

# WINDOWS DEPLOYMENT SERVICES (WDS)

## I. Giới thiệu :

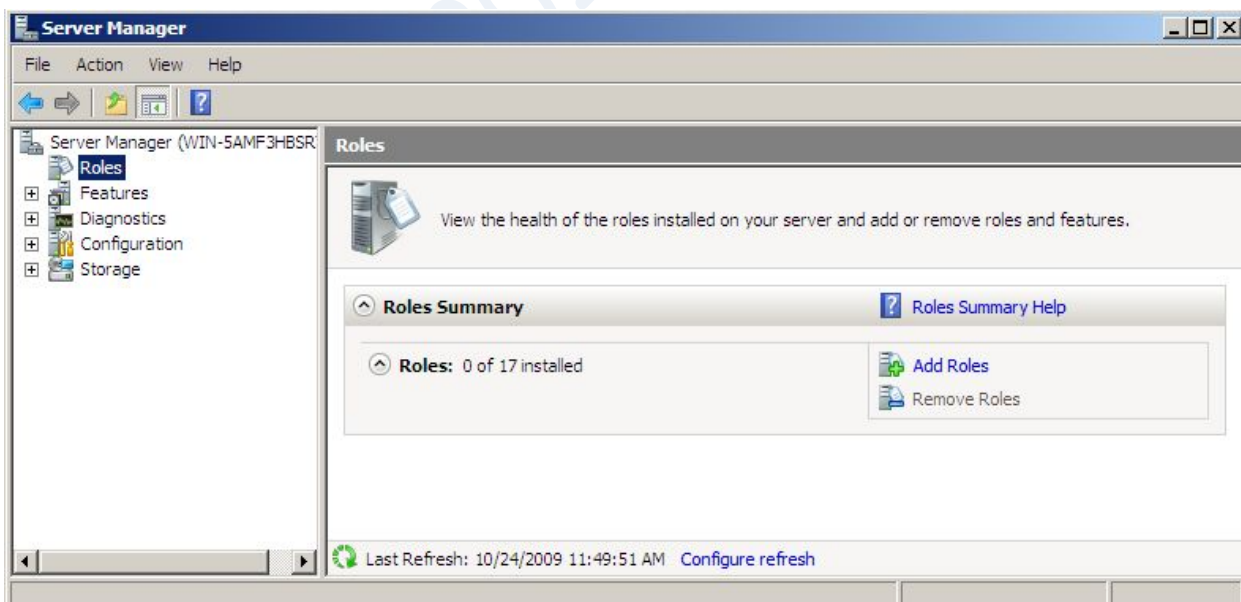
- WINDOWS DEPLOYMENT SERVICES (WDS) là 1 dịch vụ được tích hợp sẵn trong windows server 2008 nhằm phục vụ cho việc Deploy Hệ Điều Hành (HĐH) cho user thông qua mạng.
- Để triển khai dịch vụ này đòi hỏi hệ thống bạn phải cài đặt DHCP Server để cấp phát IP tự động và card mạng hỗ trợ Boot qua mạng cho các máy có nhu cầu cài đặt HĐH.
- Hôm nay chúng ta thực hiện các bước cài đặt và cấu hình dịch vụ DHCP Server, WDS trên máy cài windows server 2008 đã nâng cấp Domain Controller (DC).

## II. Thực hiện:

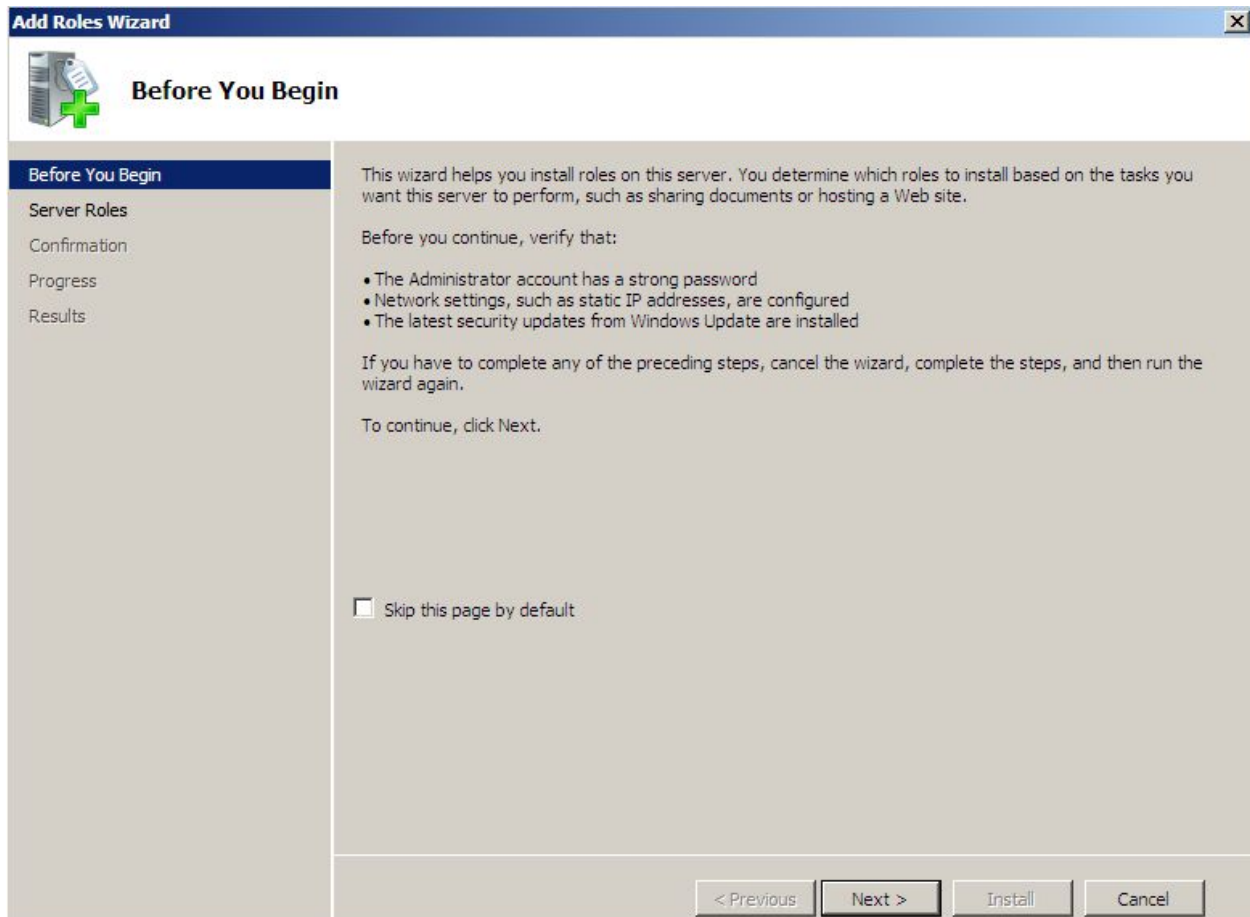
### A. Cài đặt và cấu hình DHCP Server

Login vào máy DC với quyền **Administrator**.

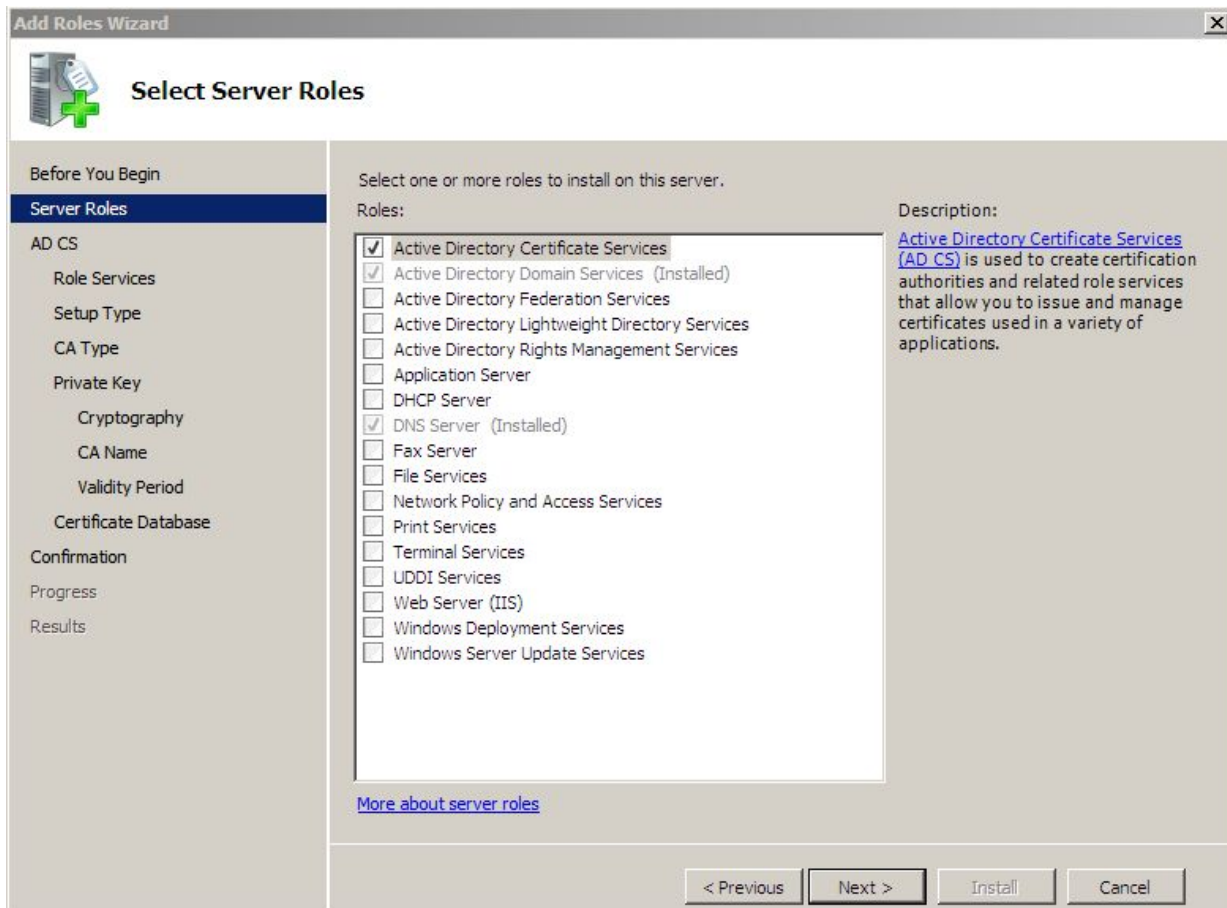
Nhấn **Start**, trong **Administrative Tools**, Mở **Server Manager** chuột phải **Roles** chọn **Add Roles**.



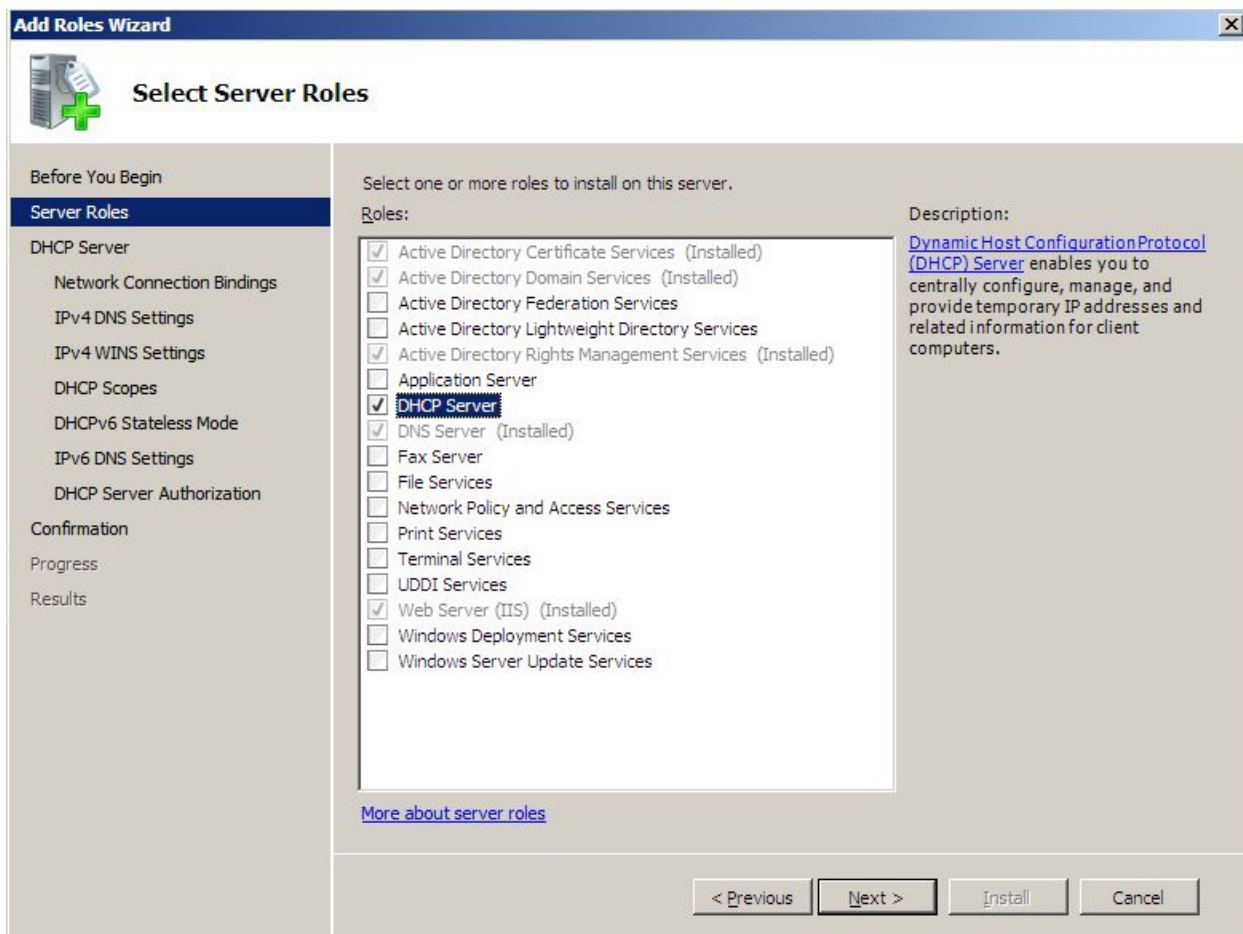
- Trong mục **Before You Begin**, nhấn **Next**



- Trong mục **Select Server Roles**, đánh dấu chọn vào ô **DHCP Server**, nhấn **Next**



- Trong mục **DHCP Server**, nhấn **Next**



- Trong mục **Select Network Connection Bindings**, đánh dấu chọn vào địa chỉ IP hiện thời của máy DC, nhấn **Next**

**Add Roles Wizard**

**Select Network Connection Bindings**

Before You Begin  
Server Roles  
DHCP Server  
**Network Connection Bindings**  
IPv4 DNS Settings  
IPv4 WINS Settings  
DHCP Scopes  
DHCPv6 Stateless Mode  
IPv6 DNS Settings  
DHCP Server Authorization  
Confirmation  
Progress  
Results

One or more network connections having a static IP address were detected. Each network connection can be used to service DHCP clients on a separate subnet.

Select the network connections that this DHCP server will use for servicing clients.

