GOVERNMENT POLYTECHNIC AHMEDABAD PROGRAM: DIPLOMA IN COMPUTER ENGG

NETWORK MANAGEMENT AND ADMINISTRATION (3360703)

UNIT-3 Network Planning and Implementation

Designing of Network

Large network design projects are normally divided into three distinct steps

- Step 1:Identify the network requirements
 - The network designer works closely with the customer to document the goals of the project.
 - Business goals
 - Focus on how the network can make the business more successful
 - Technical requirements
 - Focus on how the technology is implemented within the network

Designing of Network

Large network design projects are normally divided into three distinct steps

- Step 2: Characterizing the Existing Network:
 - Information about the current network and services is gathered and analyzed.
 - It is necessary to compare the functionality of the existing network with the defined goals of the new project.
 - The designer determines whether any existing equipment, infrastructure, and protocols can be reused, and what new equipment and protocols are needed to complete the design.

Designing of Network

Large network design projects are normally divided into three distinct steps

- Step 3: Designing the Network Topology
 - A common strategy for network design is to take a top-down approach.
 - In this approach, the network applications and service requirements are identified, and then the network is designed to support them.
 - When the design is complete , a prototype or proof-of-concept test is performed.

Accessing Network Needs

- Before you even think about any specific network topology; network operating system (NOS) platform; a structure for hubs, bridges, and routers; or the grade of wiring—you must first know what the network needs to accomplish.
- When assessing needs, you are trying to come up with detailed answers to the following questions:
 - How much storage space is required?
 - How much bandwidth is required?
 - What network services are required?
 - What is the budget for the project?

Cont..

Develop the structure of new internetwork.

•Determine the type of network that best fits a company's needs.

•Choose appropriate media and hardware with which to construct a successful network.

•Design a scalable and simple topology, determine the hard and software to be deployed and select the network management strategy.

•Estimate the expected performance of the new internetwork using simulation and modeling tools.

•Assess the costs of your design.

•Implement your design.

•Monitor your new internetwork. Is it working like you expected? Are their bottlenecks? Did any applications stop working? Is the utilization on all links like you expected?

Applications

- Decide on the applications requirements in the network based on following factors:
 - How many applications will be installed and accessed?
 - Where they will be installed? On Server or at client side?
 - Who can access which application?
 - Establish authentication and authorization procedures required for access permissions for applications in the network?
- The following is a list of applications
 - Word processor
 - Spreadsheet
 - End–user database
 - Presentation graphics
 - E–mail
 - Accounting
 - Distribution and inventory control
 - Manufacturing/material requirements planning (MRP)

Users

- Users are one of the most important stack holder for any network.
 - Decide how many users will be in the network?
 - How many Roles and rights to manage?
 - How to create and implement groups and establish policies?
- A server-based network can support thousands of users. This type of network would be impossible to manage as a peer-to-peer network, but current monitoring and network management utilities make It possible to operate a server-based network for large numbers of users.

Network Services

- A very basic network might need only file and print services, plus perhaps Internet connectivity.
- A more complex network will need many additional services.
 - File and print services
 - Backup and restore services
 - Internet web browsing
 - FTP and Telnet
 - Internet or external e-mail
 - Internet security services
 - Remote access to the LAN through a VPN or a modem pool
 - Dynamic Host Configuration Protocol (DHCP) services
 - Centralized virus-protection services
 - Voice over IP (VoIP)
- For each service, you must answer a number of questions. First, you need to know the storage and bandwidth requirements for each service, and any other impacts they might have.
- Second, you need to know how the service is to be provided.
- Third, you need to know what users or groups of users need which Services.

Security and Safety

- Security and safety concern the company's need to keep information secure—both inside and outside an organization and to keep the company's data safe from loss.
- No network is ever totally secure and no data is ever totally safe from loss. However, different companies and departments have different sensitivities to these issues, indicating that more or less money should be spent on these areas.
- Some applications might be perfectly well suited to keeping their data on a striped RAID 0 array of disks, RAID 1 or RAID 10 arrays and online tape backup systems updating a backup tape every hour or for every transaction.
- Similarly, some companies might work with data that is so sensitive that they must install the best firewalls

Growth and Capacity Planning

- A network designed for a rapidly growing company looks different from one for a slowly growing company, even if both companies start out at the same size.
- In the former case, you want a design that you can quickly and easily expand without needing to replace much of the existing hardware and software.
- Once the network starts to become saturated, performance begins to drop rapidly.
- The server load for a complex e-mail system might increase only by a small amount if you doubled the number of users, because the system's overhead generates most of the load.
- You need to know how different applications scale with increased use.

