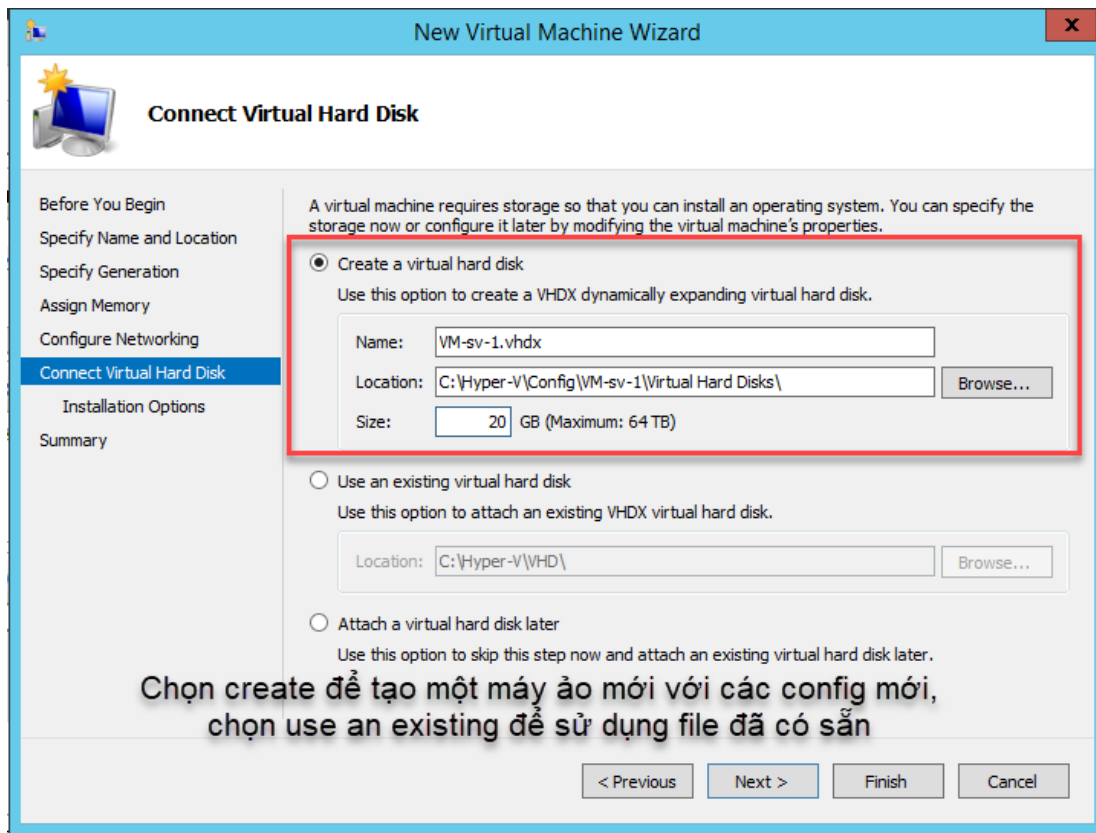
**!** Once a virtual machine has been created, you cannot change its generation.

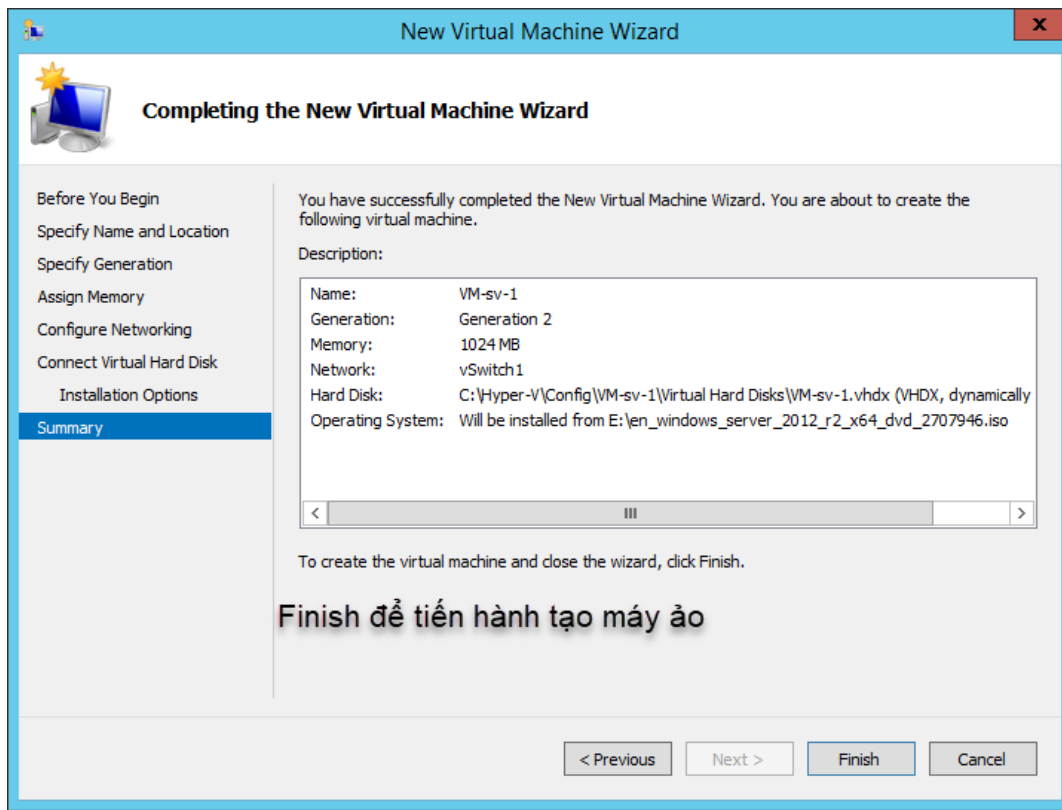
Chọn thế hệ của máy ảo tương ứng với OS cài vào máy ảo

