1.1 Windows as a Server

This course is designed to prepare you for the following certification exams:

* TestOut's Windows Server Pro: Install and Configure
* Microsoft's 70-410 exam, a requirement for:

Microsoft Certified Solutions Associate (MCSA) Microsoft Solutions Expert (MCSE): Server Infrastructure Microsoft Solutions Master (MCSM): Directory Services

The Windows Server Pro: Install and Configure Certification is from our new line of TestOut Pro Certifications--certifications that measure not just what you know, but what you can do. The Windows Server Pro: Install and Configure Certification measures your ability to design, implement, configure, and manage a Windows network that incorporates Windows Server 2012.

The MCSA certification measures a primary set of Windows Server 2012 skills, relevant across multiple solution areas in a business environment.

The topics covered in this course are:

* Install and configure servers
* Configure Hyper-V
* Install and administer Active Directory
* Implement DNS
* Deploy and configure core network services
* Configure server roles and features
* Create and manage Group Policy
* Configure network settings
* Implement DHCP

1.1.1 Windows Server

**Windows Server**

0:00-0:05

Welcome to Windows Server 2012. I want to talk just a couple of minutes about what a server is.

**Server**

0:06-1:10

I think Client and Server are two of the most difficult terms to define in our industry, because they can mean so many different things. If you said to me, "Hey, Shad, I went out last night and I built a server", I don't necessarily know exactly what you mean. Maybe you built up some really awesome hardware that's intended never to be able to fail and put in redundant hard drives and multiple network cards. Maybe you just installed Windows Server 2012.

Maybe you shared a file on your Windows 8 desktop. All of those things, technically, would be a server.

Really, the idea behind the server is, it's going to provide services to clients. The clients themselves can function as servers, but the idea behind the server is, it's a larger environment, and we're looking to centralize control over our resources. The idea behind networking is to share information and resources so we don't have to put a 3 TB drive in everybody's computer at their desktop.

The main themes that I'd like to have my students focus on really break down into three ideas. The first idea is, when you want to be a really efficient network administrator, you want to be as lazy as possible.

**Efficiency**

1:11-1:45

Most students laugh at that, but it's really true. In an ideal environment, I'm going to sit at my desk and probably not get up. I should join a gym because I would be sitting there most of the time. If I can't remote desktop into the server, if I can't control it from my desk, that's a bad day in my network. My boss is probably ringing my cell phone off the hook, the users are screaming, it's dangerous to walk in the halls--that type of thing.

As you go through your career, you always want to think of, "How can I work efficiently as opposed to harder?" Going along with that idea of efficiency, really, there's two main themes.

**Centralized Security and Centralized Administration**

1:46-2:44

They both revolve around centralization. With server, we're always looking for centralized security, which in our case is going to be Active Directory, a centralized database, and centralized administration. When I look at the computers in my network, I don't want to have to visit any individual computer. In fact, you might be surprised to realize, but the most difficult computers to support are computers of your people: in your friends, in your family, where they're very individualized.

In a network, I want everybody's computer to be the same. It's not their computer; it's the company's computer. We want centralized administration, that way, I can make changes on all of my computers; that they remain identically configured and configured according to company standard. When we get in later on in the course, the centralized administration piece is really going to be Group Policy. We're focusing on a server, we're focusing on centralization, working efficiently, and having everything be standardized across the environment.

1.1.2 Windows Server Facts

A server is designed to manage access to centralized resources or services in a network. Servers are often identified by the services they provide, such as:

* File servers
* Print servers
* Email servers
* Web servers
* Proxy servers
* FTP servers

Microsoft Server operating systems are designed to facilitate:

* Centralized network administration
* Centralized network security
* Standardized network deployment
* Standardized security implementation

Windows Server 2012 introduces new and improved features to enhance traditional services as well as to provide for a modern IT organization's evolving needs to support virtualization and cloud-based applications and services. Enhanced functionality includes:

* Server Manager facilitates managing multiple local and remote servers from one management console.
* Hyper-V Server provides hypervisor-based virtualization.
* Hyper-V Manager centralizes administration of virtual machines and virtual networks.
* Windows PowerShell 3.0 provides comprehensive management capabilities from the command line and a Robust Session Connectivity feature to protect against damage caused by disconnection.
* Storage spaces provide virtual storage that can be dynamically managed and eliminates the need for such tasks as repartitioning drives, resizing volumes, and backing up data into order to repartition.
* Active Directory enhancements include domain controller cloning, Dynamic Access Control for easier access authorization, and automatic generation of PowerShell commands by the graphical user interface.
* IP Address Management (IPAM) provides network administrators a single console from which they can view and manage the IP addresses of an entire enterprise.