Network Connections:

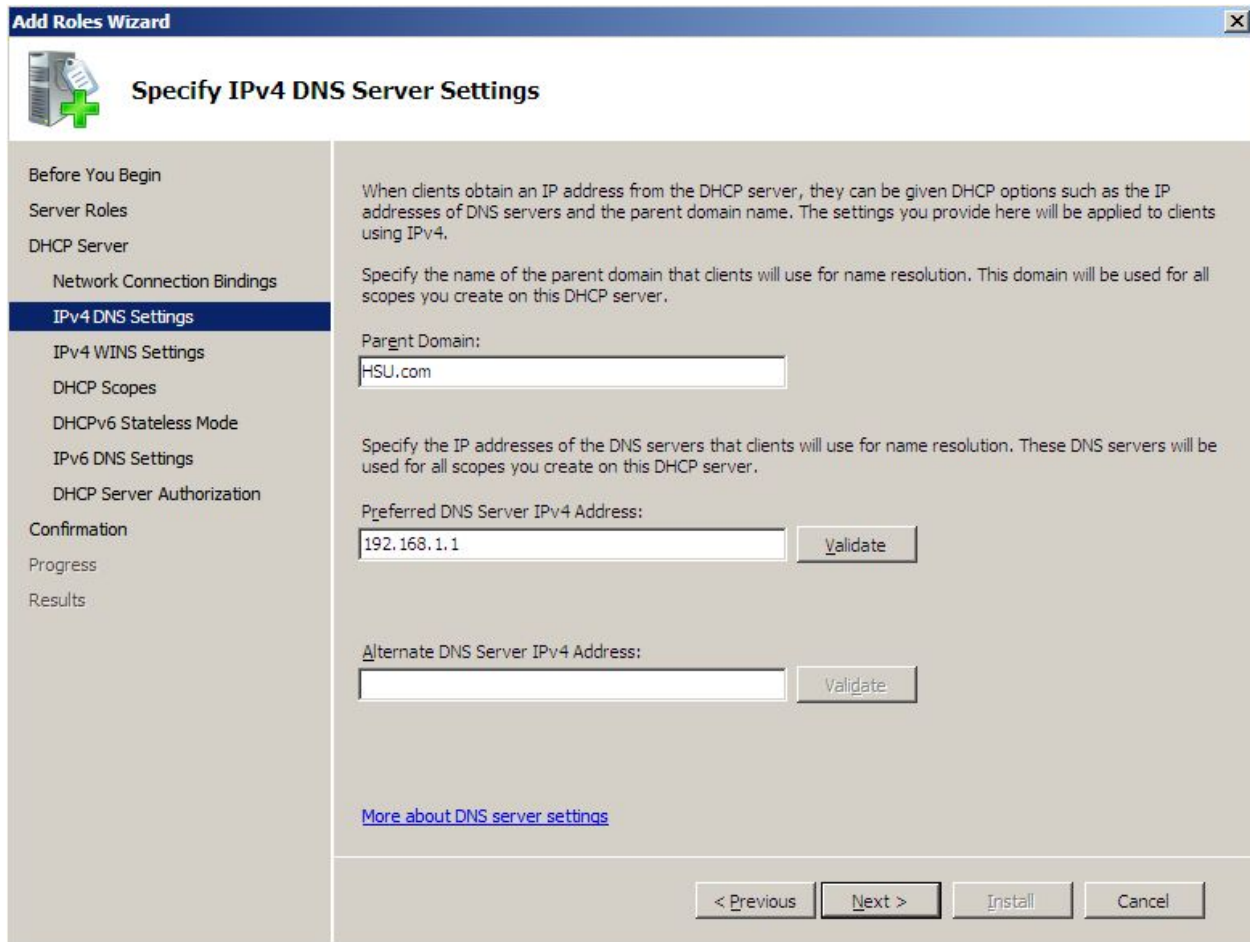
IP Address	Type
<input checked="" type="checkbox"/> 192.168.1.1	IPv4

Details

Name: Local Area Connection  
Network Adapter: Intel(R) PRO/1000 MT Network Connection  
Physical Address: 00-0C-29-96-00-B4

< Previous   Next >   Install   Cancel

- Trong mục **Specify IPv4 DNS Server Settings**, nhấn **Next**



The screenshot shows the 'Add Roles Wizard' window with the title bar 'Add Roles Wizard' and a close button. The main window has a left-hand navigation pane and a main content area. The navigation pane lists the following steps: 'Before You Begin', 'Server Roles', 'DHCP Server', 'Network Connection Bindings', 'IPv4 DNS Settings' (which is highlighted with a blue background), 'IPv4 WINS Settings', 'DHCP Scopes', 'DHCPv6 Stateless Mode', 'IPv6 DNS Settings', 'DHCP Server Authorization', 'Confirmation', 'Progress', and 'Results'. The main content area is titled 'Specify IPv4 DNS Server Settings' and contains the following text: 'When clients obtain an IP address from the DHCP server, they can be given DHCP options such as the IP addresses of DNS servers and the parent domain name. The settings you provide here will be applied to clients using IPv4.' Below this, it says: 'Specify the name of the parent domain that clients will use for name resolution. This domain will be used for all scopes you create on this DHCP server.' There is a text box labeled 'Parent Domain:' containing the text 'HSU.com'. Below this, it says: 'Specify the IP addresses of the DNS servers that clients will use for name resolution. These DNS servers will be used for all scopes you create on this DHCP server.' There are two text boxes for DNS server IP addresses. The first is labeled 'Preferred DNS Server IPv4 Address:' and contains the text '192.168.1.1'. To its right is a 'Validate' button. The second is labeled 'Alternate DNS Server IPv4 Address:' and is empty. To its right is another 'Validate' button. At the bottom of the main content area, there is a link that says 'More about DNS server settings'. At the bottom of the window, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'.

**Add Roles Wizard**

**Specify IPv4 DNS Server Settings**

Before You Begin  
Server Roles  
DHCP Server  
Network Connection Bindings  
**IPv4 DNS Settings**  
IPv4 WINS Settings  
DHCP Scopes  
DHCPv6 Stateless Mode  
IPv6 DNS Settings  
DHCP Server Authorization  
Confirmation  
Progress  
Results

When clients obtain an IP address from the DHCP server, they can be given DHCP options such as the IP addresses of DNS servers and the parent domain name. The settings you provide here will be applied to clients using IPv4.

Specify the name of the parent domain that clients will use for name resolution. This domain will be used for all scopes you create on this DHCP server.

Parent Domain:

Specify the IP addresses of the DNS servers that clients will use for name resolution. These DNS servers will be used for all scopes you create on this DHCP server.

Preferred DNS Server IPv4 Address:

Alternate DNS Server IPv4 Address:

[More about DNS server settings](#)

< Previous   Next >   Install   Cancel

- Trong mục **Specify IPv4 WINS Server Settings**, chọn **WINS is not required for applications on this network**, nhấn **Next**

The screenshot shows the 'Add Roles Wizard' window with the title bar 'Add Roles Wizard' and a close button. The main window has a left-hand navigation pane and a right-hand content area. The navigation pane lists the following steps: 'Before You Begin', 'Server Roles', 'DHCP Server', 'Network Connection Bindings', 'IPv4 DNS Settings', 'IPv4 WINS Settings' (which is highlighted with a blue background), 'DHCP Scopes', 'DHCPv6 Stateless Mode', 'IPv6 DNS Settings', 'DHCP Server Authorization', 'Confirmation', 'Progress', and 'Results'. The main content area is titled 'Specify IPv4 WINS Server Settings' and contains the following text: 'When clients obtain an IP address from the DHCP server, they can be given DHCP options such as the IP addresses of WINS servers. The settings you provide here will be applied to clients using IPv4.' Below this text are two radio button options: 'WINS is not required for applications on this network' (which is selected) and 'WINS is required for applications on this network'. If the second option were selected, there would be a text box for 'Preferred WINS Server IP Address:' and another for 'Alternate WINS Server IP Address:'. At the bottom of the content area is a link: 'More about WINS server settings'. At the bottom of the window are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'.

**Add Roles Wizard**

**Specify IPv4 WINS Server Settings**

Before You Begin  
Server Roles  
DHCP Server  
Network Connection Bindings  
IPv4 DNS Settings  
**IPv4 WINS Settings**  
DHCP Scopes  
DHCPv6 Stateless Mode  
IPv6 DNS Settings  
DHCP Server Authorization  
Confirmation  
Progress  
Results

When clients obtain an IP address from the DHCP server, they can be given DHCP options such as the IP addresses of WINS servers. The settings you provide here will be applied to clients using IPv4.

☒ WINS is not required for applications on this network

☐ WINS is required for applications on this network

Specify the IP addresses of the WINS servers that clients will use for name resolution. These WINS servers will be used for all scopes you create on this DHCP server.

Preferred WINS Server IP Address:

Alternate WINS Server IP Address:

[More about WINS server settings](#)

< Previous   Next >   Install   Cancel



- Trong mục **Add or Edit DHCP Scopes**, nhấn **Add**
- Trong hộp thoại **Add Scope**, cấu hình thông số **Scope**

**Add Roles Wizard**

**Add or Edit DHCP Scopes**

Before You Begin  
Server Roles  
DHCP Server  
Network Connection Bindings  
IPv4 DNS Settings  
IPv4 WINS Settings  
**DHCP Scopes**  
DHCPv6 Stateless Mode  
IPv6 DNS Settings  
DHCP Server Authorization  
Confirmation  
Progress  
Results

A scope is the range of possible IP addresses for a network. The DHCP server cannot distribute IP addresses to clients until a scope is created.

Scopes:

Name	IP Address Range
------	------------------

**Add Scope**

A scope is a range of possible IP addresses for a network. The DHCP server cannot distribute IP addresses to clients until a scope is created.

Scope Name: HSU

Starting IP Address: 192.168.1.2

Ending IP Address: 192.168.1.200

Subnet Mask: 255.255.255.0

Default Gateway (optional): 192.168.1.1

Subnet Type: Wired (lease duration will be 6 days)

☒ Activate this scope

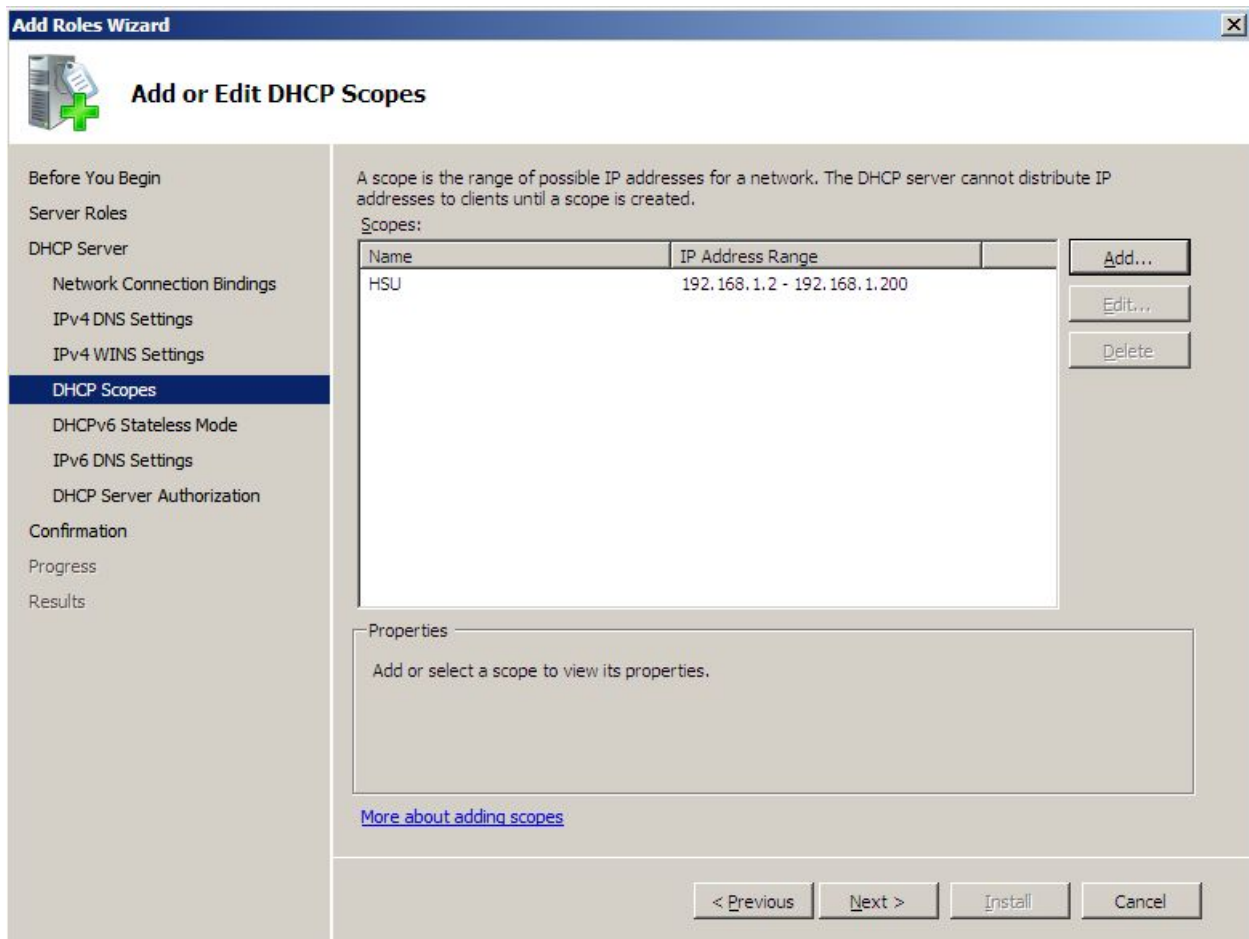
OK Cancel

[More about adding scopes](#)

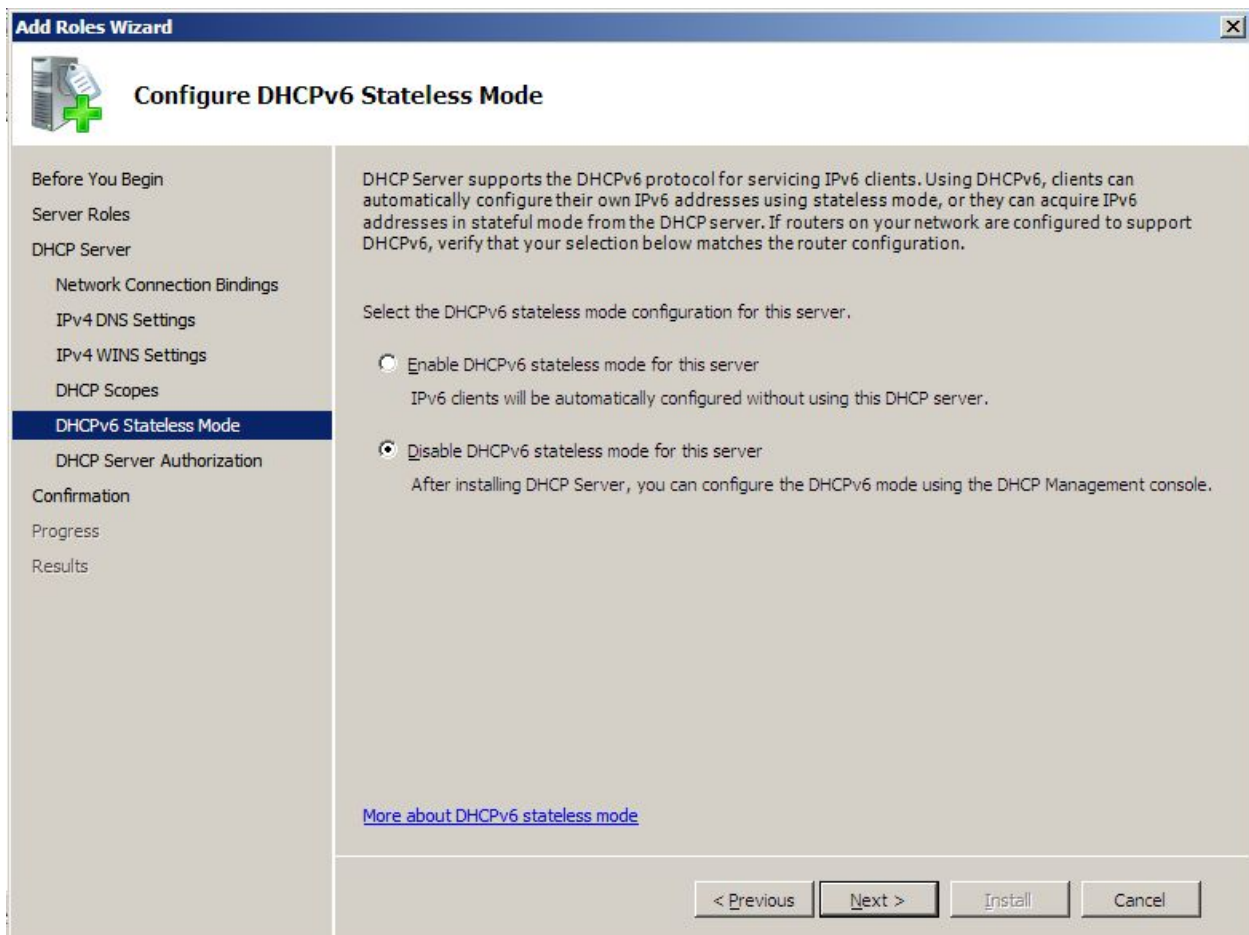
< Previous Next > Install Cancel



- Trong mục **Add or Edit DHCP Scopes**, nhấn **Next**



- Trong mục **Configure DHCPv6 Stateless Mode**, chọn **Disable DHCP stateless mode for this server**, nhấn **Next**



- Trong mục **Authorize DHC Server**, giữ mặc định, nhấn **Next**

The screenshot shows the 'Add Roles Wizard' window with the title 'Authorize DHCP Server'. The left sidebar contains a tree view with the following items: 'Before You Begin', 'Server Roles', 'DHCP Server', 'Network Connection Bindings', 'IPv4 DNS Settings', 'IPv4 WINS Settings', 'DHCP Scopes', 'DHCPv6 Stateless Mode', 'DHCP Server Authorization' (highlighted), 'Confirmation', 'Progress', and 'Results'. The main content area has a header with a server icon and a green plus sign, followed by the title 'Authorize DHCP Server'. Below this, there is a paragraph: 'Active Directory Domain Services (AD DS) stores a list of DHCP servers that are authorized to service clients on the network. Authorizing DHCP servers helps avoid accidental damage caused by running DHCP servers with incorrect configurations or DHCP servers with correct configurations on the wrong network.' This is followed by the instruction: 'Specify credentials to use for authorizing this DHCP server in AD DS.' There are three radio button options: 'Use current credentials' (selected), 'Use alternate credentials', and 'Skip authorization of this DHCP server in AD DS'. The 'Use current credentials' option has a text box for 'User Name' containing 'HSU\administrator'. The 'Use alternate credentials' option has a text box for 'User Name' and a 'Specify...' button. The 'Skip authorization...' option has a yellow warning icon and the text: 'This DHCP server must be authorized in AD DS before it can service clients.' Below this is a blue hyperlink: 'More about authorizing DHCP servers in AD DS'. At the bottom right, there are four buttons: '< Previous', 'Next >', 'Install', and 'Cancel'.

**Add Roles Wizard**

**Authorize DHCP Server**

Before You Begin  
Server Roles  
DHCP Server  
Network Connection Bindings  
IPv4 DNS Settings  
IPv4 WINS Settings  
DHCP Scopes  
DHCPv6 Stateless Mode  
**DHCP Server Authorization**  
Confirmation  
Progress  
Results

Active Directory Domain Services (AD DS) stores a list of DHCP servers that are authorized to service clients on the network. Authorizing DHCP servers helps avoid accidental damage caused by running DHCP servers with incorrect configurations or DHCP servers with correct configurations on the wrong network.

