

# CNT 4603: System Administration Spring 2014

## Managing And Maintaining Windows Server 2008 Part 1

Instructor :      Dr. Mark Llewellyn  
                         markl@cs.ucf.edu  
                         HEC 236, 4078-823-2790  
                         <http://www.cs.ucf.edu/courses/cnt4603/spr2014>

Department of Electrical Engineering and Computer Science  
Computer Science Division  
University of Central Florida



# Managing And Maintaining Windows Server 2008

- With an operating system as large and complex, and functionally rich as Windows Server 2008, the OS is only as good as the tools available to expose this functionality, configure it, and manage it on a day to day basis.
- By now you are somewhat familiar with the process necessary to install Server 2008 since you should have done this in your virtual environment. Soon you will become familiar with installing and configuring server roles as well.
- This set of notes will examine in some detail the Server Manager and the functionality it provides a system administrator for managing and maintaining a Server 2008 environment.



# Server Manager In Windows Server 2008

- The Server Manager is the biggest factor in effectively managing a Windows Server 2008 environment.
- The Server Manager brings together into one management tool the entire process of managing a server operating system.
- The Server Manager interface is designed around the functionality the server provides, instead of being designed around the individual components.



# Server Manager In Windows Server 2008

- The guiding principle in the design of Server Manager was how system administrators think about their servers.
- If you ask a system administrator to show you their server room, they don't point to "my Windows Server 2008 box, my Windows Server 2003 box, and my Ubuntu box." Instead, they say "that's my domain controller, that's my file server, and that's my print server."
- System administrators think of servers by their role, or what they do, and not by the server operating system.
- Windows Server Manager is designed to work the same way.



# Server Manager In Windows Server 2008

- Windows Server Manager works by having the server running both **roles**, which are the major services the server offers along with **features** that help the server perform its main role purpose.
- For example, Windows Backup is a feature, as it helps keep a server maintained by providing backup and recovery capabilities.
- During your previous installs of Windows Server 2008 you utilized the ICT (Initial Configuration Tasks) interface and this causes the Server Manager to automatically run and launch at each Administrator logon. To refresh your memory, a screen shot of the Server Manager screen you see at logon is shown on the next page.



Player ▾ | [Icons]

### Server Manager

File Action View Help

Server Manager (MARK-SERVER1)

- Roles
- Features
- Diagnostics
- Configuration
- Storage

**Server Manager (MARK-SERVER1)**

Get an overview of the status of this server, perform top management tasks, and add or remove server roles and features.

**Server Summary** [Server Summary Help](#)

**Computer Information**

Full Computer Name:	Mark-Server1.savn.local
Domain:	savn.local
Local Area Connection:	192.168.0.101
Remote Desktop:	Disabled
Product ID:	92577-082-2500446-76135

Do not show me this console at logon

**Security Information** [Go to Windows Firewall](#)

Last Refresh: 2/19/2014 2:46:49 PM [Configure refresh](#)

Start | Server Manager | [Taskbar Icons] 2:46 PM



# Server Manager In Windows Server 2008

Server Manager ▶ Dashboard

Manage Tools View Help

Dashboard

Local Server

All Servers

File and Storage Services ▶

## ROLES AND SERVER GROUPS

Roles: 1 | Server groups: 1 | Servers total: 1

File and Storage Services 1

Manageability

Events

Performance

BPA results

Local Server 1

Manageability

Events

3 Services

Performance

BPA results

2/19/2014 2:48 PM

All Servers 1

Manageability

Events

3 Services

Performance

BPA results

2/19/2014 2:48 PM

The server manager in Windows Server 2012 looks a bit different but has essentially the same functionality as the server manager in Server 2008.