Meeting Network Needs

- Choosing Network Type
 - The type of network you choose to implement will depend on factors such as the:
 - Size of the organization.
 - Level of security required.
 - Type of business.
 - Level of administrative support available.
 - Amount of network traffic.
 - Needs of the network users.
 - Network budget.

Choosing Network Type

Consideration	Peer-to-Peer Network	Server-Based Network		
Size	Good for 10 or fewer computers hardware	Limited only by server and network		
Security	Security established by the user each computer	Extensive and consistent resource of and user security		
Administration	Individual users responsible for their own administration; no full-time administrator necessary	Centrally located for network control; requires at least one knowledgeable administrator		

Table: Comparison of Network Types

Choosing Network Structure

- Choosing network structure requires to decide on:
 - Weather to use wired or wireless network?
 - Type of media to use to establish the network?
 - Which network topologies to use?
 - Network standards to use?
- When choosing a network technology, consider the location of your computers and the desired speed of your network.
- You should consider two aspects of the network: the physical layout, including the location of each piece of hardware and how it relates to the others, and the physical and logical topology of the proposed network.
- ✓ The second step is to create a layout of the network topology. Don't forget to include printers and other peripherals, such as scanners and modems.

Choosing Servers

- When choosing servers for a network, start by determining which NOS you will use.
- For PC–centric networks, the decision is usually between Novell NetWare and Windows family of servers. Whenever possible, avoid using both, because supporting two NOS systems makes managing the servers much more difficult.
- The choice of right type of server is based on the needs of services the network is built for.
- For example, if the requirement of the network is to store and share files and directories among the users then file server should be used.
- If users need to print documents frequently like checkout counters at any mall or market then print server should be installed.
- Similarly database server should be used for network applications like banking and stocks requiring fast and secure installed database management software.
- Also the configuration of the server depends on the demand of the network users.
- For example, if file server is installed in the network then it is to be equipped with more storage space and fast processor. If it is just a print server then investment in storage space is not important.

Difference Between Network Management and Network Administration

- Network management means Managing bandwidth, strategic planning, WANs, monitoring network devices, worrying about security, upgrades to the network, and the tools like SNMP and network management workstations and applications. It's all about the infrastructure and getting bandwidth to the users.
- Network Administration, on the other hand, has more to do with making sure that users have access to the network, that their network accounts work properly, things like that. Has more to do with the services that run on the network, and often times more on the server administration side of things, like Active Directory integration, etc. It's all about the services and getting those services to the user.

INSTALLING AND CONFIGURING WINDOWS SERVER

Preparing for installation

installing any version of Microsoft windows server, you first must prepare the server computer that you will use and make important discussion about the installation.

- 1. Check system hardware requirements, visit Microsoft's site and review the system requirement for windows server you want to install.
- 2. Make sure server is properly configured to support windows server 2012
- 3. Carry out any needed pre installation testing on the server hardware
- 4. Survey the Hardware prior to performing the installation
- 5. Decide how to install windows server 2012 after gathering configuration information
- 6. Backup the system prior to upgrade.

MINIMUM REQUIREMENTS

- 1. Processor: 1.4 GHz
- 2. Memory: 512 MB
- 3. Available disk space: 32 GB
- 4. Display: super VGA 800*600 monitor

PRE-INSTALLATION TASK

- 1. Disconnect UPS.
- 2. Backup your data.
- 3. Disable antivirus software.
- 4. Test RAM.
- 5. Save drivers in CD, DVD, floppy disk, USB drive or external hard disk.
- 6. Turn on windows firewall.

CONFIGURE BIOS

- 1. Reboot the system.
- 2. While booting, go into BIOS configuration screen by hitting F1,F2,Del or Esc.
- 3. Select BOOT.
- 4. Make sure USB/DVD drive as primary boot device and exit.