Specify credentials to use for authorizing this DHCP server in AD DS.

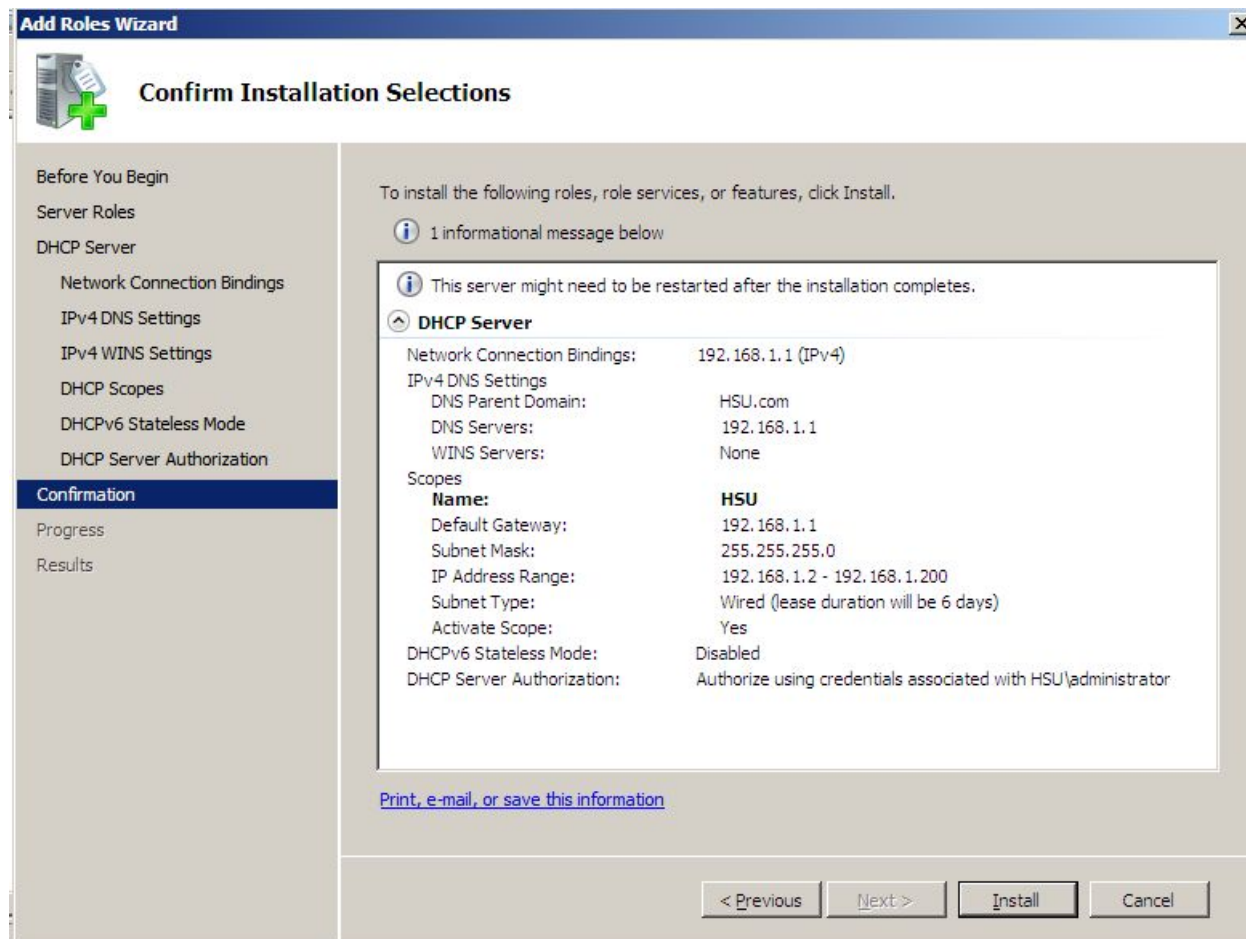
☒ Use current credentials  
The credentials of the current user will be used to authorize this DHCP server in AD DS.  
User Name:

☐ Use alternate credentials  
Specify domain administrator credentials for authorizing this DHCP server in AD DS.  
User Name:

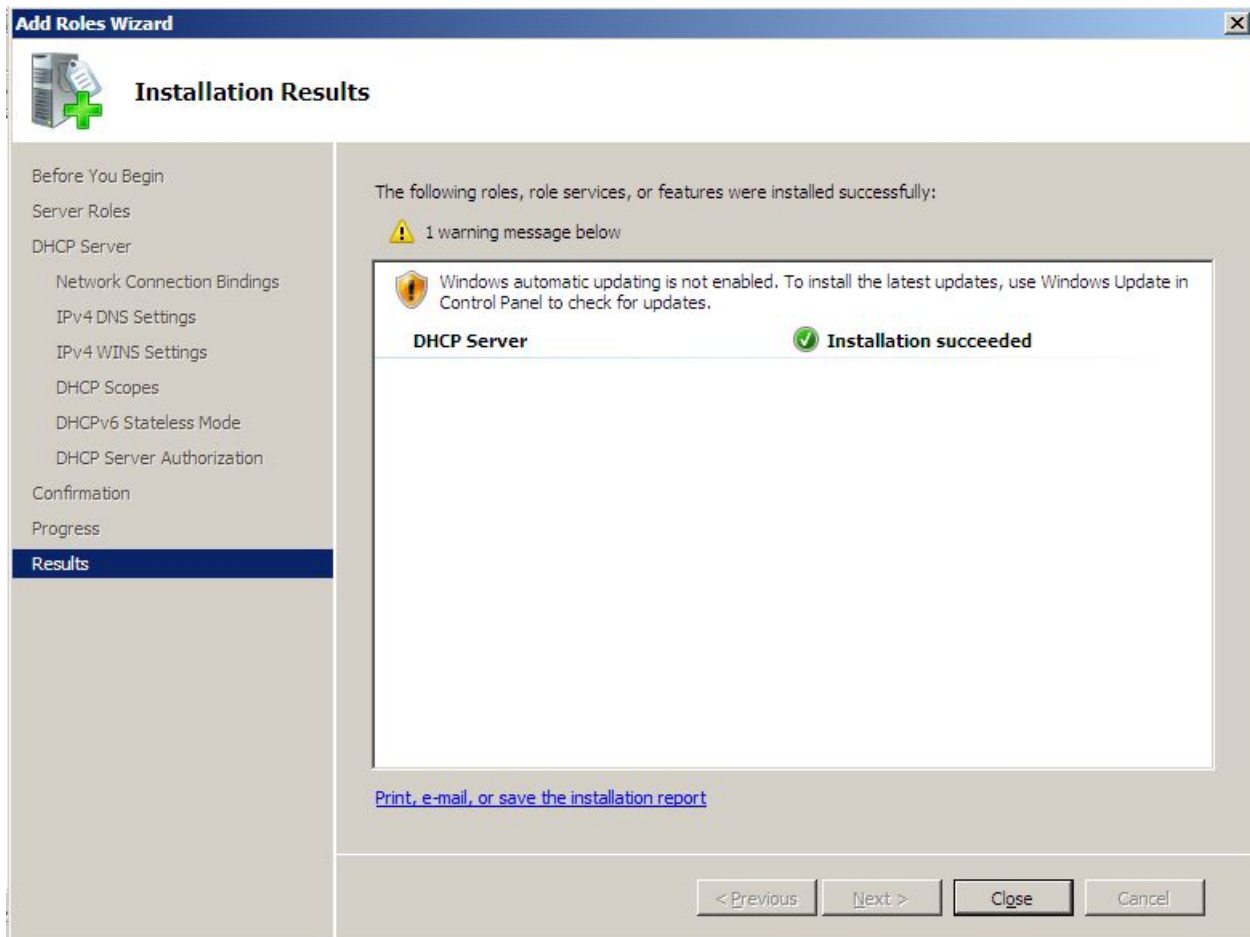
☐ Skip authorization of this DHCP server in AD DS  
 This DHCP server must be authorized in AD DS before it can service clients.  
[More about authorizing DHCP servers in AD DS](#)

< Previous   Next >   Install   Cancel

- Trong mục **Confirm Installation Selections**, nhấn **Install**

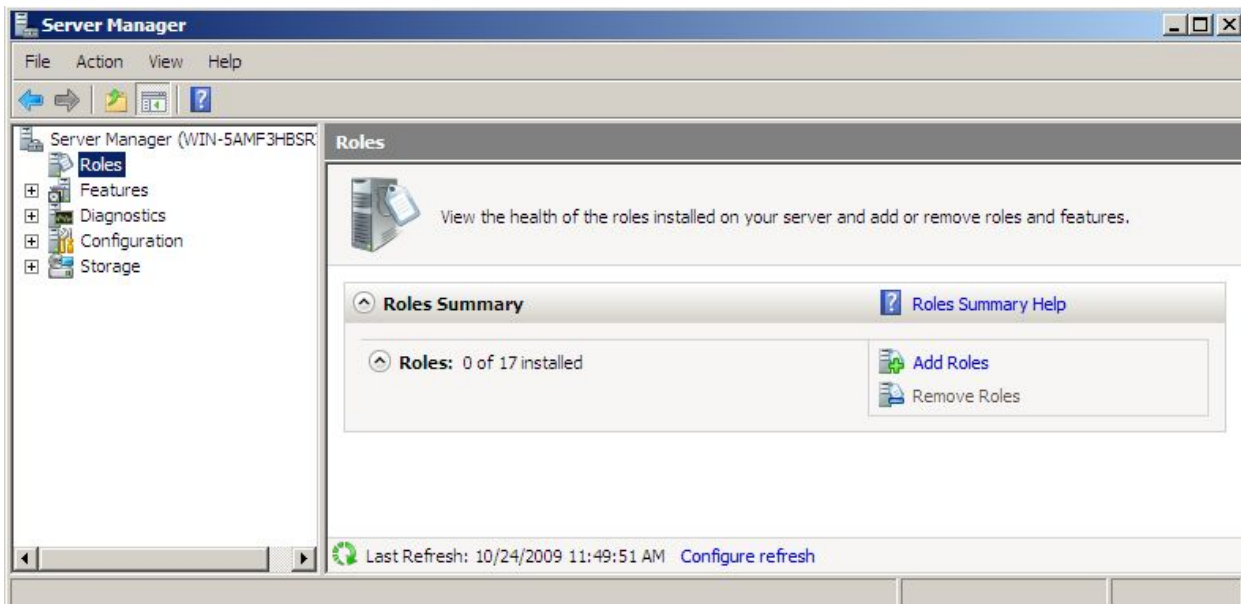


- Trong mục **Installation Results**, nhấn **Close**

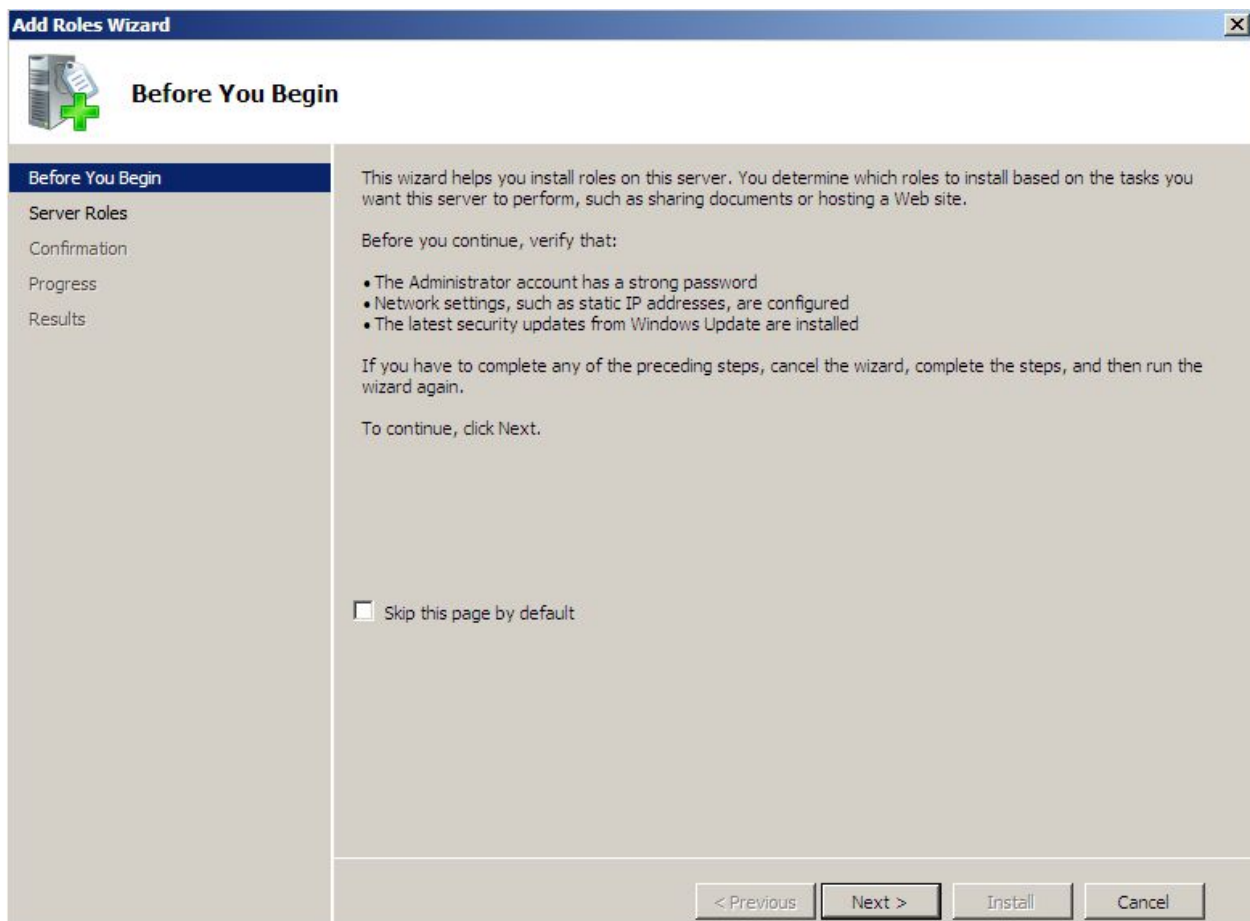


## B. Cài đặt Windows Deployment Services

- Nhấn **Start**, trong **Administrative Tools**, Mở **Server Manager** chuột phải **Roles** nhấn **Add Roles**.

