FINAL YEAR INTERNSHIP REPORT ON WINDOWS DEPLOYMENT SERVICE

BY

MD. REDOWAN CHOWDHURY

ID No: 162-15-8213

The Report Written in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering.

Supervised By

Md. Jueal Mia

Lecturer

Department of Computer Science and Engineering

Daffodil International University

Co-Supervised By

Shaon Bhatta Shuvo

Senior Lecturer

Department of Computer Science and Engineering

Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This Internship titled **"Windows Deployment Service"**, submitted by **Md. Redowan Chowdhury**, ID No: **162-15-8213** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 02-05-2019.

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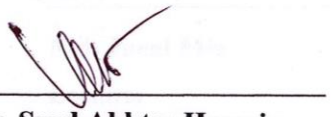

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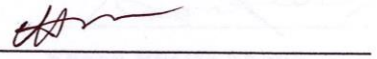

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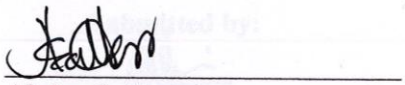
Faculty of Science & Information Technology
Daffodil International University



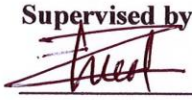
Abdus Sattar — **Internal Examiner**
Assistant Professor
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

Dr. Mohammad Shorif Uddin — **External Examiner**
Professor
Department of Computer Science and Engineering
Jahangirnagar University

DECLARATION

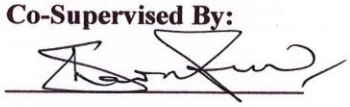
We hereby declare that, this project has been done by us under the supervision of **Md. Redowan Chowdhury, Windows Deployment Service, Department of CSE** at Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:



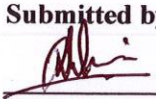
Md. Jueal Mia
Lecturer
Department of Computer Science and Engineering
Daffodil International University

Co-Supervised By:



Shaon Bhatta Shuvo
Senior Lecturer
Department of Computer Science and Engineering
Daffodil International University

Submitted by:



(Md. Redowan Chowdhury)
ID: 162-15-8213
Department of Computer Science and Engineering

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ABSTRACT

I learned how to install server PC and Client PCs properly with WDS. I've internships how every step of the Windows server works on server PCs and Client PCs. The Windows Deployment Services (WDS) server role allows us to install Windows operating systems on client computers and servers. Before describing what Windows Deployment Services says, we must bear in mind that it is not available on all versions of Windows Server. As of Windows Server 2008, the WDS feature is available on all versions of Windows Server. WDS can be used to use versions of Windows Server, Windows 8, Windows 7 and even earlier versions of Windows. Without the operating system, the client can boot the computer on a network, communicate with the WDS server, download and install the operating system.

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CHAPTER 1

INTRODUCTION

1.1 Introduction:

WDS is provided by Windows Deployment Services and is a Windows function used to install operating systems on machines within an organization. Its predecessor was RIS (Remote Installation Service) to install an old operating system like XP and server 2003. I remember 50 times that I entered a new workstation and installed an operating system in each of them, which I struggled at some difficult times. Now, we import the operating system into WDS and install those computers using the network, the client will boot from the computer network and install it; You do not wander around with the ankle from a disk in hand, but we need to install our function before we can do that.

In other words, Microsoft Windows Server 2012 R2 offers a service offering Windows Deployment Services (WDS), enabled IT professionals with the ability to install Windows operating systems through network-based installations. It denies the need to install a USB drive or a DVD from each operating system installation media. Windows deployment services provide the following benefits and other to IT professionals.

My plan is to implement WDS, we need to create a domain and client-server environment as if we can maintain Operating Systems Installation using WIM (Windows Images) over the entire Network that refers to Internal (LAN or Intranet) or WAN (Intranet) to the multiple computers with same speed using multicast transmission that consumes a huge times to all IT professionals

1.2 Reason of why WDS: There are crucial reasons implementing WDS that makes an IT professional more dynamic, utilizing time and smarter also. Reasons are given in the following:

1. The system administrator saves time setting up the operating system
2. The system administrator saves time setting up the operating system
3. Transmit information using multicast functionality that reduces the network compression
5. Allows installing the driver package on the client computer with the install image

1.3 Scenario for this demo is very simple:

For this WDS demo, we install and implement some roles as like ADDS, DNS, DHCP, WDS and PXE-BOOT environment.

Here,

ADDS = Active Directory Domain Services

DNS = Domain Name Service

DHCP = Dynamic Host Configuration Protocol
PXE = Pre Boot Environment

WIM = Windows Image

1.4 METHODOLOGY:

In this project "Design and Simulation of WDS" discuss the total network installation either autounattendant or centralized deployment. We are survey in the different organization and collect some data or information. The WDS was introduced by Microsoft after 2000 in order to provide successful network boot installation and implementation in LAN or WAN. WDS is integrated with some features. Since WDS needs administrator approval to deploy images as unknown clients computers, ADDS will provide the authentication for security. Before network boot, a host needs IP address that will be provided by DHCP. After getting IP from DHCP server, a client PC will be contacting with WDS server and waiting for approval for the administrator. As long as administrator gives approval, the client machine will be downloading WDSNBP file and then will be starting network boot image. Prior to that an administrator will create images like: Boot images, Install images in WDS server from where the client machine will boot.

1.5 Report Layout:

The report is divided by five chapters. Each and every chapter allocated with different topics.

CHAPTER 1: INTRODUCTION

Chapter1 deals with the introduction, objective, motivation and methodology of the project.

CHAPTER 2: Literature Review

Chapter2 deals with pre-requirements for implementing WDS.

CHAPTER 3: Pre-requirements Environment for WDS

Chapter3 deals with the Design, Feasibility study and flow of the project.

CHAPTER 4: Design of WDS

Chapter4 deals with implementation environment, required software, mandatory parameter value, implementation detail are mentioned.

CHAPTER 5: Implementing and Steps

Chapter5 deals with the implementation result that I have found at the different stage of the script and compared it with the other present solution is that the project script has filled up the gaps of the present script in a better and easy way.

CHAPTER 6: Booting Client VMs from WDS

Chapter6 deals with the booting client VMs and result from WDS

CHAPTER 7: Conclusion

Chapter5 deals with the conclusion.

CHAPTER 2

LITERATURE REVIEW

2.1 WDS:

The role of the Windows Deployment Services (WDS) server enables us to install Windows operating systems on client and server computers. Before describing what Windows Deployment Services say, we must be aware that it is not available in all versions of Windows Server. Starting with Windows Server 2008, the WDS role is available in all Windows Server versions. WDS can be used to use Windows Server versions, Windows 8, Windows 7 and even earlier versions of Windows.

2.2 Imaging:

Imaging a snapshot of a computer or a server's entire hard disk and saving it in the file. So, a single image file has a complete operating system installation. We can accept that image and at the same time we can put it on multiple computers.

2.3 Install Image:

The first type of WDS image is installed in the image. Installs the installed operating system installed on the client computer. In the case of image-based technology used for Windows Server 2008, 2012, 2012 and Windows 7 operating systems, it can save all different versions of a single Windows image in a single WIM file. A Windows file is a Windows file file, so a picture is a. There is a wax extension.

2.4 PXE-Boot:

WDS uses a PXE method for client booting. PXE enables clients to boot the network, find WDS services and load boot images. Therefore, to be able to communicate with the client WDS server, the client network card must be PXE compliant, and today most of the NICs must be. For PXE that does not support the cards, we have other types of boot images that have the discovery boot image. Discovered images can be used for computers that are not compatible with PXE.

2.5 Multicast Options:

The default settings of WDS are all computers that join the multicast transmission of installation images at the same speed. If you often employ operating systems, you are aware that sometimes there are 1 or 2 computers with network adapters that slow down an infection that takes 15 minutes at half-time. You can configure the transfer settings on the Multicast tab so that the clients are divided into separate sessions depending on how fast the multicast transmission can be used. You are still taking too long to take those slow computers, but other computers connected to the infection can complete the task quickly.

CHAPTER 3

PRE-REQUIREMENT ENVIROMENT

WDS clients require a PXE-compliant network adapter, which is rarely a problem because almost all modern network adapter PXE-compliant We can use WDS to make Windows Server 2012 or Windows Server 2012 R2 DD on a virtual machine running under Hyper-V. Generation 1 Virtual machine, as a virtual machine, is used to make it a successor rather than a synthetic network adapter. Generation 2 When using Virtual Machine Generation 2 virtual machine network adapters are not required for PXE boot. If we have a computer that does not have any PXE-compliant network adapter, but can configure a special type of boot image that is known as the discovery figure. A discovery image loads an environment, loading special drivers for interacting with the WDS server with the network adapter. We create boot images by adding appropriate network adapter drivers associated with the computer, which can not boot PXE in the Boot.wim file from the Windows Server installation media. WDS has the following requirements:

Here,
2 – ADDS, DNS and DHCP deployed and configured in one or different servers.

WDS can be deployed in following three scenarios.

Based on the scenario, an administrator may have to change WDS properties in DHCP tab in windows deployment services console. This article is based on deployment scenario 1.

3 – This is the first domain controller and first creating forest known as root domain and promoting as the domain name is “iit.com”

Here, Domain name of the DC: “kazi.com”, IP address: 192.168.0.114 (Static).

4 - And name of DNS is: kazi.com (Primary zone and store in Active Directory)

5 – To check whether DNS performs correctly or not, needs using CMD (command prompt) and runs “nslookup” utility

6 – Now the configuration of DHCP (Dynamic Host Configuration Protocol): DHCP scope name is WDS, IP address pool is from 192.168.0.15 to 192.168.0.25

7 – Enable the PXE-BOOT from the BIOS of every client computers.

8 – Using demo for example:

1. Domain Name : kazi.com
2. Fully Qualified Domain Name (FQDN): iso-dc1.kazi.com

To view: Go to system properties and here the information will be available

3. Domain Name Service (DNS): Server name: iso-dc1.kazi.com
   IP address: 192.168.0.114

To view: Go to Command Prompt (CMD) with run as administrator and write “nslookup”

CHAPTER 4

DESIGN OF WDS

4.1 Design:

The process of implementing WDS The services include performing both different sources of server server (primary site) and destination
clients' machines.

How the architecture would be the WDS depends on the demand of using WDS and the size of organizations. Like Windows Server Update Services (WSUS), WDS can have more than one servers and also can have replica servers.

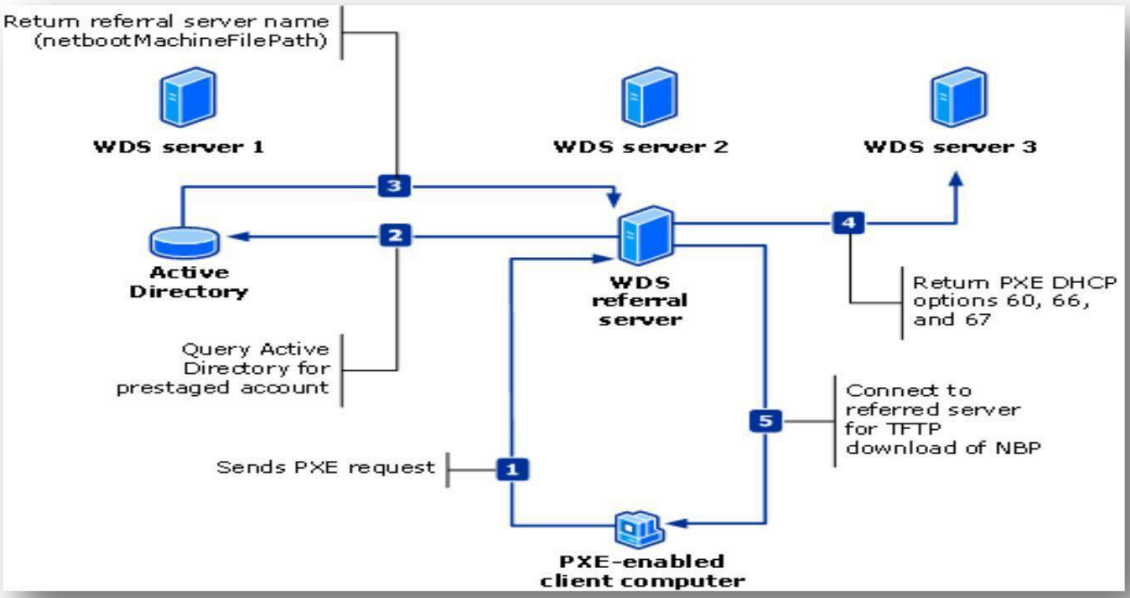

Figure: 4.1.1 PCE-enabled client computer

Firstly, we need not more servers for implementing WDS. We can use only one server which are integrated with ADDS, DNS, DHCP and WDS server though it depends on the nature and size of an organization and how an administrator manages the services running smoothly.

Secondly, if the organizations is large and WDS services are most essential to deploy then the administrator should have some experiences with more WDS servers and or referral servers. If subject to forward to experience with one server with integrated services-ADDS, DNS, DHCP and WDS then it is recommended for the administrator to select the option "Do not listen the DHCP port." Because if DHCP server listen with 66, then WDS server will be using and it may be 60.

The picture shows only one WDS. server that refers to a WDS server integrated with ADDS, DNS and DHCP

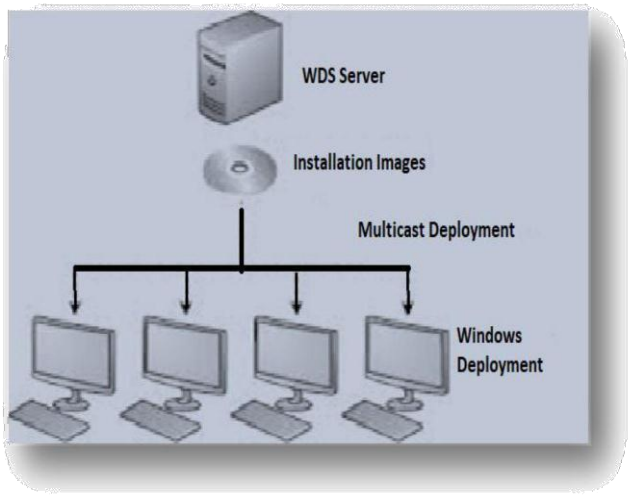

Figure: 4.1.2 Design of WDS

Fourthly, the analysts recommend the network or server administrator to design their network and service infrastructure showing in the following:

The design refers to an ideal structure for a small or medium organization as an administrator he has to practice or implement.

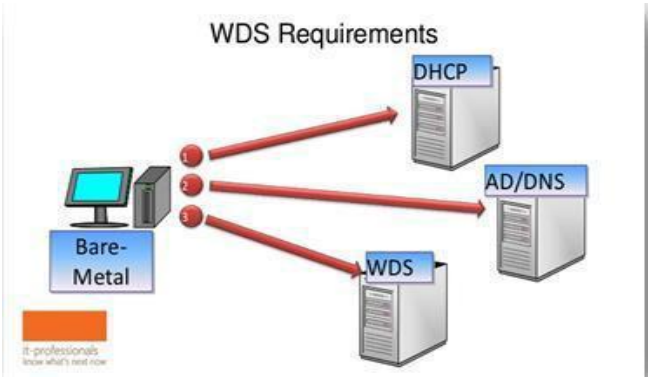

Figure: 4.1.3 WDS Requirements

4.2 Virtual Technology:

When virtual technology term comes, WDS supports both VHD and VHDx with generation1 and generation 2 also. But in this term, a server or network administrator should use Legacy Network or NIC card to support the network based installation if used generation 1.

4.3 Feasibility study:

There are some important aspects of our WDS implement method that is all servers – WDS, ADDS, DNS and DHCP must be present and online in the system, eventually if network error occurs, all goal to implement and install WDS will smoke end.

CHAPTER 5
IMPLEMENTING AND STEPS

In this chapter, we will discuss about the necessary implementation and testing environment that has been used to test the disaster recovery of virtual machine. Implementation process has been elaborated in detail, testing has been done for every step of the process and result has been mentioned along with each steps.

5.1 Necessary Environment:

To ensure that the new image-creation method works as we designed it.

The environment that we used for our project consisted of:

Hardware:

Machine1 (Domain Controller and DNS)

• 2U rack server IBM SystemX 3650

• 2x4 core Xeon Processor

• 4x4GB RAM

• 3x146GB SAS hard disk with RAID5 configured

• 1x1Gps Ethernet card

Machine2 (DNS and DHCP Server)

• ASUS M100

• Core i5 2.7GHz Xeon Processor

• 2x8GB RAM

• 1x1TB SATA hard disk

• 1x1Gps Ethernet card

Machine3 (WDS Server)

• ASUS M100

• Core i5 2.7GHz Xeon Processor

• 2x8GB RAM

• 1x1TB SATA hard disk

• 1x1Gps Ethernet card

And some of client machines.

5.2 How It Works:

Implementing WDS all server requires to be on line and smooth network connection available. If a connection is lost WDS will never deploys.

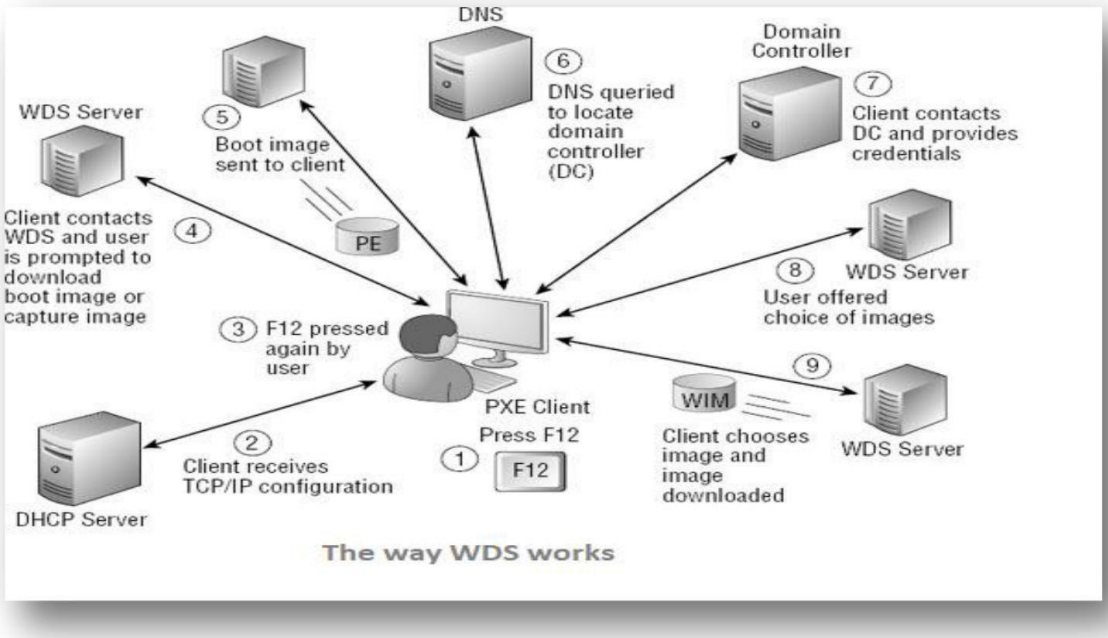

Figure: 5.2.1 WDS Work.

1 – PXE Client enabling DHCP will get IP address from DHCP server on the condition of pressing F12 if configured.

2 – DHCP server using DORA process to discover and distribute IP address from the scope that the administrator configured.

3 – If administrator configured, client needs press F12 again
4 – Now client machine will be trying to contact with WDS server after getting IP address. In this stage client is needed to be approval by the administrator using pending device in WDS console

5 – After approval, WDS server will send boot image to that client.

6 – Now DNS will be asked for query for Domain Controller.

7 – When client machine gets boot images, it needs credential and domain controller ensure the credential the client.

8 – Now WDS server will give the client machine an opportunity to choose the appropriate install image.

9 – The client chooses an image and starting downloading image

Thus, a client machine gets network based install and an administrator experiences it a lot.

