Understanding Server Core

A Windows Server 2008 R2 Server Core installation is a minimal installation of Windows that consumes about 3 GB of disk space and less than 256 MB of memory. A Server Core installation limits the server roles and features that can be added but can improve the security and manageability of the server by reducing its attack surface. The number of services and components running at any one time are limited, so there are fewer opportunities for a user with malicious intent to compromise the security of the server. Because of the decreased roles and features installed, a Server Core installation also reduces the administrative burden of the server, which requires fewer updates and less maintenance.


**Server Core supports the following server roles:**

1. Active Directory Certificate Services
2. Active Directory Domain Services
3. Active Directory Lightweight Directory Services (AD LDS)
4. BranchCache Hosted Cache
5. DNS Server
6. Dynamic Host Configuration Protocol (DHCP) Server
7. File Services
8. Hyper-V
9. Print and Media Services
10. Streaming Media Services
11. Web Server (IIS) (including a subset of ASP.NET)

**Server core also supports these optional features:**

1. Failover Clustering
2. Multipath I/O
3. Network Load Balancing
4. Quality of Service (QoS)
5. Removable Storage Management
6. Simple Network Management Protocol (SNMP)
7. Subsystem for UNIX-based applications
8. Telnet client
9. Windows Bitlocker Drive Encryption
10. Windows Internet Name Service (WINS)
11. Windows-on-Windows 64-bit (WoW64)
12. Windows PowerShell
13. Windows Server Backup

**Installing Server Core**

You can install Server Core by using the same steps used to install the Full Version of Server 2008.
The following points outline the key differences between a full installation of Windows Server 2008 R2 and a Server Core installation:

1. You must select the Server Core installation option when running the Windows Server 2008 R2 installation wizard, as shown in Figure 1-9.
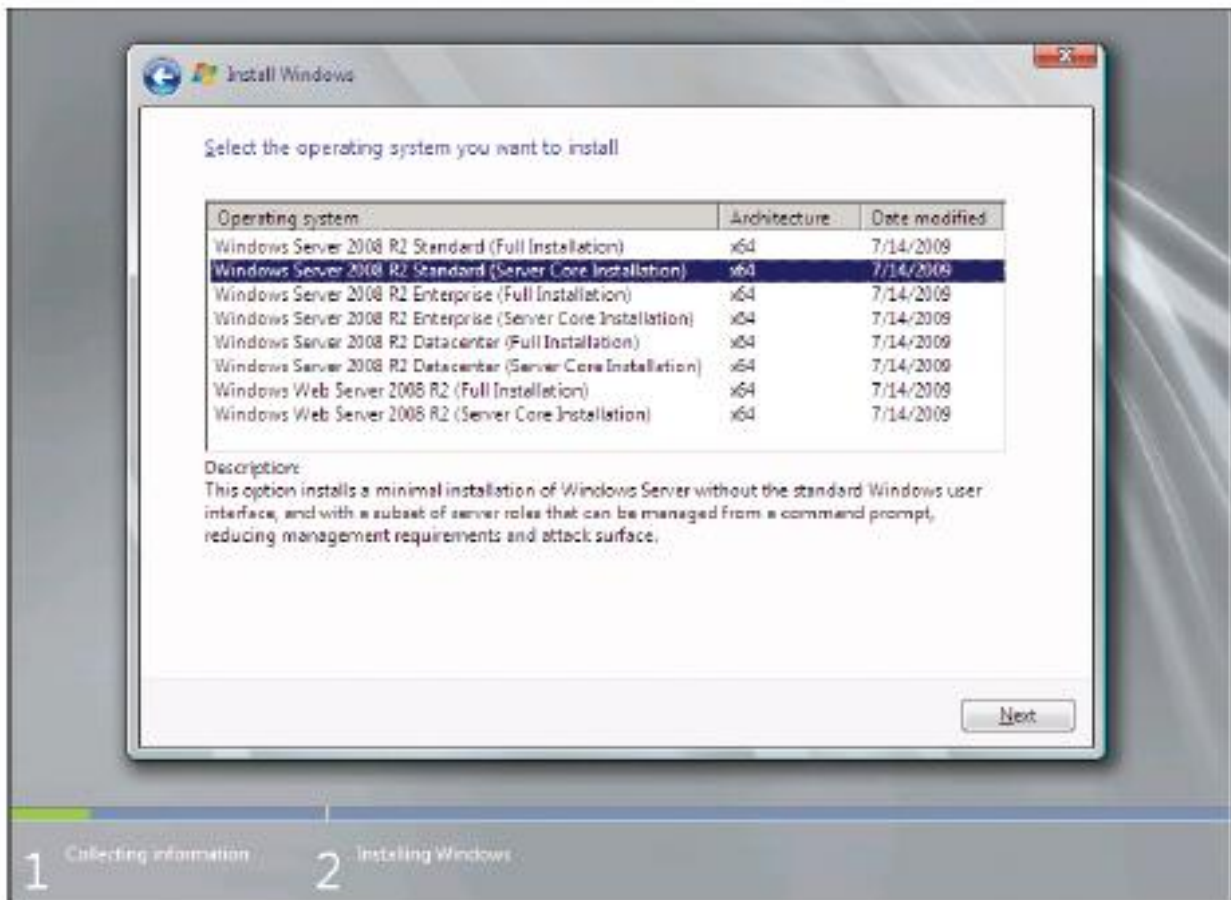


