

Syllabus

Course Overview

In this course, you will examine advanced network-administration concepts using the latest network operating system (NOS) tools for deploying servers and configuring remote access, Web services, and network application services within an enterprise network. Learners will explore virtual machines, integrated services, cluster failover, load balancing, RAID, IIS, SMTP, SAN, and SSL. This course aligns with some learning outcomes necessary to prepare for various Microsoft certification examinations.

Technology Resources

This Capella course offers real-world, hands-on labs provided by Practice-Labs.com. These labs offer guided practice in performing tasks related to achieving course competencies and completing assessments. If you require the use of assistive technology or alternative communication methods to participate in these activities, please contact DisabilityServices@Capella.edu to request accommodations.

Course Competencies

(Read Only)

To successfully complete this course, you will be expected to:

- 1 Plan a strategy for designing and employing a complex Microsoft Windows administration infrastructure that solves an organization's problem.
- 2 Administer advanced Microsoft Windows application administration server tools, services, and protocols in a complex environment.
- 3 Evaluate deployment within a Microsoft Windows-based network configuration.
- 4 Apply load balancing to solve performance issues within a Microsoft Windows-based network environment.
- 5 Design remote strategies for a complex environment.
- 6 Deploy complex network security strategies, standards, and policies in a Microsoft Windows-based network environment.

7 Communicate effectively.

Course Prerequisites

Prerequisite(s): Completion of or concurrent registration in IT4510.

Syllabus >> Course Materials

Required

The materials listed below are required to complete the learning activities in this course.

Integrated Materials

Many of your required books are available via the VitalSource Bookshelf link in the courseroom, located in your Course Tools. Registered learners in a Resource Kit program can access these materials using the courseroom link on the Friday before the course start date. Some materials are available only in hard-copy format or by using an access code. For these materials, you will receive an email with further instructions for access. Visit the [Course Materials](#) page on Campus for more information.

Miscellaneous Item

Practice-lab.com: Assignment 1: Networking Fundamentals: Understand Local Area Networks (LANs)

Skillsoft (n.d.). MCSA: Windows Server 2012 Complete Study Guide, Chapter 9, Configuring TCP/IP

Skillsoft (n.d.). Networking Fundamentals: How to set a static IP address

Skillsoft. (n.d.). Windows Server 2016 - Networking: IPv4 to IPv6 Transition Technologies

Library

The following required readings are provided in the Capella University Library or linked directly in this course. To find specific readings by journal or book title, use [Journal and Book Locator](#). Refer to the [Journal and Book Locator library guide](#) to learn how to use this tool.

- Minasi, M., Booth, C., Butler, R., Greene, K., McCabe, J., Panek, R., Rice, M., & Roth, S. (2014). [Mastering Windows Server 2012 R2](#). Sybex.

Suggested

The following materials are recommended to provide you with a better understanding of the topics in this course. These materials are not required to complete the course, but they are aligned to course activities and assessments and are highly recommended for your use.

Optional

The following optional materials are offered to provide you with a better understanding of the topics in this course. These materials are not required to complete the course.

Library

The following optional Skillsoft resources are available via the Capella University Library.

- Skillsoft. (n.d.). [Microsoft Windows Server 2012: Administering: DFS and FSRM \[Tutorial\]](#).
- Skillsoft. (n.d.). [Server 2012 R2: Administration: Group policy processing \[Tutorial\]](#).
- Skillsoft. (n.d.). [Server 2012 R2: Installing and configuring: Servers \[Tutorial\]](#).
- Skillsoft. (n.d.). [TestPrep 70-411 Administering Windows Server 2012 \[Tutorial\]](#).

Projects

Project >> Server Administration Infrastructure Proposal

Project Overview

The course project takes a problem-based, case-based approach to learning the course material by putting you into the role of a consultant providing solutions to a fictitious customer.

The project is broken into separate components. You will receive feedback from your instructor on each component and then use that feedback to update your cumulative work for the final project submission. This feedback will include evaluation of how well you have articulated a design that is clearly and directly tied to business needs and user requirements.

You will design a Windows-based network infrastructure for Happy Health Systems (HHS), described in the scenario below. As you work on the project, focus on the main concepts that have been presented each week. Using this information, choose from similar technologies and services to create a design that best fits the needs of the scenario, business, and users. In your project component assignments, you will discuss alternatives for

your particular design choices, make design decisions about network components, and implement your selected alternatives in your final design.