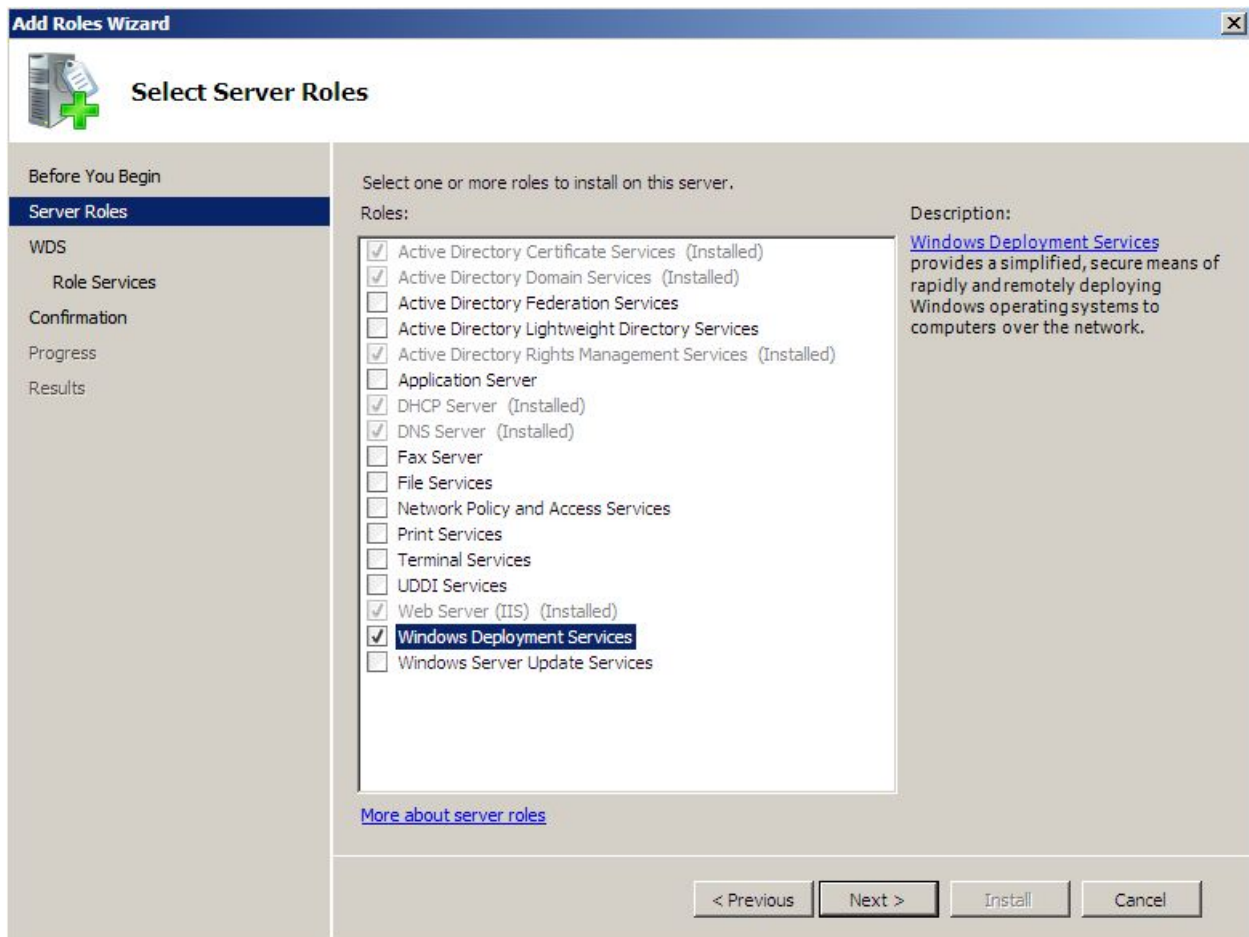


- Trong mục **Before You Begin**, nhấn **Next**

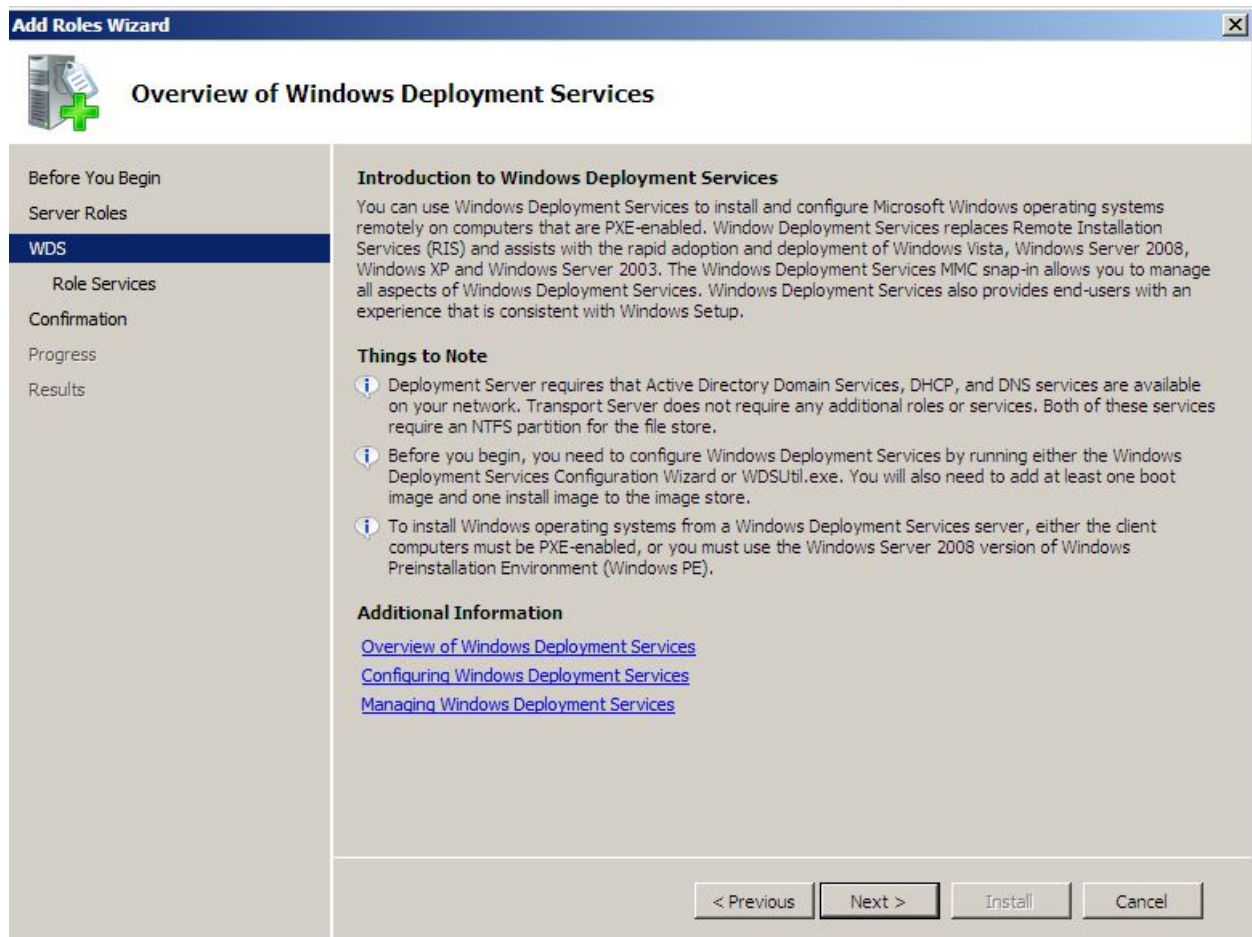




- Trong mục **Select Server Roles**, đánh dấu chọn **Windows Deployment Services**, nhấn **Next**

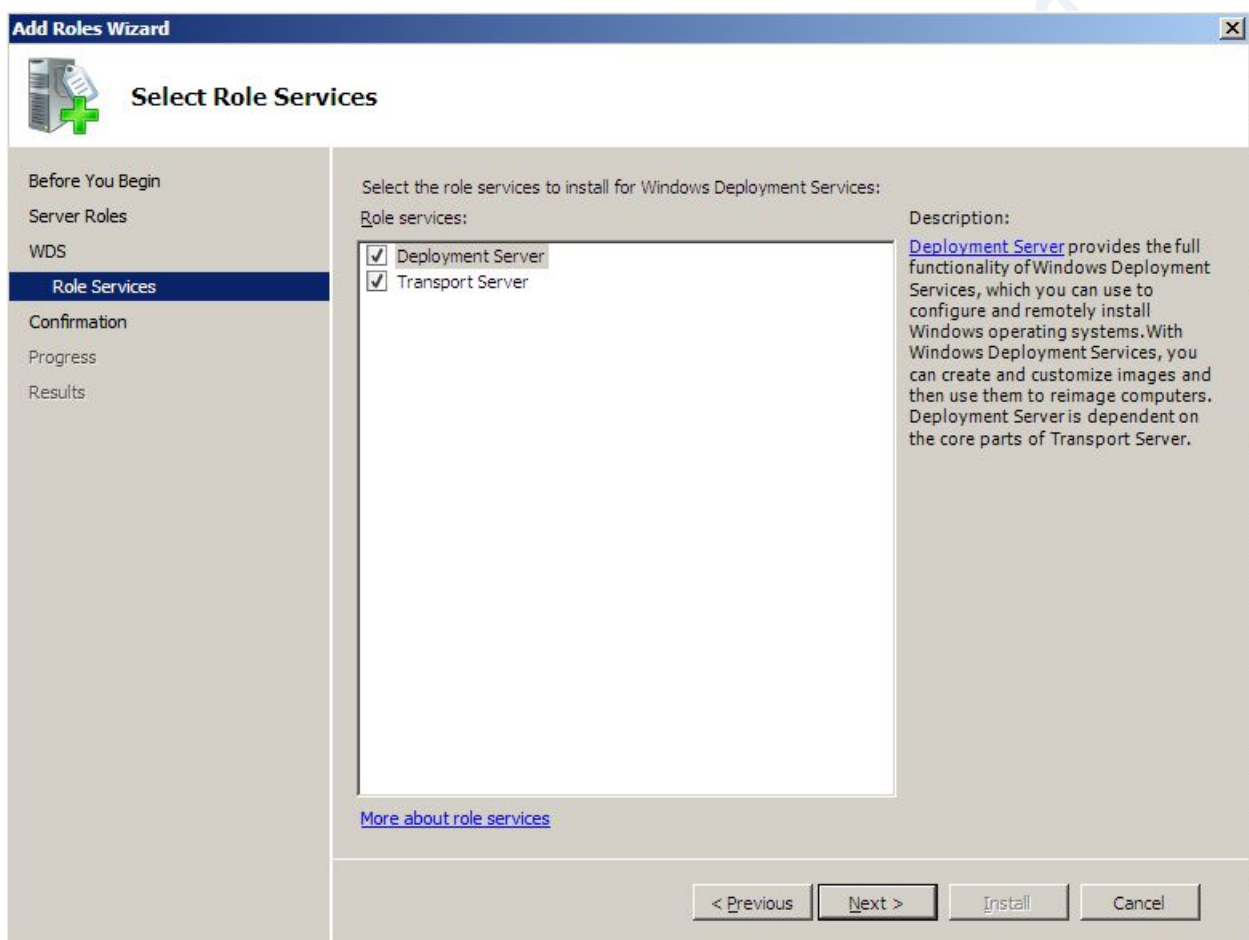


- Trong mục **Overview of Windows Deployment Services**, nhấn **Next**

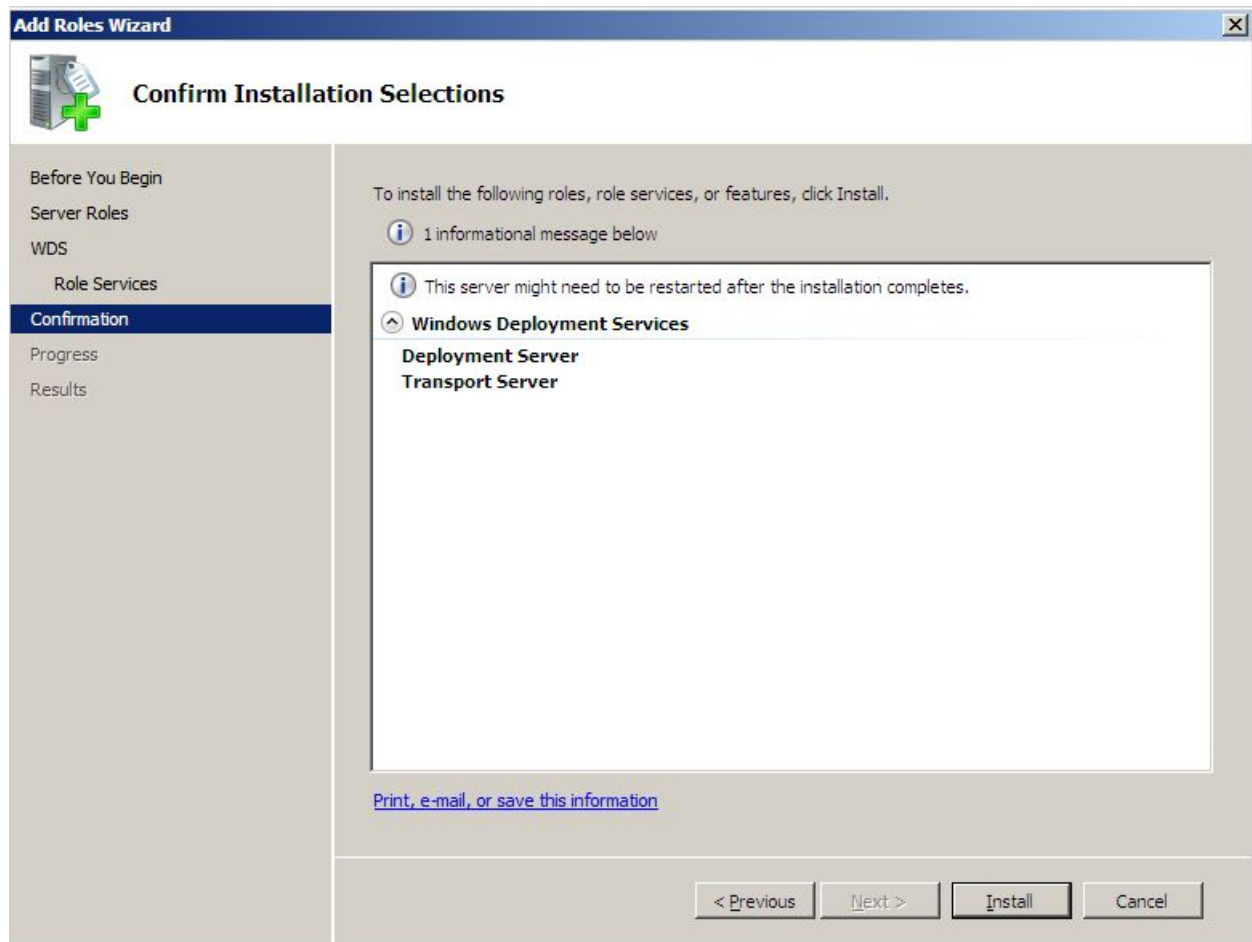


- Trong mục **Select Role Services**, đánh dấu chọn **Deployment Server** và **Transport Server**, nhấn **Next**

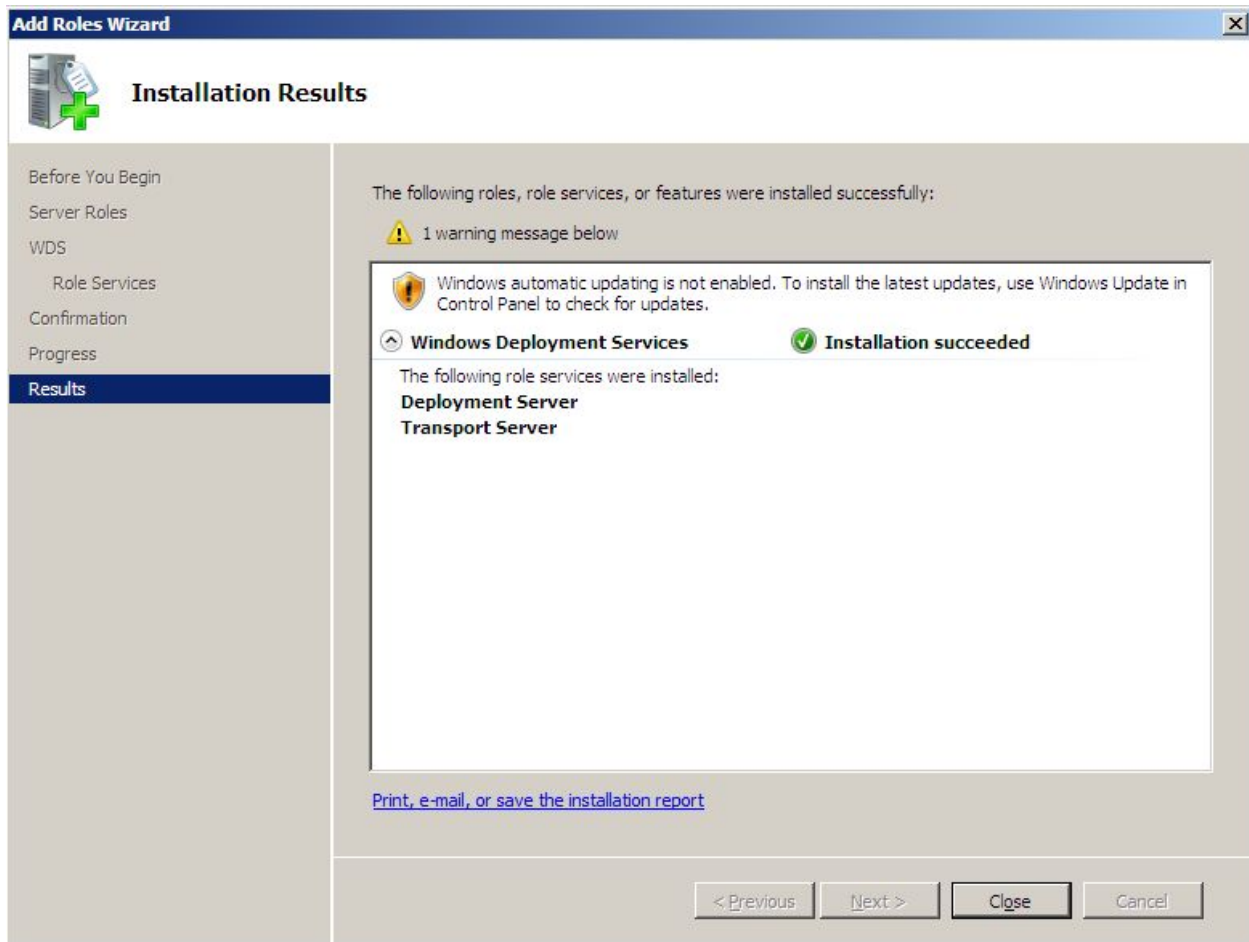
- Deployment Server – Khi đã cài đặt cùng với các dịch vụ Transport Server role, dịch vụ Default Server role sẽ cung cấp chức năng Windows DS đầy đủ để có thể sử dụng Windows DS cho việc triển khai Windows Vista trên các hệ thống mới trong mạng của bạn.
- Transport Server – Khi đã tự cài đặt, dịch vụ role này chỉ cung cấp một tập nhỏ các chức năng của Windows DS và có thể được sử dụng để xây dựng các giải pháp triển khai mang tính tùy chỉnh bằng Windows DS.