INSTALLING WINDOWS SERVER

1. Press ENTER to boot from DVD.



3. Take the defaults on the Language screen, and click Next.



4. Click Install now on the install screen.



5. Click the second line item for the GUI. The default install is now Server Core. Then click Next.



6. Read License Agreement, Turn on Checkbox "I accept the license terms," and then click Next.



7. Click Custom: Install Windows only (Advanced).



8. The disk you are using should be listed. If not, you will need to Load driver. Select the disk you will be installing on. If you do not want to change drive options (optional), Click Next. If you want to use Dual boot using Native Boot To VHD (Boot2VHD), see below

Name		Total size	Free space	Туре
Drive 0 Unallocate	ed Space	127.0 GB	127.0 GB	
<u>r R</u> efresh			Drive option:	s (advanced)
Load driver			Drive option:	s (advanced)

9. [Optional:] Click drive options; then you can create custom partitions.



10. It will then start copying files. This will take a while (could be 20 mins or so depending on hardware performance). It will reboot a couple times (automatically). After the first reboot, it will no longer be running off of the DVD



11. In the Password box, enter a new password for this computer. It must meet complexity requirements. Re-enter the password in the second password box, and then click Finish.



12.Press Ctrl-Alt-Delete at the same time to get the login screen



13. Enter password and press enter.



14. The Desktop will be displayed and Server Manager will be opened automatically



15. Pressing Windows Key on the keyboard will bring up the start screen (formerly known as Start Menu). If you Right-Click on Computer, you will see the new right-click menu is on the bottom of the screen instead of in a dropdown box. Select Properties.



CONFIGURING SERVER/CLIENT

- Steps to changing server name
- •1. Open server manager
- •2. Click on configure local server
- •3. Click on default computer name
- •4. Click change in system properties window
- •5. Give new computer name
- •6. Click ok and restart the computer
- •7. After restart you can see the server name changed.

CONFIGURING SERVER/CLIENT CONTINUE...

•Steps to assign static IP address to server

•1. At lower corner of your screen, right click on computer icon and select 'open network and sharing center'.

- •2. Click 'change adapter settings'.
- •3. Find Ethernet adapter, right click and select properties.
- •4. Double click on 'internet protocol version 4(TCP/IP 4)
- •5. Select "use the following IP addresses" radio button.
- •6. Fill in the IP address ,subnet mask, default gateway and preferred DNS server.
- •7. Click ok.

CONFIGURING SERVER/CLIENT CONTINUE...

•Steps to Joining client machine to a domain.

- •1. Log on to your client machine.
- •2. Click on start, select properties of computer.
- •3. Click on change settings, system properties dialog box appears
- •4. Click on change computer name tab, it will show you 'computer name/domain changes'

•5. Give user friendly name to client machine and select domain :radio button ,give domain name in that.

•6. Click ok and you will be asked for username and password. This detail is used to logon to your server domain controller.

•7. After that restart the computer.

SETTING WINDOWS SERVER

creating domain controller

- 1. Open Server Manager, then select Manage and click on "Add Roles and Features"
- 2. Click Next on the "Before you begin" window
- 3. Select Role-based or feature-based installation and then click Next
- 4. Click Select a server from the server pool, click the name of the server to install Active Directory Domain Services to, and then click Next.
- 5. Click Active Directory Domain Services. When the Add Roles and Features Wizard dialog box opens, select Add Features, then Next
- 6. On the Active Directory Domain Services page, review the information and then click Next
- 7. On the Confirm installation selections page, click Install
- 8. On the Results page, verify Installation succeeded, and click Promote this server to a domain controller to start the Active Directory Domain Services Configuration Wizard
SETTING WINDOWS SERVER CONTINUE...

•Promoting windows server 2012 to a domain controller.

- 1. Choose your Deployment Configuration.
 - 1. To install a domain controller to an existing domain, specify the domain name.
 - 2. To install a new domain in existing forest, choose "Child" or "Tree" domain, then browse for forest structure.
 - 3. To install a new forest, specify the new forest name.
 - 4. Then click Next.

SETTING WINDOWS SERVER CONTINUE...

