

Installing Server Core 2012 R2

For the free video please see
<http://itfreetraining.com/server#install-core-2012-r2>

This video will look at installing Windows Server 2012 R2 using the core interface. The video will also look at how to configure the install once complete for remote administration. Server Core only provides a command line interface rather than the full graphical interface, but by the end of this video you will see that you can configure almost any part of Windows Server 2012 R2 Server Core from remote.

Firewall Rules For Remote Administration

Admin Tool or Feature	Rule group
Computer Management	Windows Management Instrumentation (WMI) Remote Event Log Management
Remote Administration	Remote administration
Event Viewer	Remote Event Log Management
Services	Remote Service Management
Shared Folders	File and Printer Sharing
Task Scheduler	Remote Scheduled Tasks Management
Disk Management	Remote Volume Management
Windows Firewall with Advanced Security	Windows Firewall Remote Management
Reliability and performance	Performance Logs and Alerts File and Printing Sharing

Demonstration

This demonstration will look at installing Windows Server 2012 R2 with the core interface on a VMWare virtual machine. The procedure is the same if you plan to install it on a physical computer.

To start the install, place the Windows Server 2012 R2 DVD in the optical drive. In the case of a physical computer this will involve placing the media in the computer. In a virtual machine, this will involve editing the optical drive settings and mounting the ISO image of the DVD. If the computer does not boot from the optical drive you will need to change the boot order in the BIOS or press the boot menu key on start up to select the optical drive to boot off. This key will be different depending on the BIOS that is running on that computer, however it is generally displayed on the startup screen when the computer is first switched on.

Once the computer has booted, the first screen will ask which language, time and currency format to use and lastly which keyboard to use. You should choose these based on where you live in the world and what language you want to use.

The next screen gives you the option to repair the computer. If you have already installed Windows and it is not booting, selecting this option allows you to access a number of tools that may allow you to fix the problem. To start the install of Windows, select the option in the middle of the screen "Install Now".

On the product key screen you will need to enter in a product key. The product key not only provides proof that you have purchased Windows but it also lets the setup know which edition you are allowed to install.

This screen allows you to decide which operating system to install. The Server core option will be selected by default. If the edition of Windows indicated by the product key is not on the DVD, setup will indicate that Windows Server cannot be installed with that product key.

On the license agreement screen, it is just a matter of ticking the tick box "I accept the license terms" after you have read it and pressing next.

On the type of installation that you want to perform you need to select the second option "Custom: Install Windows only (Advanced)." This will perform a clean install of Windows Server. The top option "Update: Install Windows and keep files, settings, and applications" will upgrade an existing edition of Windows. This option will only work if you run setup from the operating system that you want to upgrade.

On this screen you select where you want to install Windows from. If you have a drive that has not been partitioned and formatted it will appear as unallocated space. It is a simple matter to select this drive and let setup partition and format the drive as required. If your drive does not appear, you may need to load additional device drivers. This can be done by selecting the option "Load driver". If you have a drive that already has partitions on it but you want to remove all the data on it, you can select it and select delete to delete the partitions and data. It is generally easier to do this and install onto unallocated space than use existing partitions. This is because the way Windows partitions drives changes a little as time goes on and if it is possible to start a fresh, it is best to do so.

Setup will start copying files and configuring the drive to boot Windows. Once this is complete, Windows will restart and start detecting device drivers and configuring Windows. Once complete, the system will boot to the login screen.

On the login screen, the first login will ask you to enter in a password for the local administrators user account. Once entered, the computer will login and present you with a command prompt. Windows Server Core has been installed and now needs to be configured.

Demonstration installing VMWare Tools

Since this install was performed on a VMWare virtual machine, VMWare tools need to be installed. This will install additional device drivers and software. The most noticeable missing device driver is the network adapter.

To install VMWare Tools, select the menu VM at the top, select guest and then select "Install/Upgrade VMWare Tools". This will mount the ISO containing VMWare tools to the virtual machine's optical drive.

To run the setup for VMWare tools, from the command prompt change to your optical drive, the default is D: and then run setup.

In this case the defaults were accepted for the install. In most cases the defaults will work fine. Once the install is complete the server will need to be restarted.

Demonstration Configuring using SConfig

Before administration for the server can be performed from remote, some basic settings will need to be configured like basic network settings. This can be done from the command prompt, however Windows provides a script called SConfig which makes the process a lot easier.

To run Server Configuration, to perform basic configuration of the server, run the command "SConfig".

Once Server Configuration is running, it is just a matter of selecting the option you want and entering the details. If you change the computer name you will need to restart the server in order for the change to take effect. SConfig currently does not have the option to configure

an IPv6 address. If you have the computer name, it is a good idea to restart the server before adding it to the domain.

SConfig also allows you to restart the server. So if you have made a change that allows the server to be restarted, select the option 13 to restart the computer.