1.2 Windows Server 2008 R2 Interface Overview

As you study this section, answer the following questions:

* Which command can you use to display the ICT?
* How should you access Windows PowerShell to ensure that you have the PowerShell commands for the roles and services you have installed?
* What tasks do you perform to customize a server?
* What are key differences between Windows Server 2008 and Windows Server 2008 R2?
* What is the difference between roles, role services, and features?

After finishing this section, you should be able to complete the following tasks:

* View available Administrative Tools from the Start menu.
* Open Administrative Tools within Server Manager.
* Execute a command from a command prompt.
* Access the Control Panel.
* Open the Network and Sharing Center.
* Open Computer Management within Administrative Tools.
* Open Windows Explorer and browse the Windows Server 2008 R2 file structure.

This section covers the following Windows Server Pro: Install and Configure exam objective:

* 1.0 Configure Windows Servers.

Navigate Server Interfaces

* + Navigate the Windows Server 2008 R2 Interface This section covers the following 70-410 exam objective:
* 100 Install and Configure Servers.

1.2.1 Windows Server 2008 R2 User Interface

**Windows Server 2008 R2 User Interface**

0:00-0:51

Before we talk about Windows Server 2012, let's talk a little bit about Windows Server 2008 R2, which is the operating system before Windows Server 2012. The interface for Windows Server 2008 R2 is very similar to Windows

7. And one thing you might want to be aware of is that the server operating systems always come out with a generation of client operating systems that have similar interfaces and what's under the hood, so to speak, is pretty much the same. In fact, Microsoft builds in limitations into the clients so that you can't just use it as a server and get out of paying for an actual version of the server.

The 2008 R2 interface has a streamline installation. So when you are looking at that interface, there is going to be a few things that you will be aware of. When you first initially install that server, the first thing you are going to see is called the Initial Configuration Task or ICT Window.

**Initial Configuration Task or ICT Window**

0:52-1:55

The ICT is to initially configure the server. Way back in Windows Server 2003, when you installed it, it would stop periodically and ask you questions. What do you want to do for networking? What do you want to name this server? What do you want the administrator's password to be?

Starting with Windows Server 2008, which went with the Vista Client operating system, they streamlined the installation so that once you choose the hard drive where you are going to install it, you're not asked any other questions until the installation is completely finished. You give the administrator password, and then that's about it. Well, all those questions they used to ask you during installation still need to be set up. Most important is the name of the server and the time zone. Time is particularly important in a network.

So, the ICT window is going to pop up to make sure you make these changes. You set the correct time zone, you set the name of the server. You set up whether or not the firewall is going to be on, whether or not you are going to use Windows Update.

**Close the ICT Window**

1:56-2:22

If at any time you close the ICT, and it'll keep popping up until you click the checkbox in the lower right-hand corner that says, never show me this ever again. If for some reason you check that and you need to get it back. you can go into the Start button. Click on Start, and in the search box, you can type OOBE.

Now, that having been said, there is nothing that can be done in the ICT that can't be done in the Windows Server 2008 R2 interface.

**Windows Server 2008 R2 Interface**

2:23-3:16

Mainly for working with 2008 R2, you either work in Server Manager, which was intended to be a centralized administration program, or, I'm kind of old school, I like to use the tools that are in the Administrative Tools Menu, Start, Administrative Tools, whichever way you prefer to work with server--those are generally what you are going to use to configure the server itself.

It looks a lot like Vista and Windows 7. It's got a Start button but it doesn't have what they call the Desktop Experience. So it's not going to be the round Start button that just has the Windows logo on it. It's going to be, kind of, the old school button with the word Start on it. The graphics are mostly grey tone, because that doesn't put a lot of burden on the video processor of the server. We don't need those translucent windows or Aero experience on a server. In an ideal world, I won't interact with the server very much.