- 2. Choose your Domain Controller Options.
 - 1. To create a new forest or domain, select the functional levels, click Domain Name System (DNS) server, specify the Directory Services Restore Mode password, and then click Next.
 - 2. To add a DC to a domain, choose Domain Name System (DNS) server, Global Catalog (GC), or Read Only Domain Controller (RODC) as needed, choose the site name, and type the Directory Services Restore Mode password and then click Next.
- 3.If installing a DNS Server, you may need to Update DNS delegation. To update, enter credentials with permission to create DNS delegation records in the parent DNS zone.

SETTING WINDOWS SERVER CONTINUE...

4. If installing a Read Only Domain Controller (RODC), specify the group that will manage the RODC. Add or remove accounts to the Allowed or Denied password replication groups. Click Next.

5. On the Additional Options page, choose one of the following options:

- 1. To create a new domain, type or verify the NetBIOS name of the domain.
- 2. To add a DC to a domain, select a domain controller to replicate the AD DS installation data from (or the wizard can select "any").

6. Specify where the directories for the Active Directory database, the log files, and the SYSVOL folder will be. Click Next.

7. Verify your server was successfully promoted on the results page, then click Close.

8. A reboot is required and it happens automatically by default.

ADDING DHCP ROLE

1. To install DHCP Serve go to Dashboard on Server Manager and click Manage then click Add Roles and Features.





Before you begin	DESTINATION SERVER mondesktop11
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	 This wizard helps you install roles, role services, or features. You determine which roles, role services, or features to install based on the computing needs of your organization, such as sharing documents, or hosting a website. To remove roles, role services, or features: Start the Remove Roles and Features Wizard Before you continue, verify that the following tasks have been completed: The Administrator account has a strong password Network settings, such as static IP addresses, are configured The most current security updates from Windows Update are installed If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again. To continue, click Next.
	Skip this page by default

2. In the Role installation window select Role-based or feature-based installation the click Next.



3. Choose the server you want to install DHCP from the Server pool. Here we have one server and select by default.

elect destination	on server			DC1.Technig.lo
Before You Begin Installation Type Server Selection	 Select a server or a virtu Select a server from Select a virtual hard 	al hard disk on which the server pool disk	to install roles and features.	
Server Roles Features	Server Pool			
Results	Name DC1.Technig.local	IP Address 192.168.100.1	Operating System Microsoft Windows Server 201	2 R2 Datacenter Evalu
	1 Computer(s) found This page shows servers Add Servers command it	that are running Win	dows Server 2012, and that have I	peen added by using
	collection is still incomp	lete are not shown.	inte servers and newly-added serv	rers from which data

4. Open Add Roles and Features Wizard Page, click Add Features then Click Next.



5. Install required features for DHCP Server and click next.

Ъ	Add Roles and Features Wizard	×
Select features Before You Begin Installation Type Server Selection Server Roles Features DHCP Server Confirmation Results	Add Roles and Features Wizard Select one or more features to install on the selected server. Features Image: Image	DESTINATION SERVER DC1.TechnigJocal Description .NET Framework 3.5 combines the power of the .NET Framework 2.0 APIs with new technologies for building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provide the ability to model a range of business processes.
	iSNS Server service LPR Port Monitor Management OData IIS Extension < < Previous Next >	Install

6. Once read the information about DHCP Server and click Next button.

E.	Add Roles and Features Wizard – 🗆 🗙
DHCP Server Before You Begin Installation Type Server Selection Server Roles Features DHCP Server Confirmation Results	Add Roles and Features Wizard – DESTINATION SERVER DC1.Technig.local The Dynamic Host Configuration Protocol allows servers to assign, or lease, IP addresses to computers and other devices that are enabled as DHCP clients. Deploying a DHCP server on the network provides computers and other TCP/IP-based network devices with valid IP addresses and the additional configuration parameters these devices need, called DHCP options. This allows computers and devices to connect to other network resources, such as DNS servers, WINS servers, and routers. Things to note: • You should configure at least one static IP address on this computer. • Before you install DHCP Server, you should plan your subnets, scopes and exclusions. Store the plan in a safe place for later reference.
	< Previous Next > Install Cancel

7. In the Confirm Installation page, select Restart the destination server automatically if required. Click Yes the warning window and click Install.