5.3 Configuring WDS with Steps:

A Windows Server 2012 R2 environment can be a great job for maintaining, maintaining and maintaining administrators. The primary goal of this course is to provide IT professionals experience on a daily basis using Windows Server. Using this step-by-step configuration process, IT pro offers comfortable configuration and Windows Server environment.
1 – Go to server manager console and select WDS (recommend subsidiary features to also install)

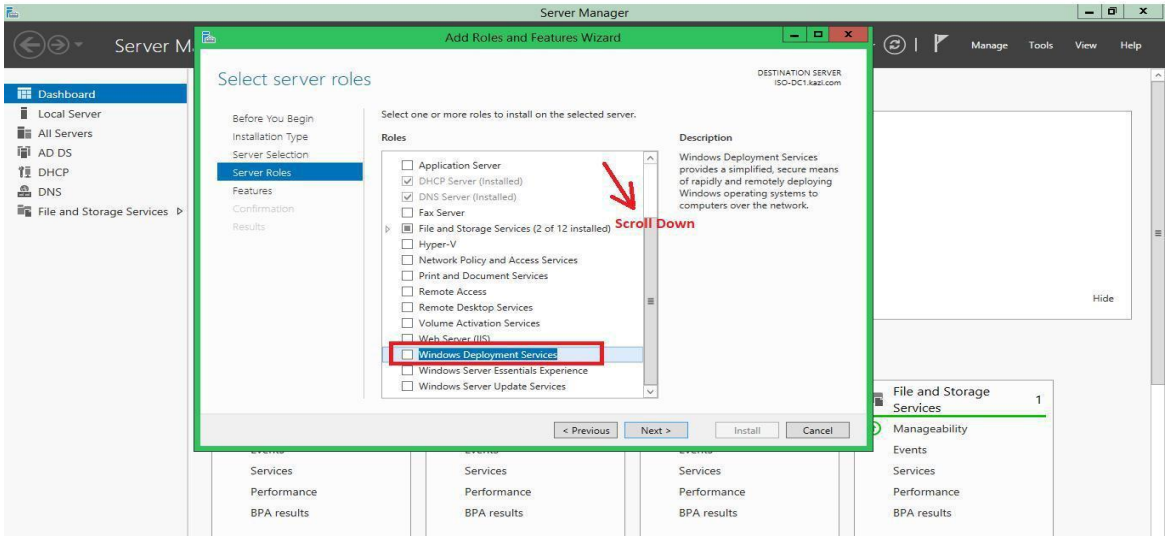

Figure: 5.3.1 Configuring WDS with step

2 - The next is role services, there are two important server needs to be installed to successfully configured WDS. The two services play important role for network based installation.

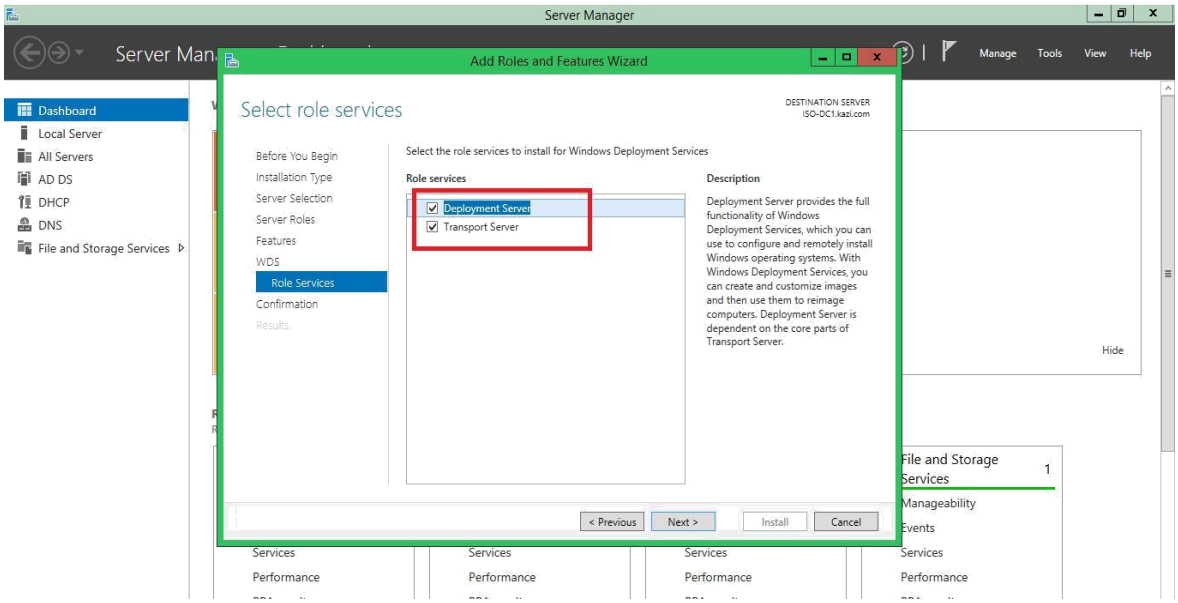

Figure: 5.3.2 Configuring WDS with step

3 – After selecting two servers, click next.

4 – In confirmation step, there shows what exactly we are going to install, after ensuring click install.

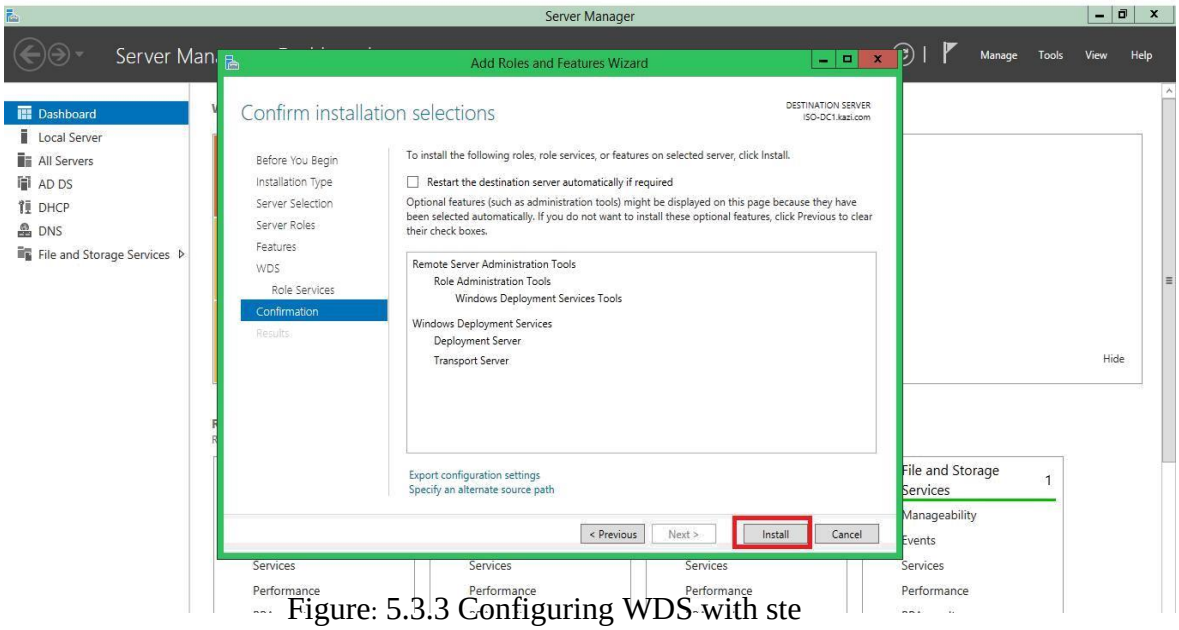

Figure: 5.3.3 Configuring WDS with ste

5 – Here is shoing the installation process

** We can close the wizard during runing the installation process

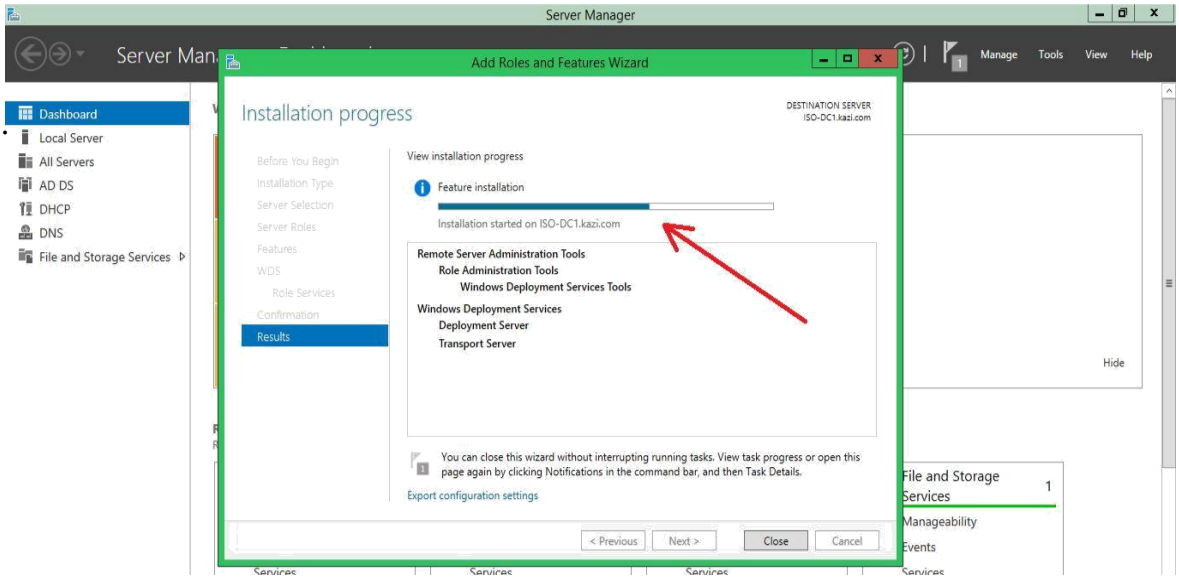

Figure: 5.3.2 Configuring WDS with step

6 – After completing installation process, click close

If you install WDS from Ad Rolls and Feature Wizards, then we can automatically configure these settings. Although the static IP address of the WDS server is not required, the role of infrastructure such as WDS is always a good practice to make sure that the network address is consistent.

"Import-module Server Manager"

"Install-Windows Feature –Include All Sub Feature WDS"

7 – In server manager console, there will have a notification in notification area

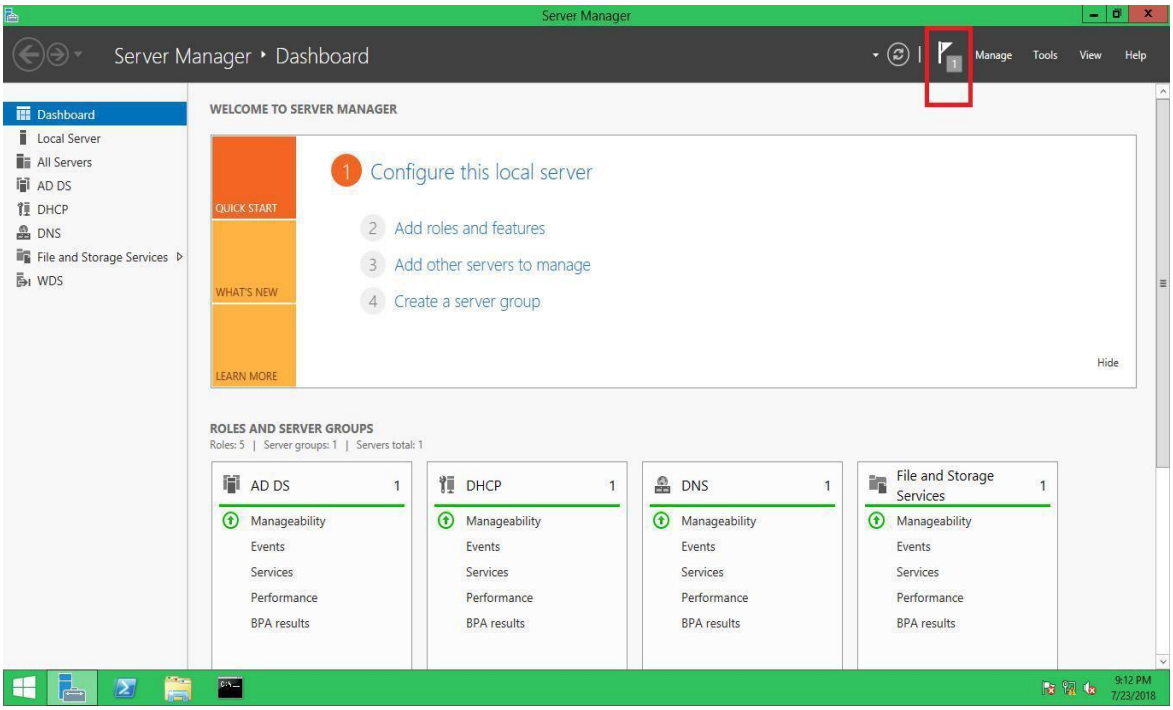

Figure: 5.3.4 Configuring WDS with step

8–Click the notification area and here is showing the installation process has been successfully.

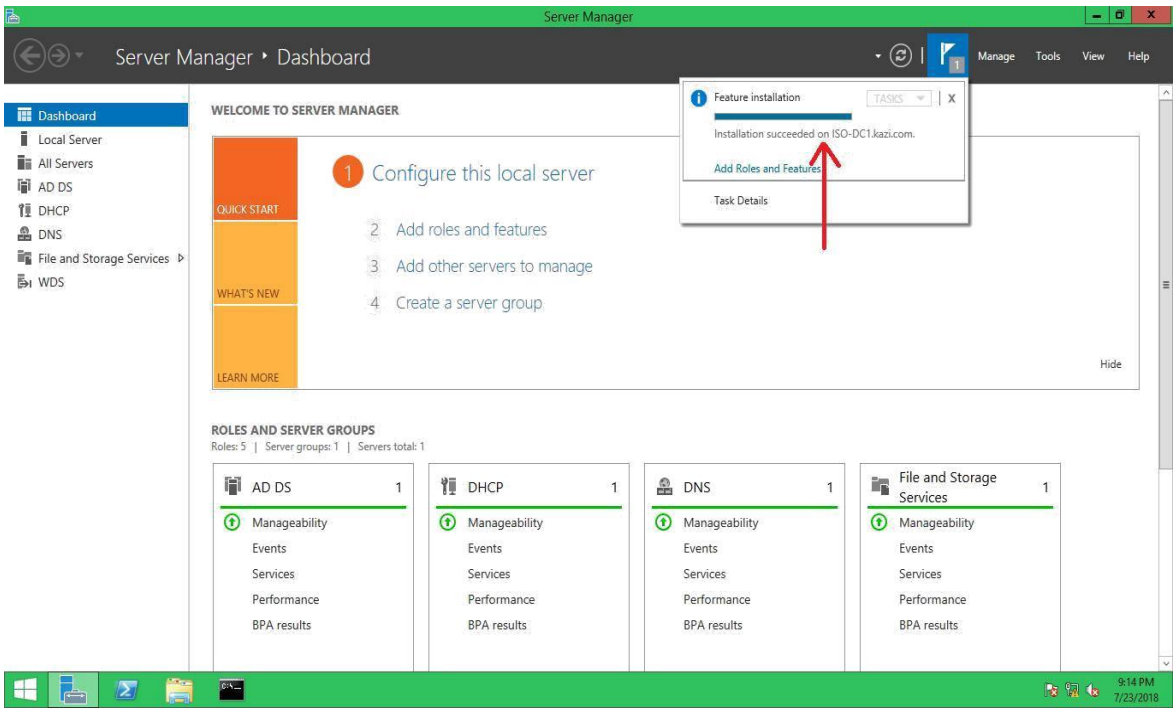

Figure: 5.3.5 Configuring WDS with step

Configuring WDS:

1 – From the server administrator console, click on the Tools tab and click on Windows Deployment Services.

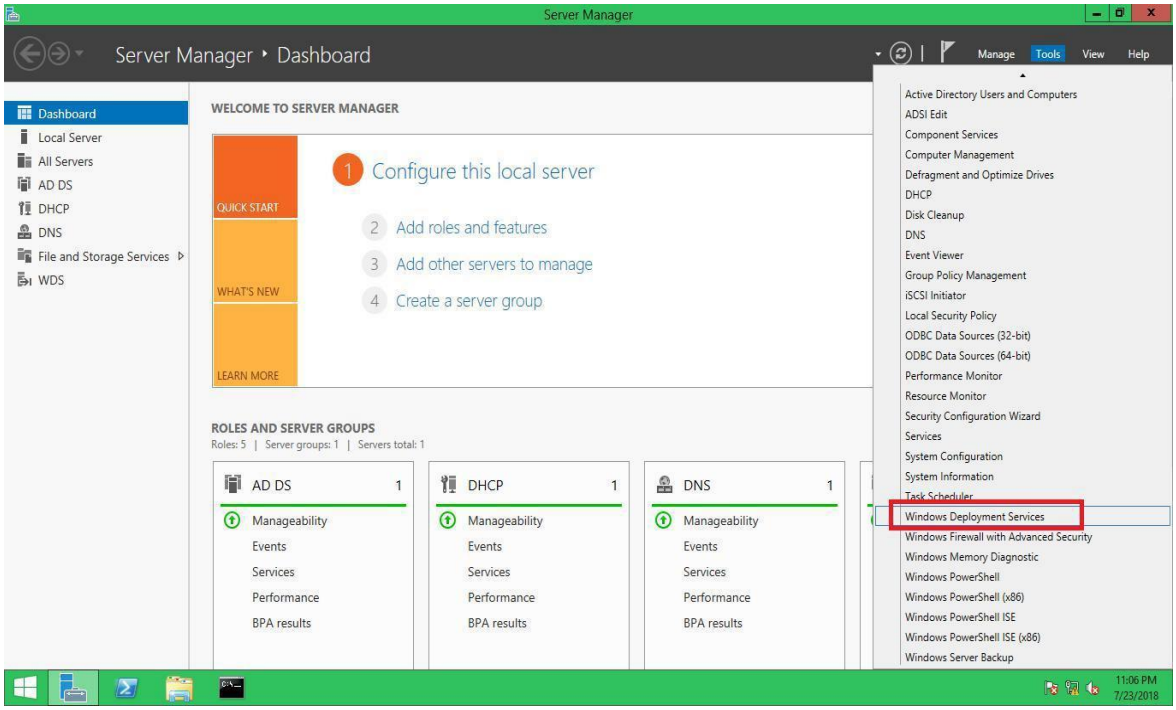

Figure: 5.3.6 Configuring WDS with step

2 – After clicking Windows Deployment Services the new WDS wizard will be appeared in the following

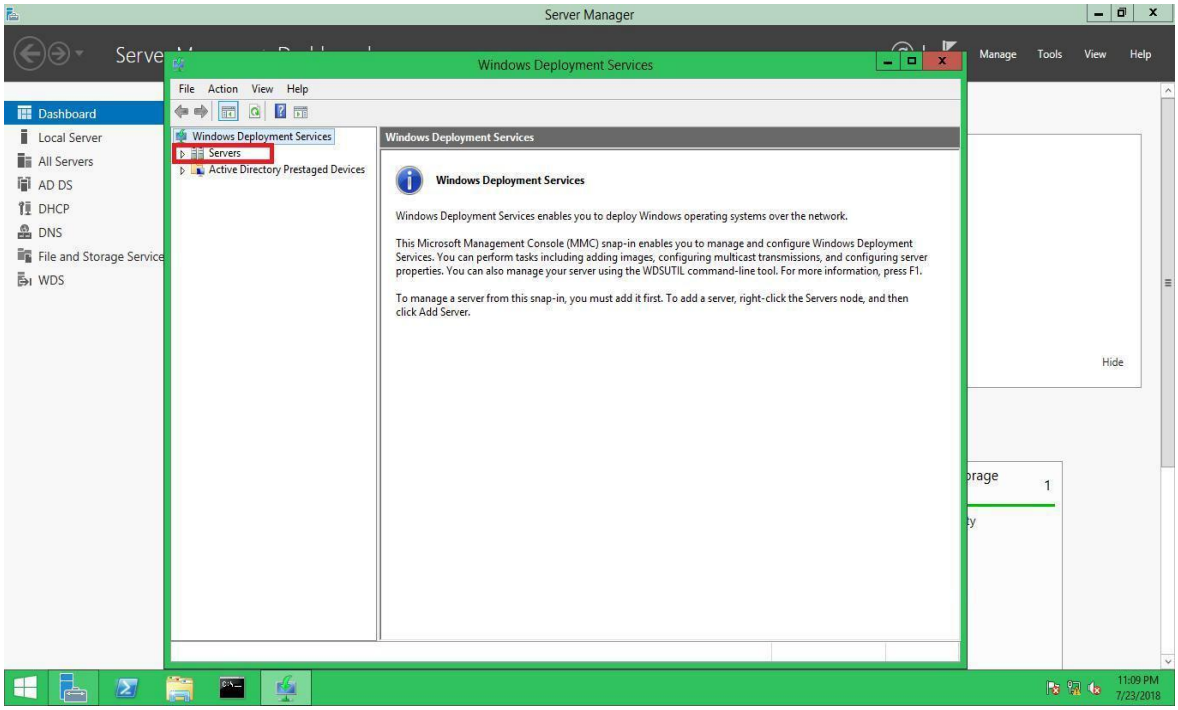

Figure: 5.3.7 Configuring WDS with step

3 – Now expand the server and right click on ISO-DC1.kazi.com and select and click configure server shown in the following

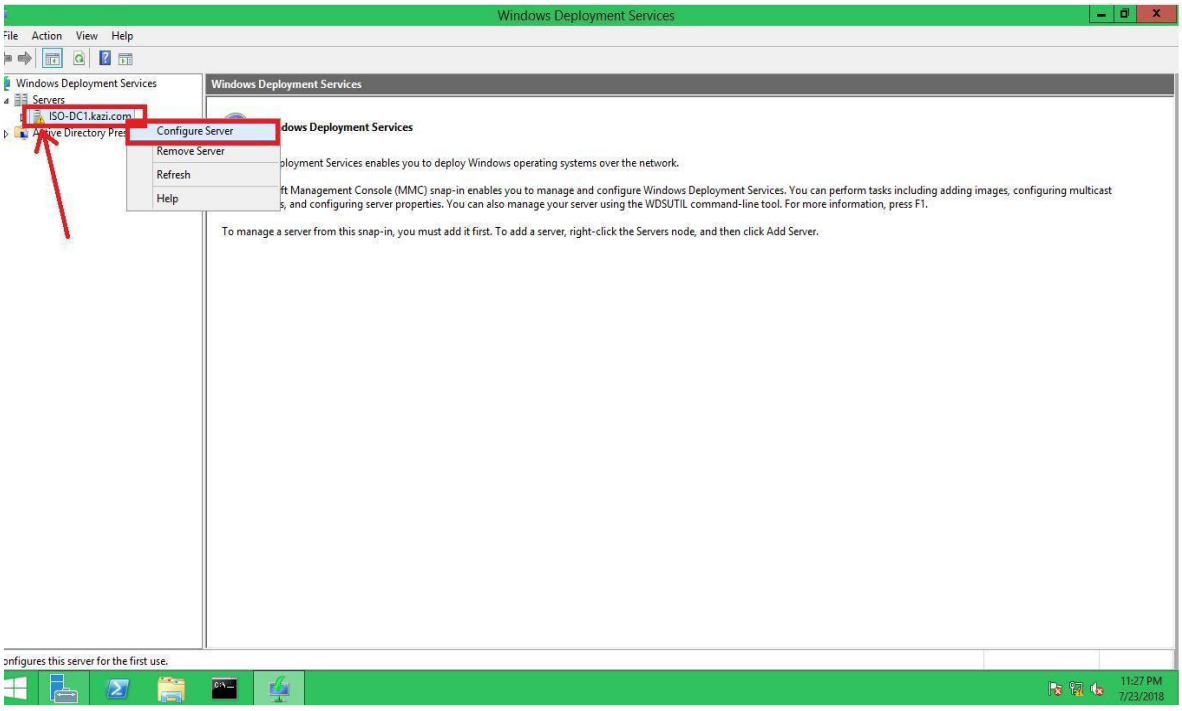

Figure: 5.3.8 Configuring WDS with step

** The server icon indicated shows the server is not running. So, this is important for the Administrators to be concern about the server state after WDS installation process.