Scenario

Your consulting company has been hired by the chief information officer (CIO) of HHS to design a Windows-based network infrastructure for the organization. You will create an infrastructure proposal for HHS that includes strategies for ensuring high availability, scalability, and security, as well as a plan for virtual migration.

HHS currently connects a few remote locations but is unsatisfied with the limited capability and lack of security at these locations. Senior management wants you to build a new virtualization infrastructure within the current network infrastructure. As part of this project, senior management also wants to make virtual their main clinical electronic medical record (EMR) application system.

HHS asks you to propose a virtualization infrastructure to support implementation of this system. They also ask you to virtualize the main clinical EMR application. Your solution must address these specific needs, in addition to the specific business needs and user requirements described below, as well as:

- Security.
- Availability.
- Reliability.
- Manageability.
- Scalability.
- Supportability.

About Happy Health Systems

- **Overview:** HHS is a health care organization consisting of four hospitals, ten clinics, a physicians' practice, and a research facility. The facilities cover a three-state area utilizing a central administration infrastructure. The main administration hub for HHS is located at one of its hospitals, and each location has its own tiered support team. The main hub is administered by a single set of senior managers who report to the same board of directors.
- **Usage summary:**
 - The number of users at each of the hospitals averages 2,000.
 - The number of users at each of the clinics averages 100.
 - The physicians' practice includes 45 physicians, 300 residents, and 200 medical students at any given time.
 - The research facility includes 35 users.
- **EMR system:** HHS has chosen to implement a common electronic medical record (EMR) system for all the facilities under its umbrella. This EMR system is the main clinical system in use throughout the organization, with the exception of the radiology and lab systems. The applications are used for the maintenance of electronic medical records as follows:
 - EPIC Electronic Health Record: The main clinical system used at all facilities except radiology and lab.

- Phillips I-Site Radiology System: The main EMR system used at radiology facilities.
- Cerner Pathnet Laboratory Solution: The main EMR system used at the lab facilities.
- **Applications:** In addition to the EMR system, the following applications are issued to all users throughout HHS:
 - MS Exchange e-mail.
 - Microsoft Office Suite.
 - PeopleSoft ERP (finance, supply chain, and HR and payroll modules).
 - Symantec Security Suite.
 - Spybot Search and Destroy.
- Each site has 1GB, Ethernet-fiber backbone running throughout the entire network, from the main backbone to the user desktops.
- **Written communication:** Written communication is free of errors that detract from the overall message.
- **APA formatting:** Resources and citations are formatted according to current [APA style and formatting](#).
- **Number of resources:** Six or more references are required.
- **Length of paper:** 6–10 pages.
- **Font and font size:** Arial, 10 point.

Unit 1 >> Introduction to a Windows Server Administration Deployment

Introduction

In this unit, you will be introduced to the fundamental concepts and theories related to Windows server deployment. You will study the roles, features, and editions of Windows Server 2012 and 2016, as well as a broad range of Windows server deployment tasks.

The reading assignments will consist of reading a chapter on understanding TCP/IP and subnetting IPv4 networks. Also, you will watch two short videos about IPv4 addressing in a Windows Server infrastructure.

You will also participate in a discussion on the beginning steps for implementing a windows server infrastructure.

Finally, in the unit 1 assignment, you will develop your hands on skills on understanding IPv4 addresses, which is a pre-requisite to understanding how to manage and maintain a Windows Server infrastructure. Complete the lab titled: Understand Local Area Networks (LANs) within Networking Fundamentals Lab Guide at practice-labs.com.

Learning Activities

u01s1 - Studies

Readings

In MCSA: Windows Server 2012 Complete Study Guide (Exams 70-410, 70-411, 70-412, and 70-417), read:

- Chapter 9, "Configuring TCP/IP"

Optional Readings

[Skillsoft. \(n.d.\). Windows Server 2016 - Networking: IPv4 to IPv6 Transition Technologies](#)

[Skillsoft \(n.d.\). Networking Fundamentals: How to set a static IP address](#)

Course Resources

[Skillsoft \(n.d.\). MCSA: Windows Server 2012 Complete Study Guide, Chapter 9, Configuring TCP/IP](#)

[Skillsoft. \(n.d.\). Windows Server 2016 - Networking: IPv4 to IPv6 Transition Technologies](#)

[Skillsoft \(n.d.\). Networking Fundamentals: How to set a static IP address](#)

[Practice-lab.com: Assignment 1: Networking Fundamentals: Understand Local Area Networks \(LANs\)](#)

Bloom's Taxonomy – Enhance Your Critical Thinking Skills

Critical thinking is an important skill to cultivate in your coursework and professional development. Initially, many learners do not realize the different ways of thinking and levels of depth in understanding. Bloom's taxonomy provides a structure to help conceptualize these different levels. Awareness of different ways to approach information helps you move beyond basic understanding to more effectively analyze, evaluate, and synthesize important concepts. It also helps you clarify expectations and provide an appropriate level of response for your coursework. Review this [Bloom's Taxonomy](#) presentation to see how the levels are defined and explore how this can help in your academic and professional work.