Demonstration configuring IPv6

Before the IPv6 configuration can be performed using NetSH, the interface number must first be found. This can be done with the command "NetSH interface IPv6 show interface"

Once you have the index of the network adapter the IP Address for the network adapter can be configured with the following command "NetSH Interface IPv6 Set Address interface=12 address=fd:0:0:2::3" changing the index number and IP Address as required.

To configure a DNS server run the command "NetSH Interface IPv6 Add DNSServers 12 fd:0:0:2::2 index=1". In this example the 12 is the index number of your network adapter and you need to change this as required. The IPv6 address of fd:0:0:2::2 in this case is NYDC1. You need to change this to the IP Address of your DNS server. Index=1 is the DNS server that you want to add. For example, if you wanted to add a second DNS server you would need to run the command a second time with index=2

To add a default gateway run the command "NetSH interface IPv6 add route ::/0 12 fd:0:0:2::1". In this example, change 12 to the network adapter index that you want to configure the default gateway on. The IP Address fd:0:0:2::1 needs to be changed to the IP Address of the gateway on your network. The "::/0" in the command states that this is the default route to be used when no match for routes can be found.

Demonstration opening a new command prompt

If you close the running command prompt and need to open it again, press ctrl+atl+del and then select the option "Task Manager".

Once task manager has opened, select the option at the bottom more details.

From the file menu, select the option "Run new task".

In the Create New Task Window, enter in CMD.

Demonstration configuring server core for remote administration

To configure a server core for remote administration, open Server Manager.

From server manager, right click "All Servers" and select "Add Servers".

From the Add Servers screen, find and add the Server Core install.

Demonstration changing firewall rules from remote

In order to configure certain options from remote using management tools some firewall rules need to be enabled. This can be done from remote using PowerShell.

In Server Manager, find the server that you want to make changes to the firewall rules on, right click it and select the option "Windows PowerShell". This will run Windows PowerShell on the remote computer.

To make changes to the Firewall to allow the following remote administration to run the following commands depending on what remote management that you want to allow.

Computer Management

"NetSH AdvFirewall Firewall set rule group "Windows Management Instrumentation (WMI)"

new enable=yes

“NetSH AdvFirewall Firewall set rule group “Remote Event Log Management” new enable=yes

Remote Administration

“NetSH AdvFirewall Firewall set rule group “Remote administration” new enable=yes
Event Viewer

“NetSH AdvFirewall Firewall set rule group “Remote Event Log Management” new enable=yes

Services

“NetSH AdvFirewall Firewall set rule group “Remote Service Management” new enable=yes

Shared Folders

“NetSH AdvFirewall Firewall set rule group “File and Printer Sharing” new enable=yes

Task Scheduler

“NetSH AdvFirewall Firewall set rule group “Remote Scheduled Tasks Management” new enable=yes

Disk Management

“NetSH AdvFirewall Firewall set rule group “Remote Volume Management” new enable=yes

Windows Firewall with Advanced Security

“NetSH AdvFirewall Firewall set rule group “Windows Firewall Remote Management” new enable=yes

Reliability and performance

“NetSH AdvFirewall Firewall set rule group “Performance Logs and Alerts” new enable=yes

“NetSH AdvFirewall Firewall set rule group “File and Printing Sharing” new enable=yes

Demonstration of corefig

If you want a graphical way of performing some of the basic administration on Server Core, there is free software called Corefig which provides a basic graphical interface and the ability to perform basic server core configurations.

Navigate to the web page <http://corefig.codeplex.com/>

Select the download option. The downloads are in ISO and zip format. Corefig does not need to be installed. If you are using virtual machines, it is often easier to download the ISO version and mount it to the optical drive in the virtual machine. Otherwise, download the zip and extract the files to where you want to use them including network locations.

To run Corefig, run the command “Start_Corefig.wsf” once running, it is just a matter of selecting the option you want. The option to promote the server to a Domain Controller is not available in Windows Server 2012 but does work in Windows Server 2008. Also, IPv6 configuration is not supported so it will need to be done from the command line.

See <http://YouTube.com/ITFreeTraining> or <http://itfreetraining.com> for our always free training videos. This is only one video from the many free courses available on YouTube.

References

“Installing Windows Server 2012 in Core Mode - Step by Step - Part II”

<http://blogs.technet.com/b/tommypatterson/archive/2012/11/29/installing-windows-server-2012-in-core-mode-step-by-step-part-ii.aspx>

“IPv6 configuration items” [http://technet.microsoft.com/en-us/library/cc783049\(v=ws.10\).aspx](http://technet.microsoft.com/en-us/library/cc783049(v=ws.10).aspx)

“How to Enable Remote Administration of Server Core via MMC using NETSH”
<http://blogs.technet.com/b/askds/archive/2008/06/05/how-to-enable-remote-administration-of-server-core-via-mmc-using-netsh.aspx>