4 – After click configure server there will be opened a starting wizard provided some necessary information for the Administrators

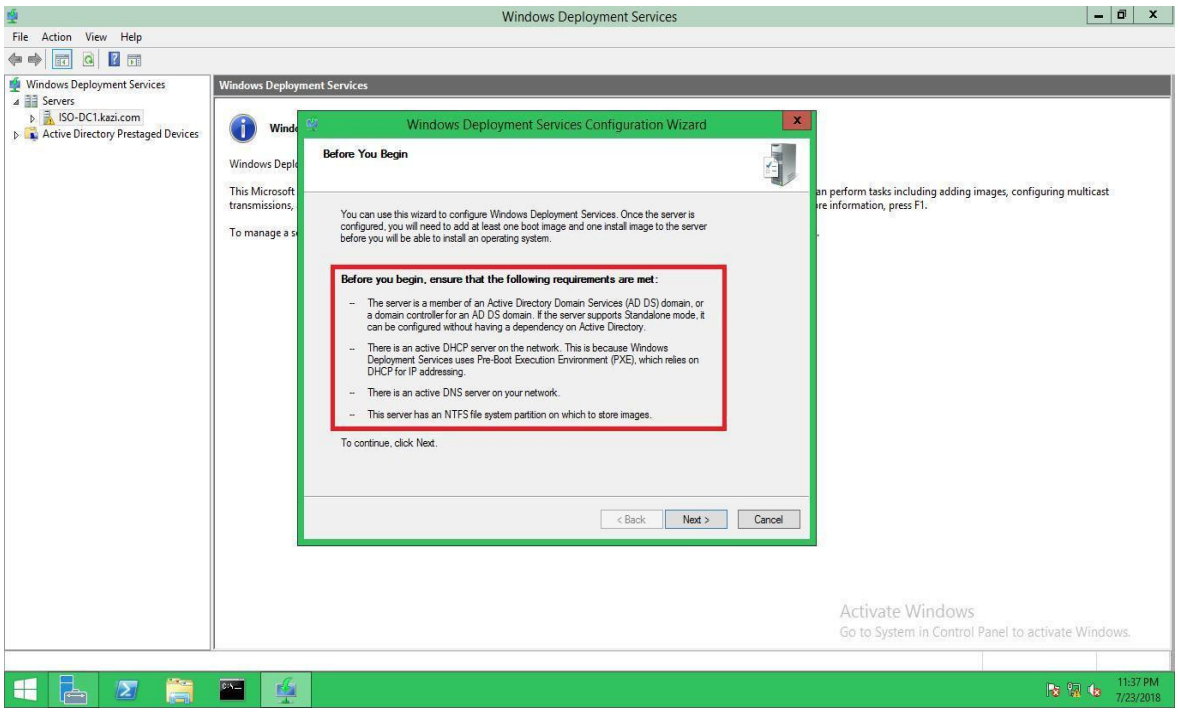

Figure: 5.3.9 Configuring WDS with step

5 – In install option there are two options and choose the default option and click next.

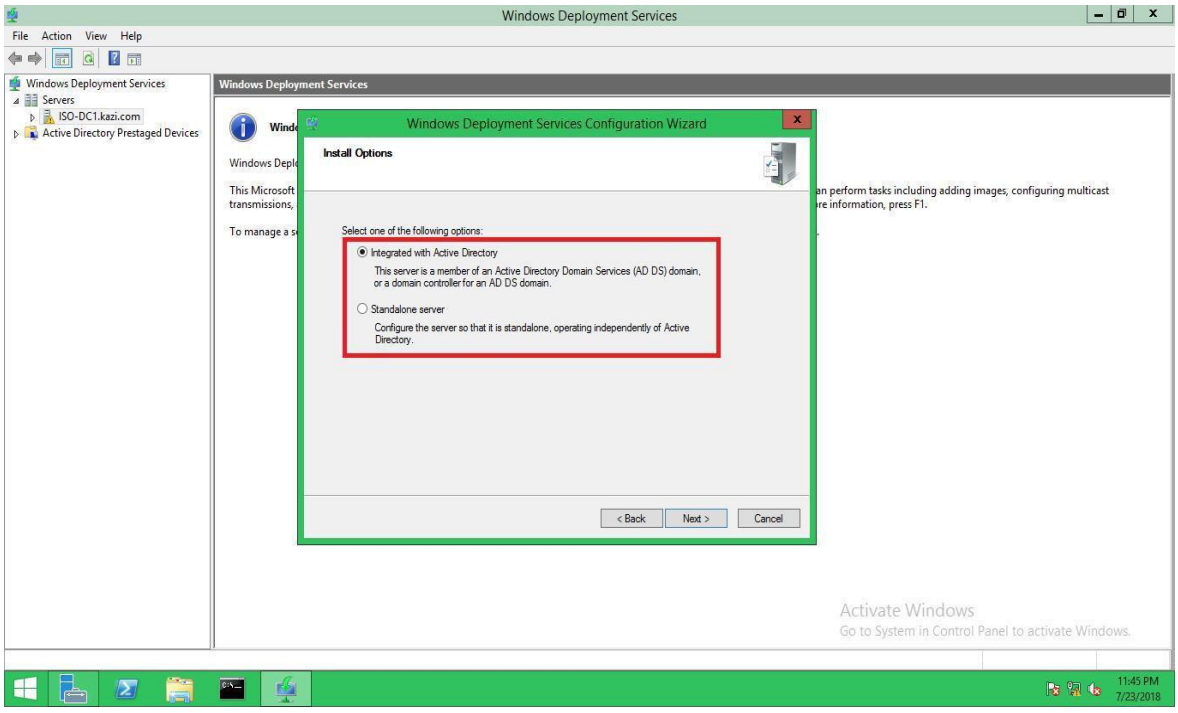

Figure: 5.3.10 Configuring WDS with step

** Standalone server installation while to configure the server so that it is standalone, operating independently of Active Directory.

6 – Next page is remote installation folder location. We can choose default location or change as it needs.

** Remote installation folder contains startup images, installation images, PXE startup files and Windows Deployment Services Administration tools. The Administrator should have concern about that the partition must be an NTFS partition.

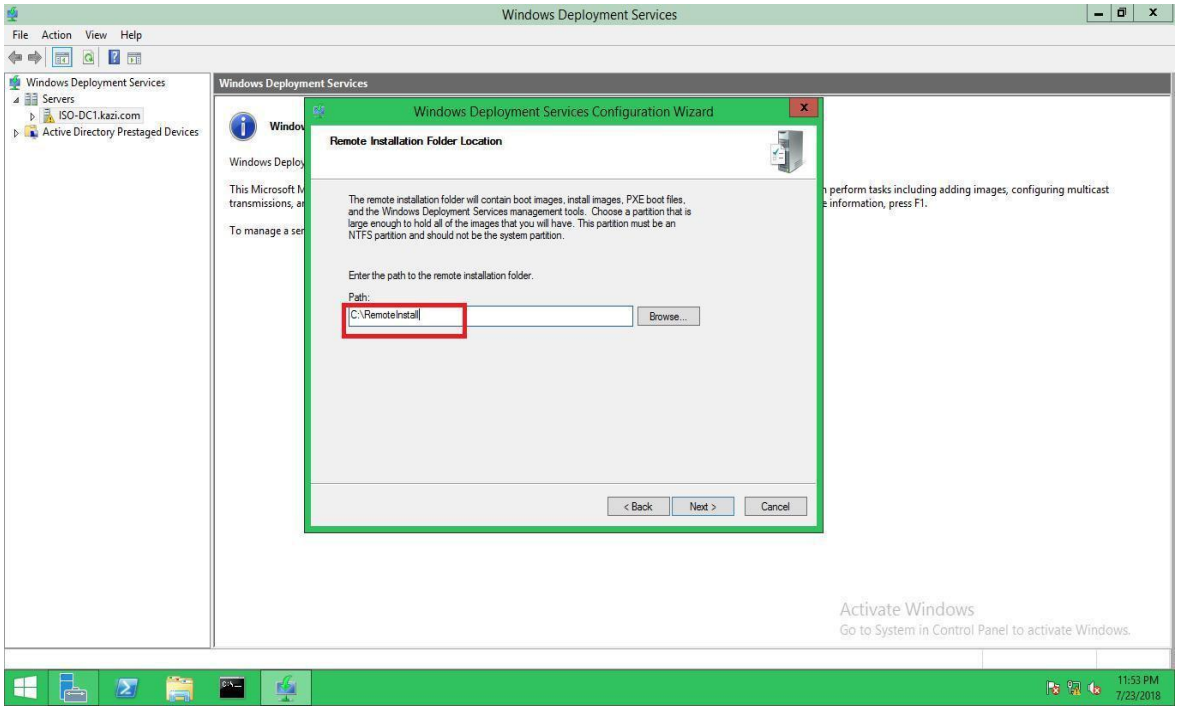

Figure: 5.3.11 Configuring WDS with step

7 – After clicking next an urgent information displayed with that wizard saying not to install in that system volume partition. It is crucial to the Administrators to change the location. I am for demo purpose showing the default setting.

8 – Click yes and then showing the following wizard

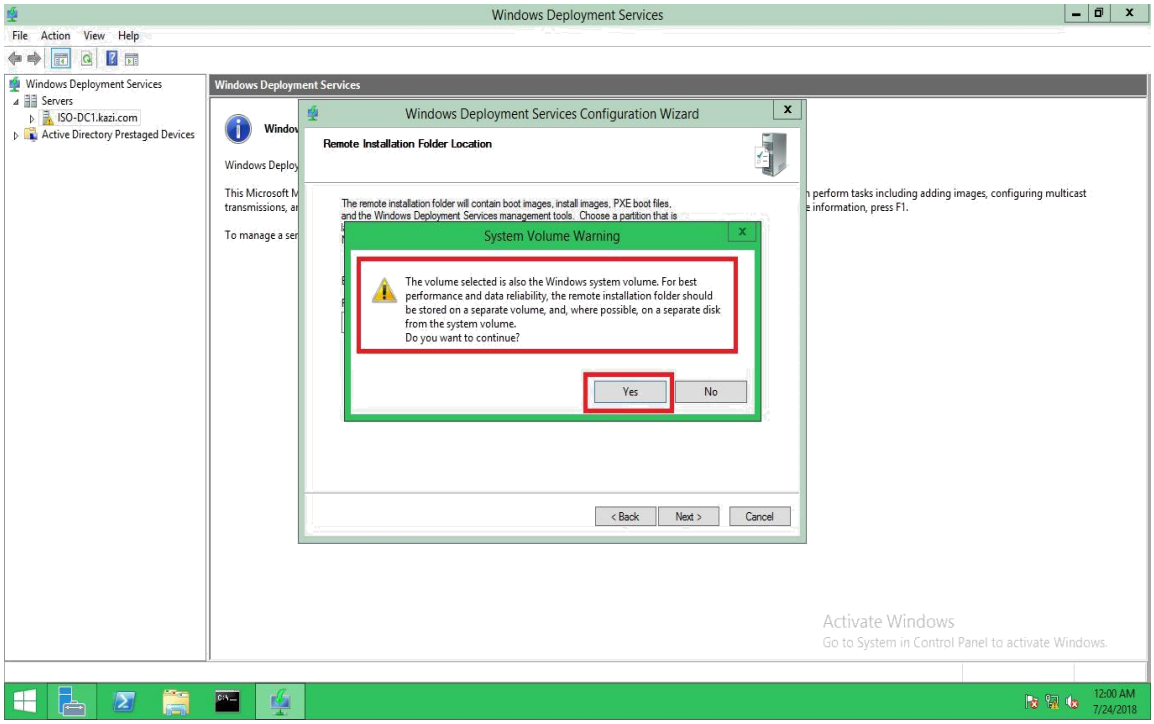

Figure: 5.3.12 Configuring WDS with step

9 – In this wizard, the administrators should check the selected boxes. If the WDS is deployed within the ADDS, the Administrators should select the both check boxes.

** If a WDS server hosts the DHCP server function, the server needs to listen on a separate port and configure the DHCP 60 option label for all scopes.

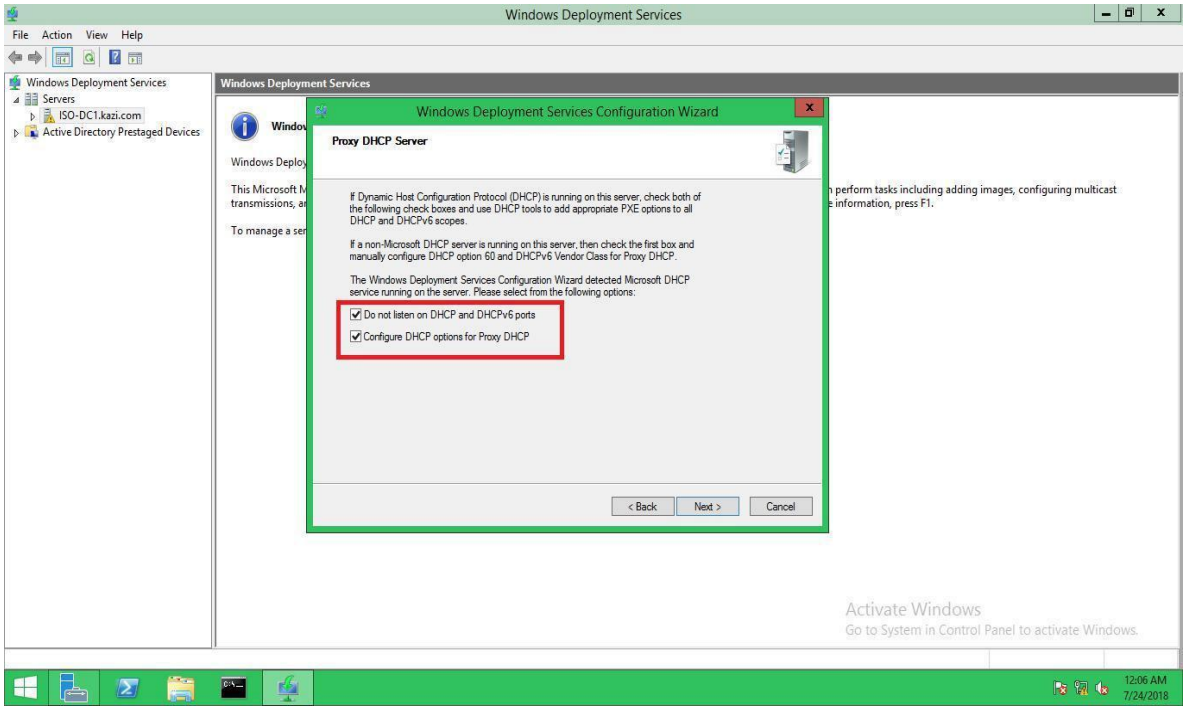

Figure: 5.3.13 Configuring WDS with step

10 – In PXE setting initial wizard, The Administrators will select according to their system environment and requirements.

** In the PXE Server Basic Settings dialog box, click on all the client computers (known and unknown) answers and the administrator needs approval for unknown computers.)

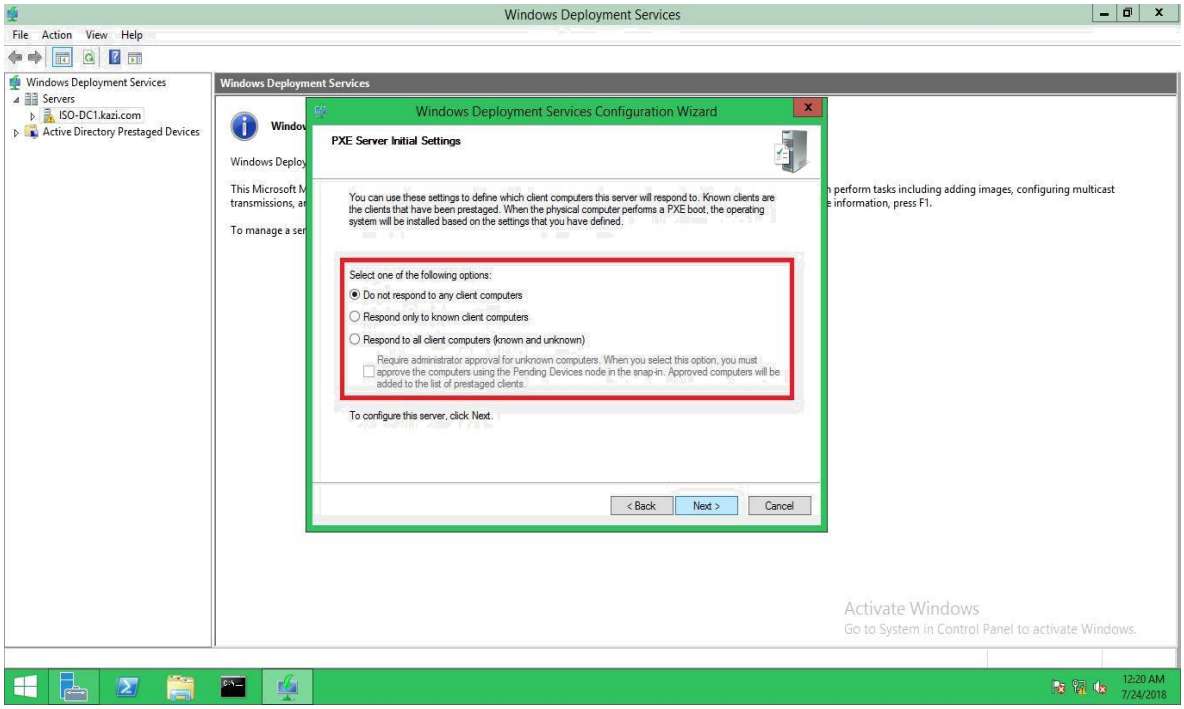

Figure: 5.3.14 Configuring WDS with step

11 – All client computers (known and unknown) and select the next selected option shown below.