**Working with the Server**

3:17-3:55

A lot of students say to me, "Shad, I can't wait to work with the server," and I say," I hope I don't have to work with the servers too much". I'd like to get them configured, up and running, put them in the server room, should be a locked spot, and then they'll stay locked in there, and the only time I have to visit them is if I have to do something that has to be done physically with the hardware. If you are still using backup tapes, maybe you have to switch backup tapes. Generally speaking, I don't want to visit the server very often, at all.

So, there is not much there by way of graphics, but a very similar interface to all of the generations that we've seen with the Windows products, and we will be sticking in Server Manager and in the Administrative Tools menu.

1.2.2 Using the Windows Server 2008 R2 User Interface

**Using the Windows 2008 R2 User Interface**

0:00-0:09

In this demo, we're going to take a look at the Windows Server 2008 R2 Interface. You can see here, the Initial Configuration Tasks window is open.

**Basics for Every Server**

0:10-0:45

Once you install 2008 R2, it will prompt you for the administrator password, and then when you first log in, it's going to open up this ICT window that prompts you to do the basic things that should be done for every server.

We have Activate Windows, Set the time zone, Configure networking, Provide the computer name and domain, set up automatic updates, so on and so forth. Anything that you can do in this window can be done elsewhere in the operating system. It's really just intended as a check list for what you should do with a new server.

**Removing and Adding the ICT Window**

0:46-1:10

If you don't want to see this window anymore, you can come down in the bottom left hand corner and check "Do not show this window at logon". When I hit Close, next time I log in, I'm not going to see it. If you ever want it back, all you have to do is go into the Start button. Right in the search box, you type oobe, the window comes back up, and you can uncheck it.

**Opening Server Manager**

1:11-1:26

Once we close the ICT window, normally what it will do is send this into Server Manager. If it doesn't, I just like to come right down here to the right of the Start button, click the Server Manager button, and that will open up Server Manager.

**Server Manager**

1:27-1:48

Server Manager is intended to be kind of a main application. I can manage the Roles that are installed on the computer. We can see that this particular server has quite a number of roles installed; Certificate Services, Domain Services, Application Server. Then, I can click on any one of these individual nodes, and I should get some options for managing that role.

**Roles**

1:49-1:55

Roles are main functions of the server and you can see right here on roles, I can Add Roles. I can Remove Roles.

**Features**

1:56-2:16

Features are more supporting functions, so not anything that the server is mainly doing. Here, it's got the Desktop Experience, so that it could look like a Windows 7 machine. Or it's got some Group Policy Management or Network Load Balancing. These aren't the primary functions of the server, but they're features that are supporting it.

**Subset**

2:17-3:16

The only thing you really have to know for Server 2008 R2 is, if it's not a Role, it's a Feature, and if it's a subset of a role, once the role is installed, you have to modify the role services. For example, if I scroll down in Roles here, you can see that in my Certificate Services, it only installed the Certification Authority. These are the other Role Services that are available with that role, and I would have to come in here and say Add Role Services in order to have these things be installed.

When you first install the role, it prompts you for which role services you want. Once it's already installed, you have to find that section in roles and do the Add Role Services. That's pretty much it for the 2008 R2. If you don't like Server Manager, you can get to individual snap-ins by going through the Start button, and all of the snap-ins will be added to Administrative Tools.

**PowerShell**

3:17-3:46

With PowerShell, the other thing I'll point out to you while we're here, you can see that up here, we have an Active Directory Module for Windows PowerShell. That would open up PowerShell with all the Active Directory commands already imported. The PowerShell that's on the task bar, down here to the right of the Start button, is just a generic PowerShell. If I open it that way, I wouldn't have any of the Active Directory commands. I'd have to do an import module to make those available.

That's just a brief demo of the Windows Server 2008 R2 Interface.

1.2.3 Windows 2008 R2 User Interface Facts

The main differences between Windows Server 2008 and Windows Server 2008 R2 are:

* Windows Server 2008 is the same codebase bits as Vista. It is available in 32-bit and 64-bit versions.
* Windows Server 2008 R2 is the same codebase bits as the Windows 7 64-bit version. It is available only in the 64-bit version.