Capella University Library

Being able to identify, analyze, and synthesize information is a critical skill. Many resources are readily available online, but it is important to use appropriate and high-quality information to support academic and professional activities. This process includes not only locating information but also ensuring the information is sound, appropriate, and worthy of academic use. Visit [Welcome to Library Guides](#) for guidance on accessing and using the rich resources available in the [Capella University Library](#) and beyond.

Here are a few Capella University Library resources:

- [Tour the Library.](#)
- [Searching Effectively.](#)
- [How Do I Find Peer-Reviewed Articles?](#)

The Writing Center

Throughout this course and your academic journey, you are expected to communicate effectively in your assignments and discussions. Effective communication includes using APA style and formatting for references and citations; writing in a professional manner; and submitting work free of grammar and spelling errors.

Visit the [Writing Center](#) for a variety of tools to help improve your written communication and presentation skills. To receive feedback and revision suggestions prior to submitting assignments, you may also send papers to the [Smarthinking](#) tutoring service.

Here are a few Writing Center resources:

- [Writing Resources.](#)
- [APA Citing and Referencing.](#)
- [Annotated Bibliography.](#)
- [Academic Honesty.](#)

Capella Resources

The following resources for learners are commonly used in Capella courses:

- [Capella Academic Success Center](#).
- [Capella Career Center](#).
- [Capella Research and Scholarship Center](#).

Optional – Skillsoft Self-Paced Tutorials

- This course requires you to complete assignments using Microsoft products, including MS Visio. Capella University supplies optional tutorials for these software products. Go to the [Microsoft Tutorials](#) page to access these resources.
- Capella also offers to learners an extensive library of self-paced tutorials. To browse available tutorials, go to the [Tutorials page](#).

Skillsoft Technical Support

Capella provides Academic Technical Support to help learners with technical issues in courses. Visit the [Online Technical Support Center](#) if you have any issues with the Skillsoft self-paced tutorials.

u01a1 - Creating a Basic Windows Server IP Address Infrastructure

u01d1 - Network Segmentation for Happy Health Services

In this scenario, you work for an organization called Happy Health Services based in Minneapolis, Minnesota. The organization consists of 3 building, 4 floors per building, and 10 offices per floor. Currently, the organization is broken down into 3 subnets (1 per building). A senior network engineer has approached you with concerns that the IP addressing scheme for the organization is not segmented properly, and currently there exists large broadcast domains, excessive broadcast traffic and difficulty in pinpointing the location of IP addresses. The engineer has assigned you to a task force to examine how the organization can be better segmented. In your discussion, provide some options and recommendations for properly segmenting this network. Remember to reply to at least 2 colleagues in the course room and cite your sources in your discussion.

Answer the following:

- What would you recommend to better improve network segmentation within the organization?
- What are the benefits with creating more subnets?

Response Guidelines

Respond to at least two other learners' posts. Do you agree with their points or have anything to add?

Unit 2 >> Install and Configure Windows Servers & NIC Teaming

Introduction

This unit focuses on the skills and knowledge needed to install and configure windows servers for NIC teaming and load balancing. NIC Teaming, also known as load balancing/failover is a windows mechanism that allows multiple network interface cards that reside in the same physical host/server to be bound together and placed into a team in the form of a single, logical NIC. In addition, you will also learn about DHCP and DNS services on a windows server.

This unit also includes reading assignments on windows installation, windows DHCP, and windows DNS; and a discussion participation for the Happy Health Services organization.

Finally, you will complete 3 labs to first install and configure a windows server, and subsequently setup DHCP and DNS services, along with NIC teaming.