- Trong mục **Confirm Installation Selections**, nhấn **Install**

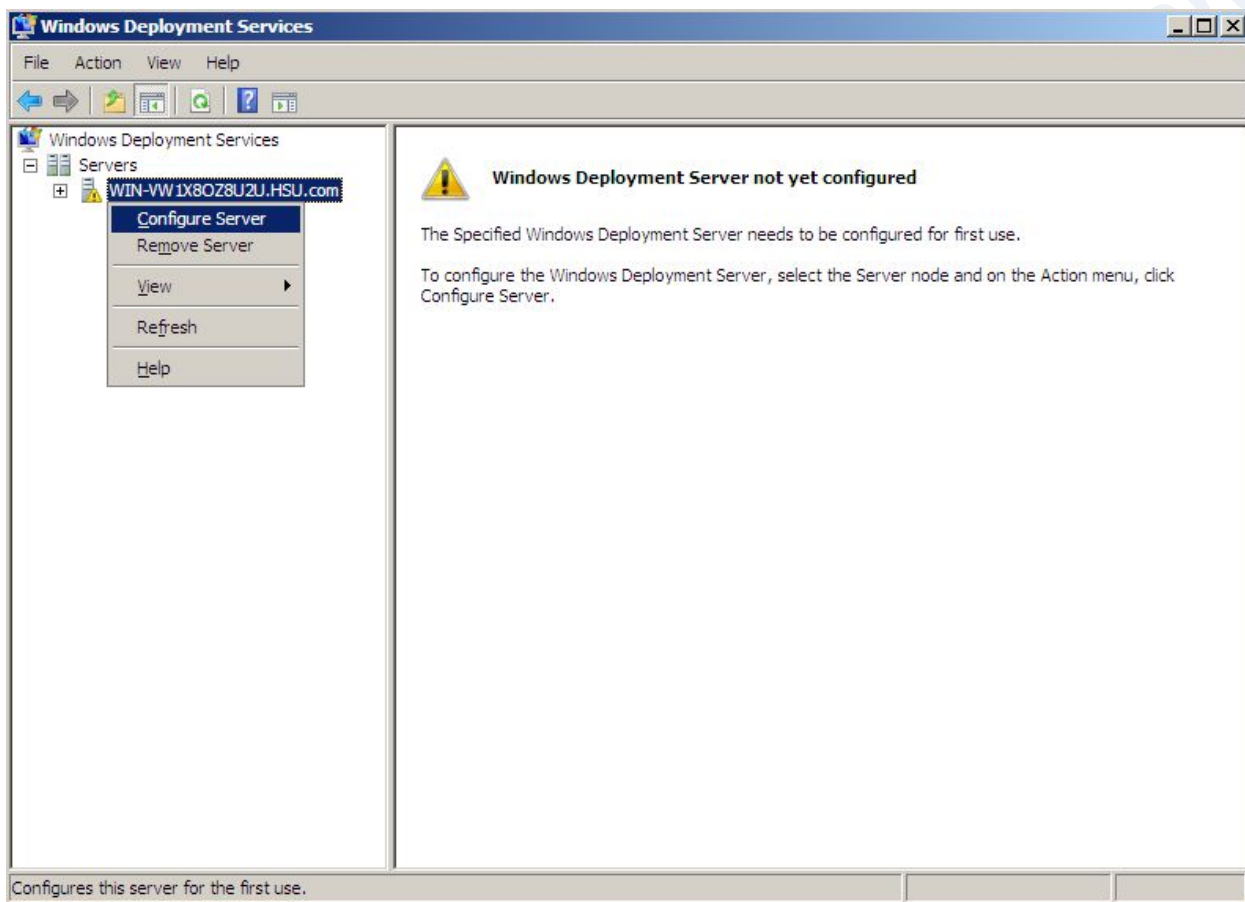


- Trong mục **Installation Results**, nhấn **Close**

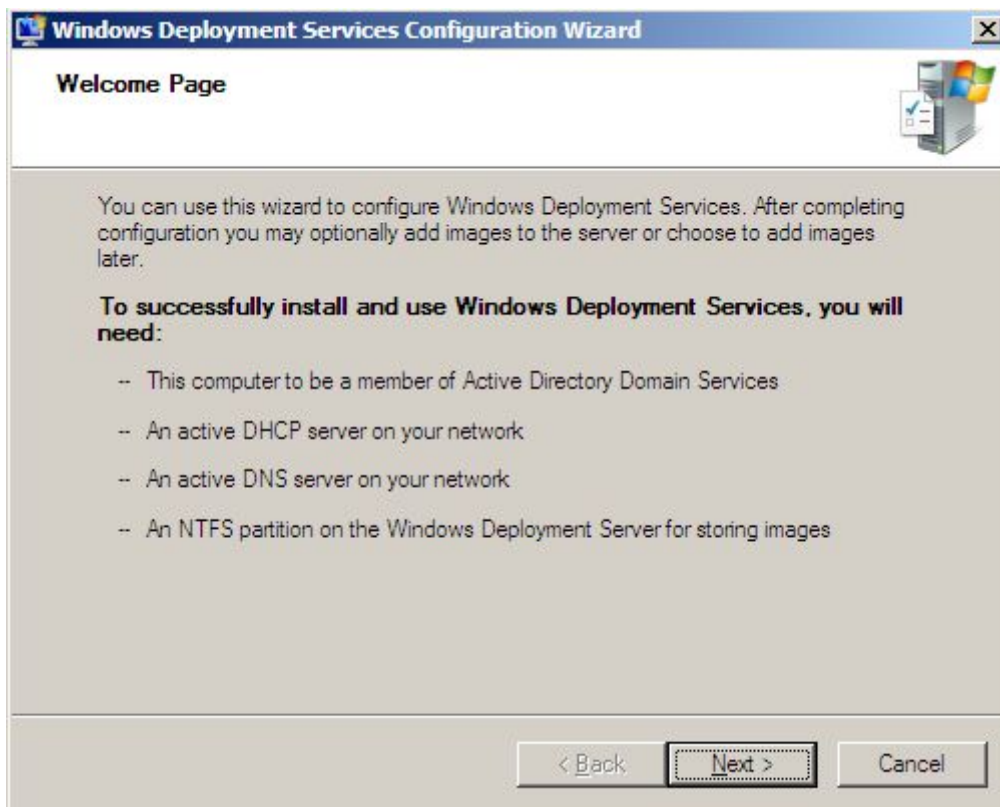


### C. Cấu hình Windows Deployment Server

- Nhấn **Start**, trong **Administrative Tools**, mở **Windows Deployment Services**. Búng **Server**, chuột phải **WDS server** chọn **Configure Server**

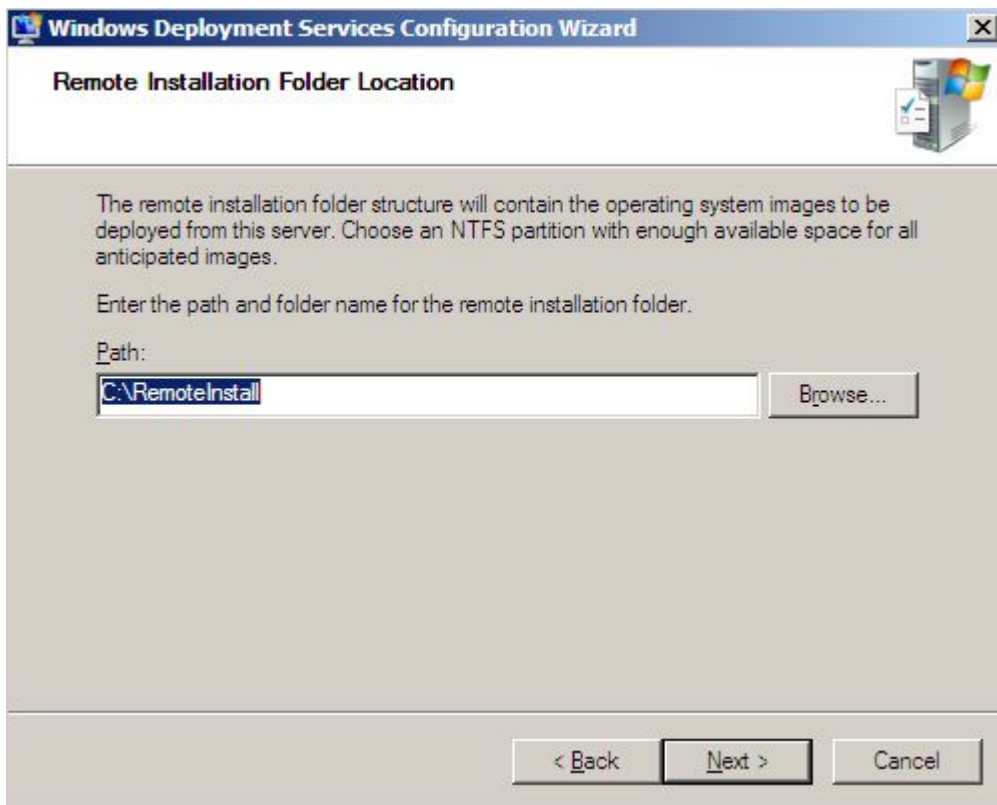


- Trong mục **Welcome Page**, nhấn **Next**

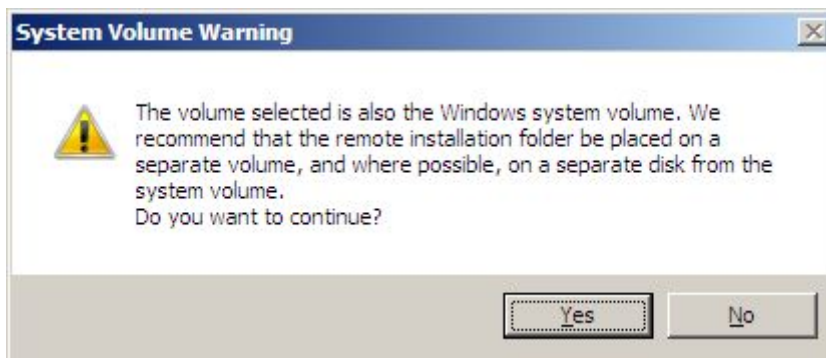




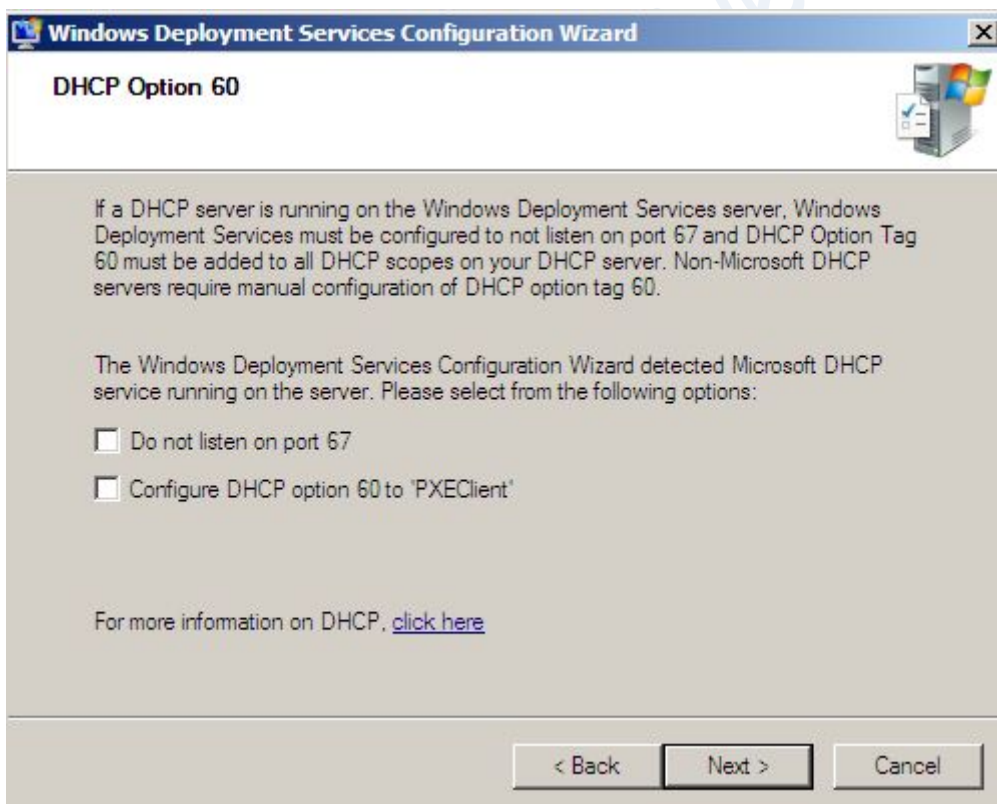
- Trong mục **Remote Installation Folder Location**, nhấn **Next**



- Trong hộp thoại **System Volume Warning**, chọn **Yes**



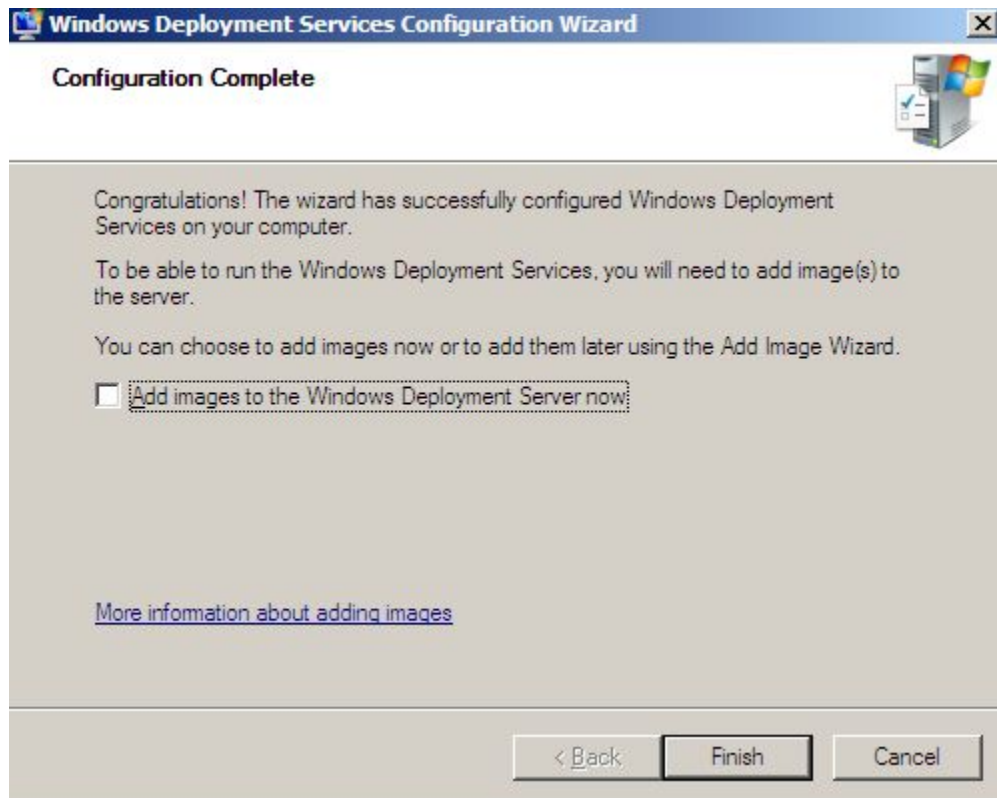
- Trong mục **DHCP Option 60**, nhấn **Next**



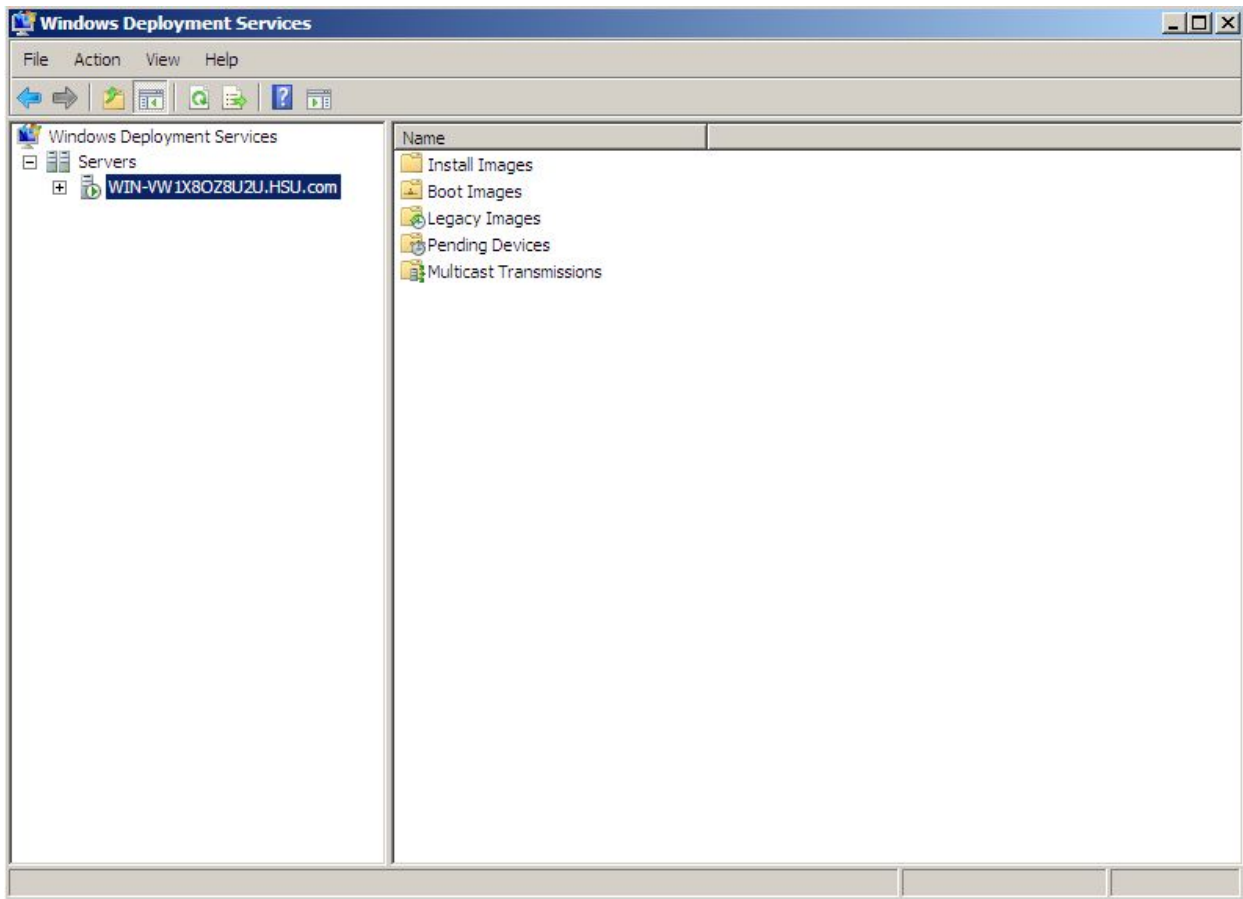
- Trong mục **PXE Server Initial Settings**, chọn **Do not respond to any client computer**, nhấn **Finish**