The tools used to administer Windows Server 2008 R2 are described in the following table:

|  |  |
| --- | --- |
| **Tool** | **Description** |
|  | After you install Windows Server 2008 R2 and enter your password, the Initial Configuration Tasks (ICT) screen displays. The ICT functions as a checklist for setting up a server. The information you enter to set up the server is categorized into the following areas:* Provide Computer Information

Activate Windows Set the time zone Configure networkingProvide computer name and domain* Update the Server

Enable automatic updating and feedback Download and install updates* Customize This Server

Add roles Add featuresEnable Remote Desktop Configure Windows FirewallAll of the tasks available in the ICT can be completed in other areas of the Windows Server 2008 R2 interface. To display the ICT, enter **oobe** in the Search Box. |
| Initial Configuration Tasks(ICT) |
|  | Server Manager provides a single source for managing a server's system information. Server Manager eliminates the requirement that administrators run the Security Configuration Wizard before deploying servers. Server Manager:* Manages roles and features installed on the server.
* Displays server status
* Identifies problems with server role configuration
 |
| Server Manager |

|  |  |
| --- | --- |
|  | Server Manager replaces several features included with Windows Server 2003, including:* Manage Your Server
* Configure Your Server
* Add or Remove Windows Components

By default, server roles are configured with recommended security settings and are ready to deploy as soon as they are installed and properly configured. |
|  |
|  | You can access Administrative Tools from the Start menu. All of the snap-ins available in Server Manager are available in Administrative Tools.The Active Directory Module for Windows PowerShell available through Administrative Tools has all of the PowerShell Active Directory commands imported. PowerShell available on the Taskbar is a generic version of PowerShell and will not have the Active Directory commands available. |
| Administrative Tools |

The following are editions of the Windows Server 2008 operating system:

* Windows Server 2008 Standard (32-bit and x64 versions)
* Windows Server 2008 Enterprise (32-bit and x64 versions)
* Windows Server 2008 Datacenter (32-bit and x64 versions)
* Windows Web Server 2008 (32-bit and x64 versions)
* Windows Small Business Server 2008 Standard edition
* Windows Small Business Server 2008 Premium edition (32-bit and x64 versions)
* Windows Essential Business Server 2008 Standard and Premium editions The following are editions of the Windows Server 2008 R2 operating system:
* Windows Server 2008 R2 Standard
* Windows Server 2008 R2 Foundation
* Windows Server 2008 R2 Enterprise
* Windows Server 2008 Datacenter R2
* Windows Web Server 2008 R2

1.3 Windows Server 2012 Interface Overview

As you study this section, answer the following questions:

* Which Windows Server 2012 editions provide all features of Windows Server 2012?
* How do you access the Charms menu?
* What are two ways can you access the Start screen?
* How do you add tools to the Tools menu?
* What happens when two commands are piped?

After finishing this section, you should be able to complete the following tasks:

* Open Administrative Tools within Server Manager.
* Access the Start screen.
* Open an application from the Start screen.
* Run a command from a command prompt.
* Access the Control Panel.
* Open the Network and Sharing Center.
* Open Computer Management within Administrative Tools.
* Open File Explorer and browse the Windows Server 2012 file structure.

This section covers the following Windows Server Pro: Install and Configure exam objective:

* 1.0 Configure Windows Servers.

Navigate Server Interfaces

* + Navigate the Windows Server 2012 Interface This section covers the following 70-410 exam objective:
* 100 Install and Configure Servers.

1.3.1 Windows Server 2012 User Interface

**Windows Server 2012 User Interface**

0:00-0:06

One of the most striking things about Windows Server 2012 is the way Microsoft has redesigned the interface.

**No Start Button**

0:07-0:26

The first obvious thing that you're going to notice is, there won't be a Start button anymore, which was kind of a shock to me. I've been working with the Start button since Windows 95. Suddenly, it's gone, and for a while, I was a little bit lost.

There is no Start button. As soon you install server, Server Manager will open.