2:49 PM  
2/19/2014



# Server Manager In Windows Server 2008

- Let's take a closer look at some of the main features of the Server Manager.
- When the Server Manager is launched, initially it runs as a two-pane Microsoft Management Console (MMC) environment with the Console/Navigation tree pane (left pane) and the Details pane (right main pane) as shown on the previous page.
- The Console tree pane breaks the functionality of the Server Manager into five main areas:





Player ▾ | [Icons]

### Server Manager

File Action View Help

Server Manager (MARK-SERVER.1)

- Roles
- Features
- Diagnostics
- Configuration
- Storage

#### Roles

View the health of the roles installed on your server and add or remove roles and features.

**Roles Summary** [Roles Summary Help](#)

**Roles:** 2 of 16 installed

- ⚠ Active Directory Domain Services
- ⚠ DNS Server

[Add Roles](#)

[Remove Roles](#)

**Active Directory Domain Services** [AD DS Help](#)

Stores directory data and manages communication between users and domains, including user logon processes, authentication, and directory searches.

**Role Status** [Go to Active Directory Domain Services](#)

Messages: None

System Services: 8 Running, 2 Stopped

Last Refresh: 2/19/2014 2:47:55 PM [Configure refresh](#)



# Server Manager In Windows Server 2008

- **Roles.** Enables the administrator to install, remove, and manage roles for the server. Contained within roles is a child node for each role; this in turn has child links to the MMC snap-ins used to manage the role functionality.
- **Features.** Enables the admin to install, remove, and manage features for the server. As with roles, there is a child node for each installed feature, which in turn has child links to the MMC snap-ins used to manage the feature functionality.
- **Diagnostics.** Links to the snap-ins used to troubleshoot and diagnose problems, such as performance issues.
- **Configurations.** A consolidated interface to the snap-ins used for granular control of the server, which consists of the Tasks Configuration, Windows Firewall, Services, and Windows Management Instrumentation (WMI) Control.
- **Storage.** Links to the Disk Management and Windows Server Backup (WSB\_ snap-ins.



# Server Manager In Windows Server 2008

- Aside from all the functionality provided in the Console tree, the main page of the Server Manager, when the Console tree root is selected, is a powerful area for system administrators.
- The Server Summary section of the main page resembles the ICT (Initial Configuration Task) window because it is the same content.
- Once the server is initially configured, any subsequent configuration modification is done via the Server Manager and not ICT.
- The Server Summary is divided into two main areas: Computer Information and Security Information (see page 6).



# Server Manager In Windows Server 2008

- The Computer Information area provides details on the fully qualified domain name of the computer if it is part of a domain, or just the NetBIOS name if it is only in a workgroup.
- The domain or workgroup that the server is joined to is displayed , along with the network adapters in the server and the IP address information for both IPv4 and IPv6.
- The ability to change any of this information is provided by the links to the right of the displayed information. These links are to control panel applets that enable the configuration of the displayed attributes.



# Server Manager In Windows Server 2008

- The second area of the Server Summary is the Security Information, which gives critical information relating to the security of the server.
- For the Server Manager, this means whether the Firewall is turned on or off, how the server is being updated, when the updates were last checked for and when they were last installed.
- Finally, the status of Internet Explorer Enhanced Security Configuration is shown. This prompts you to indicate if you want to mark a web site as safe or ignore it for now.
- Notice on the next page, that the server shown has had recent updates to Windows Server 2008 recently installed.



Server Manager (TESTBEDSERVER)

File Action View Help

Server Manager (TESTBEDSERVER)

Get an overview of the status of this server, perform top management tasks, and features.

Do not show me this console at logon

**Security Information**

Windows Firewall:	On
Windows Updates:	Install updates automatically using Windows Update
Last checked for updates:	1/13/2014 11:50 AM
<b>Last installed updates:</b>	<b>1/13/2014 11:47 AM</b>
IE Enhanced Security Configuration (ESC):	On for Administrators On for Users

Last Refresh: 2/19/2014 2:53:59 PM [Configure refresh](#)

Go to Windows Firewall  
Configure Updates  
Check for New Roles  
Run Security Configuration Wizard  
Configure IE ESC



**View update history**

**Review your update history**

Check the Status column to ensure all important updates were successful. To remove an update, see [Installed Updates](#).