8. The installation will take a minute, when it has completed successfully click Complete DHCP Configuration link.



9. Read DHCP Post-Install configuration wizard description and click Next.

6	DHCP Post-Install configuration wizard -
Description Description Authorization Summary	The following steps will be performed to complete the configuration of the DHCP Server on the target computer: Create the following security groups for delegation of DHCP Server Administration. - DHCP Administrators - DHCP Users Authorize DHCP server on target computer (if domain joined).
	< Previous Next > Commit Cancel

10. Set the appropriate user for management of DHCP Server.

2	DHCP Post-Install configuration wizard	×
Authorization Description Authorization Summary	Specify the credentials to be used to authorize this DHCP server in AD DS. Use the following user's credentials User Name: TECHNIG\Shais Use alternate credentials UserName: Specify Skip AD authorization 	
	< Previous Next > Commit	Cancel

11. On the DHCP summary window clicks Close and close the DHCP Installation page also.

B	DHCP Post-Install configuration wizard –
Summary	
Description Authorization	The status of the post install configuration steps are indicated below:
Summary	Creating security groups Done
	Please restart the DHCP server service on the target computer for the security groups to be effective.
	Authorizing DHCP server Done
	< Previous Next > Close Cancel

WINS

•WINS refers to 'Windows Internet name service'.

To Understand WINS is to Understand NetBIOS

Computers communicate through protocols such as TCP/IP using number schemes via IP addresses. To prevent having to remember all of those numbers, a method to "label" those IP addresses with names came up. By assigning names to each computer on a network, one could manage them much easier.

•One of the first ways to map names to IP addresses was Network Basic Input/ Output System or <u>NetBIOS</u> (Network Basic Input/Output System).

•NetBIOS most notably is non-routable. NetBIOS name resolution cannot happen over multiple networks. To remedy this, Microsoft developed a NetBIOS Naming Service or what most call WINS to resolve names across routed networks.

Cont..

•NetBIOS had a major problem; it couldn't be routed to other networks. Companies were starting to need many networks to segment off traffic and NetBIOS couldn't be routed across those networks. What to do? Introduce a new protocol; <u>Windows</u> Internet Naming Service (WINS).

•Using WINS, admins could now route name traffic across networks because it relied on the TCP/IP protocol. If admins used WINS, they also had a central place all computers could register their names and IP addresses.

•Decades ago, Windows clients identified network devices by their NetBIOS names thus the requirement for WINS. But, nowadays, WINS is not required on modern machines starting with Windows 2000.

WINS is now an obsolete technology that Microsoft has sunset in favor of other protocols like DNS which is more suited for name resolution in environments that run on Windows Servers 2000 and above.

But, if you must support Windows NT servers and workstation applications, you may need it.

WHAT IS WINS?

•WINS is a Microsoft NetBIOS Name Server (NBNS).

•WINS provides a dynamic NetBIOS name to IP address database.

•It also interacts with the Browser Service, which assembles and provides the Network Neighborhood.

ADDING WINS ROLE

- 1. Launch Server Manager from a Windows 2012 server with a full GUI.
- 2. Select the Dashboard section and click the Add Roles and Features link.
- 3. Click Next on the Before You Begin page.
- 4. Leave the default selection Role-Based or Feature-Based Installation and click Next.
- 5. Select the server from the server pool to add the DNS role and click Next.
- 6. Click Next to skip the Roles selection.
- 7. Select the WINS Server Feature check box, click Add Features button, and then click Next.
- 8. Click Install on the Confirmation page to install the WINS feature.
- 9. Click Close to exit the Add Roles and Features Wizard.

ADDING FILE SERVER ROLE

1. To install file Serve go to Dashboard on Server Manager and click Manage then click Add Rules and Features.

Server Manag	er	
	Σ	



	Add Roles and Features Wizard
Before you begin	DESTINATION SERVER mondesktop11
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	This wizard helps you install roles, role services, or features. You determine which roles, role services, or features to install based on the computing needs of your organization, such as sharing documents, or hosting a website. To remove roles, role services, or features: Start the Remove Roles and Features Wizard Before you continue, verify that the following tasks have been completed: • The Administrator account has a strong password • Network settings, such as static IP addresses, are configured • The most current security updates from Windows Update are installed If you must verify that any of the preceding prerequisites have been completed, close the wizard, complete the steps, and then run the wizard again. To continue, click Next.
	Skip this page by default

2. Now you will be prompted for Installation type, from which you must select the first option and then click on "Next".



3. Choose the server you want to install file server from the Server pool. Here we have one server and select by default.