- Sau khi tiến trình cấu hình hoàn tất. Trong cửa sổ **Configuration Complete**, bỏ trống ô chọn **Add images to the Windows Deployment Server now**, nhấn **Finish**

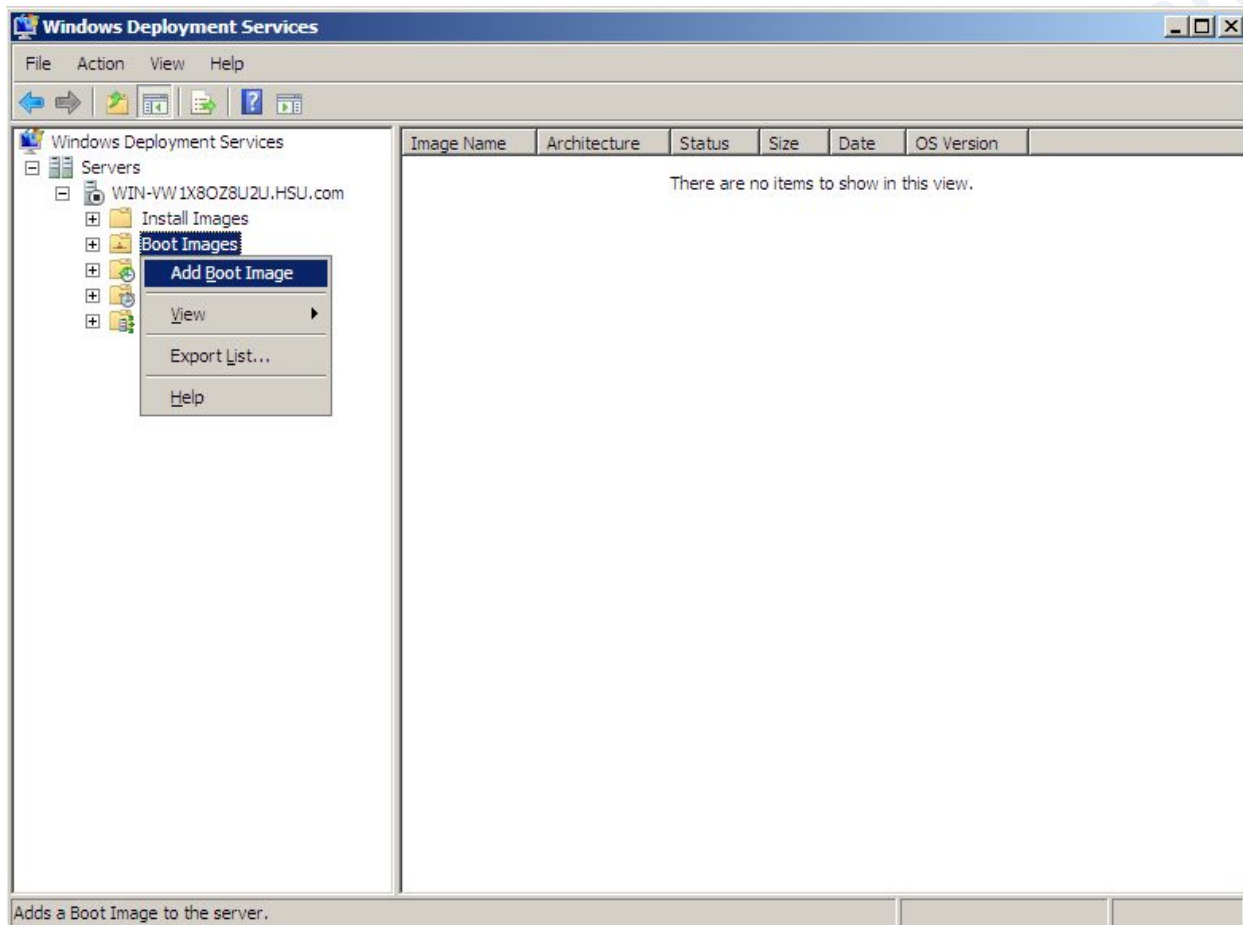


- Kiểm tra cấu hình thành công **Windows Deployments Server**

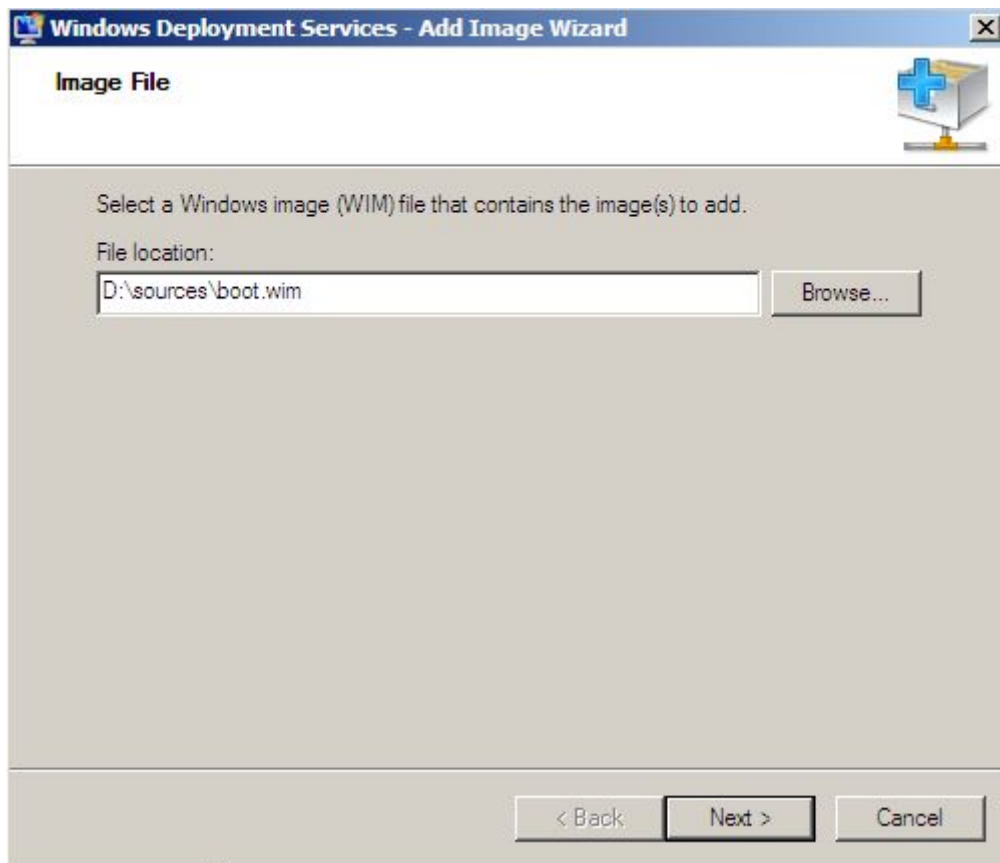


#### D. Cấu hình Boot Image và Install Image

- Mở **Windows Deployment Services**, bung **Server**, bung **WDS server**, chuột phải **Boot Image**, chọn **Add Boot Image**

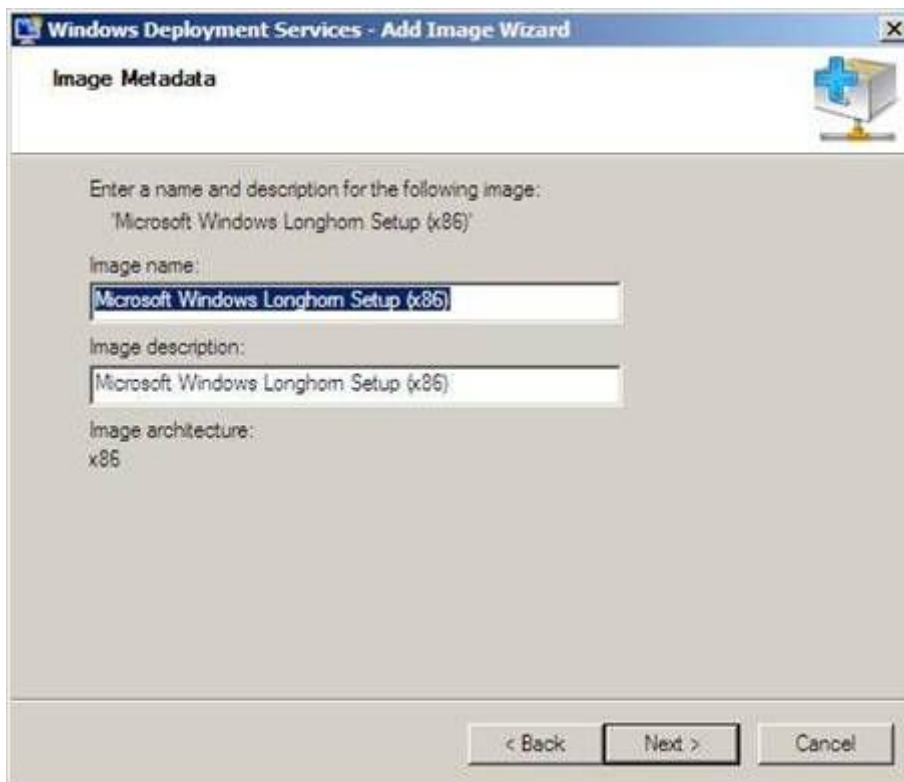


- Trong cửa sổ **Image File**, nhấn **Browse**, trỏ đường dẫn đến **D:\source\boot.wim** nhấn **Next**

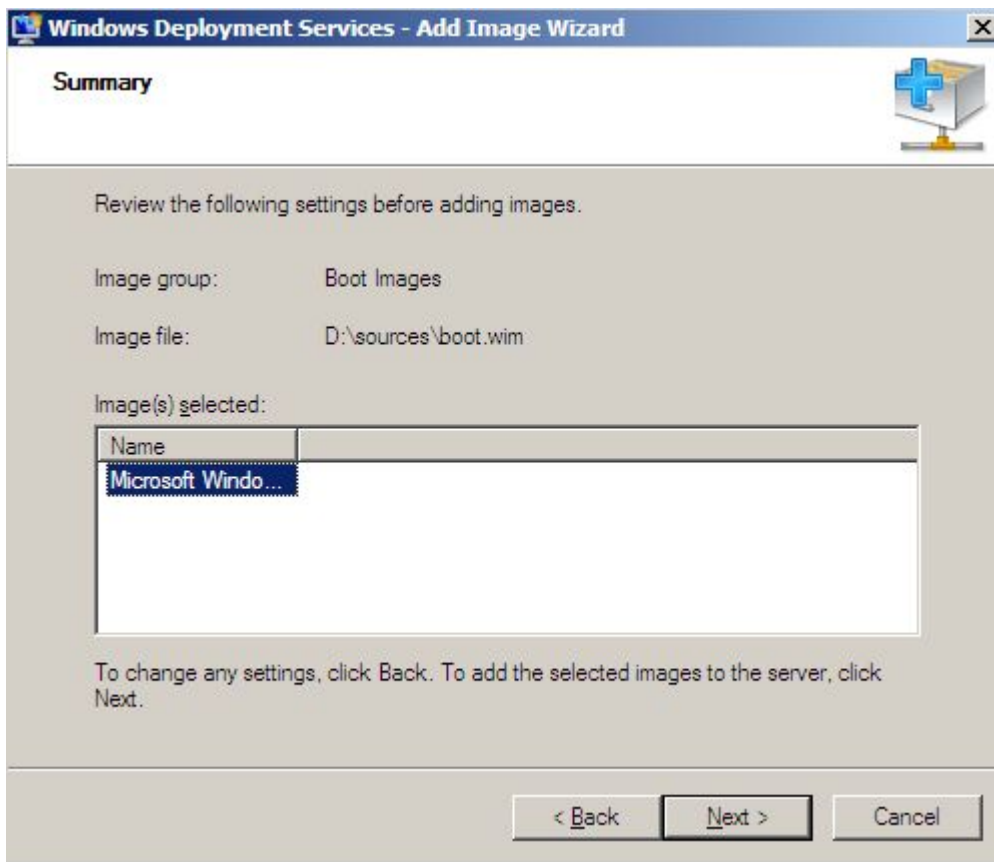




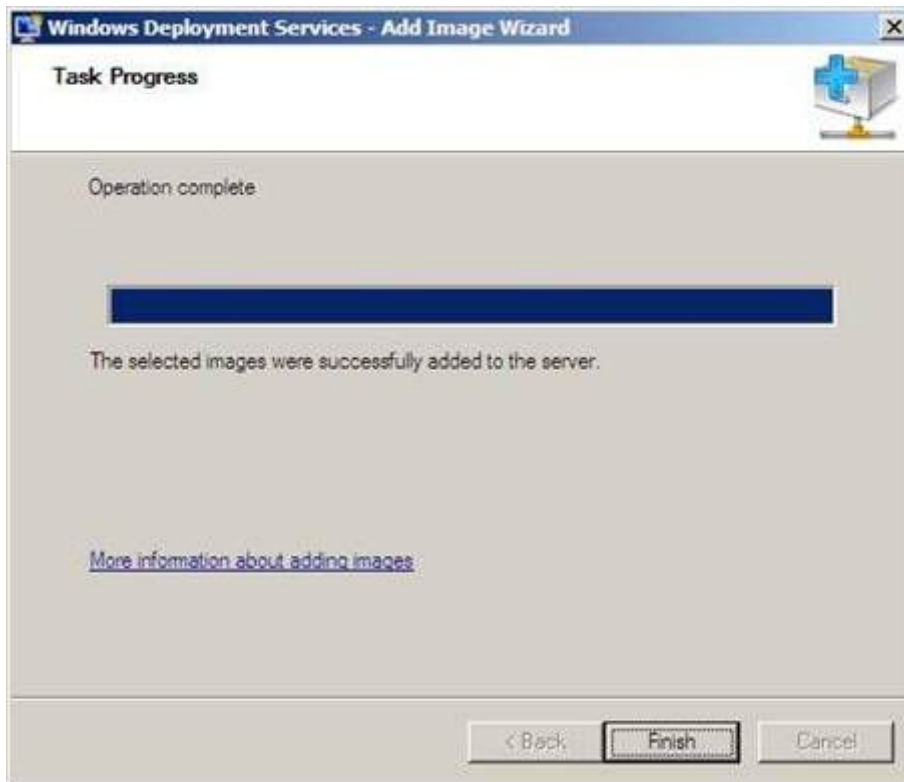
- Cửa sổ **Image Metadata**, nhấn **Next**