[Troubleshoot problems with installing updates](#)

Name	Status	Importance	Date I...
Security Update for Windows Server 2008 (KB2901674)	Pending	Important	2/19/2014
Security Update for Windows Server 2008 (KB2887069)	Pending	Important	2/19/2014
Security Update for Windows Server 2008 (KB967723)	Failed	Important	1/13/2014
Security Update for Windows Server 2008 (KB967723)	Failed	Important	11/18/2013
Security Update for Windows Server 2008 (KB967723)	Failed	Important	11/17/2013
Security Update for Windows Server 2008 (KB967723)	Failed	Important	11/16/2013
Security Update for Windows Server 2008 (KB967723)	Failed	Important	11/15/2013
Security Update for Windows Server 2008 (KB967723)	Failed	Important	11/14/2013
Security Update for Windows Server 2008 (KB2868626)	Successful	Important	11/13/2013
Cumulative Security Update for Internet Explorer 9 for Windows Server 2008 (KB2888505)	Successful	Important	11/13/2013
Security Update for Windows Server 2008 (KB2876331)	Successful	Important	11/13/2013
Security Update for Windows Server 2008 (KB2862152)	Successful	Important	11/13/2013
Security Update for Windows Server 2008 (KB967723)	Failed	Important	11/13/2013

OK

Update history on this server.

Standard Build 6002 not genuine



# Server Manager In Windows Server 2008

- The next section of the main section of the Server Manager is a summary of the roles, which displays each role installed on the server and a summary of its status for the past 24 hours.
- The status summary illustrates the worst events in the log for the services related to that role in the past 24 hours.
- Notice in the screen shot on the next page that the server in question currently has one role installed.





Player | [Icons] | [Close]

### Server Manager

File Action View Help

Server Manager (TESTBEDSERVER)

- Roles
- Features
- Diagnostics
- Configuration
- Storage

Server Manager (TESTBEDSERVER)

Get an overview of the status of this server, perform top management tasks, and add or remove server roles and features.

Configuration (ESC): On for Users

#### Roles Summary

Roles Summary Help

Roles: 1 of 17 installed

- File Services

Go to Roles  
Add Roles  
Remove Roles

#### Features Summary

Features Summary Help

Features: 3 of 35 installed

.NET Framework 3.0 Features

Last Refresh: 2/19/2014 2:57:23 PM [Configure refresh](#)



- Add Roles and Features
- Remove Roles and Features
- Add Servers
- Create Server Group
- Server Manager Properties

Dashboard

Local Server

All Servers

File and Storage Services ▸

### ROLES AND SERVER GROUPS

Roles: 1 | Server groups: 1 | Servers total: 1

**File and Storage Services** 1

---

- Manageability
- Events
- Performance
- BPA results

**Local Server** 1

- Manageability
- Events
- 3 Services
- Performance
- BPA results

2/19/2014 2:48 PM

**Local Server** 1

- Manageability
- Events
- 3 Services
- Performance
- BPA results

2/19/2014 2:48 PM



Server Manager (TESTBEDSERVER)

Roles

View the health of the roles installed on your server and add or remove roles and features.

**Roles Summary** [Roles Summary Help](#)

**Roles:** 1 of 17 installed

- [File Services](#)

[Add Roles](#)

[Remove Roles](#)

**File Services** [File Services Help](#)

Provides technologies that help you manage storage, enable file replication, manage shared folders, ensure fast file searching, and enable access for UNIX client computers

**Role Status** [Go to File Services](#)

Messages: None

System Services: All Running

[Events:](#) 1 informational in the last 24 hours

**Role Services:** 1 installed

[Add Role Services](#)

[Remove Role Services](#)

Console cannot refresh until computer is restarted [Restart](#)



Player | [Icons] | [Close]