**Server Manager**

0:27-1:01

In 2008 R2, Server Manager was supposed to be the central command spot for Windows. It's much more so in Server 2012. Not only does it allow you to manage the local server to do all of the functions that you need to do within that server, it also allows you to remotely manage most of the other servers in your environment. It can handle about up to 100 servers comfortably. It's really is a one-stop shop for managing your network, unless you have a really Enterprise network with more than 100 servers.

**Tools Menu**

1:02-1:09

It also has a Tools menu that allows you to get access to all of the administrative snap-ins.

**Start Menu**

1:10-2:05

You can still go through the Start menu. The Start menu exists; we just don't have a Start button. You can go through the Start menu and go into Administrative Tools, if you want to, but it actually might end up being easier just to go to Tools inside of Server Manager and pull up the tool that you want.

You are going to see that this version of the operating system is more keyboard-- intensive than I've seen in a long time. But if you want to launch the Start menu you will hit the Windows key on the keyboard and it's going to open up with what they are calling the sort of the metro interface. You've got tiles there. It's not as interactive as Windows 8 because you won't have live tiles, but as we install roles into the server the different tools will be added to the Start menu that if you hit that Windows key most of your main tools will be right there.

Again, it's probably going to end up being more efficient to stay in Server Manager but certainly the Start menu is there.

**Search**

2:06-3:38

One of the big differences between having a Start menu, but not a Start button is not having the search box. If you are used to Windows Server 2008 R2 or Vista or Windows 7, any of those, you are used to clicking on the Start button and you see the search box right there, you start typing, whatever you need comes up in the Menu.

With Server 2012, there is a search function, but it's not so easy to get to. What you are going to have to do is hover your mouse either in the far upper right-hand corner of the screen or the far lower right-hand corner of the screen. That's going to pop out a bar with a search button on it. It's also where you get to your power settings so that you can shut down or reboot the server, but it takes a little bit of getting used to. You have to get into the framework of, okay, if what I see isn't exactly in front of me, I'm going to the upper right-hand corner, or I'm going to lower right- hand corner, then I'm going to be able to go into search and pull up what I need. But, the idea was that everything would be in Server Manager, and you wouldn't have to go into search very often at all. And hopefully it really does work out like that for you, but the interface will take some getting used to.

Initially, I will admit, I was very reluctant to move into a situation with no Start button, but I found that after a couple of weeks of working with it, you do get used to it, and it's not as bad as it was. There is a shift in Microsoft's thinking much more towards the keyboard.

**Command Line vs. GUI**

3:39-4:41

As we get into the course later on, we are going to see things like PowerShell; we are going to talk about command- line scripting. The philosophy being, that the command-line has always been probably more powerful than the GUI. The criticism with the Graphical User Interface is that it's bulky. It adds a video burden to the computer, so the computer has to display the graphics of the GUI. And because you have more code going on there, you have more potential for needing patches or having security holes. Later on in the course, we'll talk about Server Core, which doesn't have a GUI at all.

There is a trend towards working in the command-line, working with the keyboard, and it starts right out in the immediate interface, where you have to hit the Windows key on the keyboard in order to open the Start menu, or you've got to hover down there in order to get to the Search Menu.

I think once you experiment with it a little bit and get used to working with Server 2012, it won't be quite as bad as it might initially feel, and you may even come to like it.

1.3.2 Using the Windows Server 2012 User Interface

**Using the Windows Server 2012 User Interface**

0:00-0:12

This demo is just going to be a little tour of the Windows Server 2012 Interface. Once you install Server 2012 and you set your password, it will take you directly into Server Manager.

**Server Manager**

0:13-0:23

Server Manager is intended to be the main management utility. I think you could probably do almost everything you need to do and never leave Server Manager.

**Dashboard**

0:24-0:54

It takes us in on the dashboard, and you can see right here, we've got links for adding roles and features. Roles are main functions of the server, features are supporting functions of the server. I can also "Add other servers to manage" or "Create a server group", which we'll cover in a different demo. It also gives me a little snapshot down here of File and Storage Services, the Local Server, All Servers. If something was wrong, these would be red.

Sometimes when it's booting, it will go red, and then it will turn to green afterwards.