à	Add Ro	les and Features \	Wizard 🗕 🗖 🧧
Select destination	on server		DESTINATION SERVER DC1.Technig.local
Before You Begin Installation Type Server Selection Server Roles Features	Select a server or a virtu Select a server from Select a virtual hard Server Pool	al hard disk on which the server pool disk	to install roles and features.
Confirmation Results	Filter: Name DCL Technia local	IP Address	Operating System Microsoft Windows Server 2012 R2 Datacenter Evaluati
	<		>
	This page shows servers Add Servers command i collection is still incomp	that are running Win n Server Manager. Of lete are not shown.	dows Server 2012, and that have been added by using the fline servers and newly-added servers from which data
		< Pre	vious Next > Install Cancel

4. Find the "File and Storage Services" and then then expand it, then "Files and iSCSI Services" will open, again expand it to find the "File Server Resource Manager".



5. As you select the File Server Resource Manager a new window will be opened that will ask permission to Add Features. Click on "Add Features" to grant it the permission.



6. list of Features will be available for selection, you can select any feature if you want to install and then click on "Next" or simply click on "Next" without selecting any Feature.



7. confirmation page will be opened, where you can give permission to the server to restart if required or you can click on "Install" without giving permission to restart.



8. Now your installation will begin.



9. See that your installation is successfully completed. You can get this confirmation by clicking on the Flag given on the upper-right hand corner.

X



ADDING PRINT SERVER ROLE

1. In Server Manager click on the "Manage" button to open the "Add Roles and Features" to add the new feature.





2. Now a new window will be opened in which a few instructions are given; click on

"Next".

8	Add Roles and Features Wizard		x
Before you begin	DESTINAT	NON SERVE ondesktop1	R 1
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	This wizard helps you install roles, role services, or features. You determine which roles, role features to install based on the computing needs of your organization, such as sharing docu hosting a website. To remove roles, role services, or features: Start the Remove Roles and Features Wizard Before you continue, verify that the following tasks have been completed: • The Administrator account has a strong password • Network settings, such as static IP addresses, are configured • The most current security updates from Windows Update are installed If you must verify that any of the preceding prerequisites have been completed, close the will complete the steps, and then run the wizard again. To continue, click Next.	services, o ments, or zard,	24
	Skip this page by default		
	< Previous Next > Install	Cancel	

3. Now it will ask for the "Installation Type" from which you must select the first option and then click on "Next".



4. Now you must select the server from the Server Pool. Since I have only one server in the Server Pool my server is selected by default.

elect destinati	on server			DESTINATION SERVI mondesktop
Before You Begin Installation Type Server Selection	Select a server or a virt Select a server from Select a virtual har	tual hard disk on which n the server pool d disk	to install roles and features.	
Server Roles Features	Server Pool			
Confirmation	Filter:			
	Name	IP Address	Operating System	
	mcndesktop11	192.168.1.106	Microsoft Windows Server 2012	Standard
	1 Computer(s) found This page shows serve Add Servers command	rs that are running Wind	dows Server 2012, and that have be line servers and newly-added serve	en added by using t rs from which data

5.Now a List of Rolls will appear in front of you, from this list you must select the "Print and Document Services".

elect server ro	bles	DESTINATION SERVE mondesktop1
Before You Begin Installation Type	Select one or more roles to install on the selected server. Roles	Description
Server Selection Server Roles	Active Directory Certificate Services	 Print and Document Services enables you to centralize print serv and network printer management
Confirmation Results	 Active Directory Federation Services Active Directory Lightweight Directory Services Active Directory Rights Management Services Application Server DHCP Server DNS Server Fax Server File And Storage Services (Installed) Hyper-V 	tasks. With this role, you can also receive scanned documents from network scanners and route the documents to a shared network resource, Windows SharePoint Services site, or e-mail addresses.
	Network Policy and Access Services Print and Document Services Remote Access Remote Desktop Services	~

6. As you select the Print and Document Services a new window will be opened that will ask permission to "Add Features". Click on "Add Features" to grant it the permission.