< Previous Next > Finish Cancel

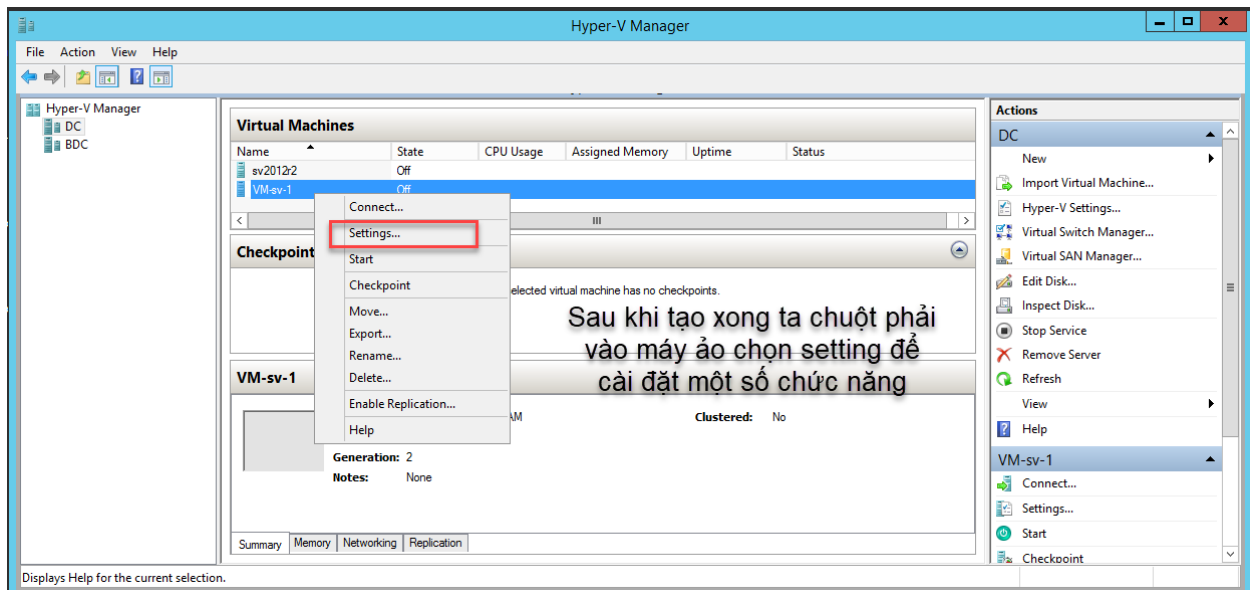


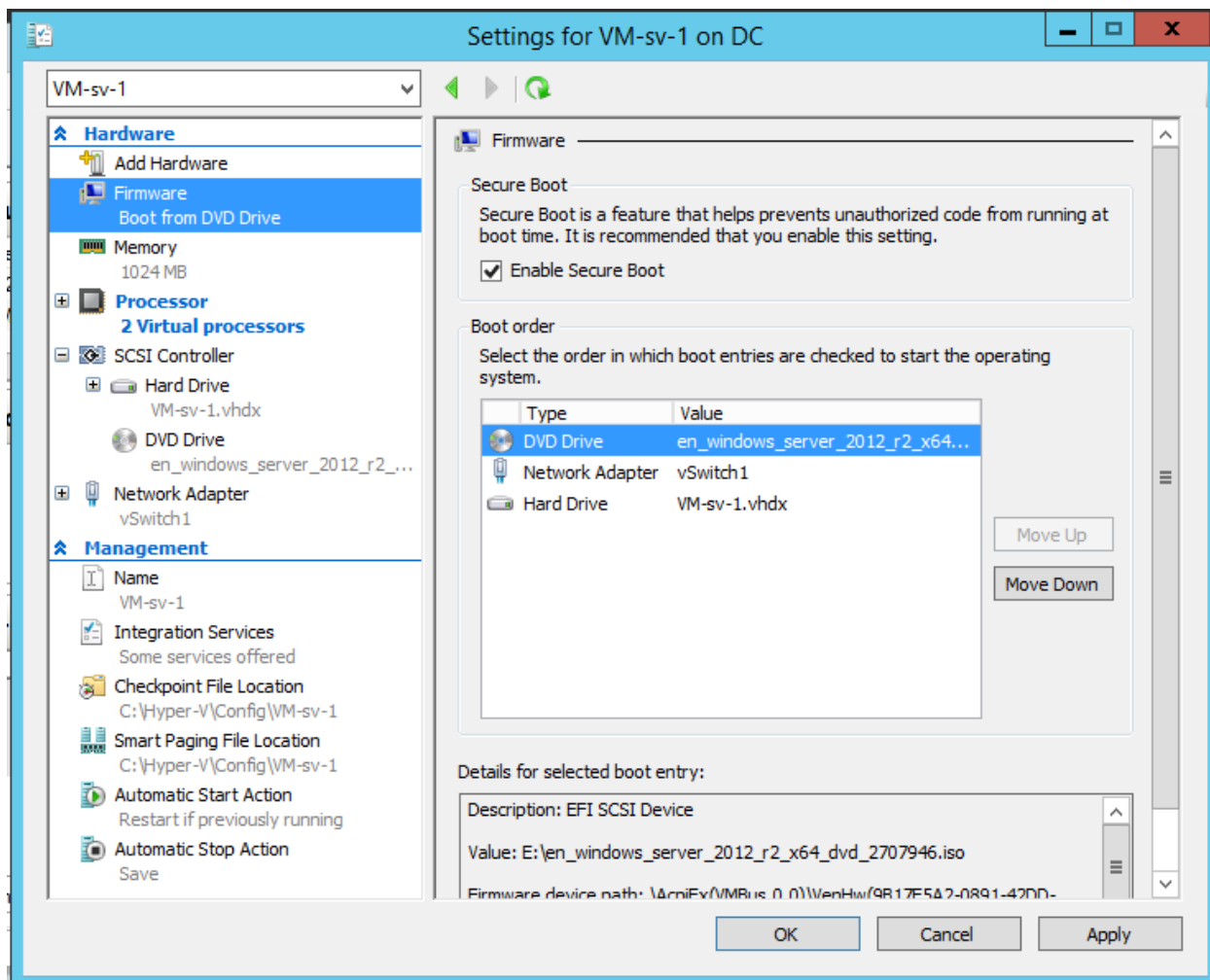




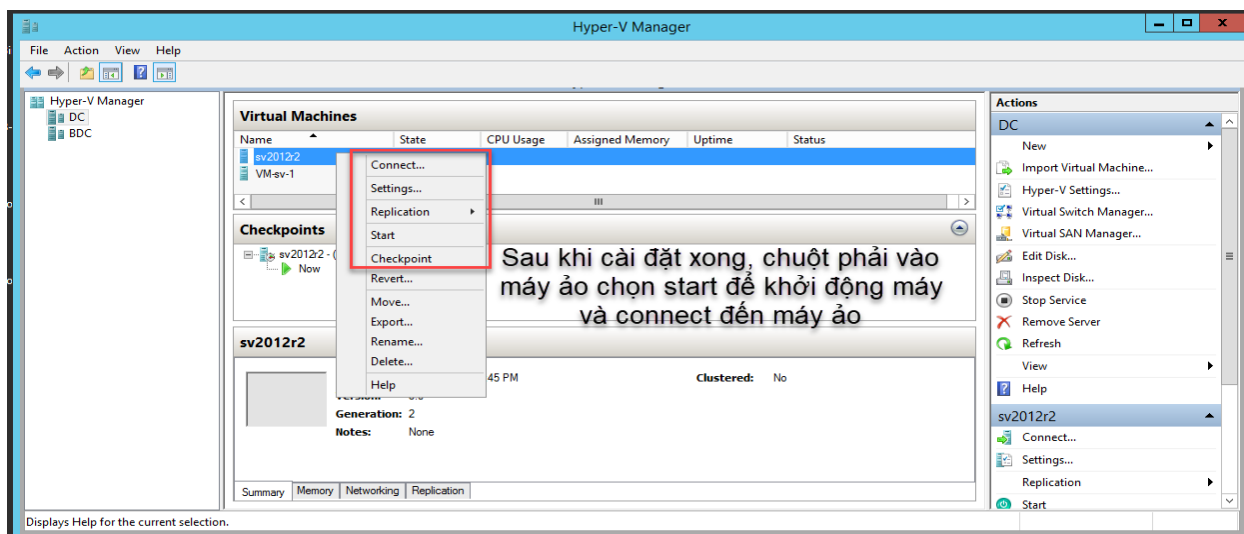


+ Sau khi tạo xong máy ảo, tiến hành cài đặt một số chức năng cho máy ảo.