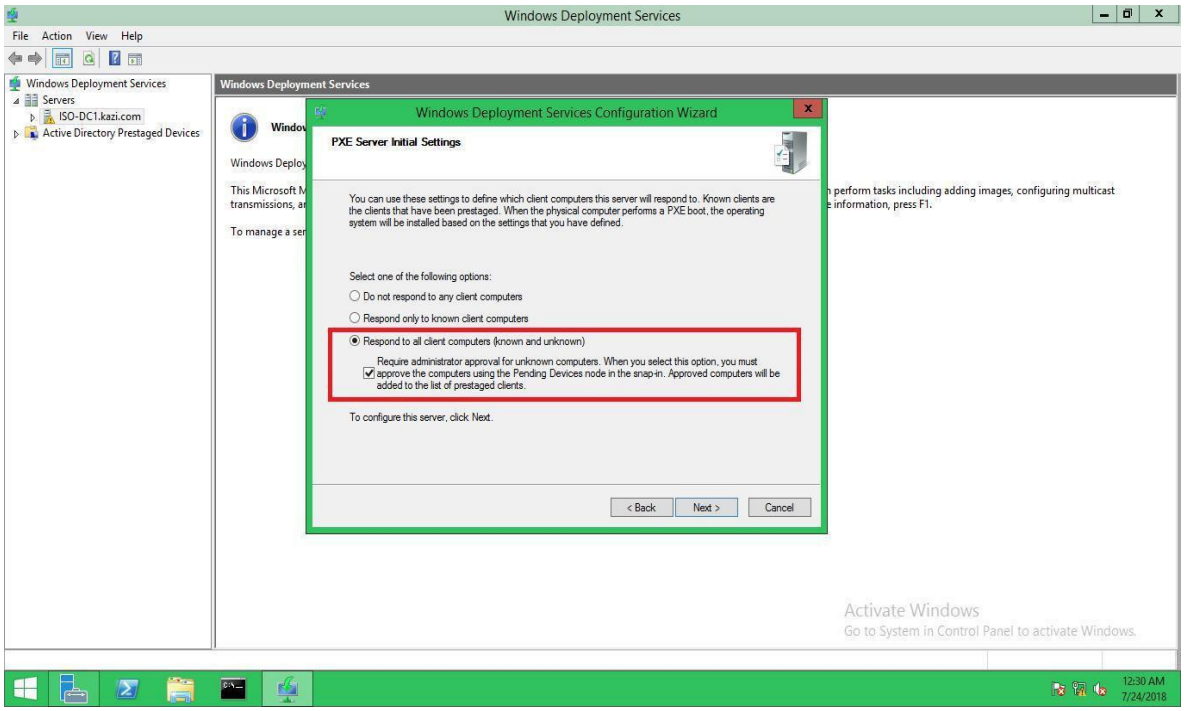

Figure: 5.3.15 Configuring WDS with step

12 – After clicking next the progress will begin

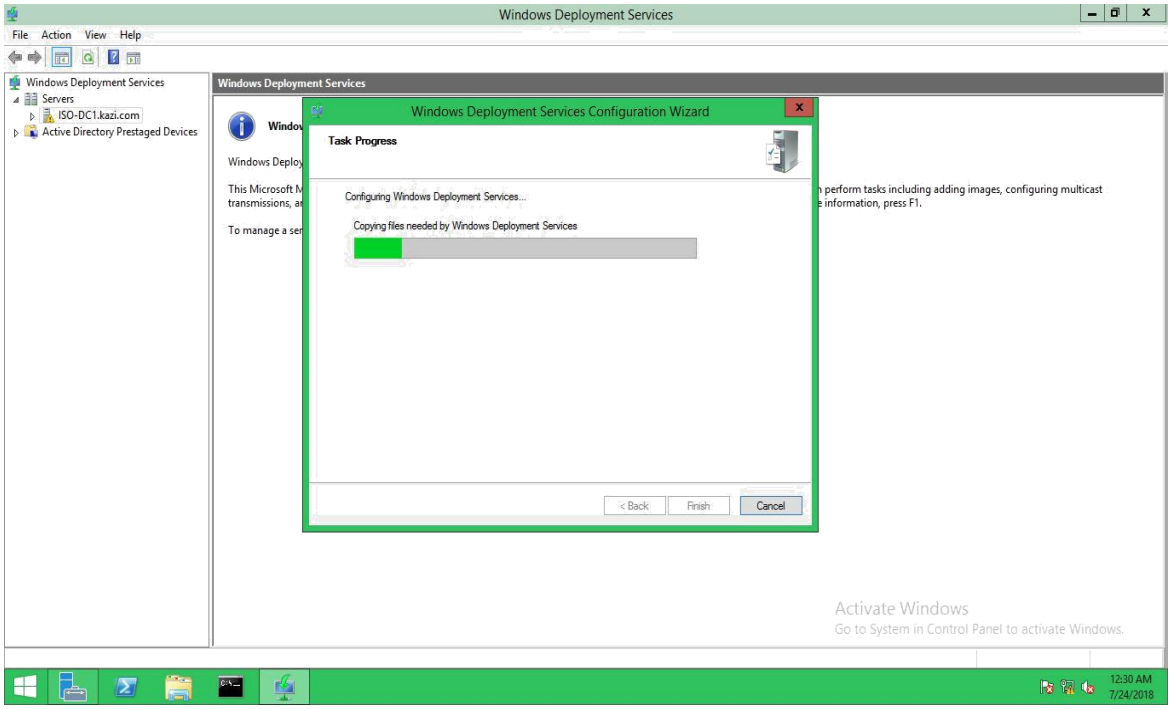

Figure: 5.3.16 Configuring WDS with step

13 – Now click finish.

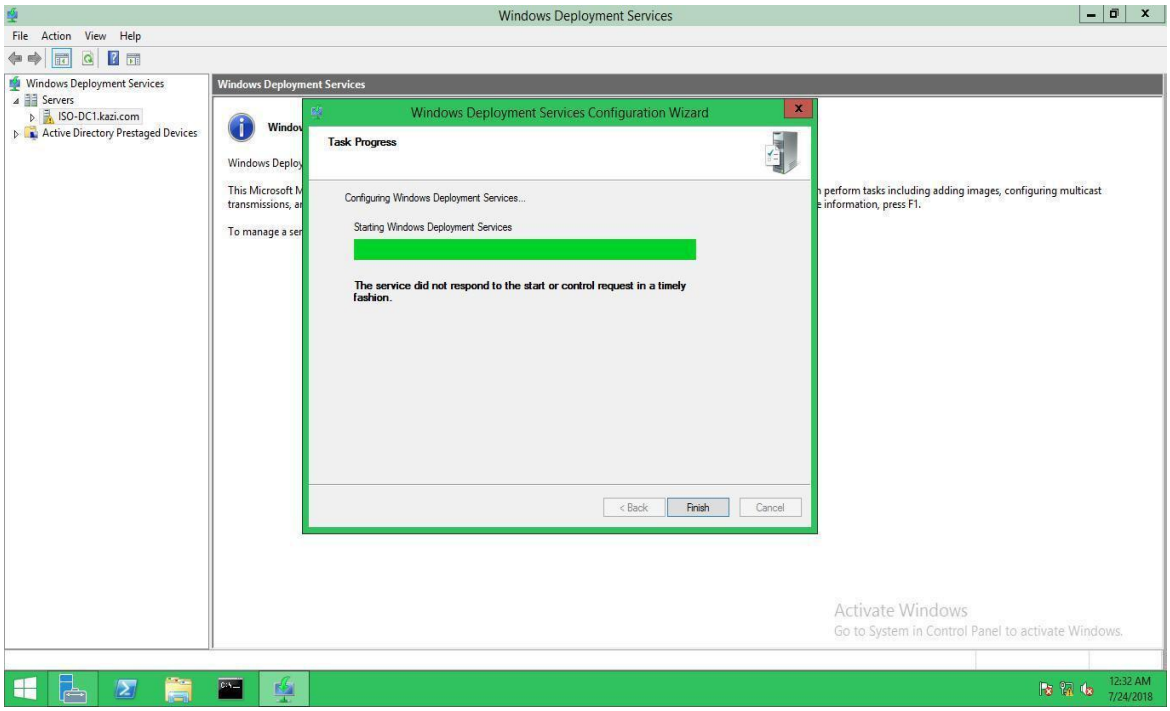

Figure: 5.3.17 Configuring WDS with step

5.4 Configure, Create and Add images:

After finishing installation, we need to mount the image file at first.

** Now we have to mount the images for image booting and installing.

1 – An iso file copied and kept on Desktop, Right click on that iso file of windows server 2012 .

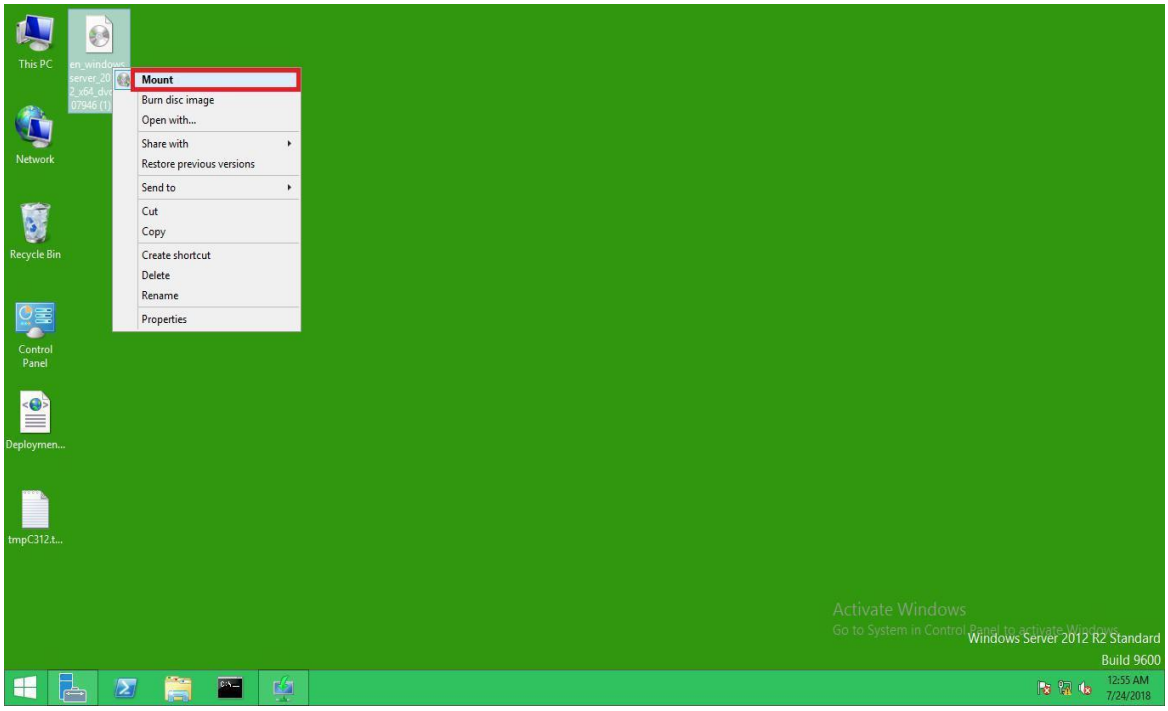

Figure: 5.4.1 Configure, Create and Add images

2 – After mount the image showing the operating system files to the following location

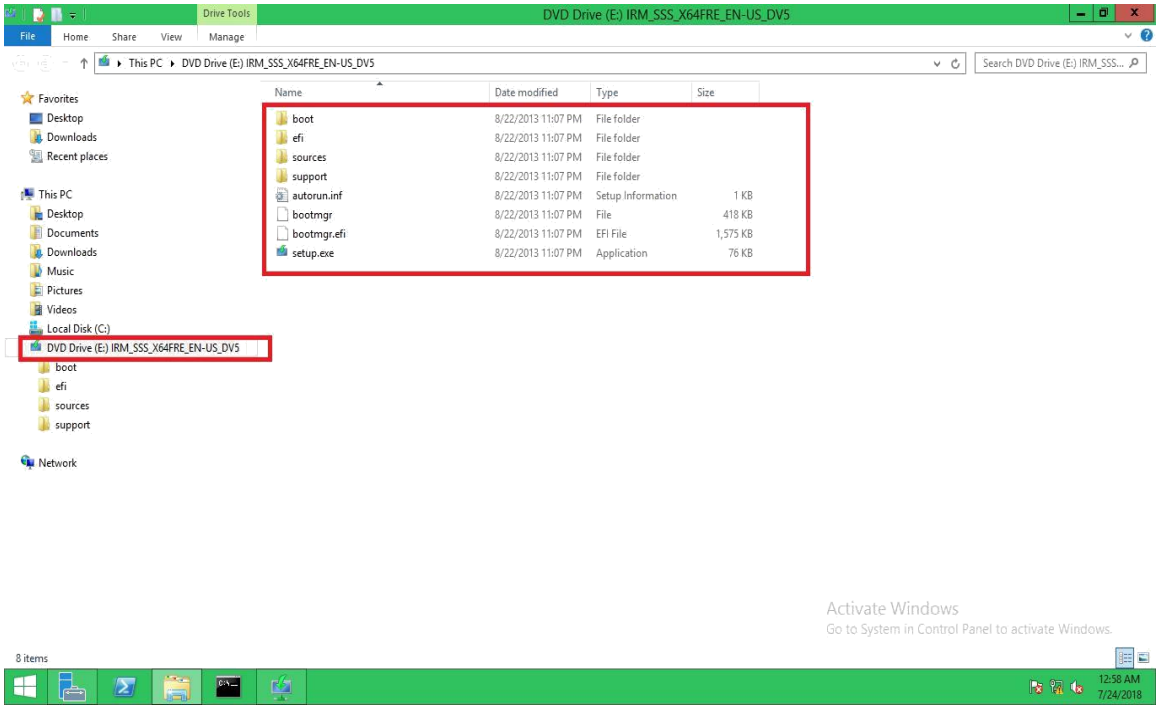

Figure: 5.4.2 Configure, Create and Add images

3 – After mounting the image, go to the WDS wizard shown in the following.

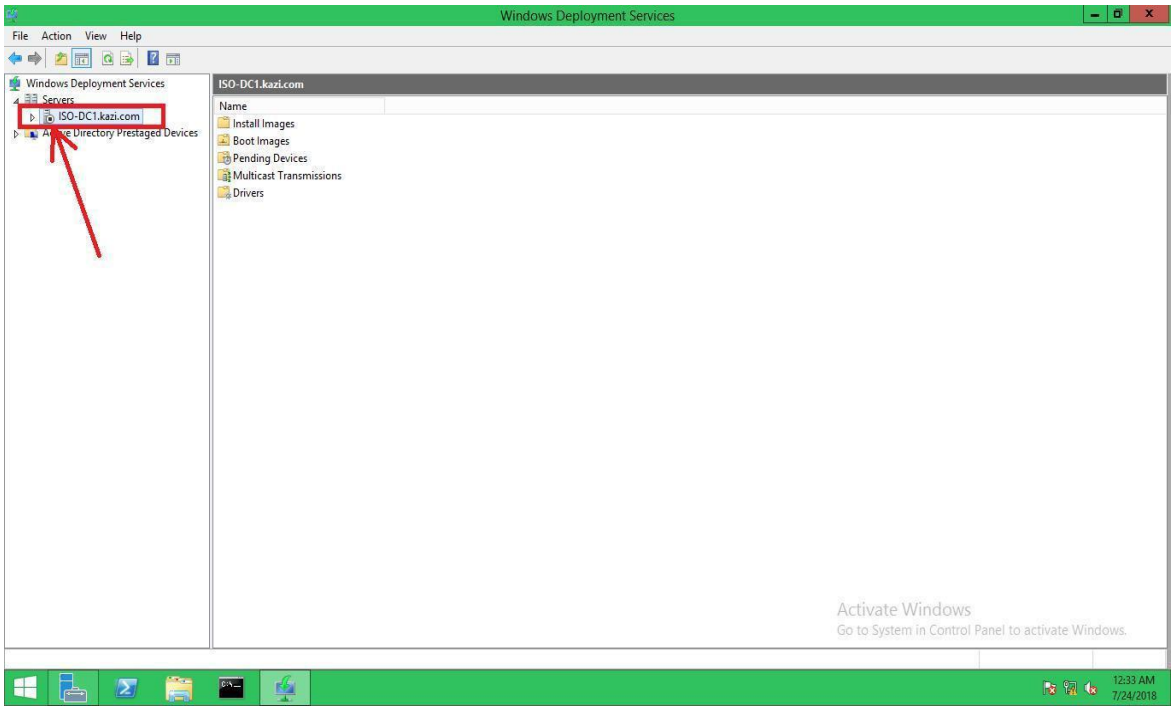

Figure: 5.4.3 Configure, Create and Add images

2 – Select the ISO-DC1.kazi.com and expand it shown in the following

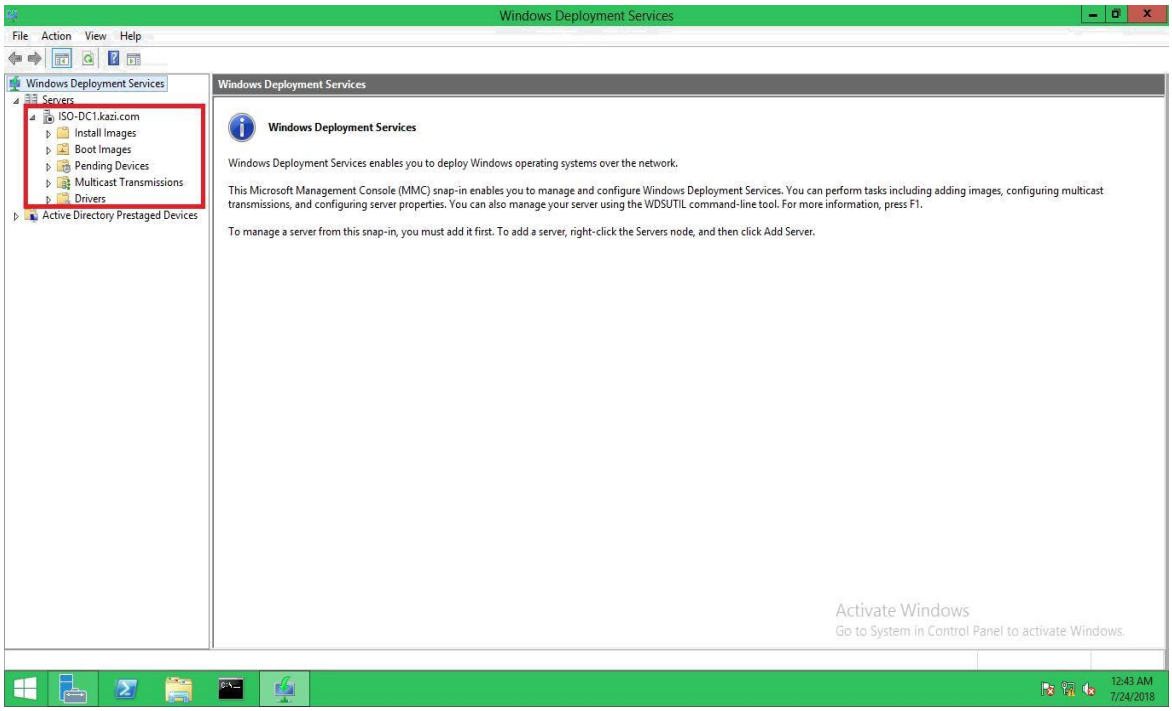

Figure: 5.4.4 Configure, Create and Add images

5.5 Add Install Image:

3 – Install the image and right-click and then select Add installation image.

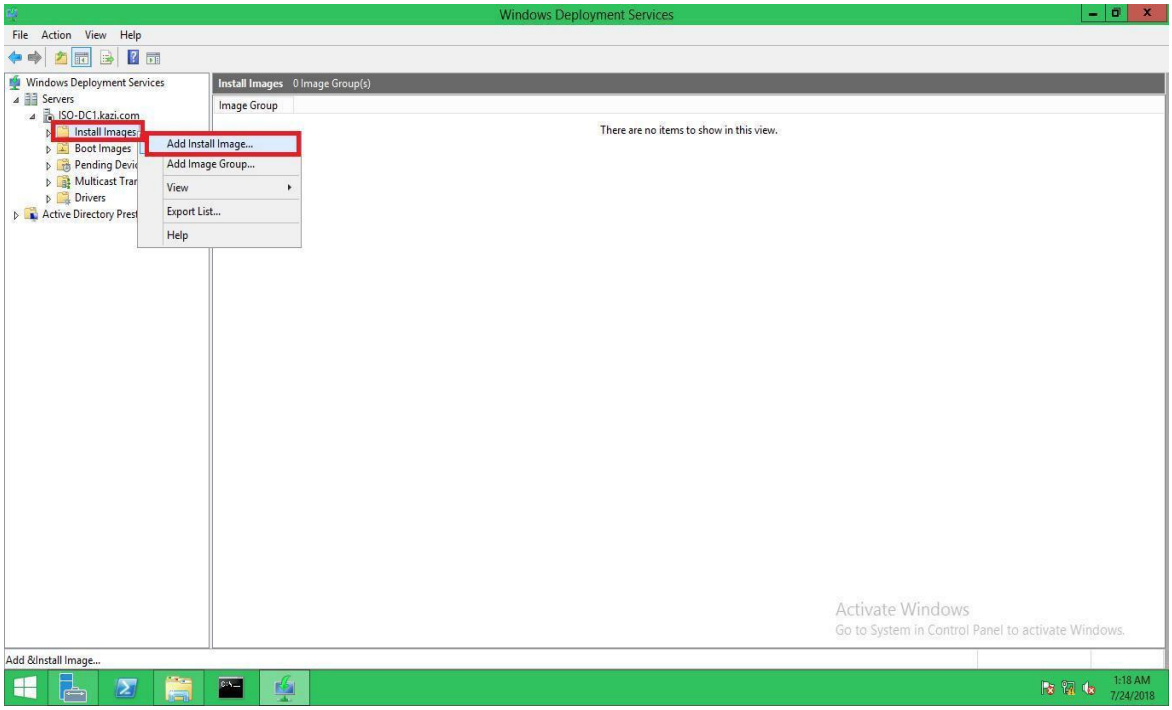

Figure: 5.5.1 Add Install Image

4 – At first we have to create a group of images before installing the images.