Learning Activities

u02s1 - Studies

Readings

In MCSA: Windows Server 2012 Complete Study Guide (Exams 70-410, 70-411, 70-412, and 70-417), read:

- Chapter 1, "Installing and Configuring Windows Server 2012"
- Chapter 2, "Domain Name System"
- Chapter 10, "Managing DHCP"

u02v1 - Hands-On Lab: Configure DNS Zones

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u02v2 - Hands-On Lab: Configure DNS Records

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u02v3 - Hands-On Lab: Configure VPN and Routing

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u02v4 - Hands-On Lab: Configure a Network Policy Server

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u02v5 - Hands-On Lab: Configure Network Access Protection

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u02a1 - Network Access Administration Strategy

Provide a network access protection plan for Happy Health Systems.

Using the labs and any additional resources you find helpful, create an access protection plan for your network infrastructure. Analyze and design a network topology that displays basic server placement and segmentation to support a reliable network.

Each of the project organizations presents its own challenges. As part of this redesign, you are asked to evaluate the existing infrastructure and make any improvements you believe are appropriate to improve the cost and efficiency of managing the network.

To prepare for this assignment, do the following:

- Complete the required virtual labs for this week.
- Research this topic and include at least three references from articles, books, or Web sites to support your paper.
- Create a physical topology appropriate for your specific organization.

Note: This course will build off of the network you developed in IT4510, so you can use the physical diagrams you created in IT4510 as a foundation for the work you will complete in this course. If you did not take IT4510, you must create these diagrams to act as the foundation for the assignments in this course.

In your paper:

- Design a secure DNS plan to provide DNS for multiple subnets, including DNS server placement and a replication hierarchy. The DNS design plan must be appropriate given the size and description of the organization.
- Analyze the DNS plan, focusing on information relevant to domain delegation, zone delegation, forwarders, GlobalNames, single-label resolution, and domain names (both internal and external).
- Design a secure DHCP plan to provide DHCP for multiple subnets, including server placement, relay agents, and a replication hierarchy. The DHCP design plan must be appropriate given the size and description of the organization.
- Design an access protection topology for Happy Health Systems that includes the placement of servers for NAP, RADIUS, and VPN. The NAP design plan must be appropriate given the size and description of the organization.
- Analyze an access security plan that includes strategies for securing the network using NAP, RADIUS, VPN's, policies, encryption, and Windows firewalls.
- Describe the configuration of Windows Server that is necessary to achieve your described access protection plan for Happy Health Systems.
- Describe how your Windows Server 2012 configuration and troubleshooting activities and experiences supported your plan for network access protection deployment. How did the labs influence your decisions? What did you learn from this week's labs?

Make sure your paper is professionally written and free of errors. Apply APA formatting throughout.

Submit your document in the assignment area.

Course Resources

[APA Style and Format](#)

u02d1 - DHCP and NAP

As you finalize your design for Happy Health Systems (HHS), you receive an e-mail from the IT Help Desk Manager. She writes:

Can you help?

During our weekly Help Desk departmental meeting, my group mentioned an issue of which I thought you should be aware. As you know, members of the virtual sales team work mainly from their home offices in 90 countries worldwide. As it stands, they are responsible for keeping their equipment updated and compliant.

Unfortunately, in our experience here at the help desk, we have discovered most of our sales workers are not technically savvy. In fact, we spend a great deal of time working with sales workers to keep their computer software up-to-date and compliant—to protect our network when they access remotely.

The neglect of these systems has been putting our entire network in jeopardy. It is imperative we find a way to fix this. Therefore, we would like to have a way to check all systems for compliance and health, before they access our network—and, if possible, update these systems when non-compliant. Is this possible?

Thanks,

Jackie Heard

Write your discussion post as if it were an e-mail response to Jackie. Discuss how you plan to handle this situation. Describe the tool or tools available in the current version of Windows Server that will help maintain compliancy for all computers on the network.

Answer the following:

- What would you recommend to address this situation?
- What risks are associated with using subnets?
- What requirements must be calculated in order to apply subnets to HHS?

Response Guidelines

Respond to at least two other learners' posts. Do you agree with their points or have anything to add?

Course Resources

Undergraduate Discussion Participation Scoring Guide

Unit 3 >> File Services and Server Storage

Introduction

File services and data storage are the main focuses this week. You will explore:

- Distributed File System (DFS) as a way to organize shared folders.
- File Server Resources Manager (FSRM) as a way to control the quantity and type of data stored on multiple servers.

This unit also covers access of offline files, protection of files using EFS, and use of BranchCache as a way to quickly access information from a branch office.

This week for your course project, you will create a file service and data storage proposal that includes a strategy for managing and storing network data and files.