**Local Server**

0:55-1:23

In Server 2008 R2, we had the Initial Configuration Task window. If I click on Local Server, you're going to see something very similar to that. After you first install the server, you want to come into Local Server, set up your Computer name, Windows Firewall, Remote Desktop. Most important is Computer name, Time zone, and Windows Updates, definitely at least set up all of those. Then you can go in and manage it.

**Start Menu**

1:24-2:18

Usually the most obvious difference with Server 2012 is the fact that we don't have a Start button. I think that's something that makes a lot of people feel uncomfortable. I know it made me feel uncomfortable. My first icon here is the icon on the task bar for Server Manager.

A couple of ways to get into the Start menu, because the Start menu is still there: One way is to hover the mouse in the way bottom left-hand corner. It pops up this little blue square, and then if we click on it, I'll see the Start menu. As I add roles to the server, it will add the snap-ins to the Start menu so that they would be right here.

The other way to get to the Start menu is just to hit the Windows key on the keyboard. That would take me right in as well. To get out of it, I can either click on Desktop, or I can hit Escape, and that will take me right back to my desktop.

**Search Dialogue Box**

2:19-3:05

The other thing I miss without having my Start button is the Search dialog box, which I did love. We still have it, but you've got to get used to hovering, so two ways to get it. You can hover your mouse in the upper right-hand corner or the lower right-hand corner. That pulls up this little bar here and then I can come down, I can get to my Start menu from here, I also can get into Search, where I can search for whatever I want.

As I put in text into the search box, it will tell me if there are Applications that match, Settings that match, or Files that match, and then I can click on whatever I need.

The other thing that's on this bar here is Settings.

**Settings**

3:06-3:42

We're used to going to the Start menu to shut down the server. Here in Settings, this is where I get my Power. I can go in and I can shut it down, or I can Restart it. I also have an onscreen Keyboard. Any Notifications will show up here. Then I can click on my network connections if I need to, as well. I've also got sound, and this would be the brightness of the display. There are some settings in there that you can configure as well.

That's really just a brief tour of the 2012 Interface.

**Summary**

3:43-4:41

You also still have the notification area down here, the bottom right-hand corner, where the clock and the date is, and some of the icons that you can use to get in there. It's a little bit different than Windows Server ... anything before 2012. Once you get into the habit of hovering in the corners and using the keyboard, it's really not a big deal to make an adjustment in how you do your work and get into the habit of launching the search or launching the Start menu.

Again, Server Manager is intended to be the main area. The beauty of Server Manager is this Tools menu. If I add in any roles, not only is the snap-in added to the Start menu, it's also added to this Tools menu. Conceivably, I could run the entire server. I might never need to to into search or into the Start menu, and be able to do everything I need to do just from within Server Manager.

1.3.3 Using the Windows Server 2012 R2 User Interface

**Using the Windows Server 2012 R2 User Interface**

0:00-0:19

You can see that Windows Server 2012 R2 is slightly different but not dramatically different than Windows Server 2012. We still have the Dashboard, the Local Server, and the All Servers, as well as the links for any rules that I've installed on my server. I still have the Tools menu and the Manage menu and my notifications.

**Using the Start Button**

0:20-0:47

The biggest difference is the addition of the Start button in the bottom left hand corner. I can click on the Start to take me to the Start menu or I can go ahead and right click Start and that will take me into Task Manager control panel or a bunch of cool utilities. It's a nice quick way to get around. I can even click shut down or sign out from here and not have to go into the Start menu and click my user name in order to sign out. Other than that, it's pretty much the same.

**Using Search**

0:48-1:16

The other thing that you might notice is when you go into search--if I hover down in the bottom right hand corner and I go into the Charm bar and click Search, it searches everywhere. In 2012, it used to categorize things into files, applications and you had to click in each of the categories to find what you were looking for. Here, it's going to show you everything. If I search for temp, it will search with anything with temp in it anywhere in the computer, and even sometimes things on the web.

**Summary**

1:17-1:23

A nice little bit of addition to the look and feel of the Windows Server 2012 R2, but again, not dramatically different from 2012.

1.3.4 Windows 2012 User Interface Facts

Windows Server 2012 uses Server Manager to manage networks and multiple remote servers from a single administration console. You can easily configure and manage remote servers using Server Manager or Windows PowerShell.