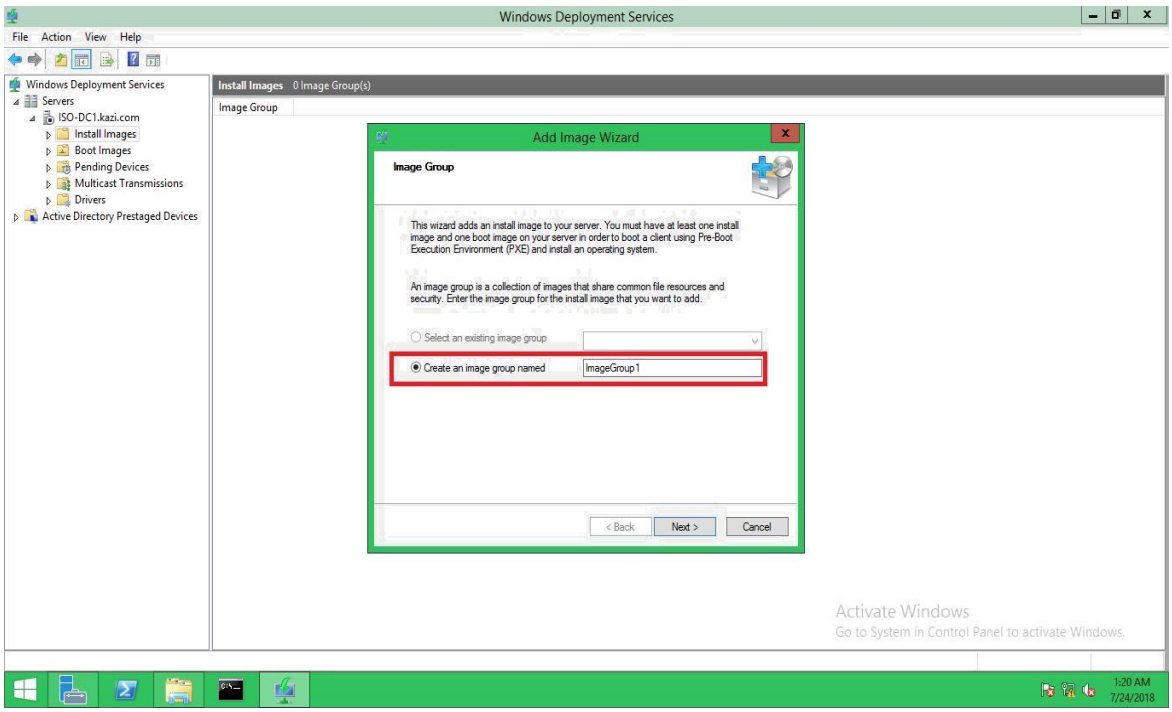

Figure: 5.5.2 Add Install Image

** The images contain a version of a special reduction operating system known as the full operating system or Windows PE.

** Discovery Image This special image is for computers that do not have the appropriate network drivers to load WXE to start a session with a WDS server.

5 – Name the group ImageGroup1 and click next

6 – At the image file wizard, we have to browse the location where the install image file located after mounting the iso image file.

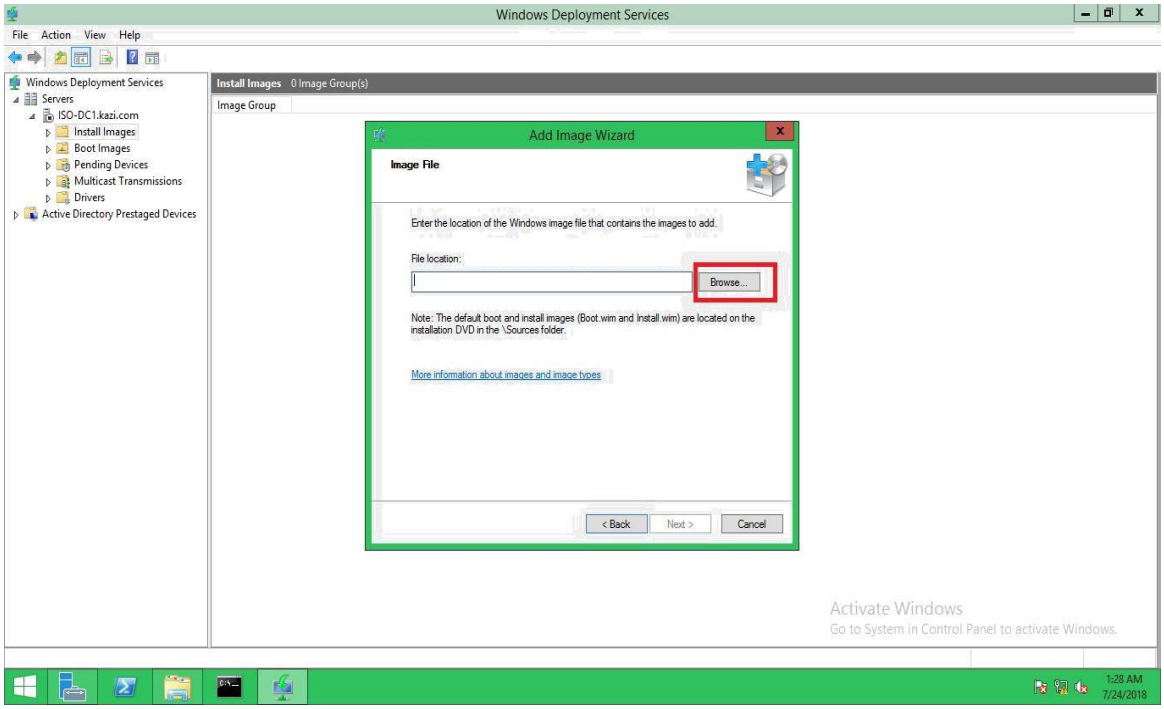

Figure: 5.5.3 Add Install Image

7 – Browse the file located in Source folder of system and select the install.wim file and click next

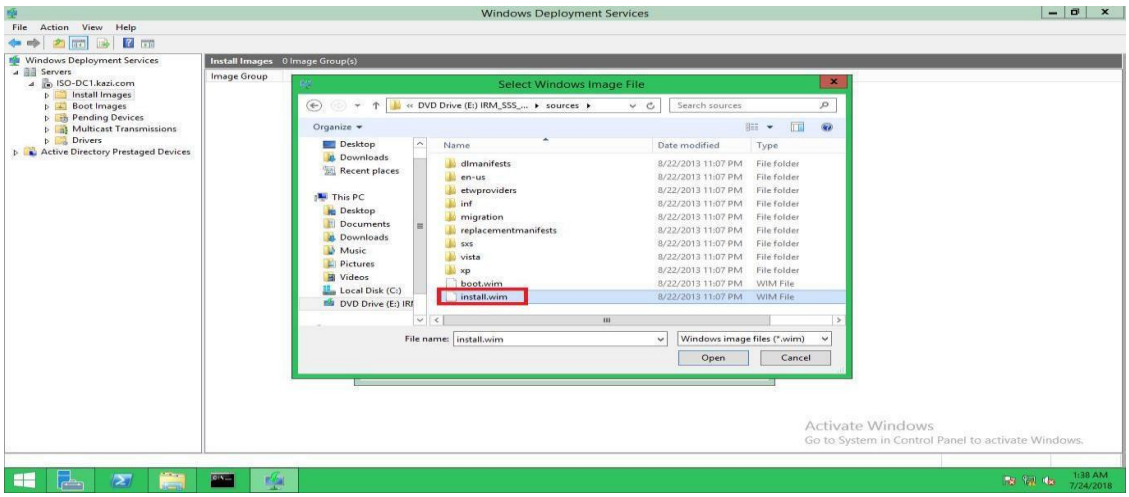

Figure: 5.5.4 Add Install Image

8 – After now verify next, here is shown the four editions of windows server 2012 r2. We can customize the options as per requirements. And also we can change the default name if we want

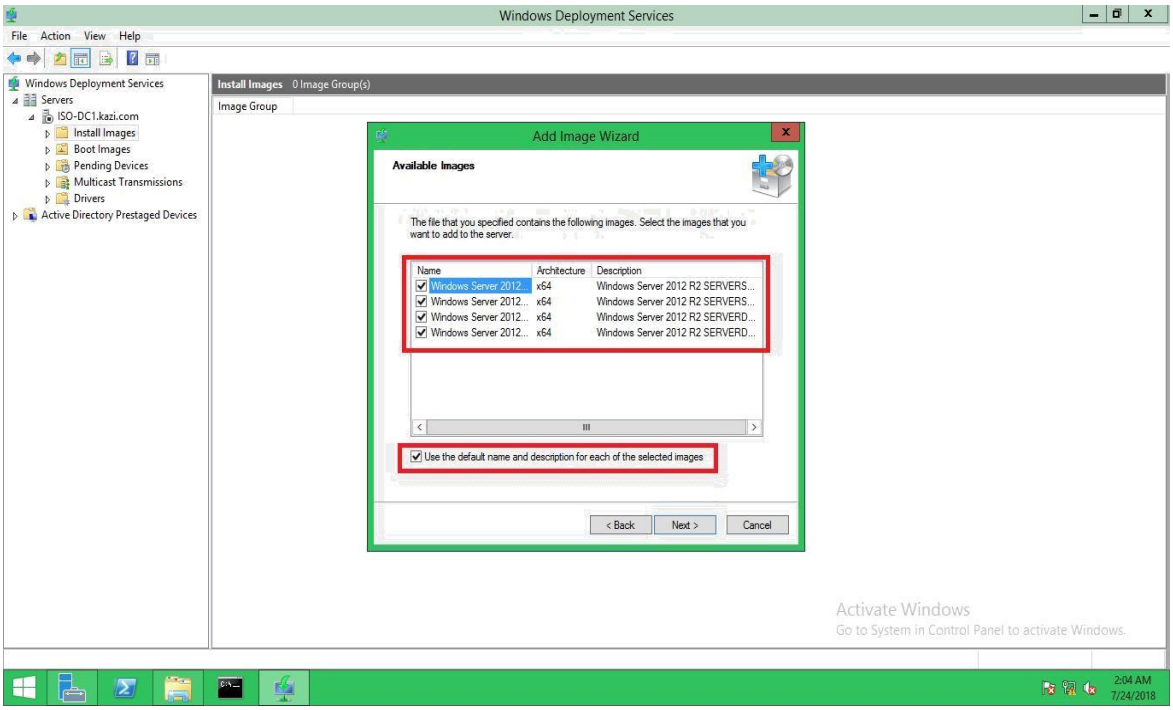

Figure: 5.5.5 Add Install Image

9 – Here I will only be selecting the two editions one is windows 2012 r2 server and another is server 2012 r2 server data center. And keep default setting of names.

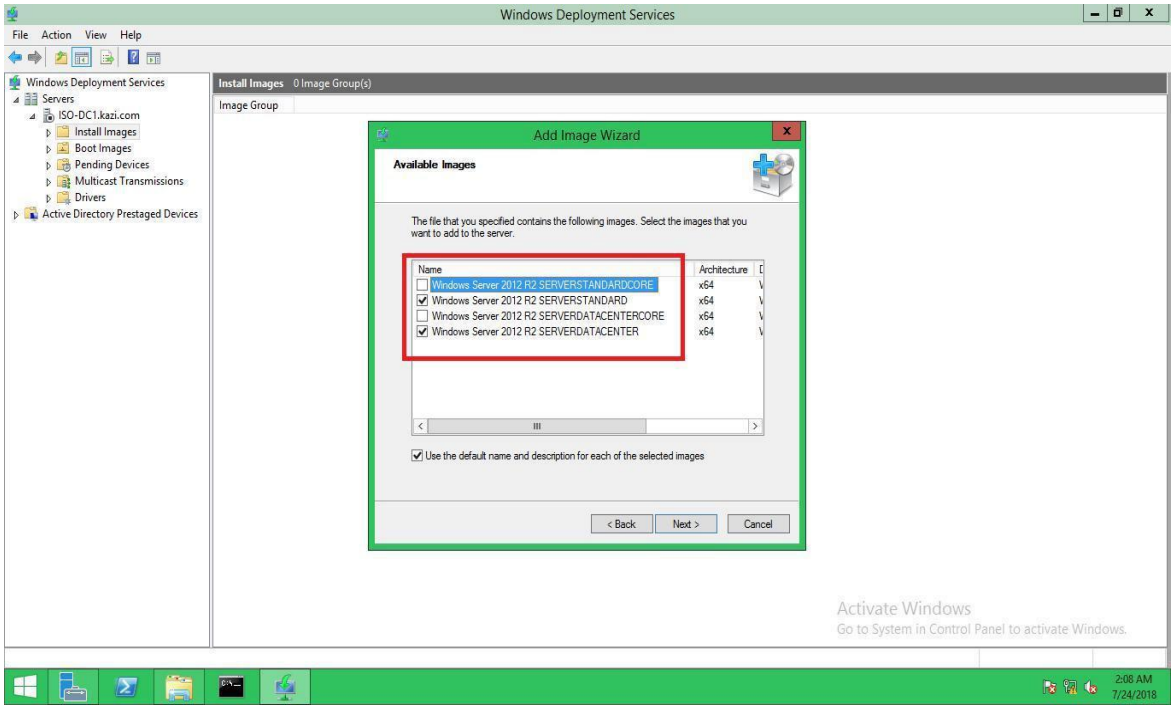

Figure: 5.5.6 Add Install Image

10 – Click next and we will find the selected two editions for check summery and then click next

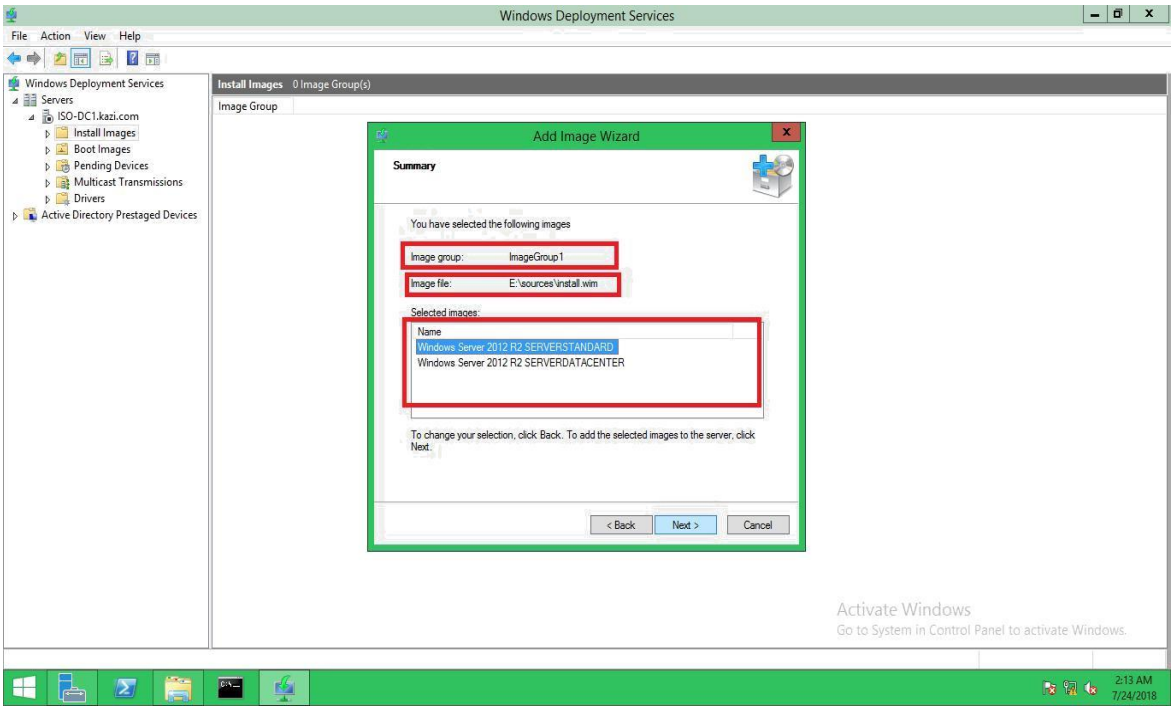

Figure: 5.5.7 Add Install Image

11 – After that the adding image will appear shown in the following

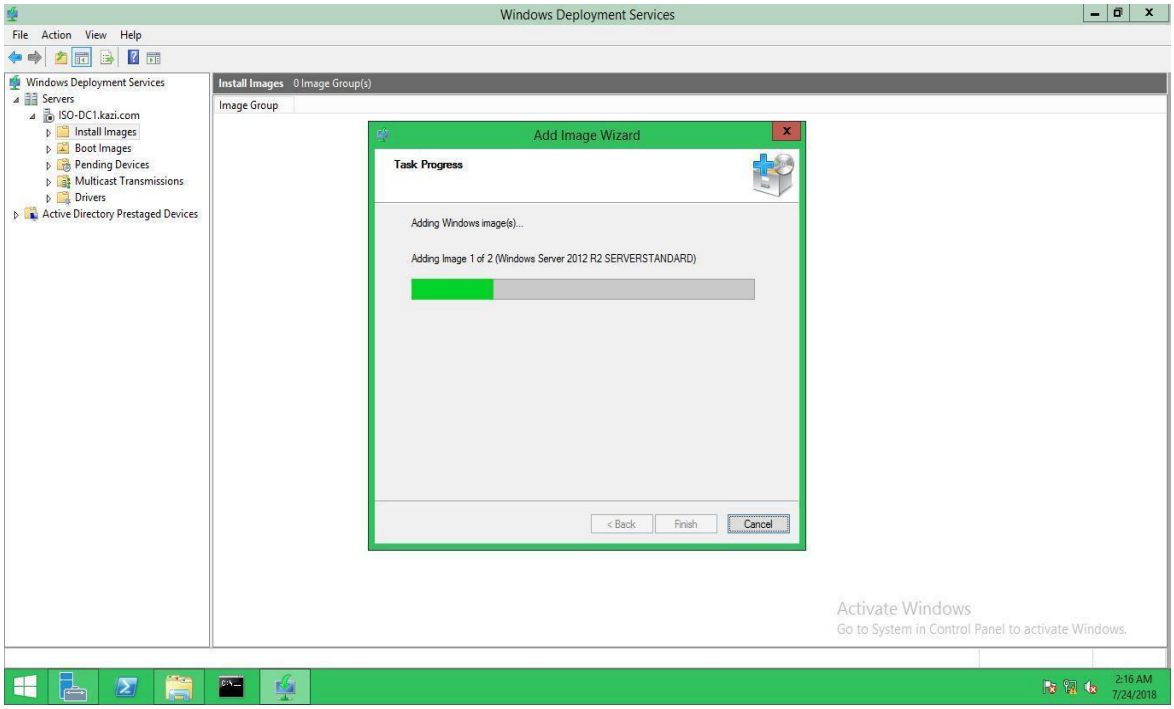

Figure: 5.5.8 Add Install Image

12 – After completing click finish and Install image will be showing the following images