FIGURE 1-9 The Operating Systems selection page of the Install Windows Wizard

Performing Initial Configuration Tasks

On a server running a full installation of Windows Server 2008 R2, the Initial Configuration Tasks window guides you through post-installation configuration of the server. <u>A Server Core installation provides no GUI, so you must complete the tasks by using command-line tools.</u>

Table 1-1 lists common configuration tasks and the commands you can use. To learn more about any command, open a command prompt and type the name of the command followed by **/?**.

**TABLE 1-1** Server Core Configuration Commands

| TASK | COMMAND |
| --- | --- |
| Change the Administrator password | Net user administrator * |
| Set a static IPv4 configuration | Netsh interface ipv4 |
| Activate Windows Server | Cscript c:\windows\system32\slmgr.vbs -ato |
| Join a domain | Netdom |

| TASK | COMMAND |
| --- | --- |
| Install optional components (roles, role services, or features) | Ocsetup.exe <package or feature><br><br>Note that the package or feature names are case sensitive. List the valid packages and features by entering the command **Ocsetup /?.** |
| Display installed roles, components, and features | Oclist.exe |
| Enable Remote Desktop | Cscript c:\windows\system32\scregedit.wsf /AR 0 |
| Promote a domain controller | Dcpromo.exe |
| Configure DNS | Dnscmd.exe |
| Configure DFS | Dfscmd.exe |

The *Ocsetup.exe* command adds supported Server Core roles and features to the server. The exception to this rule is AD DS. Do not use *Ocsetup.exe* to add or remove AD DS. Use *Dcpromo.exe* instead.

*Note* **Running Server Configuration**

To run Server Configuration on a Server Core installation of Windows Server 2008 R2, type **sconfig.exe** at the command prompt and then press Enter.

Adding AD DS to a Server Core Installation

Because there is no Active Directory Domain Services Installation Wizard in Server Core, you must use the command line to run *Dcpromo.exe* with parameters that configure AD DS. To learn about the parameters of *Dcpromo.exe*, open a command line and type **dcpromo.exe /?**. Each configuration scenario has additional usage information. For example, type **dcpromo.exe /?:Promotion** for detailed usage instructions for promoting a domain

controller.

**Removing Domain Controllers**

Occasionally, you might have a reason to take a domain controller offline for extended Maintenance or to remove it permanently. It is important that you remove a domain Controller correctly so that the information about the domain controller is cleaned up in Active Directory.

To remove a domain controller, use the *Dcpromo.exe* **command**. If you run the command on a domain controller by using the Windows interface, the Active Directory Domain Services Installation Wizard takes you through the process. If you want to use the command line or are removing AD DS from a Server Core installation, type **dcpromo.exe /?:Demotion** for usage information regarding parameters for the demotion operation.

When you demote a domain controller, you must provide a password that will be assigned to the local Administrator account of the server after demotion.

Passwords for server core

The password must be at least seven characters long and must have at least three of four character types:
A. Uppercase: A–Z
B. Lowercase: a–z
C. Numeric: 0–9
D. Non-alphanumeric: symbols such as $, #, @, and !

Configuring Server Core

Rename the server by typing **netdom renamecomputer %computername% /newname: SERVER 02**. You are prompted to press Y to confirm the operation. Alternately, you can configure the computer's name by typing **sconfig** at the command
line and using the menu-based Server Configuration tool.

Set the IPv4 address of the server by typing each of the following two netsh commands:
netsh interface ipv4 set address name="Local Area Connection"
source=static address=10.0.0.12 mask=255.255.255.0 gateway=10.0.0.1 1
netsh interface ipv4 set dnsserver name="Local Area Connection"
source=static address=10.0.0.11 primary

Restart by typing **shutdown -r -t 0**.

Join the domain by typing the command **netdom join %computername% / domain:contoso.com**.

Display installed server roles by typing **oclist | more**.

REVIEW

Windows Server 2008 R2 Server Core Installation, better known simply as Server Core, is a minimal installation of Windows that supports a subset of server roles and features.

Server Core can improve the security and manageability of Windows servers.

The *Ocsetup.exe* command is used to add and remove Server Core roles except for AD DS, which is added by using *Dcpromo.exe*.

You can fully configure an automated promotion or demotion operation by using the *Dcpromo.exe /unattend* command with parameters appropriate for the operation.