7. Now a list of features will be available for selection, you can select any feature you want to install and then click on "Next" or simply click on "Next" without selecting any feature.



8. Now some information will be shown to you about this service, here also you must click on the "Next" button.



9.Now select the "Roll Services" page which will open. In ot you must select the first option i.e. "Print Server" and then click on "Next".

ile -	Add Roles and Features Wizard	X
Select role serv Before You Begin Installation Type Server Selection Server Roles Features Print and Document Se Role Services Confirmation Results	Add Roles and Features Wizard	DESTINATION SERVER mondesktop11 ces Description Print Server includes the Print Management snap-in, which is used for managing multiple printers or print servers and migrating printers to and from other Windows print servers.
	< Previous Nex	t > Install Cancel
9.Now select the "Roll Services" page which will open. In ot you must select the first option i.e. "Print Server" and then click on "Next".

select role service	S	DESTINATION SERVER mondesktop11
Before You Begin Installation Type	Select the role services to install for Print and Document Services Role services	Description
Server Selection Server Roles Features Print and Document Servi Role Services Confirmation Results	 Print Server Distributed Scan Server Internet Printing LPD Service 	Print Server includes the Print Management snap-in, which is used for managing multiple printers or print servers and migrating printers to and from other Windows print servers.

10. Now a confirmation page will be opened, where you can give permission to the server to restart if required or you can click on "Install" without giving permission to restart.

<u>.</u>	Add Roles and Features Wizard	×
Confirm installatio	n selections	DESTINATION SERVER mcndesktop11
Before You Begin Installation Type Server Selection Server Roles Features Print and Document Servi Role Services Confirmation Results	To install the following roles, role services, or features on selected s C Restart the destination server automatically if required Optional features (such as administration tools) might be displayed been selected automatically. If you do not want to install these opt their check boxes. Print and Document Services Print Server Remote Server Administration Tools Role Administration Tools Print and Document Services Tools	server, click Install. I on this page because they have ional features, click Previous to clear
	Export configuration settings Specify an alternate source path	

11. Now your installation will begin.



12.If you had provided permission to restart then your server will first restart and then in the Server Manager you will see that your installation is successfully completed. You can get this confirmation by clicking on the Flag given on the upper right hand corner.



ADDING WEB SERVER(IIS) ADMINISTRATION.

•To install IIS8 on windows server 2012, use following steps 1. Open server manager



2. Click on "Add roles and features" from Dashboard



3. Click next on the "Add Roles and Features wizard" Welcome page.



4. Make sure "Role-based or feature-based installation" option is selected.

Add Roles and Features Wizard	
n type	DESTINATION SERVER mondesktop43.monsolutions.net
 Select the installation type. You can install roles and features machine, or on an offline virtual hard disk (VHD). Role-based or feature-based installation Configure a single server by adding roles, role services, and Remote Desktop Services installation Install required role services for Virtual Desktop Infrastructor or session-based desktop deployment. 	on a running physical computer or virtua d features. ure (VDI) to create a virtual machine-base
	Select the installation type. You can install roles and features machine, or on an offline virtual hard disk (VHD). Role-based or feature-based installation Configure a single server by adding roles, role services, and Configure of the services installation Install required role services for Virtual Desktop Infrastruct or session-based desktop deployment.

5. Select the destination server where this new role would be installed.

elect destinati	on server		mone	DESTINATIO lesktop43.monso	IN SERVI	ER let
Before You Begin Installation Type Server Selection	Select a server or a Select a server Select a virtual	a virtual hard disk on which from the server pool hard disk	to install roles and features.			
Features Confirmation	Filter:					_
Results	Name	IP Address	Operating System			
	1 Computer(s) fou This page shows s Add Servers comm collection is still in	nd ervers that are running Win hand in Server Manager. Off complete are not shown.	dows Server 2012, and that have b fline servers and newly-added serv	een added by ers from which	using t h data	the