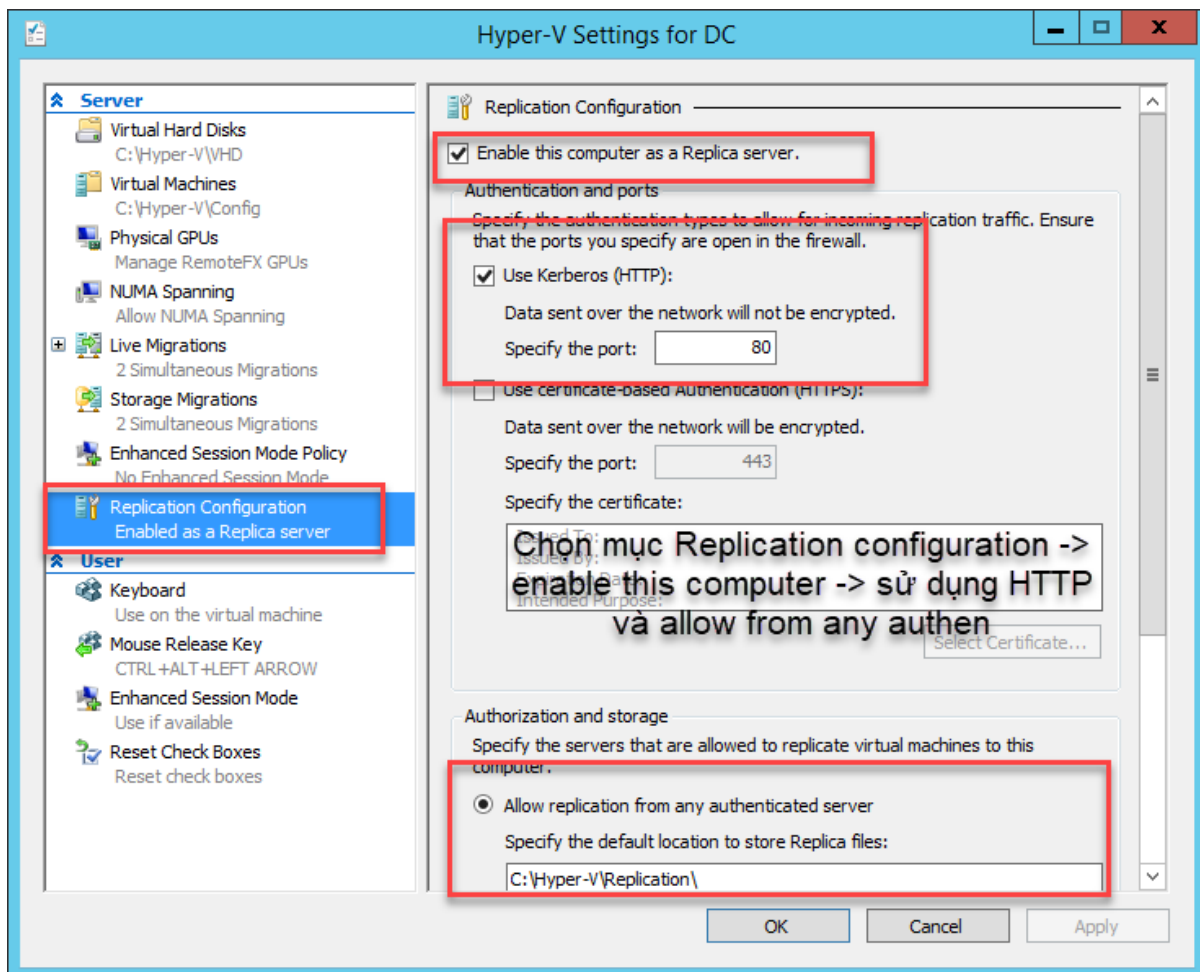
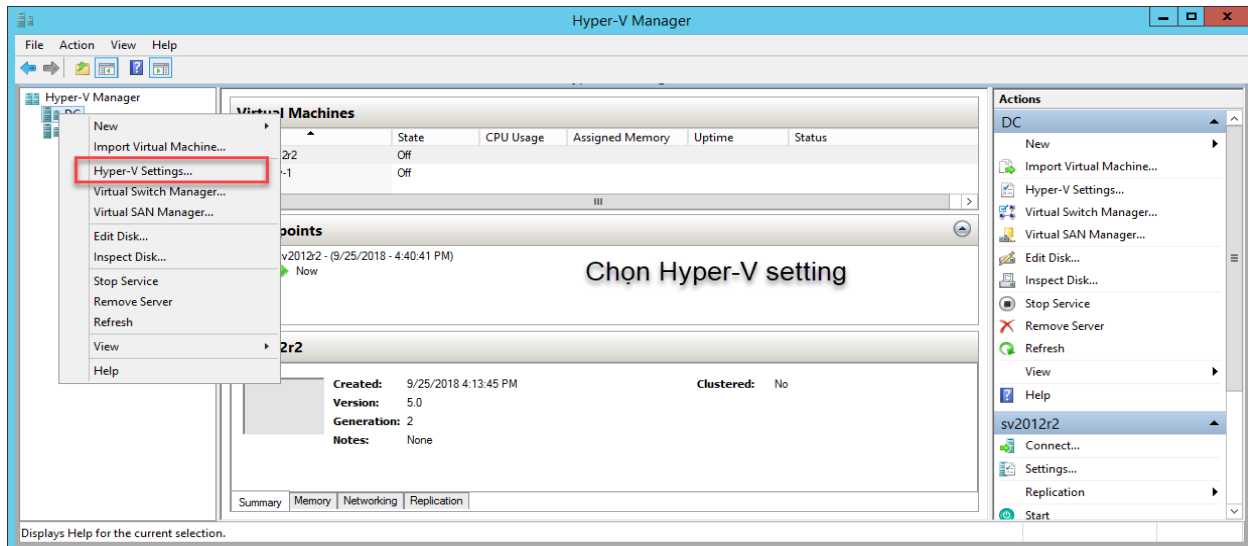