### Server Manager

File Action View Help

Server Manager (TESTBEDSERVER)

- Roles
  - File Services
- Features
- Diagnostics
- Configuration
- Storage

#### File Services

Provides technologies that help you manage storage, enable file replication, manage shared folders, ensure fast file searching, and enable access for UNIX client computers

#### Summary

Events: 1 informational in the last 24 hours

1 Events

Level	Event ID	Date and Time
Information	8224	2/19/2014 2:55:40 PM

Go to Event Viewer  
Filter Events  
Properties  
Hide All Events

System Services: All Running

Display Name	Service Name	Status
Server	LanmanServer	Running

Go to Services  
Preferences  
Stop

Console cannot refresh until computer is restarted [Restart](#)

Start | Server Manager | Windows Update | 3:05 PM



Server Manager

Server Manager Dashboard

Add Roles and Features Wizard

DESTINATION SERVER  
WIN-EPBK5AGBB5C

## Select server roles

Before You Begin  
Installation Type  
Server Selection  
**Server Roles**  
Features  
Confirmation  
Results

Select one or more roles to install on the selected server.

Roles	Description
<input type="checkbox"/> Active Directory Certificate Services	Active Directory Certificate Services (AD CS) is used to create certification authorities and related role services that allow you to issue and manage certificates used in a variety of applications.
<input type="checkbox"/> Active Directory Domain Services	
<input type="checkbox"/> Active Directory Federation Services	
<input type="checkbox"/> Active Directory Lightweight Directory Services	
<input type="checkbox"/> Active Directory Rights Management Services	
<input type="checkbox"/> Application Server	
<input type="checkbox"/> DHCP Server	
<input type="checkbox"/> DNS Server	
<input type="checkbox"/> Fax Server	
<input checked="" type="checkbox"/> File and Storage Services (1 of 12 installed)	
<input type="checkbox"/> Hyper-V	
<input type="checkbox"/> Network Policy and Access Services	
<input type="checkbox"/> Print and Document Services	
<input type="checkbox"/> Remote Access	
<input type="checkbox"/> Remote Desktop Services	

1



Player ▾ | 

Server Manager

« File and Storage Services ▸ Servers

Manage Tools View Help

Servers

Volumes

Disks

Storage Pools

Server Name	Counter Status	CPU Alert Count	Memory Alert Count	First Occurrence	Last Occurrence
WIN-EPBK5AGBB5C	Off	-	-	-	-

**ROLES AND FEATURES**

All roles and features | 2 total

TASKS ▾

Filter 

+ Add criteria ▾

Server Name	Name	Type	Path
WIN-EPBK5AGBB5C	Storage Services	Role Service	File and Storage Services\Storage Services
WIN-EPBK5AGBB5C	File and Storage Services	Role	File and Storage Services

3:07 PM  
2/19/2014

# Server Manager In Windows Server 2008

- The next section of the main section of Server Manager is the Features Summary which lists the features that are installed and has links to Add or Remove Features.
- No status is provided for any of the installed features because typically they help facilitate a role's duties and do not, or their own, provide a service. There are exceptions to this. Windows Internet Name Service (WINS), for example, provides a direct service. However, the experience for features is not as integrated as with roles, and no summary information is provided, you simply see which features are provided.



Player ▾ | [Icons] [?]

### Server Manager

File Action View Help

Server Manager (TESTBEDSERVER)

- Roles
  - File Services
  - Features**
  - Diagnostics
  - Configuration
  - Storage

#### Features

View the status of features installed on this server and add or remove features.