6. Now a list will be displayed in front of you from which you must select the Web Server (IIS).

elect server ro	bles	DESTINATION SERVI mondesktop43.monsolutions.n
Before You Begin Installation Type	Select one or more roles to install on the selected server. Roles	Description
Server Selection	Antina Directory Contificate Services	Web Server (IIS) provides a reliable
Server Roles	Active Directory Certificate Services	manageable, and scalable Web
Features	Active Directory Federation Services	application intrastructure,
	Active Directory Lightweight Directory Services	
	Active Directory Rights Management Services	
	Application Server	
	DHCP Server	
	DNS Server	
	E Fax Server	
	 File And Storage Services (Installed) 	
	Hyper-V (Installed)	
	Network Policy and Access Services (Installed)	
	Print and Document Services	
	Remote Access	
	P Remote Desktop Services (Installed)	

7. Now you must select the features that you want to install on the selected

elect features			DESTINATION SERVE mondesktop43.monsolutions.ni
Before You Begin Installation Type	Select one or more features to install on the selected sen Features	ver.	Description
Server Selection Server Roles	INET Framework 3.5 Features INET Framework 4.5 Features (installed)	^	NET Framework 3.5 combines the power of the .NET Framework 2.0 APIs with new technologies for
Features Confirmation Results	Background Intelligent Transfer Service (BITS) BitLocker Drive Encryption BitLocker Network Unlock BranchCache Client for NFS Data Center Bridging Enhanced Storage Failover Clustering Group Policy Management Ink and Handwriting Services Internet Printing Client IP Address Management (IPAM) Server		building applications that offer appealing user interfaces, protect your customers' personal identity information, enable seamless and secure communication, and provid the ability to model a range of business processes.
		>	

8. Click install on Confirmation window.

onfirm install	ation selections			DE: mondesktop4	STINATION SE 43.mcnsolutio	IRVI ns.n
Do you need to speci Before You Begin Installation Type Server Selection Server Roles	fy an alternate source path? One or more installation sel To install the following roles, role services, or fe Restart the destination server automaticall Optional features (such as administration tools been selected automatically. If you do not wan their check boxes.	lections are missi eatures on selecte y if required) might be display t to install these o	ng source fil ed server, cli yed on this p optional feat	es on the o ck Install. page becau tures, click	Jestinati Ise they have Previous to	/e cle
Features Confirmation Results	.NET Framework 3.5 Features .NET Framework 3.5 (includes .NET 2.0 an Add Roles and Featur	nd 3.0) res Wizard		×		
	If a restart is required, this server restand additional notifications. Do you want	arts automatically t to allow automa Yes	, without tic restarts? No			
	Export configuration settings Specify an alternate source path			24		

9. When the IIS installation completes, the wizard reflects the installation status.

i	Add Roles and Features Wizard	
Installation pro	gress mendesktop4	TINATION SERVER
Before You Begin Installation Type Server Selection Server Roles Features Confirmation Results	View installation progress Feature installation Installation started on mondesktop43.monsolutions.net .NET Framework 3.5 Features .NET Framework 3.5 (includes .NET 2.0 and 3.0)	
	You can close this wizard without interrupting running tasks. View task progress page again by clicking Notifications in the command bar, and then Task Details. Export configuration settings	or open this
	< Previous Next > Close	Cancel

10. Click Close to exit the wizard.

11. On left hand side of Server Manager Dashboard you will find IIS, click on that



12. On right hand side scroll down and you will find IIS service in running state with name IIS Admin Service

SERVICES All services 6 total				
Filter	• 🗉 ۹	•		
Server Name	Display Name	Service Name	Status	Start Type
MCNDESKTOP43	IIS Admin Service	IISADMIN	Running	Automatic
MCNDESKTOP43	World Wide Web Publishing Service	W3SVC	Running	Automatic
MCNDESKTOP43	Microsoft FTP Service	ftpsvc	Running	Automatic
MCNDESKTOP43	Web Management Service	WMSVC	Stopped	Manual
MCNDESKTOP43	Application Host Helper Service	AppHostSvc	Running	Automatic
MCNDESKTOP43	Windows Process Activation Service	WAS	Running	Manual

13. Go to tools option and click on IIS Manager.



14. On the left hand side under Start page expand your server name, expand Sites here you will find Default Web Site, click on Default Web Site.



15. On right hand side under Actions pane in Browse website section click on Browse *.80(http) , this will open browser default webpage.



16. See your browser default webpage.

