Server Core Overview

Server Core supports a limited number of roles.

- Active Directory Certificate Services (AD CS)
- Active Directory Domain Services (AD DS)
- Active Directory Federation Services (AD FS)
- Active Directory Lightweight Directory Services (AD LDS)
- Active Directory Rights Management Services (AD RMS)
- Application Server
- DHCP Server

- DNS Server
- Fax Server
- File and Storage Services
- BITS Server
- BranchCache
- Hyper-V
- Network Policy and Access Services
- Print and Document Services
- Remote Access
- Remote Desktop Services
- Volume Activation Services
- Web Server (IIS)
- Windows Deployment Services
- Windows Server Update Services
- .NET Framework 3.5 Features

- .NET Framework 4.5 Features
- Streaming Media Services
- Failover Clustering
- iSCSI
- Network Load Balancing
- MPIO
- qWave
- Telnet Server/Client
- Windows Server Migration Tools
- Windows PowerShell 4.0

Server Core does not have the normal Windows interface or GUI. Almost everything has to be configured via the command line or, in some cases, using the Remote Server Administration Tools from a full version of Windows Server 2012 R2. While this might scare off some administrators, it has the following benefits:

Reduced Management Because Server Core has a minimum number of applications installed, it reduces management effort.

Minimal Maintenance Only basic systems can be installed on Server Core, so it reduces the upkeep you would need to perform in a normal server installation.

Smaller Footprint Server Core requires only 1GB of disk space to install and 2GB of free space for operations.

Tighter Security With only a few applications running on a server, it is less vulnerable to attacks.

The prerequisites for Server Core are basic. It requires the Windows Server 2012 R2 installation media, a product key, and the hardware on which to install it.

After you install the base operating system, you use PowerShell or the remote administrative tools to configure the network settings, add the machine to the domain, create and format disks, and install roles and features. It takes only a few minutes to install Server Core, depending on the hardware.

One of the new things to keep in mind is that you can upgrade or downgrade to Server Core or MinShell. In Windows Server 2008 R2 and Windows Server 2008, if you wanted to switch your Windows Server GUI to Server Core, or vice versa, there was no way to convert to a full Windows Server installation or a Server Core installation without reinstalling the operating system. In Windows Server 2012 R2, the Server Core or GUI installation options are no longer an irreversible selection made during setup. An administrator now has the ability to convert between a Server Core installation and a full installation as needed.

If you have a server that is running Server Core, there may be a situation in which you need to use the graphical user interfaces available only in Windows Server 2012 R2 with a GUI mode. Windows Server 2012 and Windows Server 2012 R2 allow you to switch the Server Core system to a Server with a GUI mode, or vice versa.

To convert from a Windows 2012 or Windows Server 2012 R2 Server Core system to Server with a GUI mode, run this code snippet (a restart is required):

```
Install-WindowsFeature Server-Gui-Mgmt-Infra,Server-Gui-Shell -
Restart
```

To convert from Server Core mode to Server with a GUI mode, follow these steps when the server is initially installed in Server Core mode:

1. Determine the index number for a server with a GUI image (for example, SERVERDATACENTER, not SERVERDATACENTERCORE) using this cmdlet:

   ```
   Get-WindowsImage -ImagePath path to wim\install.wim
   ```

2. Run this line of code:

   ```
   Install-WindowsFeature Server-Gui-Mgmt-Infra,Server-Gui-Shell
   -Restart
   -Source wim: path to wim\install.wim: Index # from step 1
   ```

3. Alternatively, if you want to use Windows Update as the source instead of a WIM file, use this Windows PowerShell cmdlet:

```
Install-WindowsFeature Server-Gui-Mgmt-Infra,Server-Gui-Shell
-Restart
```

After you have completed the management tasks, you can switch the server back to Server Core mode whenever it is convenient (a restart is required) with this Windows PowerShell cmdlet:

```
Uninstall-WindowsFeature Server-Gui-Mgmt-Infra -restart
```