**Features Summary** [Features Summary Help](#)

**Features:** 3 of 35 installed

- .NET Framework 3.0 Features
  - .NET Framework 3.0
  - XPS Viewer
- Windows PowerShell
- Windows Server Backup Features
  - Windows Server Backup

[Add Features](#)  
[Remove Features](#)

⚠ Console cannot refresh until computer is restarted [Restart](#)

Start | Server Manager | Windows Update | 3:08 PM





Player ▾ | [Icons]

Server Manager

Server Manager ▸ Local Server

Manage Tools View Help

- Dashboard
- Local Server
- All Servers
- File and Storage Services ▸

Server Name	Counter Status	CPU Alert Count	Memory Alert Count	First Occurrence	Last Occurrence
WIN-EPBK5AGBB5C	Off	-	-	-	-

**ROLES AND FEATURES**

All roles and features | 14 total

TASKS ▾

Filter

Server Name	Name	Type	Path
WIN-EPBK5AGBB5C	Server Graphical Shell	Feature	User Interfaces and Infrastructure\Server Graphical
WIN-EPBK5AGBB5C	User Interfaces and Infrastructure	Feature	User Interfaces and Infrastructure
WIN-EPBK5AGBB5C	TCP Port Sharing	Feature	.NET Framework 4.5 Features\WCF Services\TCP P
WIN-EPBK5AGBB5C	Graphical Management Tools and Infrastructure	Feature	User Interfaces and Infrastructure\Graphical Mana
WIN-EPBK5AGBB5C	SMB 1.0/CIFS File Sharing Support	Feature	SMB 1.0/CIFS File Sharing Support
WIN-EPBK5AGBB5C	Storage Services	Role Service	File and Storage Services\Storage Services



3:09 PM  
2/19/2014



# Server Manager In Windows Server 2008

- The final section of the main the Server Manager is the Resources and Support section and this illustrates a common theme throughout Server Manager. As you walk through the roles in the Server Manager, each role has its own resources section.
- Most of this area deals with sending feedback to Microsoft, but there are some useful areas of technical assistance available through the Windows Server TechCenter.
- 



Player | [Icons] | [Close]

### Server Manager

File Action View Help

Server Manager (TESTBEDSERVER) | Server Manager (TESTBEDSERVER)

Get an overview of the status of this server, perform top management tasks, and add or remove server roles and features.

- .NET Framework 3.0
- XPS Viewer
- Windows PowerShell
- Windows Server Backup Features
- Windows Server Backup

**Resources and Support**

Help make Windows Server better by participating in the Customer Experience Improvement Program (CEIP)

Report issues to Microsoft and get solutions to common problems by turning on Windows Error Reporting.

Browse technical resources for Windows Server, including how-to help, guides, web casts, and tools.

Get connected with other Microsoft customers through online community resources.

Send us your feedback, such as bug reports and feature suggestions, to help make Windows better.

- Resources and Support Help
- Participate in CEIP
- Turn on Windows Error Reporting
- Windows Server TechCenter
- Windows Server Community Center
- Send Feedback to Microsoft

⚠ Console cannot refresh until computer is restarted [Restart](#)

Start | Server Manager | Windows Update | [System Tray] | 3:09 PM



# Server Manager - Managing Roles

- The main function of the Server Manager is to provide an interface that manages what the server does.
- What the server does is controlled by what roles the server has, e.g., “that’s my domain controller, that’s my DNS server, that’s my file server.”
- On the Server Manager main page, the Roles Summary displays the list of roles that are installed and their health state based on event logs and monitored services for the role.
- Before we look more closely at a role, let’s look at the main Roles page in the Server Manager.



# Server Manager - Managing Roles

- Like the Server Manager main page, the Roles main page has the same Roles Summary section, plus the option to add and remove roles. (Click on the Roles link in the configuration tree in the right pane of the main Server Manager window to go to the main Roles page.)
- After the Summary section is a section for each installed role, which will include an icon to set the Role information being shown or hidden (arrow pointing up shows role information, arrow pointing down hides role information).
- As we will see later, the role for ADDS is handled somewhat differently from most other roles to primarily to its complexity.