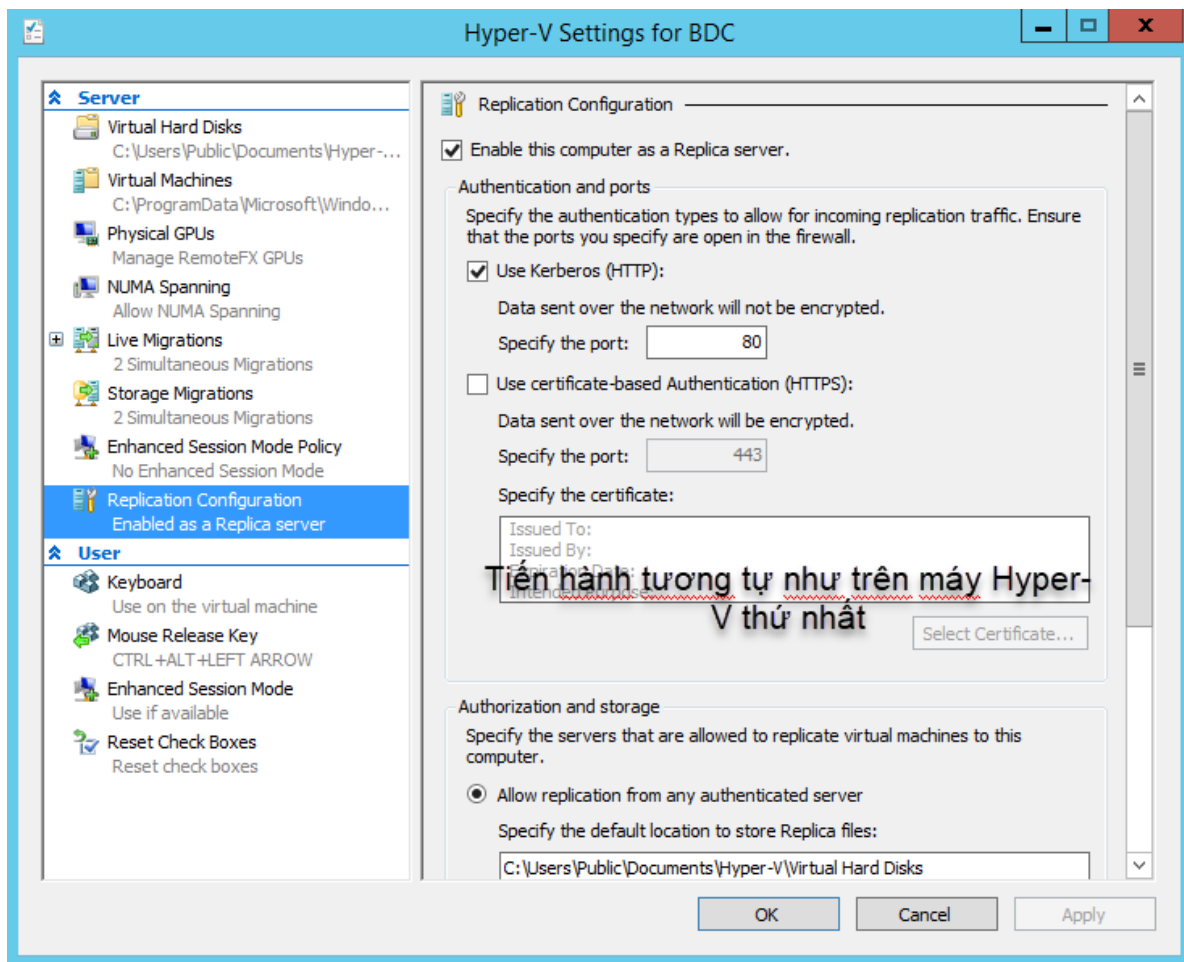
- Trong phần firmware ta sẽ chọn chế độ boot của máy tính: boot từ ổ cứng, từ ổ đĩa, từ internet
- Hiệu chỉnh dung lượng ram trong mục memory
- SCSI controller để quản lý các ổ thêm vào máy ảo.