The following table describes the tools used to administer Windows Server 2012:

|  |  |
| --- | --- |
| **Tool** | **Description** |
|  | After installing Windows Server 2012, Server Manager set up the server using the following steps:1. Configure this local server.
2. Add roles and features.
3. Add other servers to manage.
4. Create a server group.

Options available from the Manage menu are:* Add Roles and Features
* Remove Roles and Features
* Add Servers
* Create Server Group
* Server Manager Properties

Tools for server management can be accessed through the Tools menu. Tools are automatically added to the Tools menu when additional server roles and services are installed.Roles and Server Groups display the status of each server and role. The status refresh time can be configured in Manage > Server Manager Properties. A server, server group, or role displayed in red indicates a problem. The following information displays for the local server, all servers, and installed roles:* Manageability
* Events
* Services (if applicable)
* Performance
* BPA results
 |
| Server Manager |
|  | Windows PowerShell is a command-line shell scripting language that allows you to administer, maintain, configure, and develop new features for Windows Server 2012. Designed especially for system administration, Windows PowerShell uses *cmdlets* to control and automate the administration of the Windows operating system and applications that run on Windows. PowerShell: |
| PowerShell |

Windows Server 2012 uses the Metro interface introduced in Windows 8. The following table identifies interface elements used to navigate Windows Server 2012:

|  |  |
| --- | --- |
| **Interface Element** | **Description** |
|  | Tiles on the Start screen allow you to access Computer, Control Panel, Server Manager, and the desktop. You can pin tiles on the Start screen for the following items installed on your computer:* Desktop applications
* Apps
* Snap-ins

You can access the Start screen by moving the mouse pointer to the lower-left corner or by pressing the Windows logo key. You can return to the desktop by pressing the ESC key or clicking the desktop tile. |
| Start screen |
|  | Like Windows 8, Windows Server 2012 has a Charms menu. When you move the mouse pointer to the upper-right or lower-right corner of the screen, the Charms menu displays. You have the following options:* **Search** locates items matching searched keywords and displays the results below the Search box.
* **Start** returns to the start screen.
* **Settings** is divided into two parts:

On the top of the panel you can access:* + Desktop
 |
| Charms menu |

Windows Server 2012 has four editions:

* Windows Server 2012 Foundation
* Windows Server 2012 Essentials
* Windows Server 2012 Standard
* Windows Server 2012 Datacenter

Both Windows Server 2012 Standard and Datacenter editions allow an organization to use all Windows Server features. The main difference in the editions is the use rights for virtualization.

**Windows Server 2012 R2**

Windows Server 2012 R2 introduces several key changes to the graphical user interface, which are identified in the following table:

|  |  |
| --- | --- |
| **Interface Element** | **Description** |
| Start button | The Start button has been added to the Taskbar in the same location where it was found in earlier versions of Windows Server. However, the functionality of the Start button in Windows Server 2012 R2 has changed in the following ways:* Clicking the Start button switches the system from the desktop environment to the Metro environment and displays the Start screen.
* Right-clicking the Start button displays a pop-up menu with links to the following:

Programs and Features Power OptionsEvent Viewer SystemDevice Manager Network Connections Disk Management Computer ManagementCommand Prompt (standard or elevated permissions) |

|  |  |
| --- | --- |
|  | Task Manager Control Panel File Explorer SearchRunShut down, sign out, or restart Desktop |
| Search charm | In Windows Server 2012, the Search charm presented search results sorted into categories, such as files or applications. Each category had to be manually expanded to view the search results.In Windows Server 2012 R2, the Search charm searches everywhere by default, including the Internet. |
| Boot to screen | By default, Windows Server 2012 booted to the Start screen. Windows Server 2012 R2 boots to the desktop by default. This behavior can be customized by completing the following steps:1. In the desktop environment, right-click the Taskbar and select **Properties**.
2. Click the Navigation tab.
3. Under Start screen, either select or clear the **When I sign in or close all apps on a screen, go to the desktop instead of start** checkbox.
4. Click **OK**.
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Windows Server 2012 R2 is available in four editions:

* Windows Server 2012 Foundation
* Windows Server 2012 Essentials
* Windows Server 2012 Standard
* Windows Server 2012 Datacenter