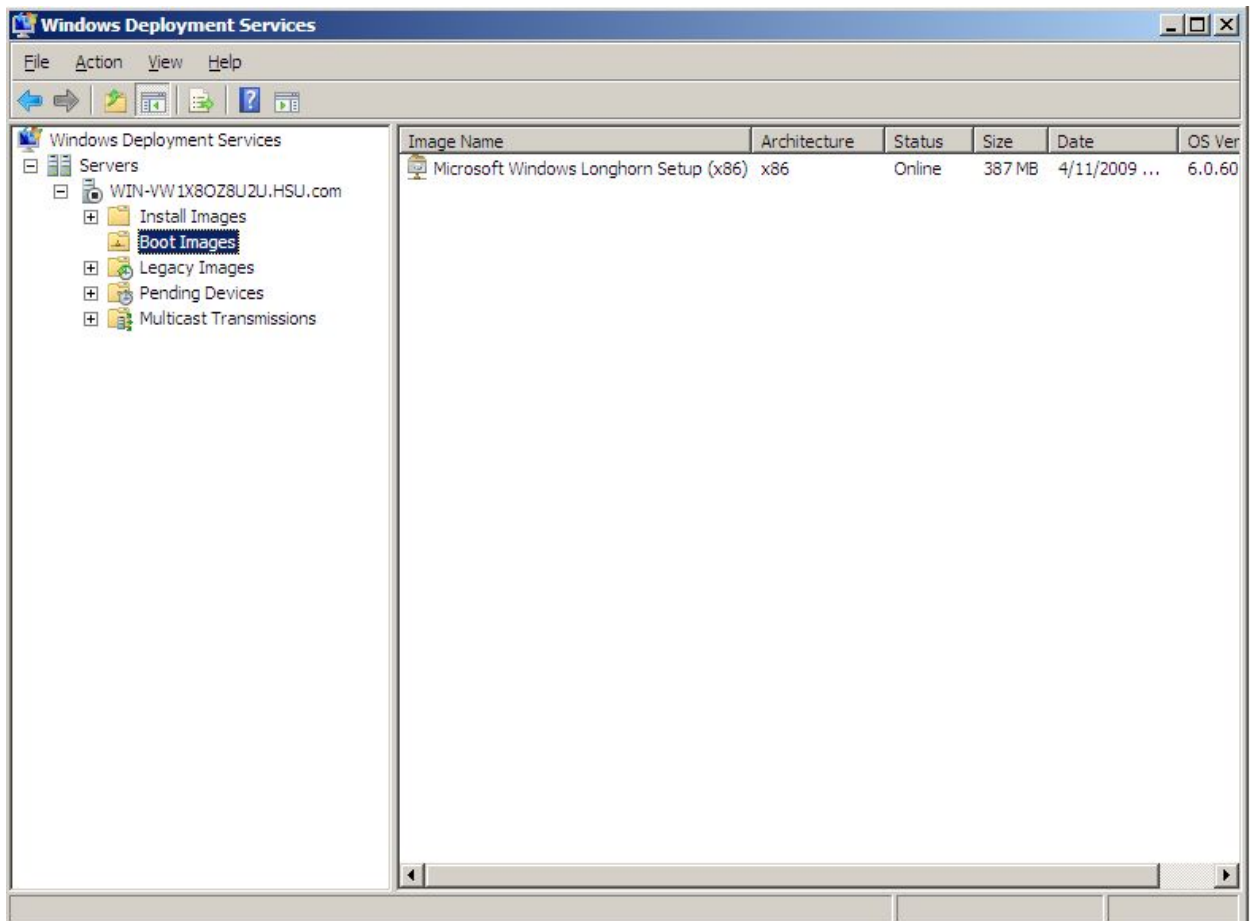
- Cửa sổ **Summary**, nhấn **Next**



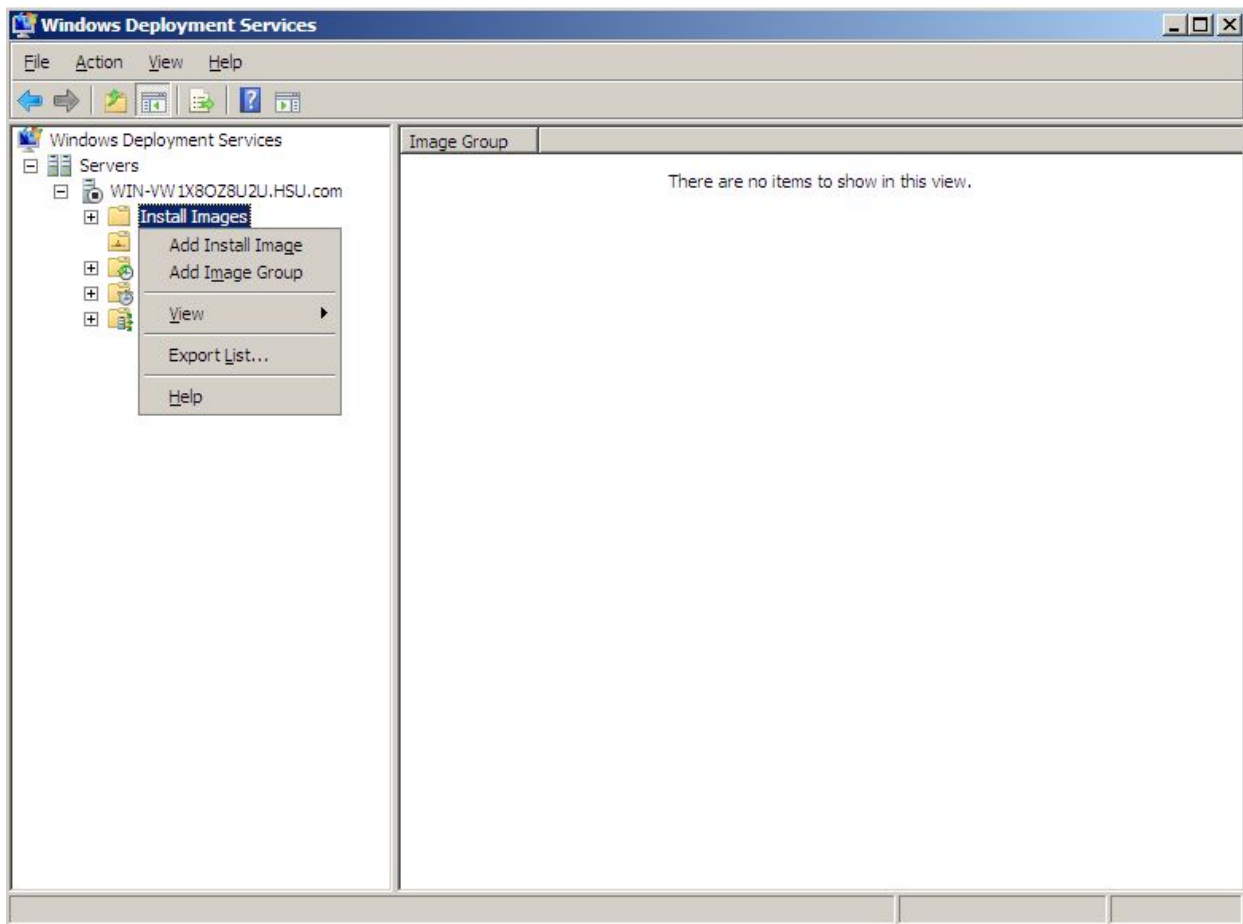
- Sau khi hoàn tất quá trình **add boot image**, cửa sổ **Task Progress** nhấn **Finish**



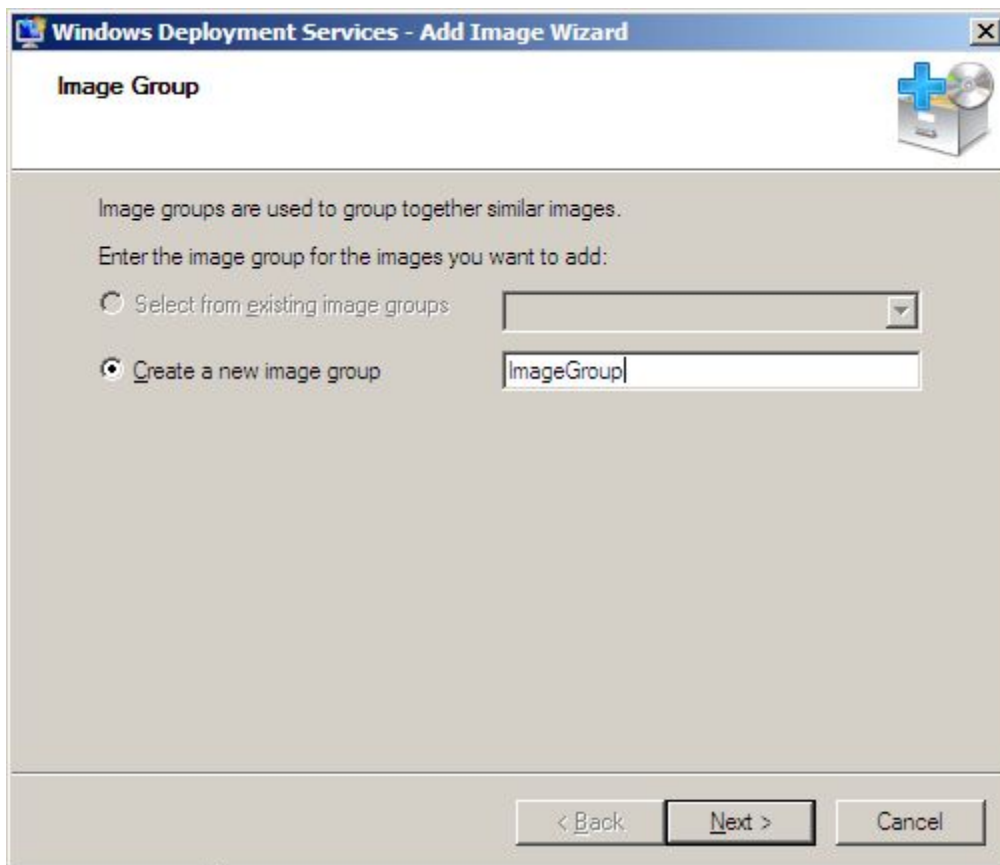
- Kiểm tra đã **add** thành công **Boot Image**



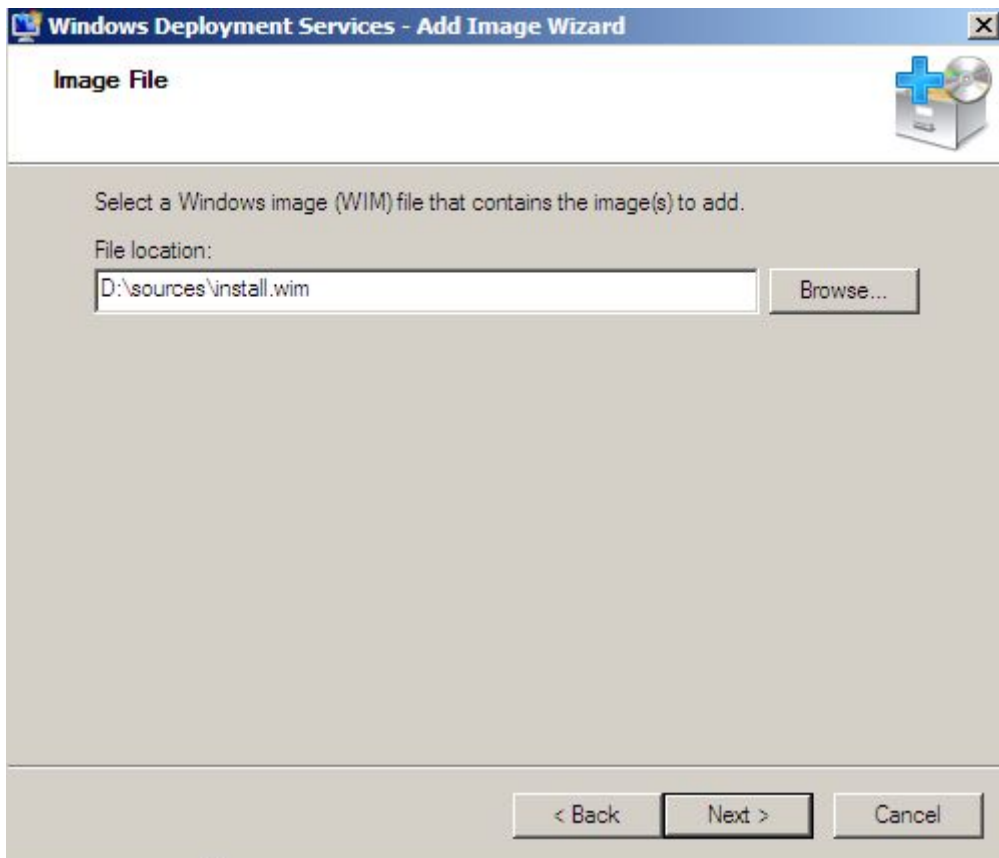
- Trong cửa sổ **Windows Deployment Services**, chuột phải **Install Image**, chọn **Add Install Image**



- Trong mục **Image Group**, nhấn **Next**

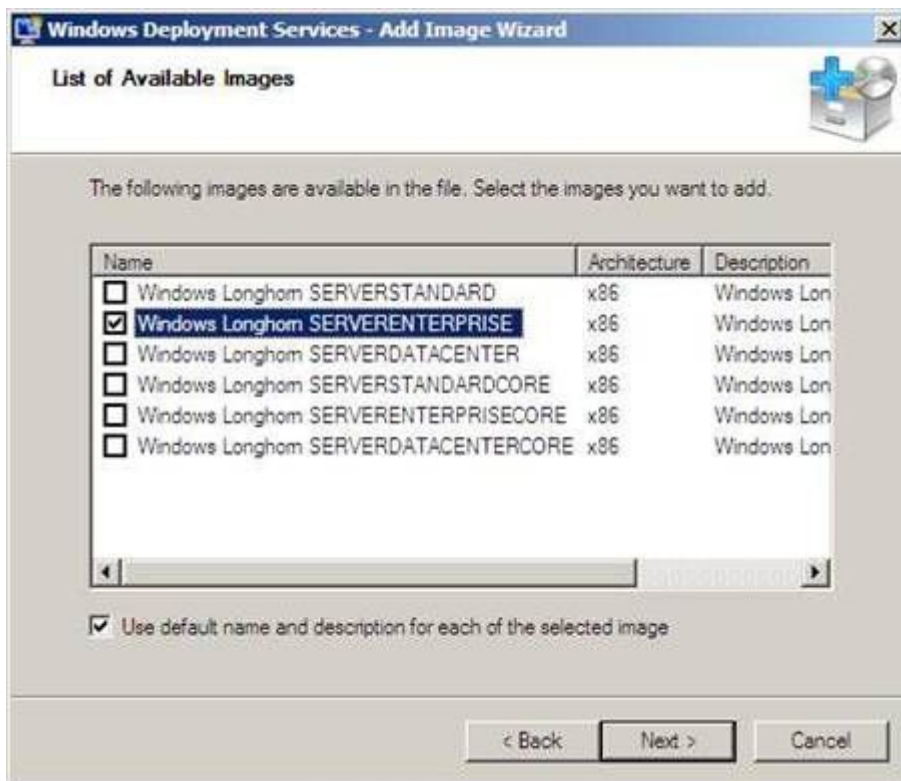


- Trong mục **Image File**, nhấn **Browse**, trỏ đường dẫn đến **D:\source\install.wim**, nhấn **Next**



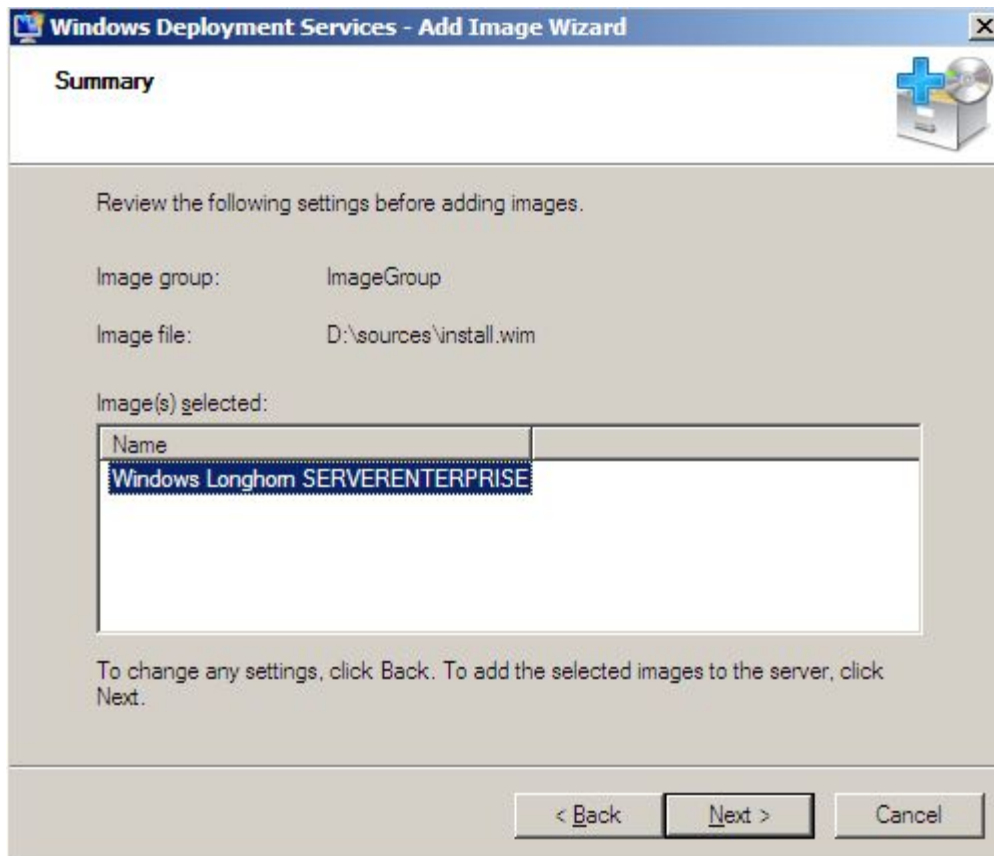


- Trong mục **Lists of Available Images**, đánh dấu chọn vào ô **Windows Longhorn SERVERENTERPRISE**

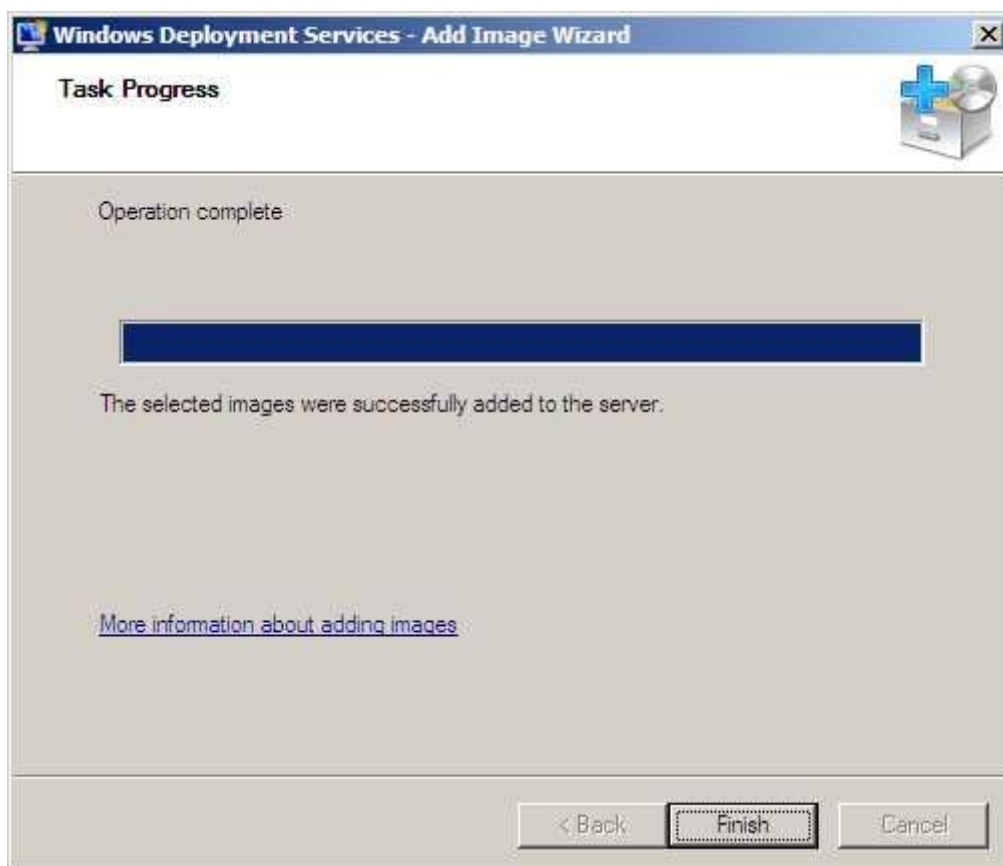


Lưu ý: Bạn cần cài đặt phiên bản Windows nào thì chọn phiên bản đó.