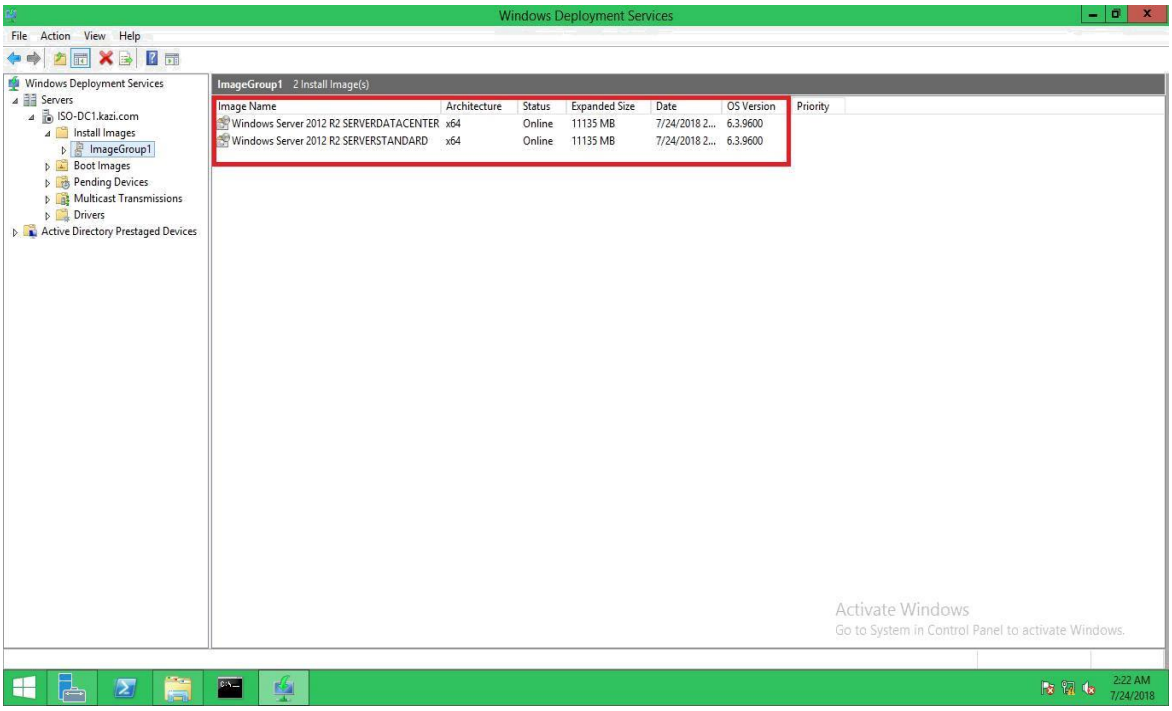

Figure: 5.5.9 Add Install Image

Add Boot Image:

13 – Now steps forward to Boot image. Select Boot image and right click on it and then click Add Boot image

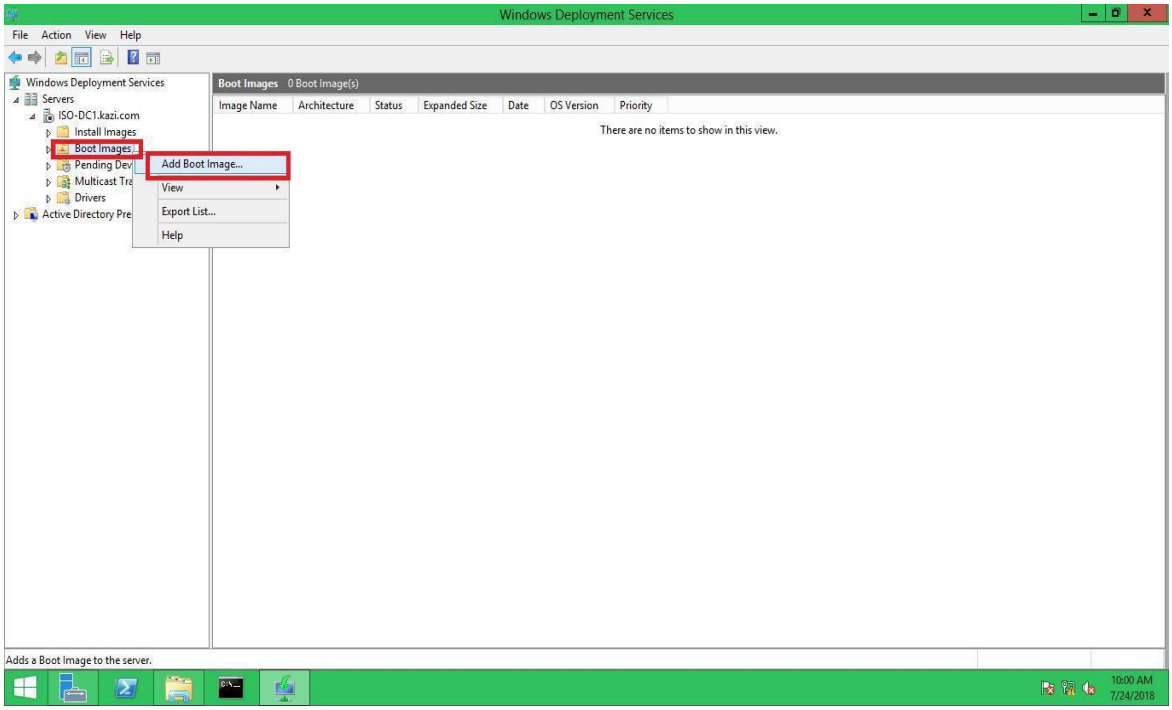

Figure: 5.5.10 Add Boot Image

14 – Now we have to browse the boot.wim file

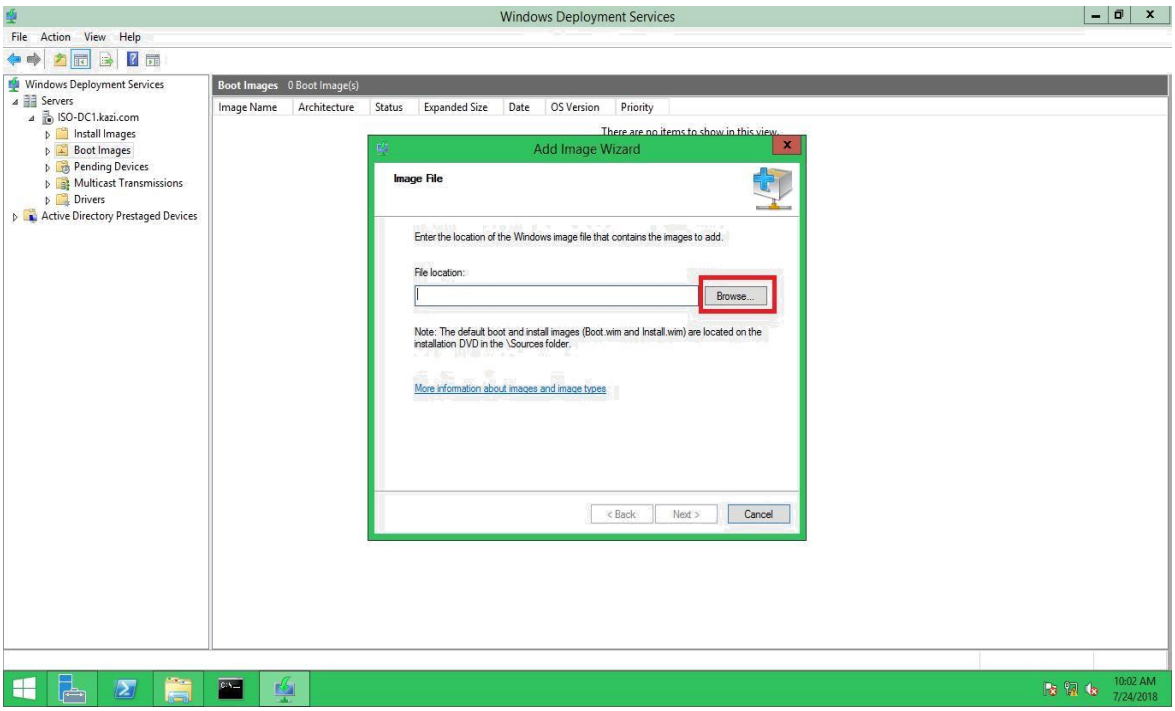

Figure: 5.5.11 Add Boot Image

15 – Click browse and introduce with the boot.wim file located to source folder in mount location

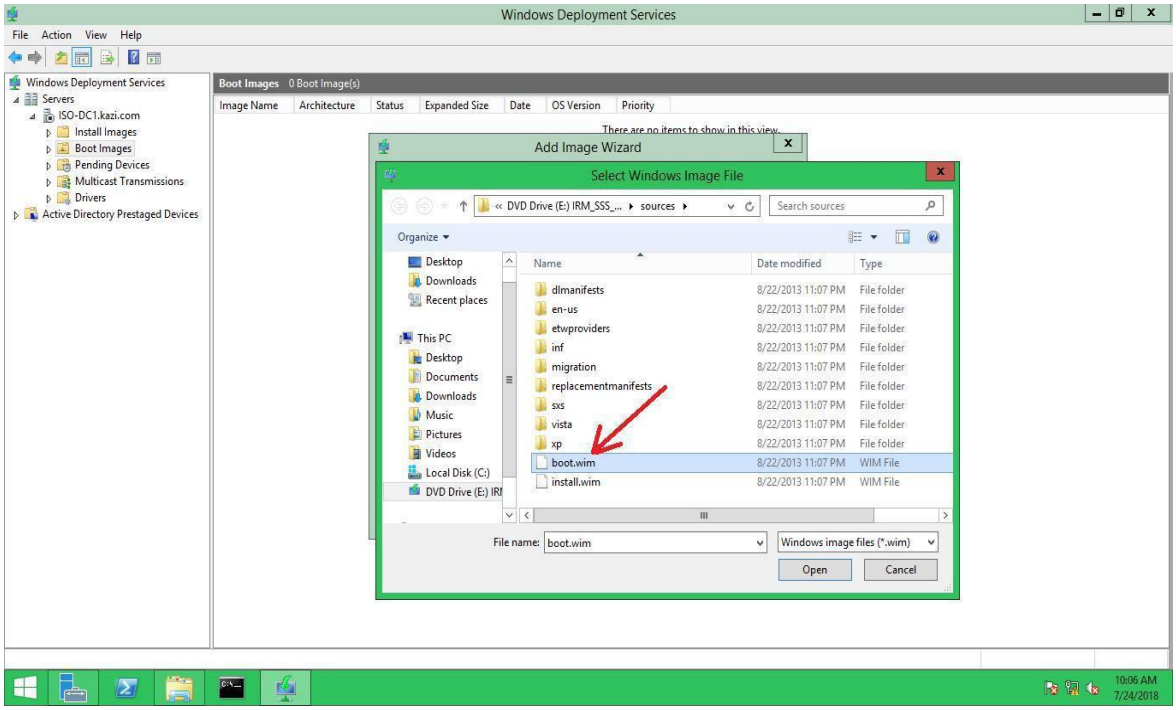

Figure: 5.5.12 Add Boot Image

16 – My file location is E:\sources\boot.wim. Every Administrator should check the location and the target file located to the sources directory.

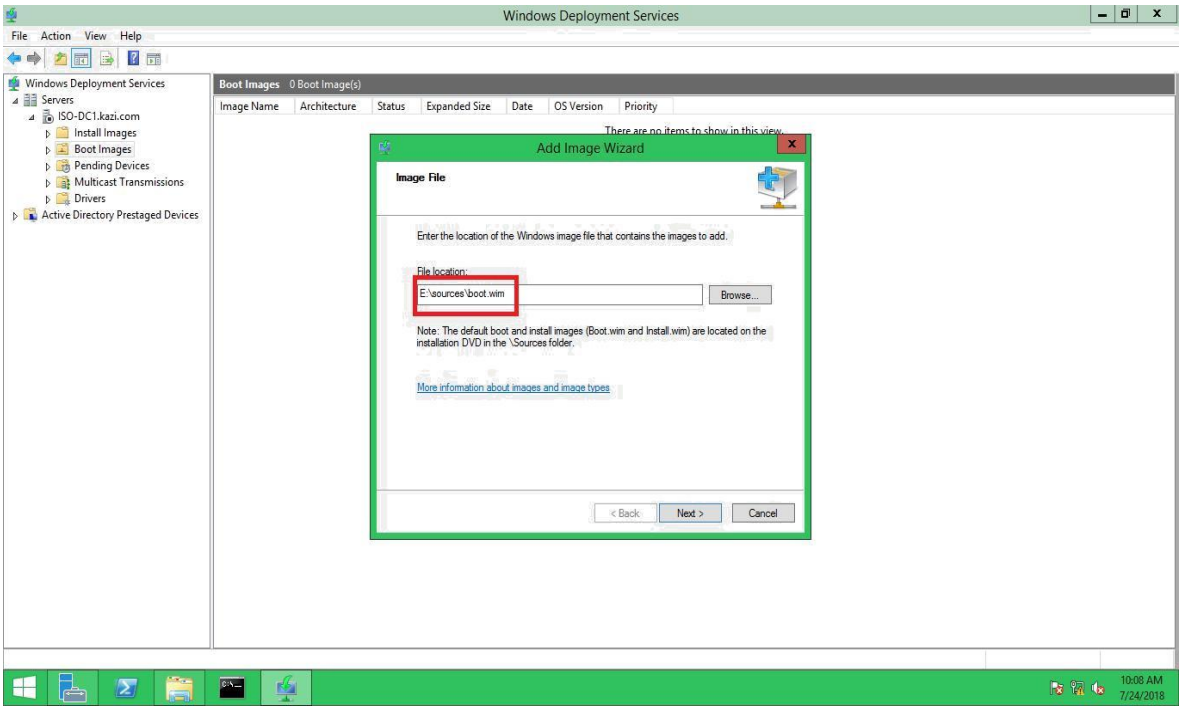

Figure: 5.5.13 Add Boot Image

17 – At image metadata the scenario will be like this and we can edit as demand.

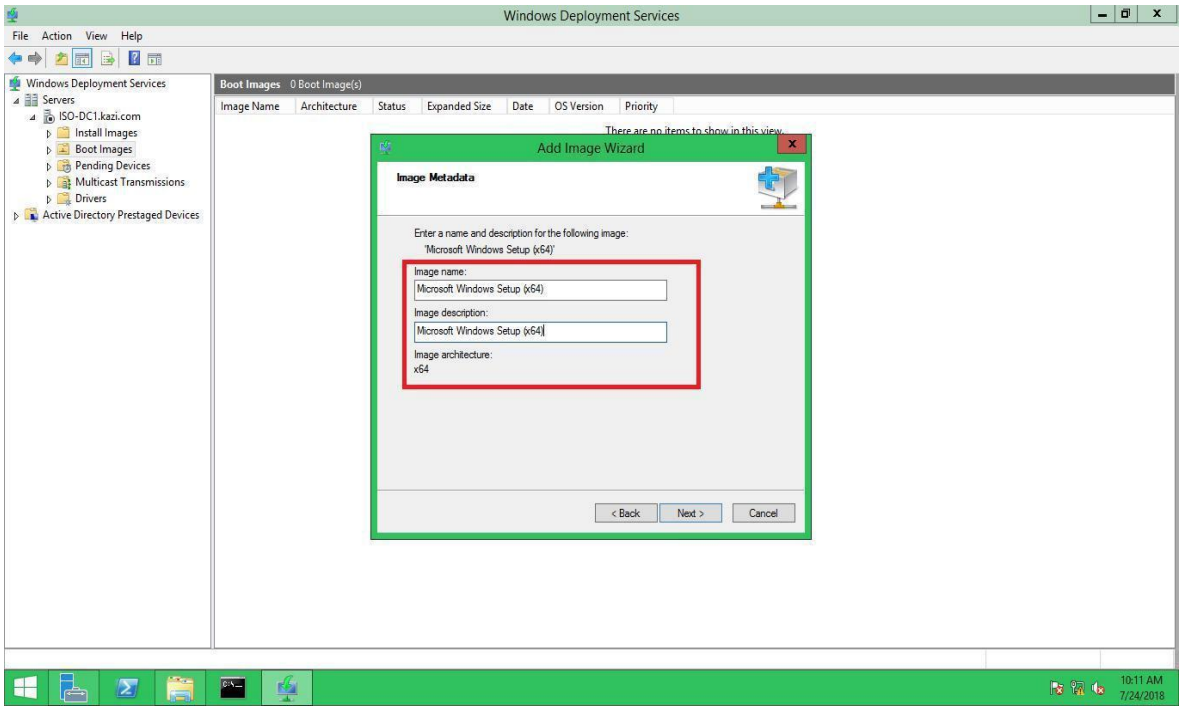

Figure: 5.5.14 Add Boot Image

18 – Click next. In the summery wizard there will be showing the summery and then click next

19 – In the task progress wizard there will be showing the progress of adding the boot image

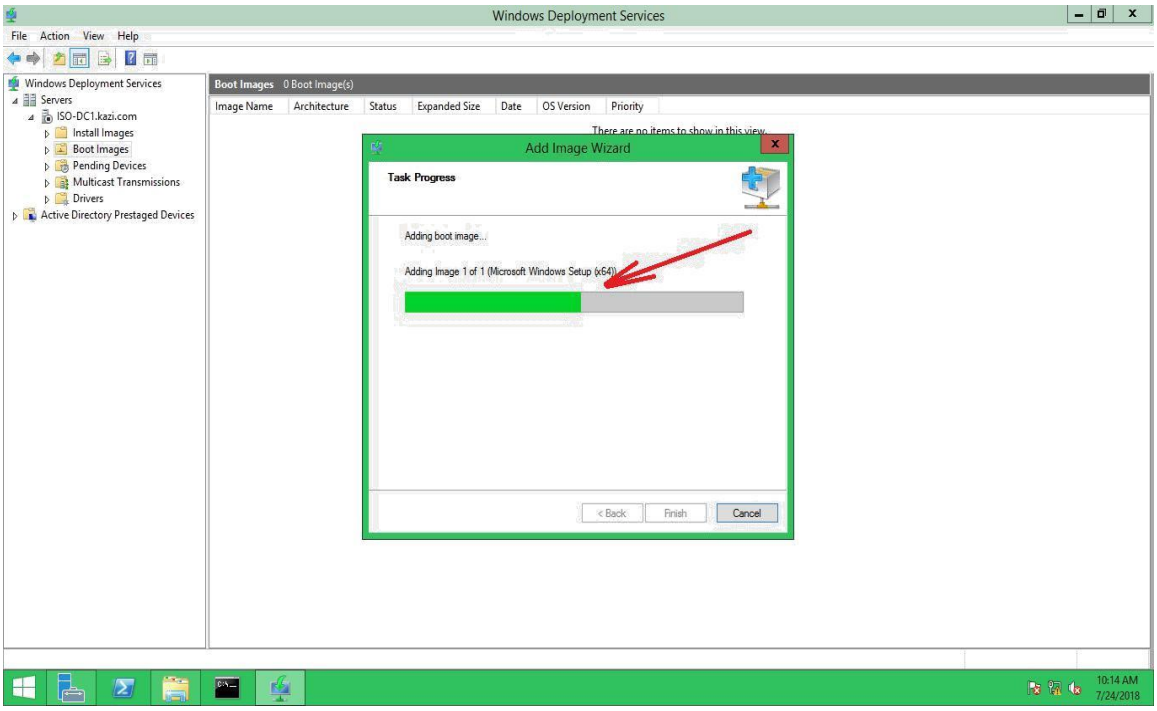

Figure: 5.5.15 Add Boot Image

20 – Now click finish.