Learning Activities

u03s1 - Studies

Readings

In *Mastering Windows Server 2012 R2*, read:

- Chapter 13, "Files, Folders, and Basic Shares," pages 650–701.
- Chapter 14, "Creating and Managing Shared Folders," pages 703–756.

Optional Skillsoft Resources

- Skillsoft. (n.d.). [Microsoft Windows Server 2012: Administering: DFS and FSRM \[Tutorial\]](#).
- Skillsoft. (n.d.). [Server 2012 R2: Administration: Group policy processing \[Tutorial\]](#).

u03v1 - Hands-On Lab: Configure Distributed File System

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u03v2 - Hands-On Lab: Configure File Server Resource Manager

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u03v3 - Hands-On Lab: Configure File and Disk Encryption

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u03a1 - File and Data Storage Administration Strategy

For this assignment, use the labs and any additional resources you find helpful to provide a strategy for managing and storing network files and data for the Happy Health Systems network infrastructure.

Analyze and design your current network infrastructure and use this as a foundation for your building your file and data storage strategy.

Each of the project organizations presents its own challenges. As part of this redesign, you are asked to evaluate the existing infrastructure and make any improvements you believe are appropriate to improve the cost and efficiency of managing the network.

To prepare for this assignment, do the following:

- Complete the required virtual labs for this week.

- Research this topic and include at least three references from articles, books, or Web sites to support your paper.

In your paper:

- Describe the role services available when installing the file services role in Windows Server 2012. Identify network scenarios for which each role service would be most necessary. Include definitions of DFS, FSRM, NFS, Windows Search Service (WSS), and BranchCache.
- Create a file services strategy that includes role services for Happy Health Systems. Your discussion and strategy should appropriately fit the organization and correlate with the organization description you provided last week.
- Describe the Windows Server 2012 options for server and network storage. Identify a network scenario in which each type of storage would most appropriately fit. Include in your definitions a discussion of the disk configurations that can be configured for a storage unit, as well as the tools available for working with disks and managing data.
- Create a data storage strategy for your organization that includes identification of the server type and network storage you intend to use, along with a discussion of the tools and methodology that will be applied for its effective management. Your discussion and strategy should appropriately fit the organization and correlate with the organization description you provided last week.
- Describe a strategy for implementing distributed file system (DFS), including DFS namespaces to show the logical organization of shared folders on multiple servers throughout your organization. Your discussion and strategy should appropriately fit the organization and correlate with the organization description you provided last week.
- Describe a strategy for using File Server Resources Manager (FSRM) to manage the quantity and type of data stored on your organization's servers, including a discussion of the different features available through FSRM.
- Describe a strategy for using Encrypting Files System (EFS) to encrypt files and folders on your network. Address the role BitLocker will play in this strategy.
- Describe the configuration of Windows Server necessary to achieve the described file and data storage plan for Happy Health Systems.
- Describe how the concepts and activities presented in the labs for this week support your files and data storage strategy. How did the labs influence your decision? What did you learn from them?

Make sure that your paper is professionally written and free of errors. Apply APA formatting throughout.

Submit your document in the assignment area.

Course Resources

[APA Style and Format](#)

u03d1 - Troubleshooting the DNS

As part of the file management and data storage strategy for Happy Health Systems, the network administrator wants to deploy the offline file feature of Windows Server. Address the following:

- How does the offline files feature ease file management for mobile users?
- Describe one concern involved with deploying offline files.

Response Guidelines

Read your peers' posts and provide quality comments for at least two of your peers.

Course Resources

Undergraduate Discussion Participation Scoring Guide

Unit 4 >> High Availability

Introduction

This unit's activities provide tips and information on protecting your infrastructure from disaster. You will learn how to create a network infrastructure that maintains high availability. The labs for this week explore the maintenance and management of Active Directory. You will also review the backup and restore services of Windows Server.

For your course project this week, you will create a plan for maintaining high availability on your network. You will create a clustering topology and identify a strategy for backing up and restoring of Windows Server.

Learning Activities

u04s1 - Studies

Readings

In *Mastering Windows Server 2012 R2*, read:

- Chapter 11, "Shared Storage and Clustering Introduction," pages 561–588.