# Server Manager - Managing Roles

- The next page illustrates the information shown for the File Services role as it is installed on a server.
- The real power of the Server Manager begins to be understood when you select a specific role. By selecting a specific role you are given a great deal of information about the health of the role and guidance on how to manage it.
- On the Roles main page you'll see the actual event logs, which relate to all services that the role owns or utilizes that have been generated in the last 24 hours. Each event log can be double-clicked to see the full event information.



Player | [Icons] | [Close]

### Server Manager

File Action View Help

Server Manager (TESTBEDSERVER)

- Roles
  - File Services
  - Features
  - Diagnostics
  - Configuration
  - Storage

#### Roles

View the health of the roles installed on your server and add or remove roles and features.

Roles: 1 of 17 installed

- File Services

[Add Roles](#) [Remove Roles](#)

#### File Services

[File Services Help](#)

Provides technologies that help you manage storage, enable file replication, manage shared folders, ensure fast file searching, and enable access for UNIX client computers

Role Status

[Go to File Services](#)

Messages: None  
System Services: All Running

Events: 1 informational in the last 24 hours

Role Services: 1 installed

[Add Role Services](#) [Remove Role Services](#)

Role Service	Status
File Server	Installed

Console cannot refresh until computer is restarted [Restart](#)

Start | [Icons] | Server Manager | Windows Update | [Icons] | 3:10 PM



# Server Manager - Managing Roles

- The next page illustrates the information shown for the File Services role as it is installed on a server.
- The real power of the Server Manager begins to be understood when you select a specific role. By selecting a specific role you are given a great deal of information about the health of the role and guidance on how to manage it.
- On the Roles main page you'll see the actual event logs, which relate to all services that the role owns or utilizes that have been generated in the last 24 hours. Each event log can be double-clicked to see the full event information.
- The next page illustrates the detail available for a role managed from within Roles.





Player ▾ | [Icons] [?] [?]

Server Manager

File Action View Help

Server Manager (TESTBEDSERVER) File Services

Roles File S

Features Diagnost Configur Storage

**Event Properties - Event 8224, VSS**

General Details

Friendly View  XML View

```

- <Event
  xmlns="http://schemas.microsoft.com/win/2004/08/events/event"
- <System>
  <Provider Name="VSS" />
  <EventID Qualifiers="0">8224</EventID>
  <Level>4</Level>
  <Task>0</Task>
  <Keywords>0x8000000000000000</Keywords>
  <TimeCreated SystemTime="2014-02-19T19:55:40.000Z" />
  <EventRecordID>8678</EventRecordID>
  <Channel>Application</Channel>
  <Computer>TestBedServer</Computer>
  <Security />
    
```

Copy Close

⚠ Console cannot refresh until computer is restarted [Restart](#)

Start | Server Manager | Event Properties - Ev... | Windows Update | 3:11 PM



# Server Manager - Managing Roles

- The Roles page for a specific installed role provides information on three critical areas surrounding a role:
  - Events: logged in the last 24 hours relating to this role.
  - System Services: provides a listing of the system services that provide functionality to this role. This does not mean all the services that were installed as part of the role; some might be used by multiple roles. It just means that the service is important to the functionality of the role, so its status is shown. For example the ADDS role lists 10 separate services.
  - Role Services: enables the addition and removal of role services for installed roles. The particular role services depend on the role. The picture on the next page illustrates the role services for the File Service role.



Server Manager (TESTBEDSERVER)

File Services

Provides technologies that help you manage storage, enable file replication, manage shared folders, ensure fast file searching, and enable access for UNIX client computers

System Services: All Running

Role Services: 1 installed

Role Service	Status
File Server	Installed
Distributed File System	Not installed
DFS Namespaces	Not installed
DFS Replication	Not installed
File Server Resource Manager	Not installed
Services for Network File System	Not installed
Windows Search Service	Not installed
Windows Server 2003 File Services	Not installed
File Replication Service	Not installed
Indexing Service	Not installed

Description:

[File Server](#) manages shared folders and enables users to access files on this computer from the network

Console cannot refresh until computer is restarted [Restart](#)