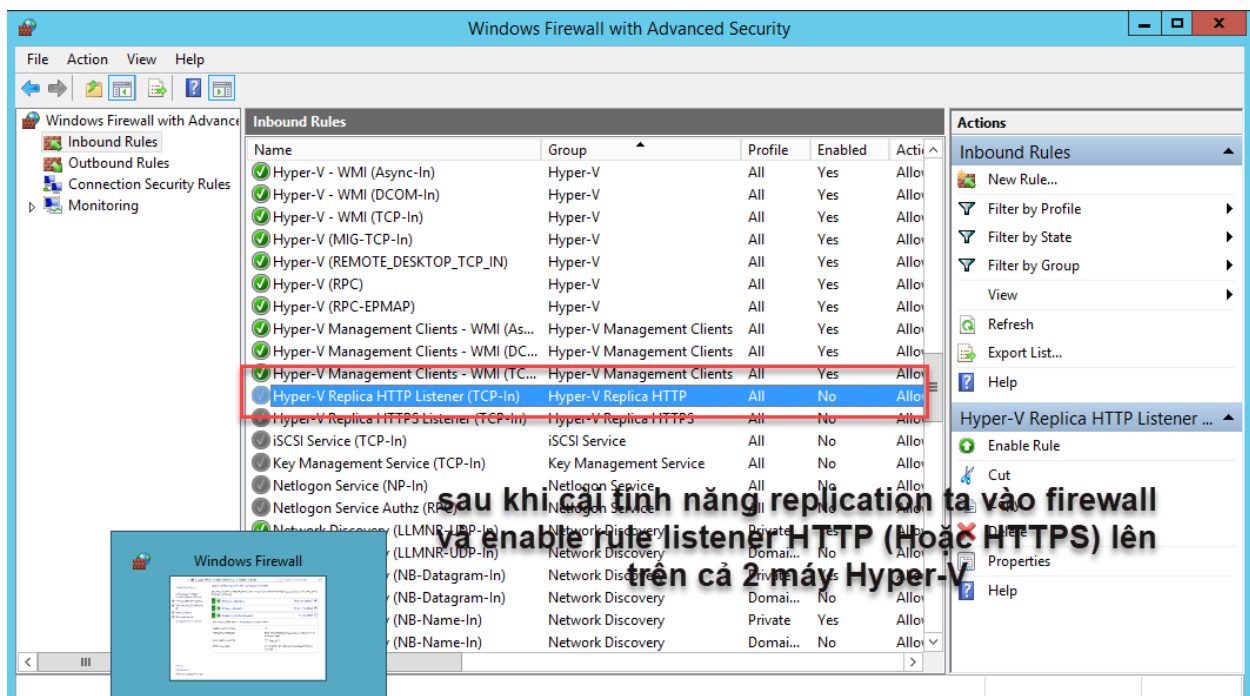
## 2. Cài đặt tính năng replication configuration

- + Chuẩn bị 2 máy winserver đã join domain, cài đặt dịch vụ Hyper-V trên cả 2 máy.