- Trong mục **Summary** nhấn **Next**



- Sau khi tiến trình **add image** hoàn tất, cửa sổ **Task Progress**, nhấn **Finish**



### E. Cấu hình Unattend file

- Mở Windows Explorer, vào đường dẫn **C:\RemoteInstall\WdsClientUnattend** tạo file **unattend.xml** có nội dung như sau:

Lưu ý: Sửa các thông tin được in đậm theo mô hình hiện thời

```
<?xml version="1.0" ?>

<unattend xmlns="urn:schemas-microsoft-com:unattend">

  <settings pass="windowsPE">

    <component name="Microsoft-Windows-Setup" publicKeyToken="31bf3856ad364e35" m
language="neutral" versionScope="nonSxS" processorArchitecture="x86">

      <WindowsDeploymentServices>
        <Login>
          <WillShowUI>OnError</WillShowUI>
          <Credentials>
            <Username>Administrator</Username>
            <Domain>HSU.com</Domain>
            <Password>P@ss1234</Password>
          </Credentials>
        </Login>
        <ImageSelection>
          <WillShowUI>OnError</WillShowUI>
          <InstallImage>

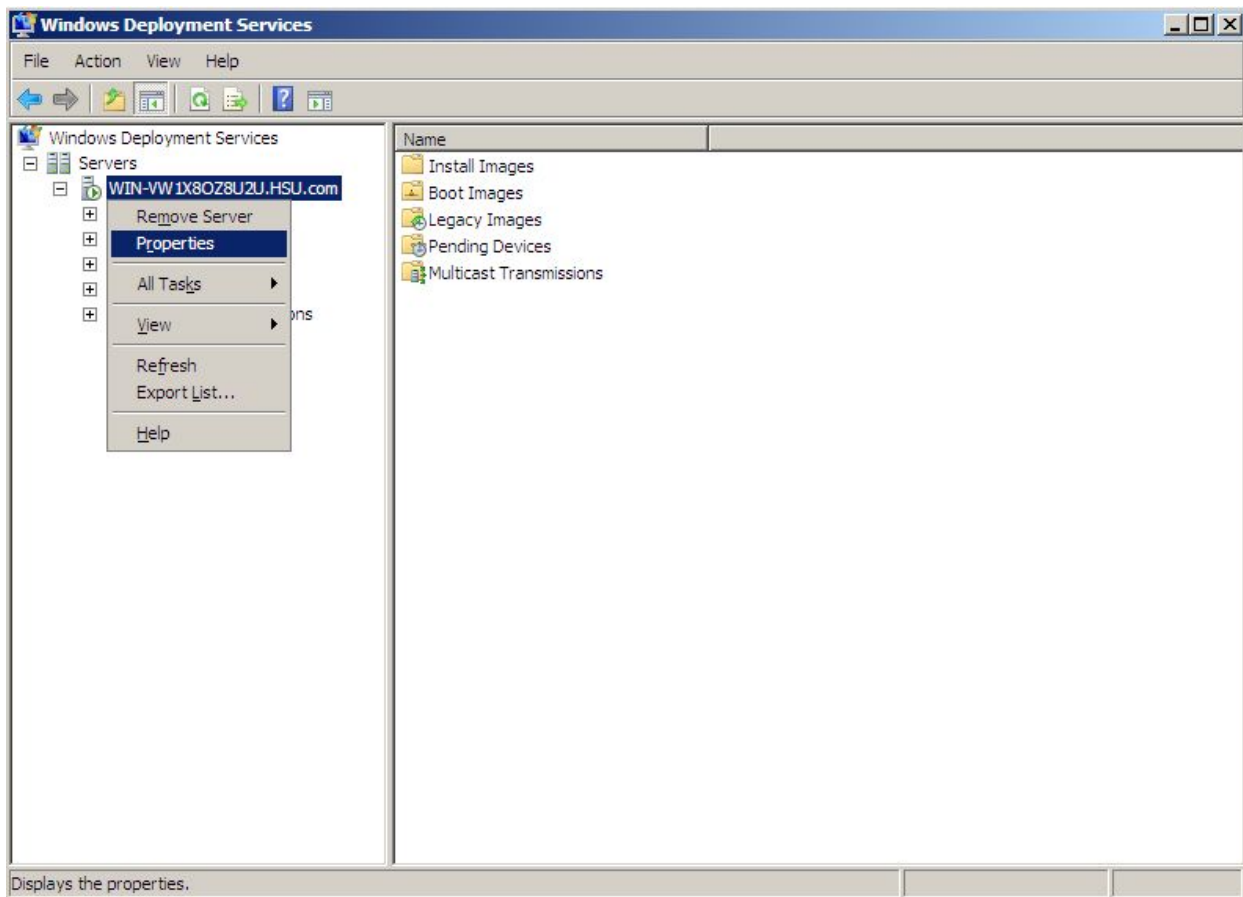
            <ImageName>Windows Longhorn SERVERENTERPRISE</ImageName>

            <ImageGroup>ImageGroup</ImageGroup>
            <Filename>Install.wim</Filename>
          </InstallImage>
          <InstallTo>
            <DiskID>0</DiskID>
            <PartitionID>1</PartitionID>
          </InstallTo>
        </ImageSelection>
```

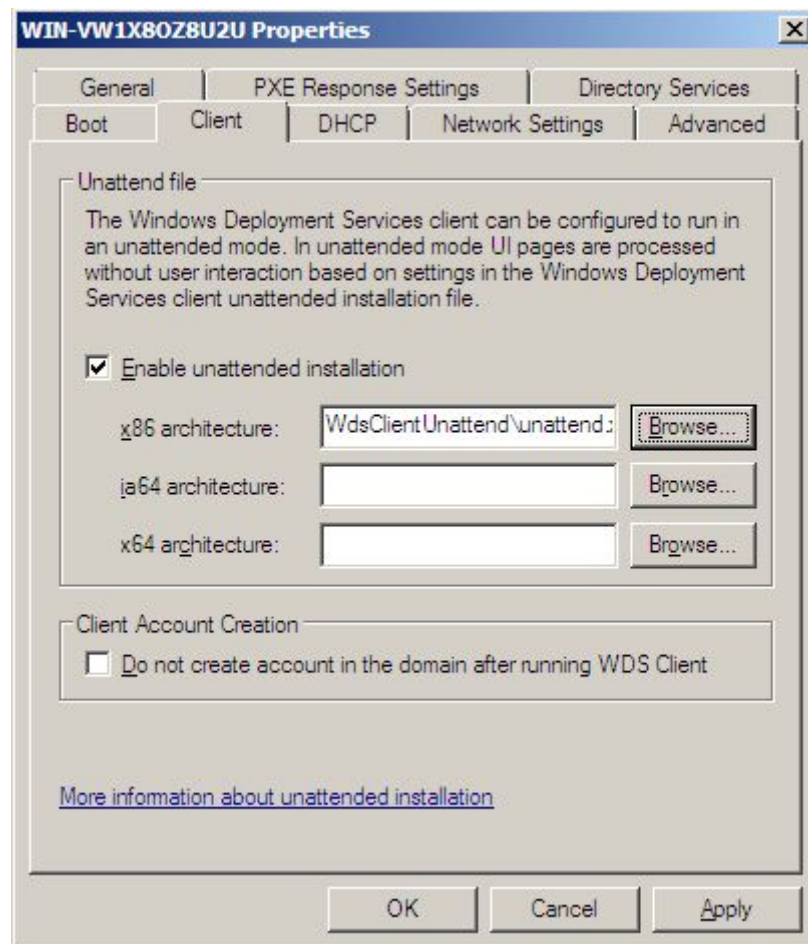
```
</WindowsDeploymentServices>
<DiskConfiguration>
  <WillShowUI>OnError</WillShowUI>
  <Disk>
    <DiskID>0</DiskID>
    <WillWipeDisk>>false</WillWipeDisk>
    <ModifyPartitions>
      <ModifyPartition>
        <Order>1</Order>
        <PartitionID>1</PartitionID>
        <Letter>C</Letter>
        <Label>TestOS</Label>
        <Format>NTFS</Format>
        <Active>>true</Active>
        <Extend>>false</Extend>
      </ModifyPartition>
    </ModifyPartitions>
  </Disk>
</DiskConfiguration>
</component>

<component name="Microsoft-Windows-International-Core-WinPE"
  publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"
  processorArchitecture="x86">
  <SetupUILanguage>
    <WillShowUI>OnError</WillShowUI>
    <UILanguage>en-US</UILanguage>
  </SetupUILanguage>
  <UILanguage>en-US</UILanguage>
</component>
</settings>
</unattend>
```

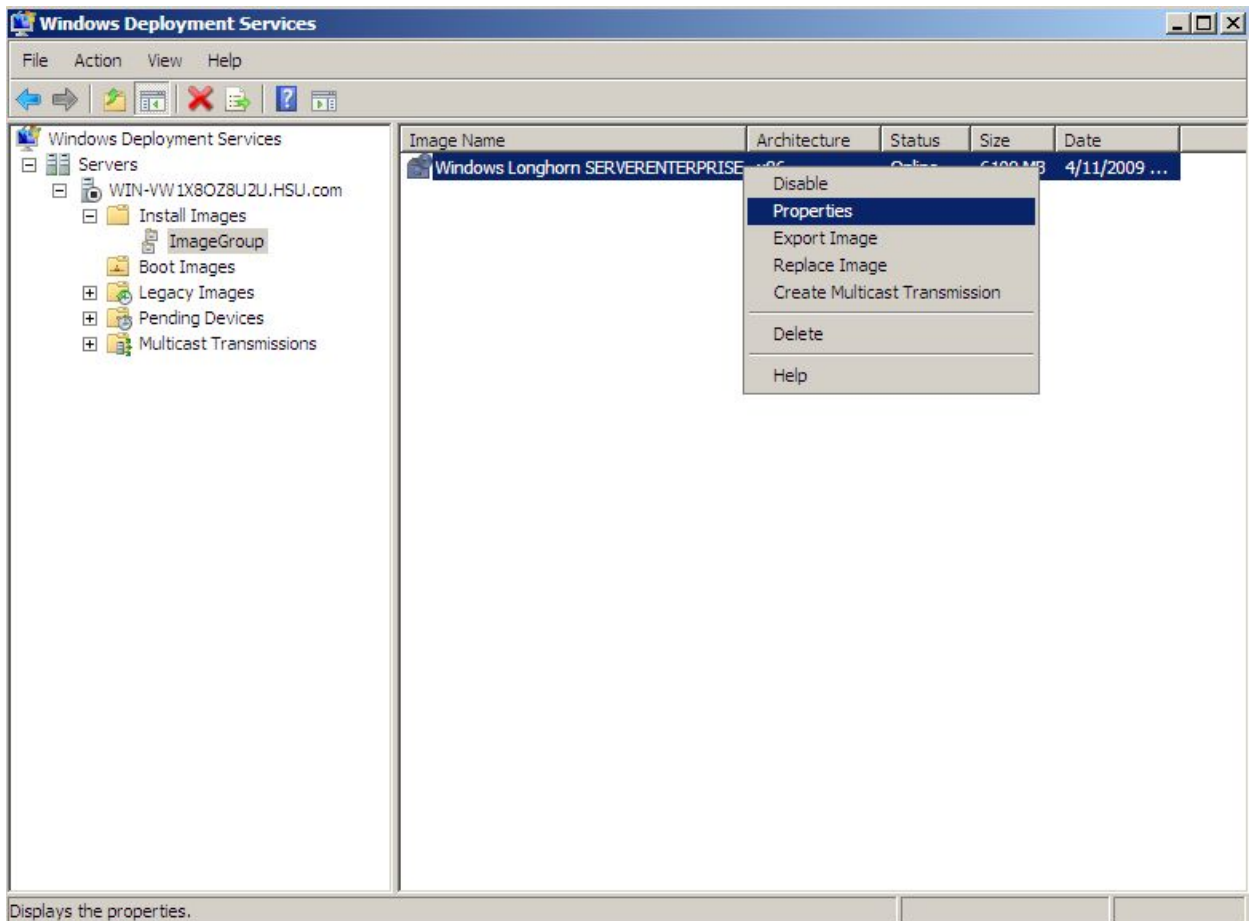
- . Nhấn **Start**, trong **Administrative Tools**, Mở **Windows Deployment Services**, bung **Server**, right click **WDS server**, chọn **Properties**



- Trong mục **Properties**, qua tab **Client**, trong ô **x86 Architecture**, nhấn **Browse**, trở đến đường dẫn **C:\RemoteInstall\WdsClientUnattend\unattend.xml**, nhấn **Apply**, nhấn **OK**

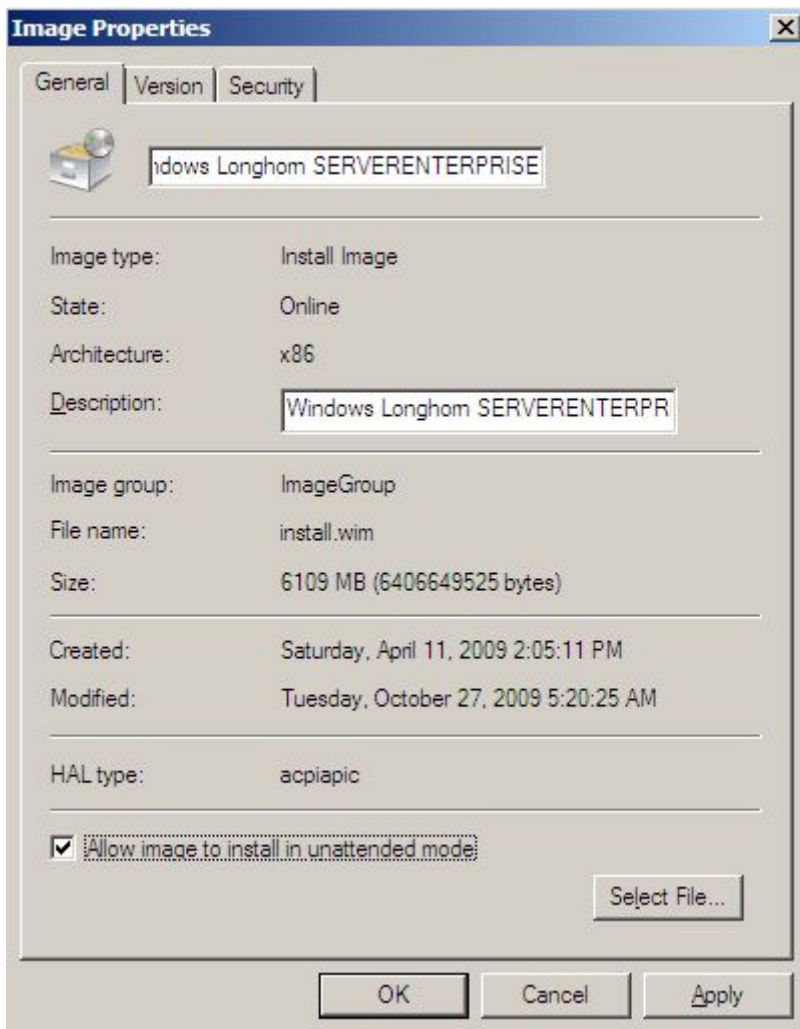


- Trong cửa sổ **Windows Deployment Services**, bung **Install Image**, bung **ImageGroup**, right click **Windows Longhorn SERVERENTERPRISE** chọn **Properties**

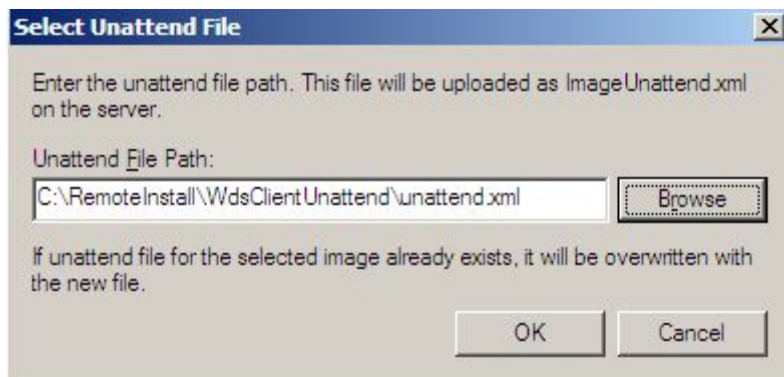




- Trong cửa sổ **Image Properties**, tại tab **General**, đánh dấu chọn vào ô **Allow image to install in unattended mode**, nhấn **Select File...**



- Trong Hộp thoại **Select Unattend File** nhấn **Browse**, trở đến đường dẫn **C:\RemoteInstall\WdsClientUnattend\unattend.xml**, nhấn **OK**



- Trong Cửa sổ **Image Properties**, nhấn **Apply**, nhấn **OK**