21 – The Administrator should check the WDS console whether the boot image adding successfully or not

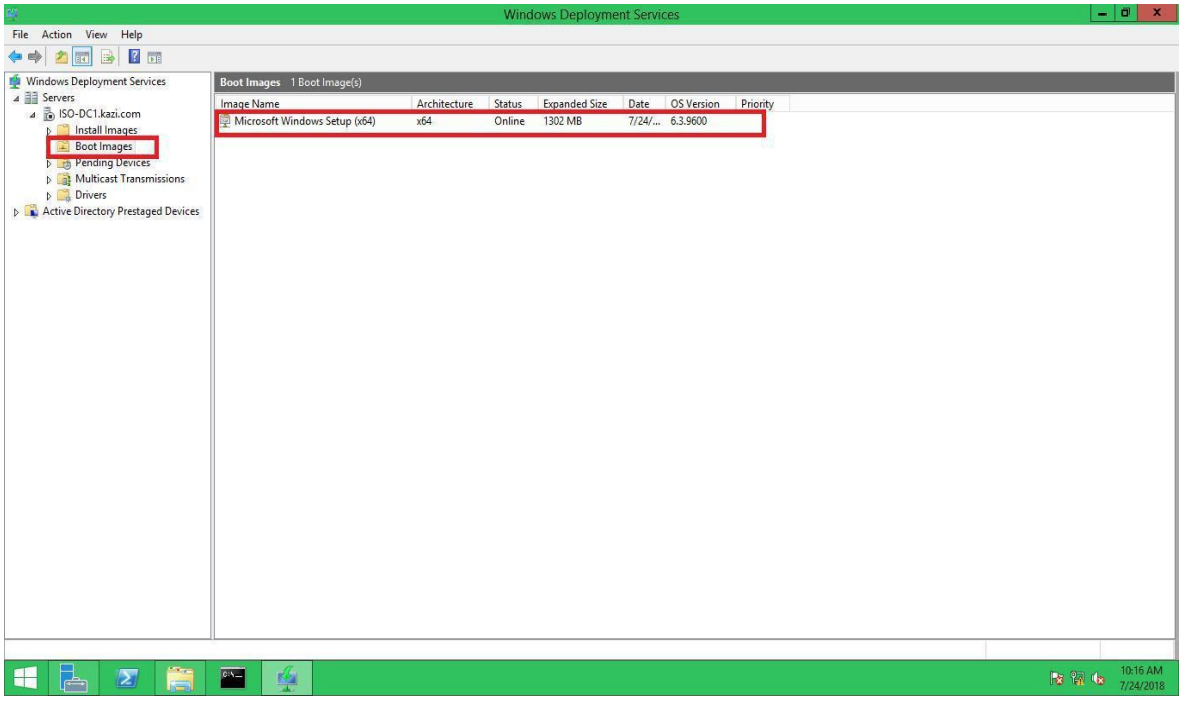

Figure: 5.5.16 Add Boot Image

Start WDS service:

1 – Now the WDS has to be running for getting the service. The scenario shows that the service of the WDS server is not running

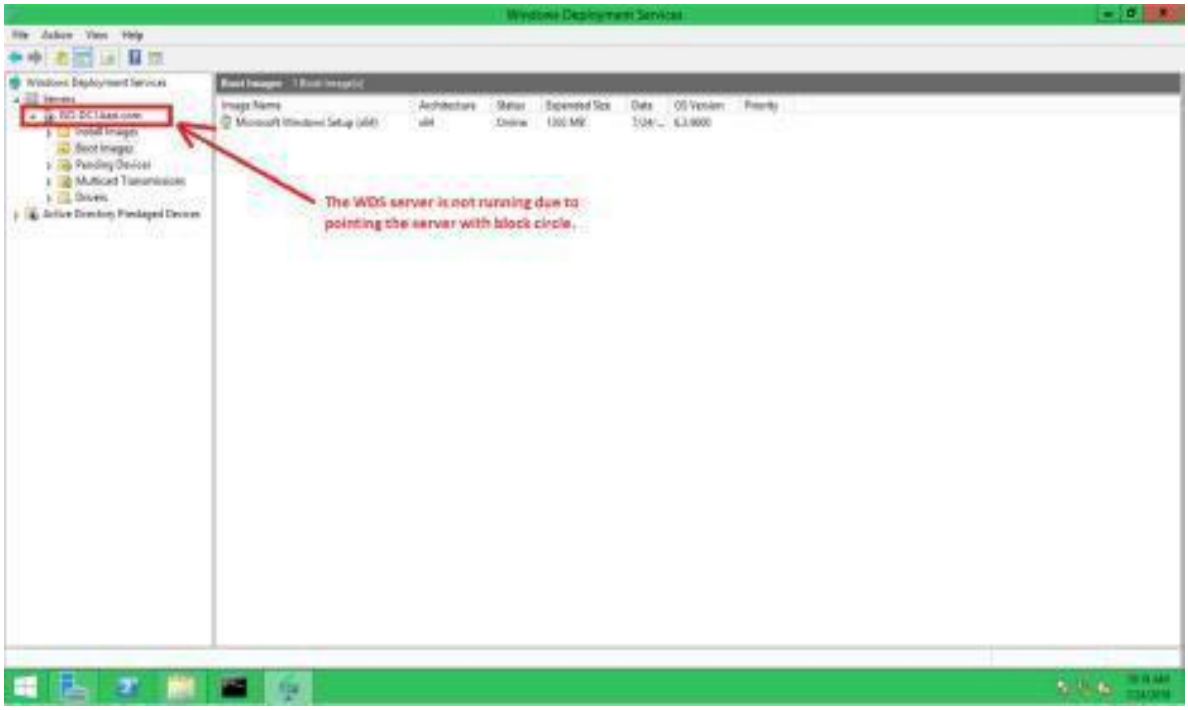

Figure: 5.5.17 Start WDS service

2 – So, select the ISO-DC1.kazi.com server and right click on it and from list wizard select task and then select start

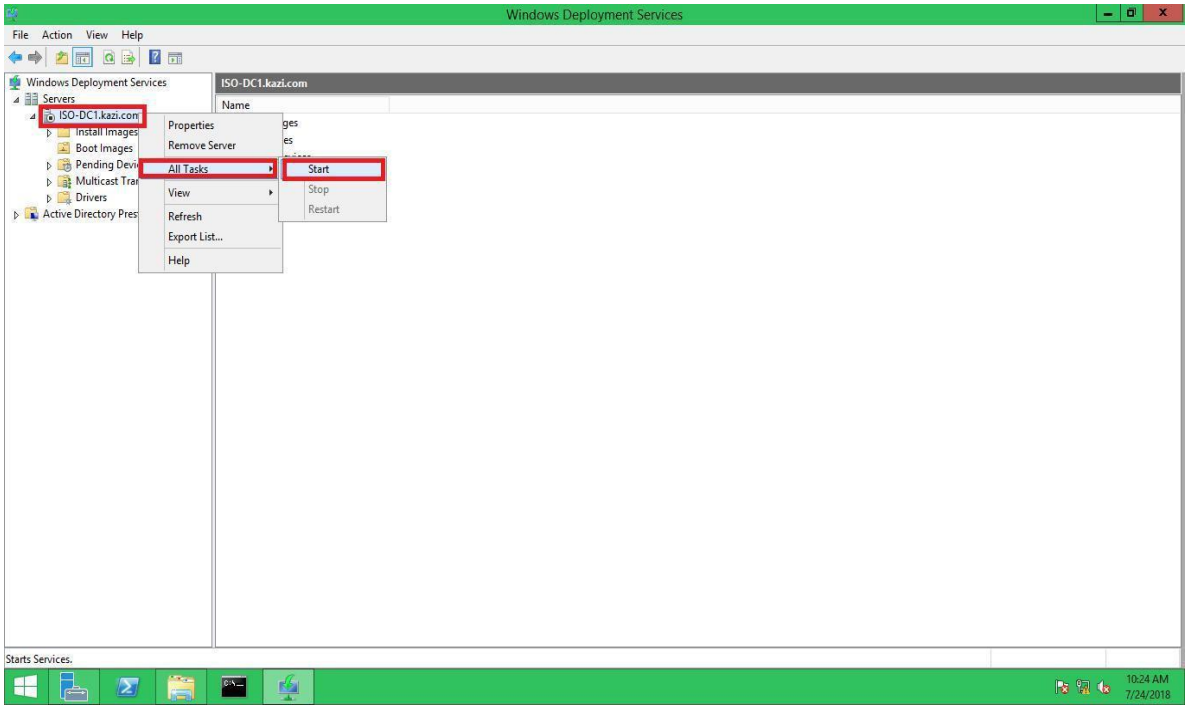

Figure: 5.5.18 Start WDS service

3 – In that time, a wizard will be showing the WDS server is going running and progress bar will be showing. After that a successful wizard will show the successfully started Windows Deployment Services. Click ok and then the WDS server will look like to the following scenario

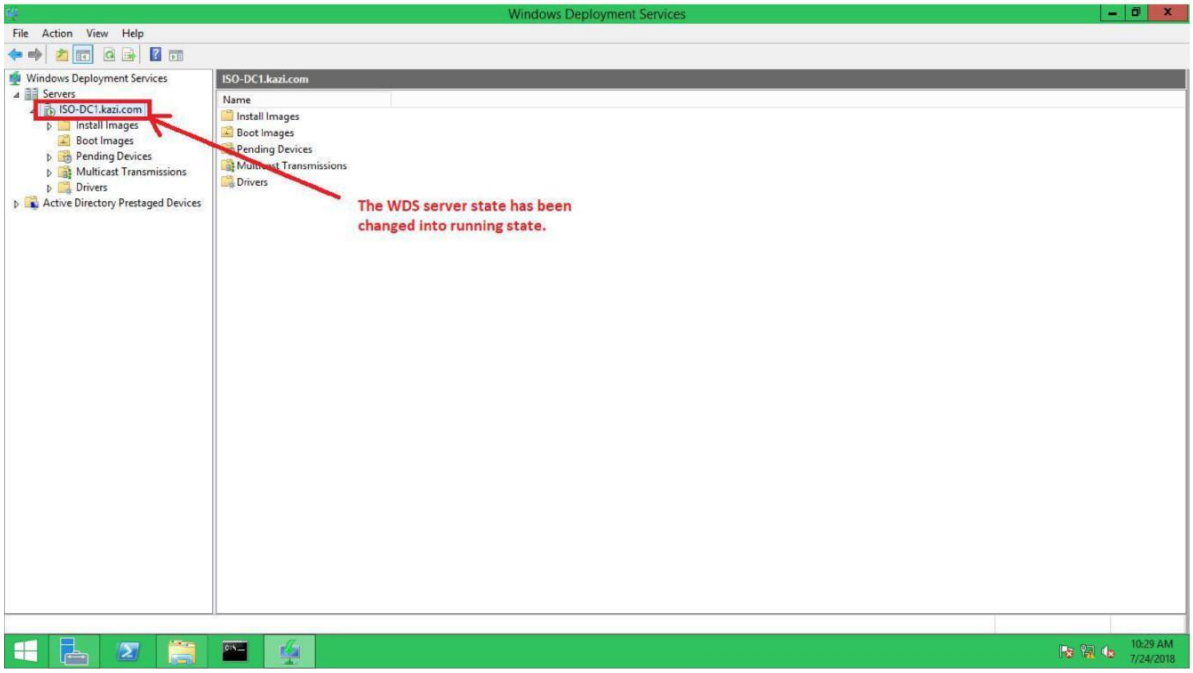

Figure: 5.5.19 Start WDS service

5.6 Network Boot from client sides:

Edit Settings of Client VM:

1 – In my hyper-v manager, there are three virtual machines. One is Domain Controller and others are client servers shown in the following. I am going to set ISO-SVR2 client server for network boot.

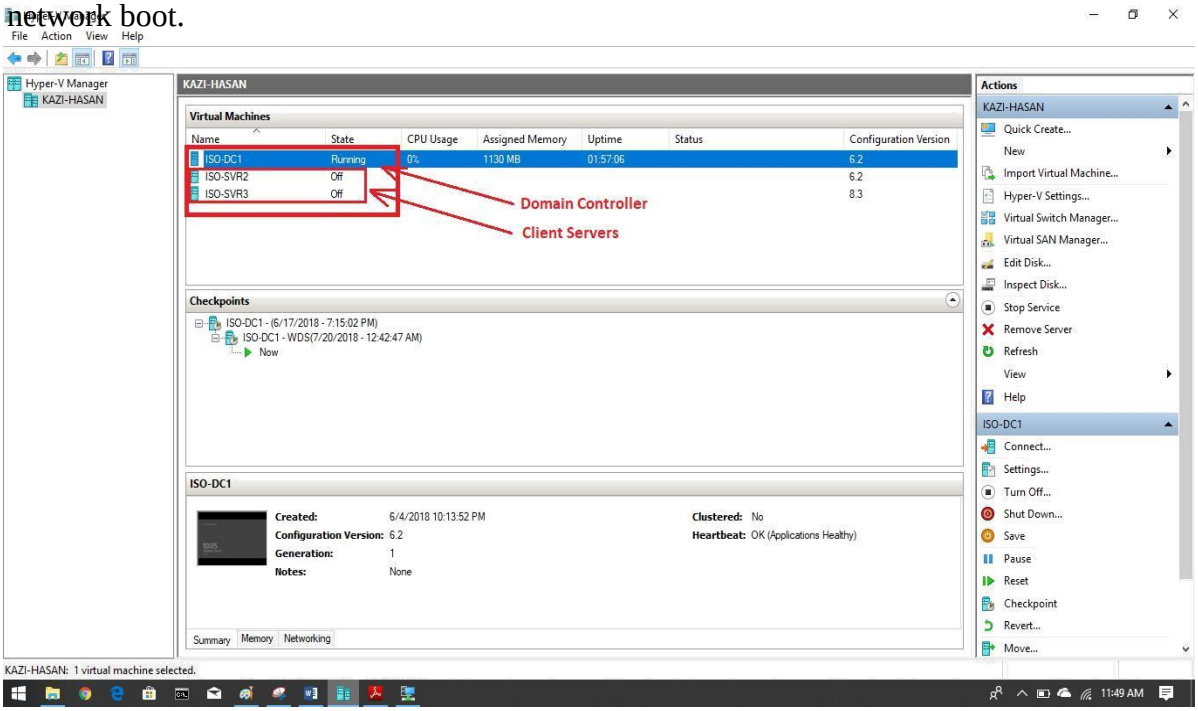

Figure: 5.6.1 Edit Settings of Client VM

2 – Select ISO-SVR2 and right click and then go to setting

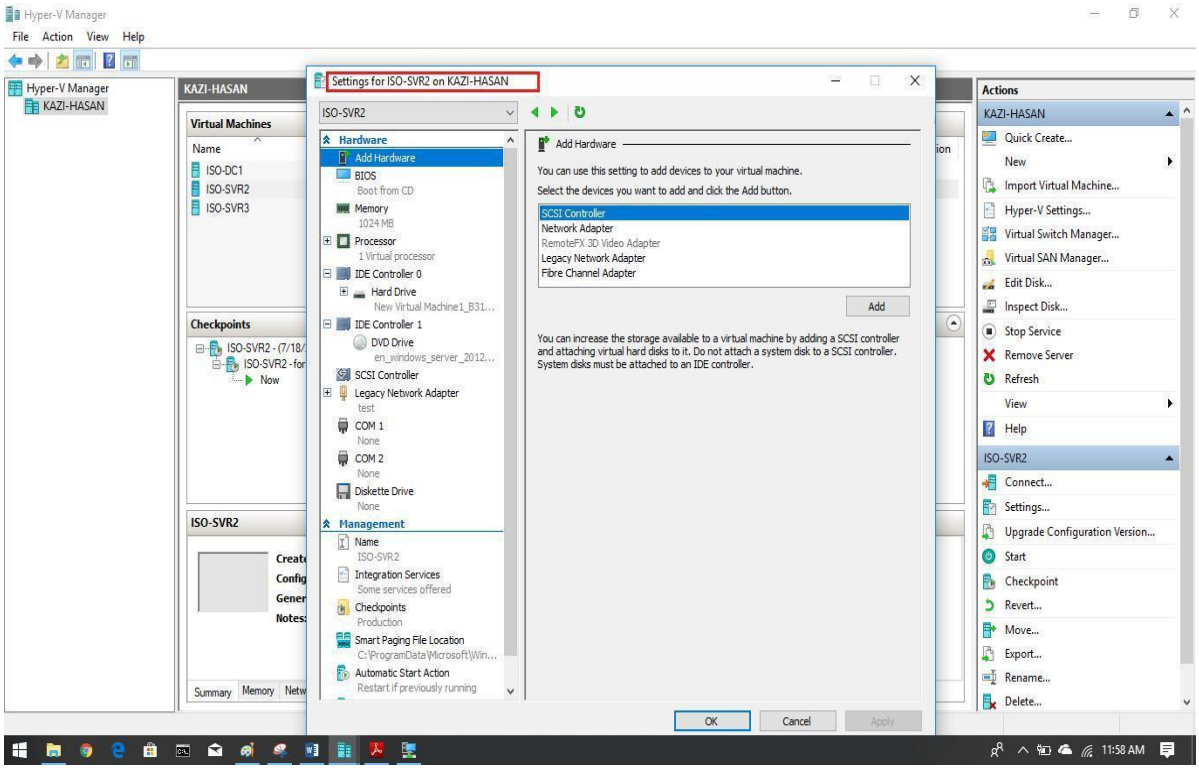

Figure: 5.6.2 Edit Settings of Client VM

3 – Check the Network Adapter. The Network Adapter should be Legacy Network Adapter.

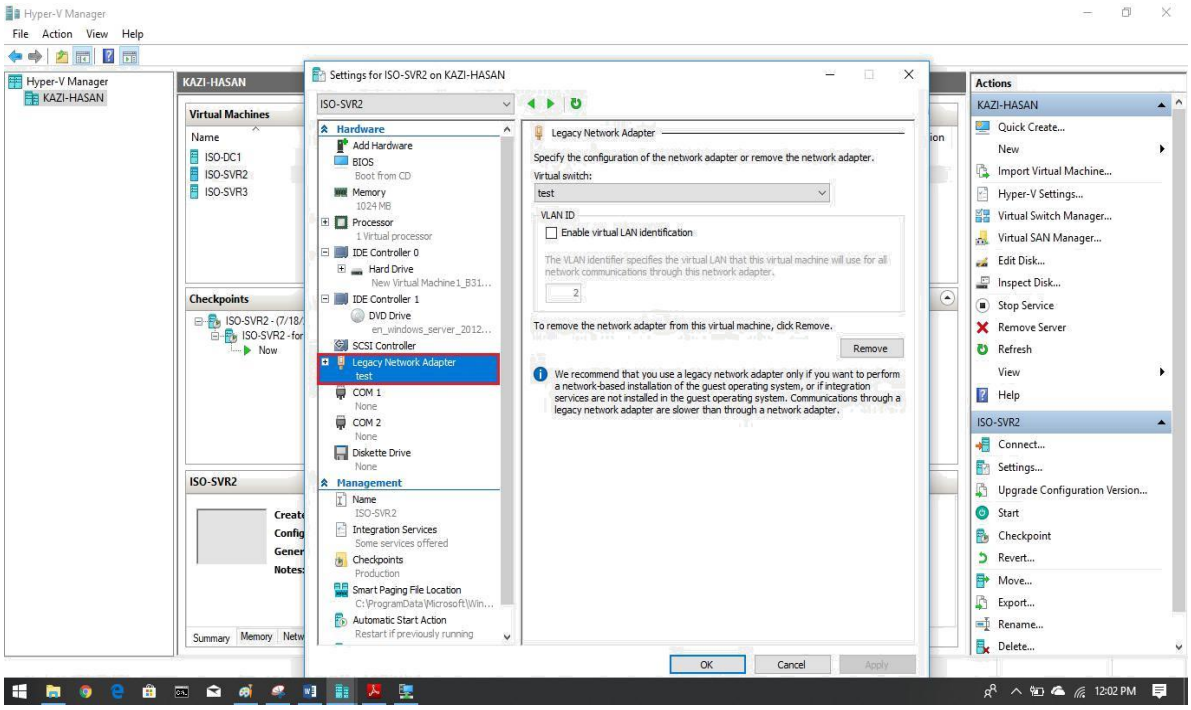

Figure: 5.6.3 Edit Settings of Client VM

4 - Because to perform network-based installation with virtual machine, only Legacy Network Adapter support. So, if Network Adapter is not Legacy Adapter, An Administrator should add hardware from above of Hardware option and then from right then select the inherited network adapter panel add

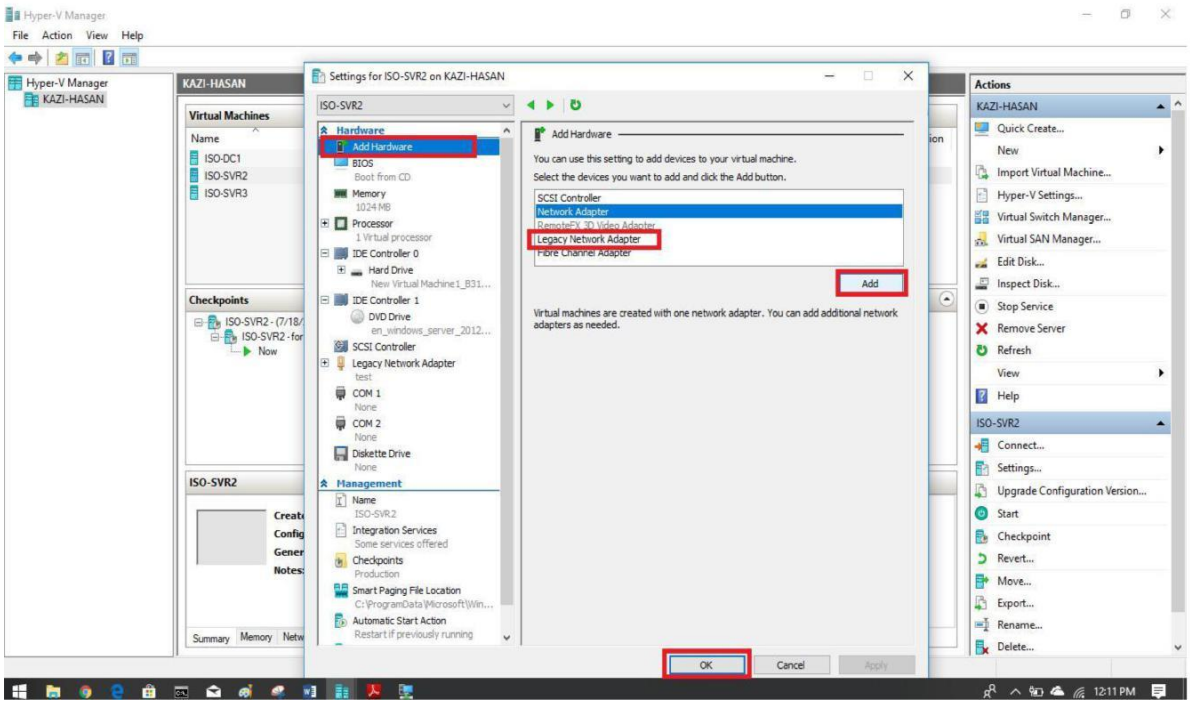

Figure: 5.6.4 Edit Settings of Client VM

5 – Now select the Legacy Network Adapter and connect the adapter with a specific virtual switch (Internal, External or Private). In this practice, I will be adding test virtual switch with that Adapter.