- + Trên máy DC tạo một máy ảo
- + enable chế độ Replication trên 2 máy DC và BDC.

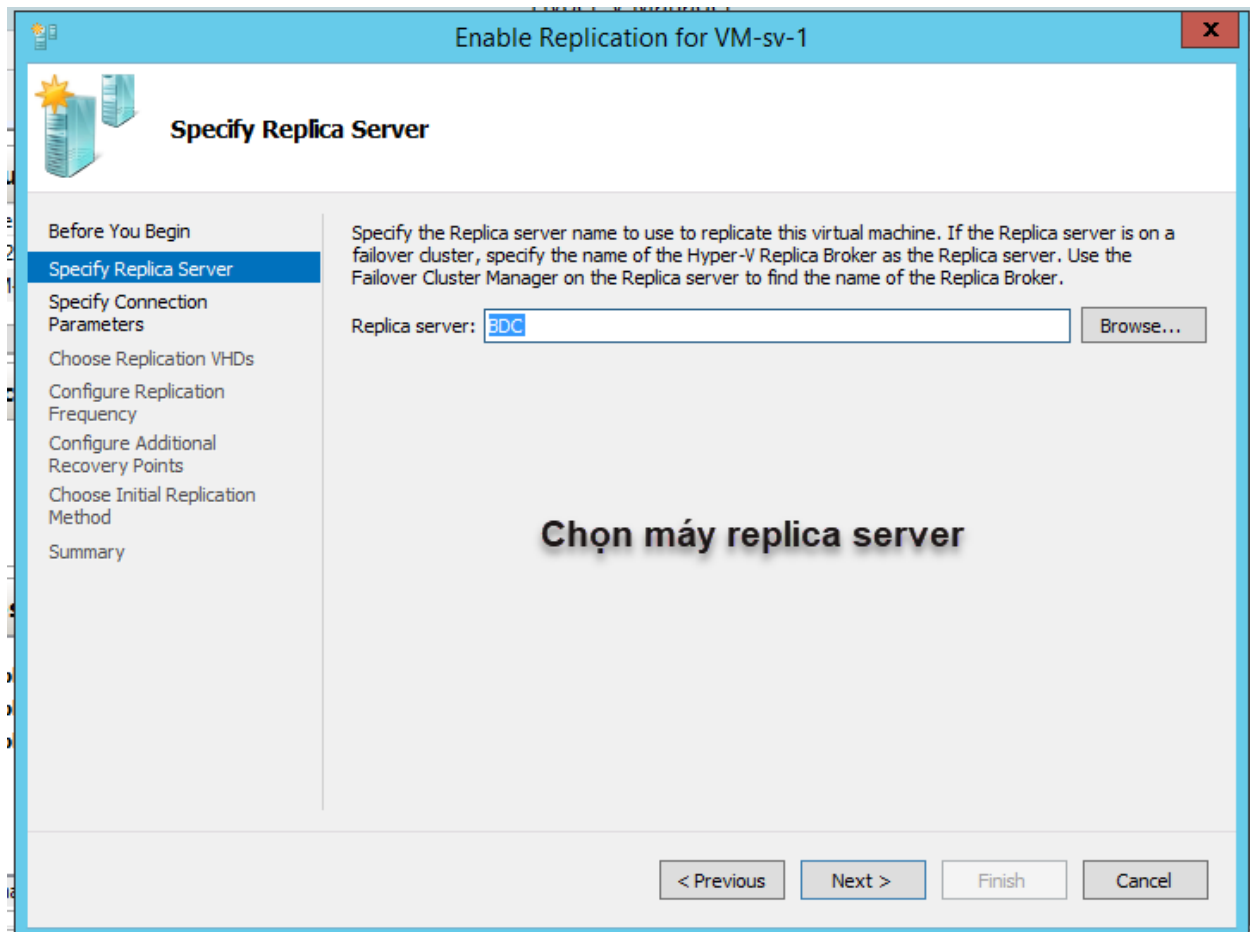
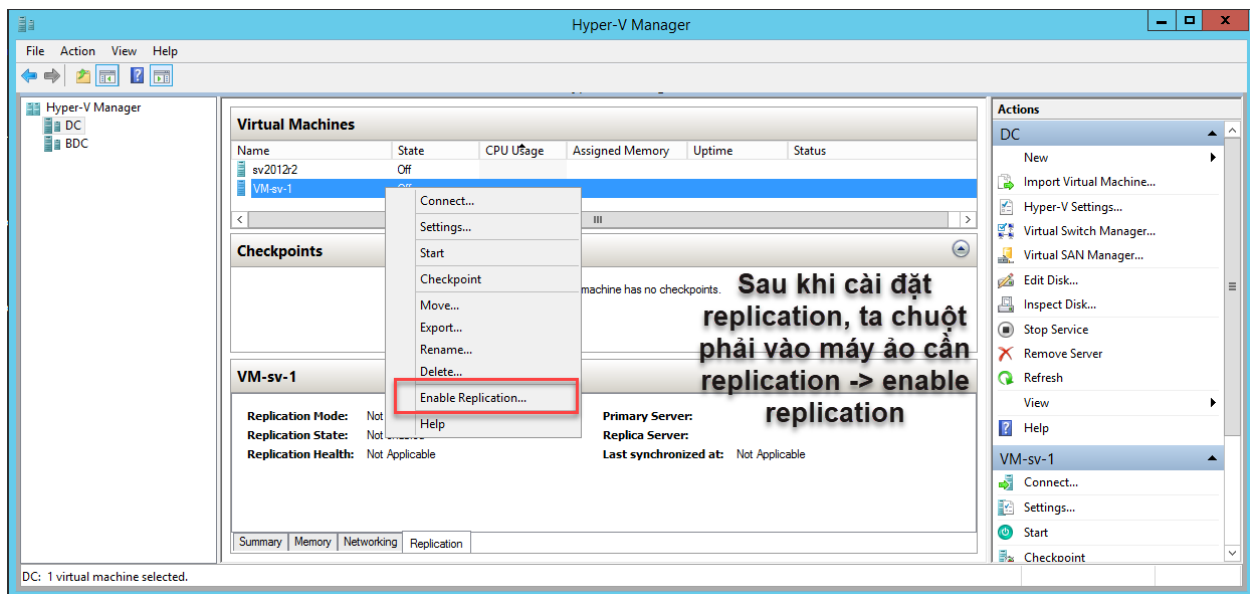