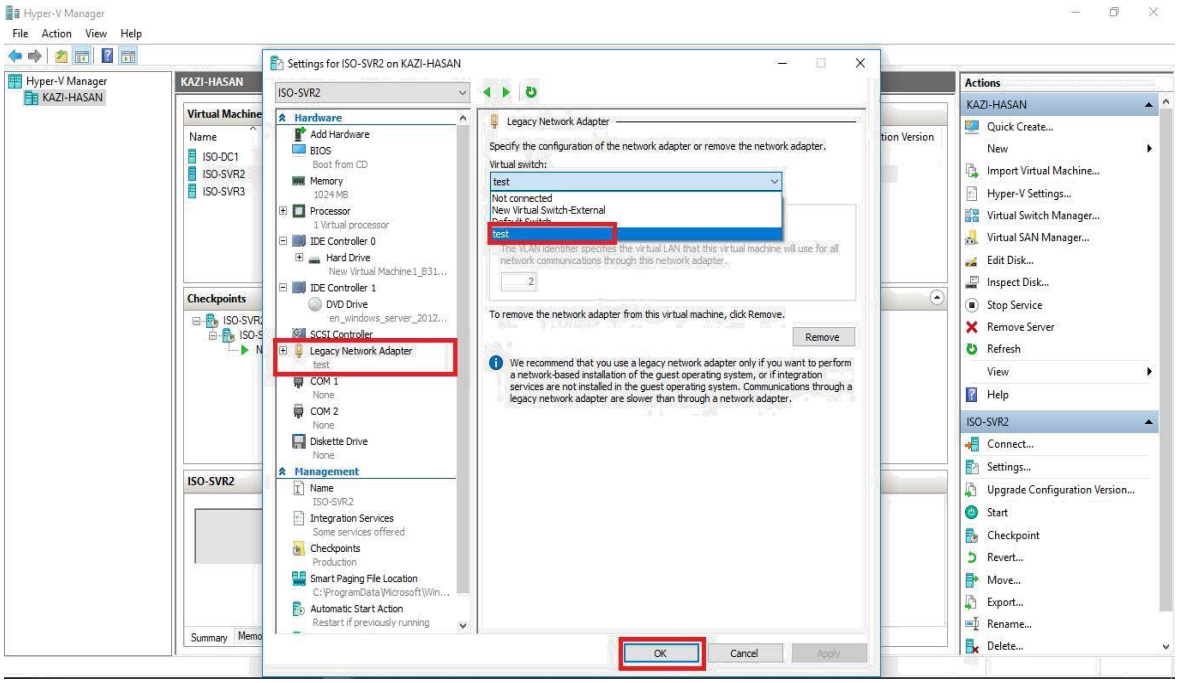

Figure: 5.6.5 Edit Settings of Client VM

6 – Now go to BIOS and we have to select the First priority Boot option and we will select Legacy Network Adapter and move to up

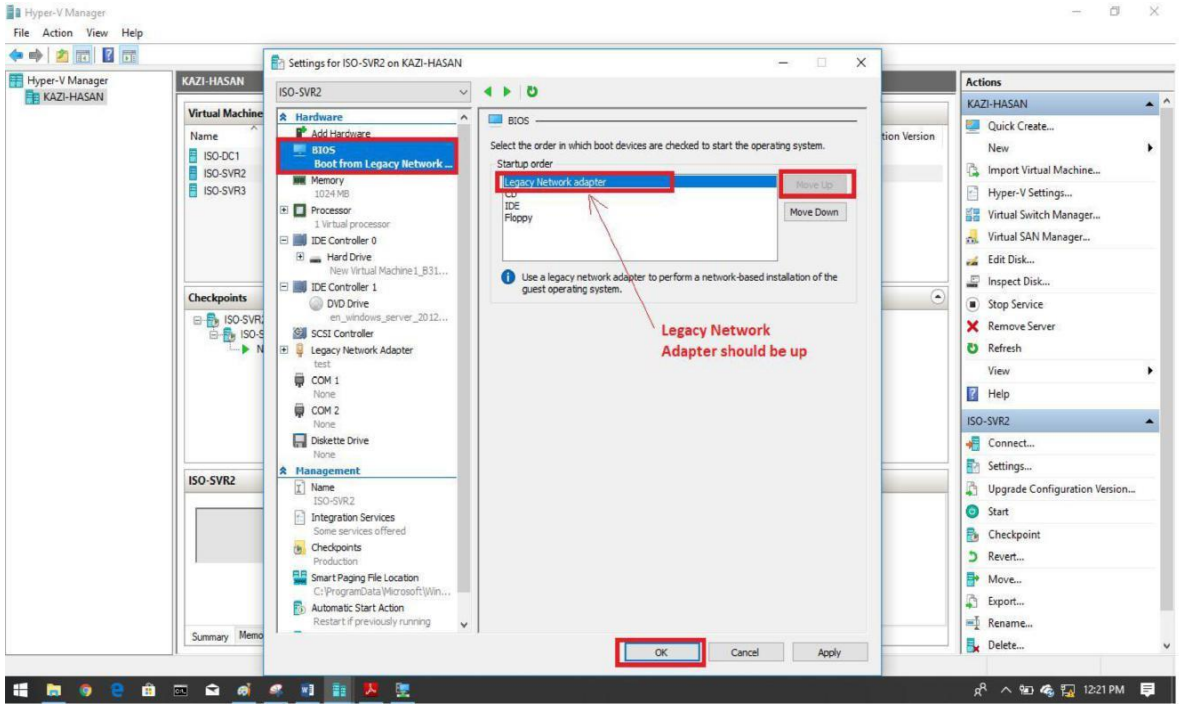

Figure: 5.6.6 Edit Settings of Client VM

** By default BIOS sets Boot from CD.

7 – Close the setting wizard and select the ISO-DC1 server and right click. From the list wizard select start and then again from the list wizard select connect.

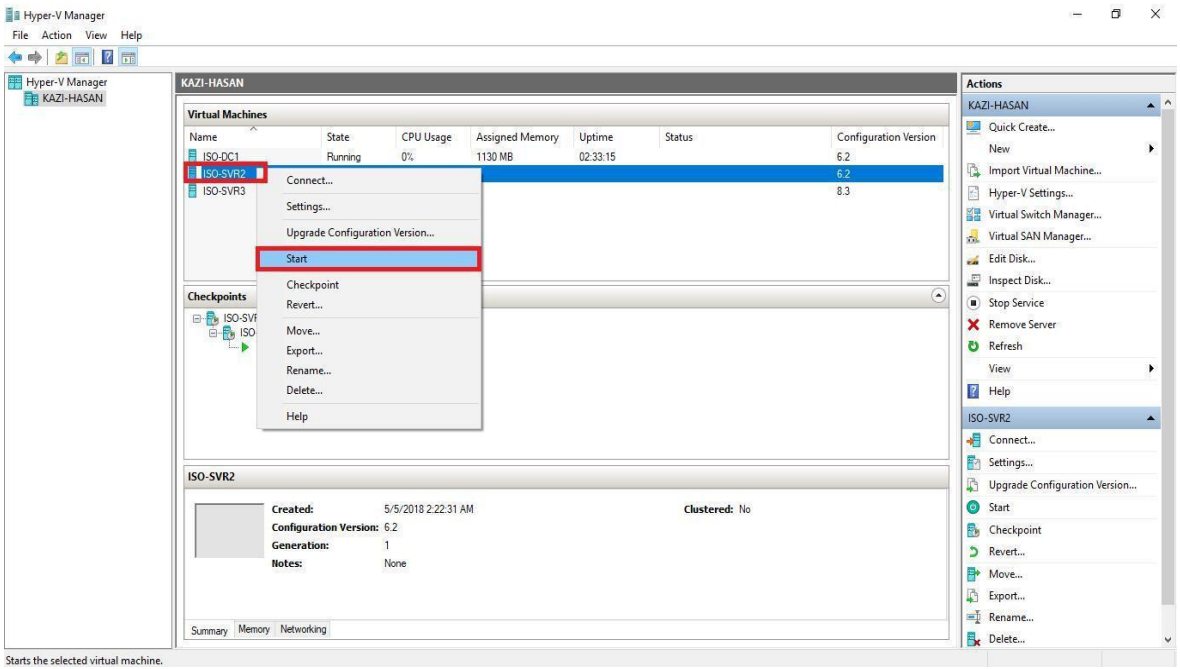

Figure: 5.6.7 Edit Settings of Client VM

Here we use the virtual client machine with generation 1. That is why we use Legacy Network Adapter for network based installation process successfully finished. If we use virtual client machine with generation 2, we do not need using Legacy Network Adapter for completion.

CHAPTER 6

BOOTING CLIENT VMs FROM WDS

6.1 Result:

1 – After connecting the server, will see that the client server will get IP 192.168.0.116 from DHCP server which IP is 192.168.0.114 and downloaded WDSNBP from ISO-DC1.kazi.com

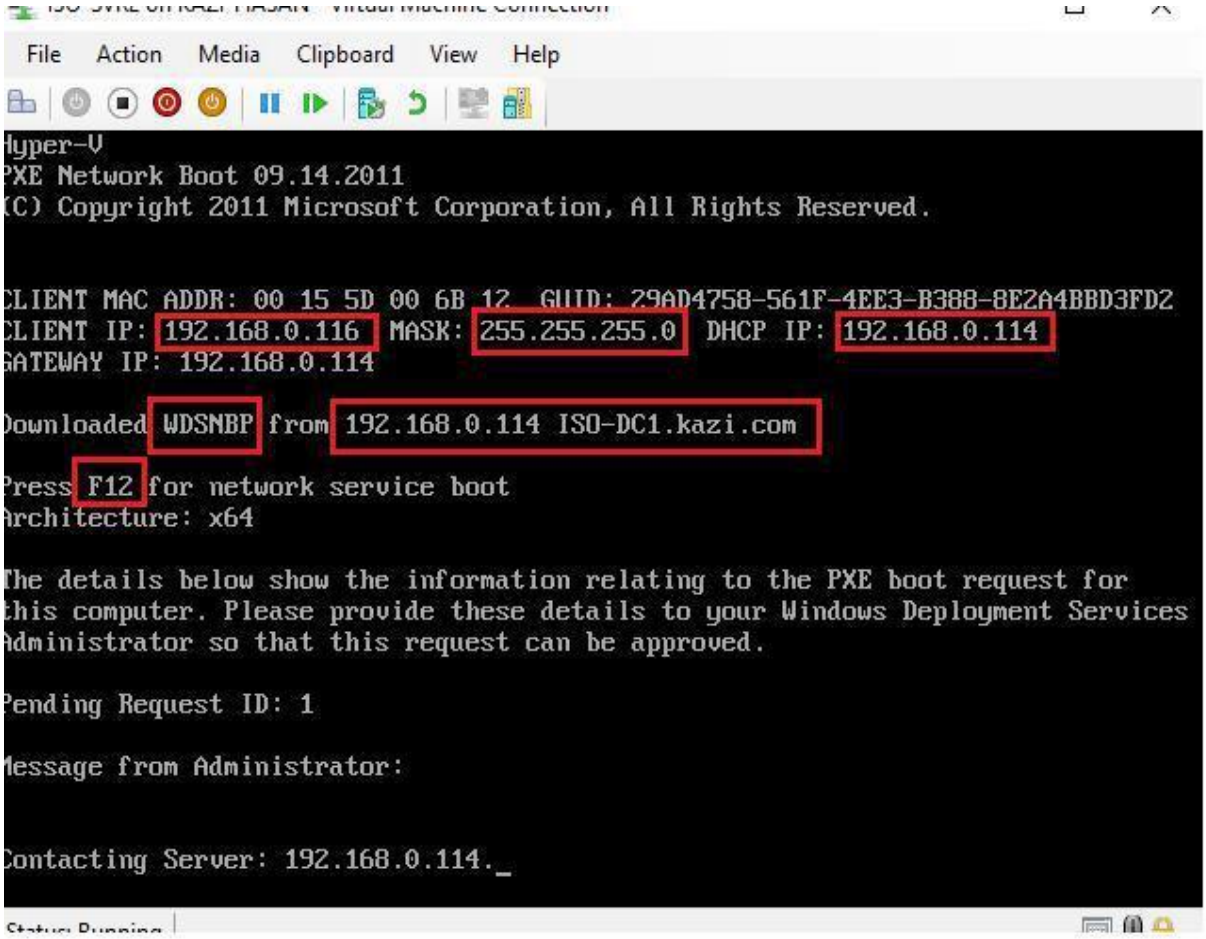

Figure: 6.1.1 Hyper-V

2 – An Administrator will be forced to key F12 key for network service boot, While Administrator will press F12, the system will be contacting with the WDS server. After successfully contacting with the WDS server, the system then load the Windows Pre-Installation Environment that results in a successful network boot installation process starts.

3 – Now an Administrator has to go to the WDS console and make approval for the pending device. So, go to WDS console and select Pending device tab select the device and right click on it then approve it if the device is unknown computers.

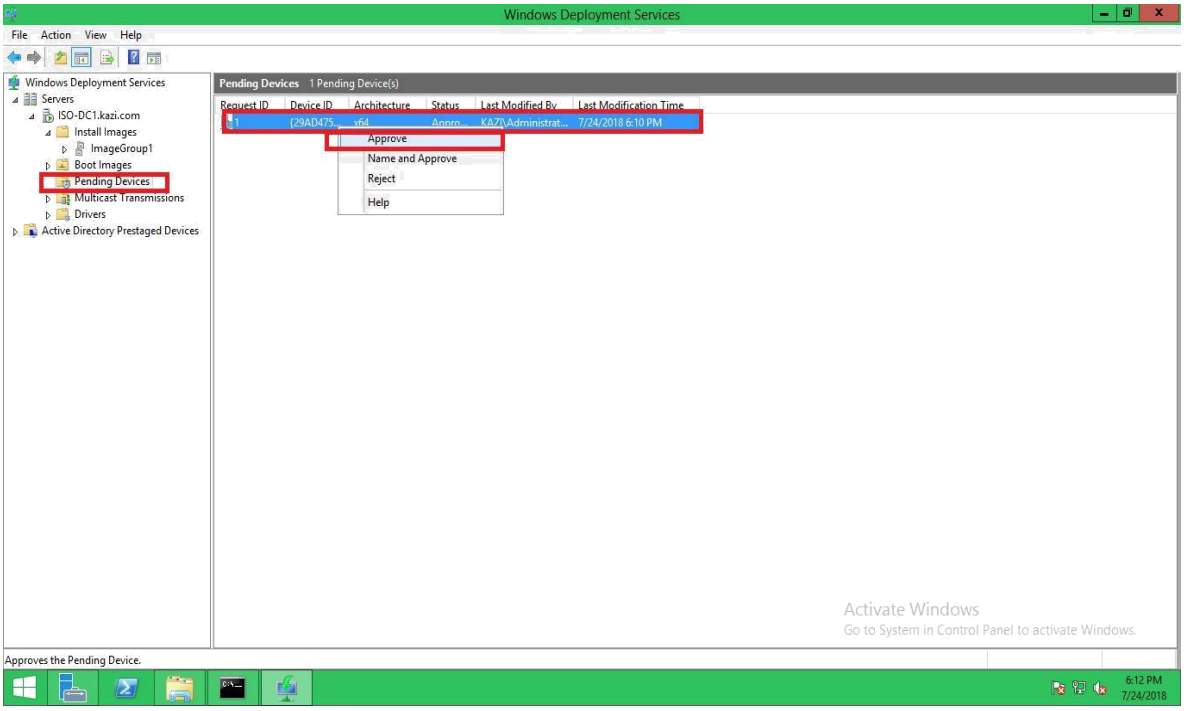

Figure: 6.1.2 Administrator has to go to the WDS

4 – As soon as an administrator has approved the unknown machine, the unknown machine started to load the operating system from the WDS and showing it like in the following

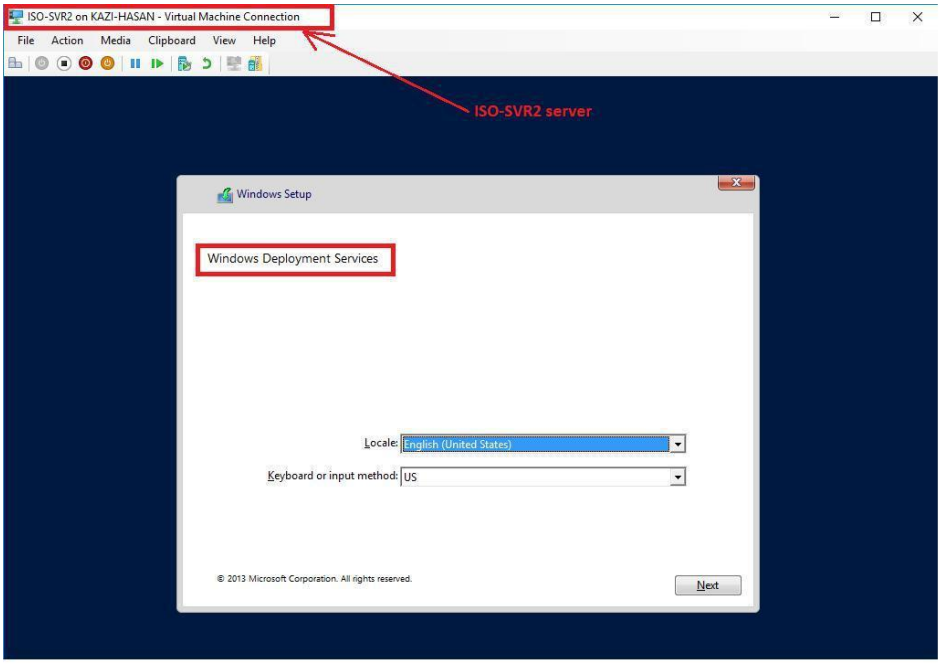

Figure: 6.1.3 ISO-SVR2 server

CHAPTER 7

CONCLUSION

This all about centralized deployment that helps the IT professionals reducing their time and easily manage all devices centrally.

Administrators can easily setup windows more if they use automated with answer file using Windows SIM. We can begin to implement an operating system and provide a feedback file.

There some limitations of deploying WDS:

1 – The WDS team has published performance metrics for up to 300 concurrent clients.

2 – The real problem is that the boot image (which doesn't multicast), may timeout, or take very long time to load...

3 – A zero fault tolerance network connection needs to establish.

4 – No server will be offline.

Easy to configure, it ensures great control over system administrators when properly configuring it. Each topic covered in this proposal is important for any server compilation design.

That is all about WDS…

REFERENCE

[1]. Knowledge about Online Microsoft in WDS Windows Application. Available at <<https://docs.microsoft.com/en-us/windows/.../wds/windows-deployment-services-porta>>

[2]. MCSE 2012?

Available at << www.mcse2012.blogfa.com>>

APPENDIX

In the internship consists of learning and understanding of actual activities in the implementation of the theory of words, applications and research. It is a workplace for students of the university and understanding the actual working environment before coming to the labor market. To deal with professional life in the future, I will work as a great asset for myself, and the education of real people can be used.

Learning in Internship

While practicing I have learned all the things that I have raised **"Bangladesh IT Institute"**

Discipline

In my whole practice, I learned a label that is very important. I learned to discipline myself in the business environment. How to Follow and Keep Working Hours and Offices Learned from My Job. It is very important that I am dealing with discipline.

Team Work

Teamwork is a very important thing for all kinds of hard work. Any service or service can be safely provided and all groups can work together. Also understand how everyone is knowing at a particular time.

How to co-operate with their members in a good working environment.

Responsibilities

All types of work have a duties and responsibilities and must be met by its moral responsibilities and obligations. Conduct and monitor with a specific situation. The members of the previous group understood this and relied on me to fill the post responsibilities. I learned a lot from my senior.

WINDOWS DEPLOYMENT SERVICE

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