Tiến hành tương tự như trên máy Hyper-V thứ nhất



sau khi cài tính năng replication ta vào firewall và enable rule listener HTTP (hoặc HTTPS) lên trên cả 2 máy Hyper-V



Enable Replication for VM-sv-1

### Specify Connection Parameters

**Before You Begin**

- Specify Replica Server
- Specify Connection Parameters**
- Choose Replication VHDs
- Configure Replication Frequency
- Configure Additional Recovery Points
- Choose Initial Replication Method
- Summary

Replica server: BDC.j1708a.com

Replica server port: 80

**Authentication Type**

☒ Use Kerberos authentication (HTTP)  
Data will not be encrypted while being transmitted over the network.

☐ Use certificate-based authentication (HTTPS)  
Data will be encrypted while being transmitted over the network.

Issued To:  
Issued By:  
Expiration Date:  
Intended Purpose:

**Chọn kiểu xác thực**

Select Certificate...

☒ Compress the data that is transmitted over the network.

< Previous   Next >   Finish   Cancel

Enable Replication for VM-sv-1

### Choose Replication VHDs

**Before You Begin**

- Specify Replica Server
- Specify Connection Parameters
- Choose Replication VHDs**
- Configure Replication Frequency
- Configure Additional Recovery Points
- Choose Initial Replication Method
- Summary

Clear the check boxes of any virtual hard disks (VHDs) that you do not want to replicate (for example, a VHD used for a dedicated paging file).

Not replicating certain VHDs, such as the operating system VHD, could result in the Replica virtual machine not starting up properly.

**Virtual Hard Disks:**

☒ C:\Hyper-V\Config\VM-sv-1\Virtual Hard Disks\VM-sv-1.vhdx

**Nơi lưu file vhdx**

< Previous   Next >   Finish   Cancel

Hyper-V Manager

Enable Replication for VM-sv-1

### Configure Replication Frequency

Before You Begin

- Specify Replica Server
- Specify Connection Parameters
- Choose Replication VHDs
- Configure Replication Frequency**
- Configure Additional Recovery Points
- Choose Initial Replication Method
- Summary

Choose the frequency at which changes will be sent to the Replica Server

5 minutes  
30 seconds  
5 minutes  
15 minutes

**Chọn khoảng thời gian giãn cách trao đổi dữ liệu**

< Previous   Next >   Finish   Cancel

Hyper-V Manager

Enable Replication for VM-sv-1

### Configure Additional Recovery Points

Before You Begin

- Specify Replica Server
- Specify Connection Parameters
- Choose Replication VHDs
- Configure Replication Frequency
- Configure Additional Recovery Points**
- Choose Initial Replication Method
- Summary

You can choose to store only the latest recovery point of the primary virtual machine on the Replica server or to add additional recovery points, allowing you to recover to an earlier point in time. Additional recovery points require more storage and processing resources.

Configure additional recovery points for this virtual machine

☐ Maintain only the latest recovery point

☒ Create additional hourly recovery points

Coverage provided by additional recovery points (in hours): 24

☐ Volume Shadow Copy Service (VSS) snapshot frequency (in hours): 4



This option requires the latest Integration Components be installed in the guest. For non-Windows guest operating systems, these snapshots are file-system consistent.

**Chọn số lần tạo điểm recovery trong một giờ**

< Previous   Next >   Finish   Cancel



Enable Replication for VM-sv-1



Choose Initial Replication Method

Before You Begin

Specify Replica Server

Specify Connection Parameters

Choose Replication VHDs

Configure Replication Frequency

Configure Additional Recovery Points

Choose Initial Replication Method

Summary

Before replication can start, an initial copy of all virtual hard disks that you selected must be transferred to the Replica server.

Size of the initial copy of selected virtual hard disks: 4 MB

Initial Replication Method

☒ Send initial copy over the network

☐ Send initial copy using external media

☐ Use an existing virtual machine on the Replica server as the initial copy.

Specify the location to export initial copy.

Choose this option if you have restored a copy of this virtual machine on the Replica server. The restored virtual machine will be used as the initial copy.

Schedule Initial Replication

☒ Start replication immediately

☐ Start replication on:

9/26/2018

4:00 PM

You can choose any time up to Wednesday, October 3, 2018.

< Previous



Next >

Finish

Cancel

chọn phương thức replication và thời gian bắt đầu

Enable Replication for VM-sv-1



Completing the Enable Replication wizard

Before You Begin

Specify Replica Server

Specify Connection Parameters

Choose Replication VHDs

Configure Replication Frequency

Configure Additional Recovery Points

Choose Initial Replication Method

Summary

You have successfully completed the Enable Replication wizard. You are about to enable replication for "VM-sv-1" with the following settings:

Description:

Replica server:

BDC.j1708a.com

Replica server port:

80

Compress data:

Yes

Authentication type:

Kerberos authentication

VHDs not selected for replication:

None

Replication Frequency:

5 minutes

Store additional recovery points:

No

Initial replication method:

Using network, start immediately

Finish để hoàn thành cấu hình

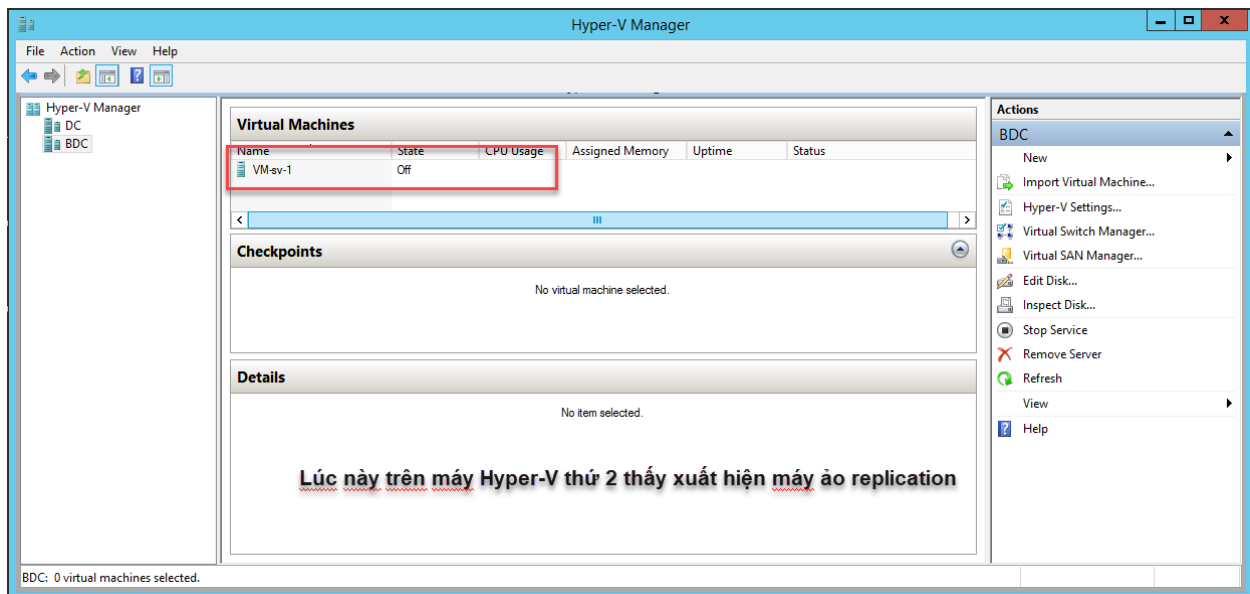
To enable replication and close the wizard, click Finish.

< Previous

Next >

Finish

Cancel



+ Sau khi đã cấu hình replication thì ta có thể thiết lập failover trên 2 máy hyper-V