Optional Skillsoft Resource

- Skillsoft. (n.d.). [Server 2012 R2: Installing and configuring: Servers \[Tutorial\]](#).

u04v1 - Hands-On Lab: Configure Advanced Audit Policy

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u04v2 - Hands-On Lab: Configure Service Authentication

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u04v3 - Hands-On Lab: Configure Account Policies

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u04v4 - Hands-On Lab: Configure Group Policy Processing

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u04v5 - Hands-On Lab: Configure Group Policy Settings

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u04v6 - Hands-On Lab: Configure Group Policy Preferences

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u04v7 - Hands-On Lab: Manage Group Policy Objects

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u04a1 - High Availability Administration Plan

For this assignment, use the labs and any additional resources you find helpful to provide a strategy for developing a high availability administration plan for the Happy Health Systems network infrastructure.

Analyze and design your current network infrastructure and use this as a foundation for building your available infrastructure.

Each of the project organizations presents its own challenges. As part of this redesign, you are asked to evaluate the existing infrastructure and make any improvements you believe are appropriate to improve the cost and efficiency of managing the network.

To prepare for this assignment, do the following:

- Complete the required virtual labs for this week.
- Research this topic and include at least three references from articles, books, or Web sites to support your paper.

Your completed plan should:

- Include a high availability plan appropriate for your chosen organization. Your discussion and design should correlate with the organization description you provided previously.
- Describe a backup and restore plan that supports your organization. Address the type and frequency of the backup, as well as the media used and the restore methodology required.
- Develop a diagram that displays both the network load balancing and the failover clusters within the architecture. Address decisions relative to topology, device selection, and placement.
- Analyze and describe topology, device selection, and device placement strategies appropriate for maintaining availability.
- Describe Windows Server configuration strategies necessary for maintaining high availability for your organization.
- Describe how the concepts and activities presented in the labs for this week support your high availability strategy. How did the labs influence your decision? What did you learn from them?

Make sure your paper is professionally written, structured, and free of errors. Apply APA formatting throughout.

Submit your document in the assignment area.

Course Resources

[APA Style and Format](#)

u04d1 - Server Clustering

Clustering is quite common in business information technology architectures; therefore, it is a concept you need to understand. Assume you are working with someone from the business who does not understand technology jargon.

Choose an organization to represent. Answer the following:

- How would you explain clustering in simple terms?
- Describe how clustering works in Windows Server.
- Identify the business and IT benefits of clustering.

Response Guidelines

Respond to at least two other learners' posts. Do you agree with their points or have anything to add?

Course Resources

Undergraduate Discussion Participation Scoring Guide

Unit 5 >> Printing Services

Introduction

This unit explores printing services and implementation strategies within a Windows-based network infrastructure. Through the labs this week, you will learn to administer group policies for your organization.

In this last unit, you will finalize your server administration infrastructure proposal by compiling and refining all the previous project components as well as adding a printing implementation plan.

Learning Activities

u05s1 - Studies

Readings

In *Mastering Windows Server 2012 R2*, read:

- Chapter 16, "Sharing Printers on Windows Server 2012 R2 Networks," pages 827–882.

Optional Skillsoft Resource

- Skillsoft. (n.d.). [TestPrep 70-411 Administering Windows Server 2012 \[Tutorial\]](#).

u05v1 - Hands-On Lab: Monitor Servers

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u05v2 - Hands-On Lab: Configure Domain Controllers

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u05v3 - Hands-On Lab: Maintain Active Directory

Read the requirements for all related course activities in this unit before completing this lab. Follow the lab instructions carefully, as you may be required to take screen captures or produce lab related documents as part of graded activities. Take notes as needed as you complete the lab to help you meet all requirements.

Click the linked title heading above to access the hands-on lab.

u05a1 - Server Administration Infrastructure Proposal

For this assignment, compile your previous assignments into a final Server Administration Infrastructure Proposal.

Using the labs and any additional resources you find helpful, update your assignments based on your instructor's feedback. Then, finalize your proposal, including a network printer administration and implementation plan.

Each of the project organizations presents its own challenges. As part of this redesign, you are asked to evaluate the existing infrastructure and make any improvements you believe are appropriate to improve the cost and efficiency of managing the network.

To prepare for this assignment, do the following:

- Complete the required virtual labs for this week.
- Research this topic and include at least six references from articles, books, or Web sites to support your paper.

Your completed Server Administration Infrastructure Proposal should include:

- A Windows Server deployment plan accurately represented using a comprehensive, written analysis that appropriately meets the organization's needs.
- A network access administration strategy that is accurately represented using design diagrams and a comprehensive, written analysis that appropriately meets the organization's needs.
- A file and data storage administration strategy that is accurately represented using design diagrams and a comprehensive, written analysis that appropriately meets the organization's needs.

- A high-availability administration plan that is accurately represented using design diagrams and a comprehensive, written analysis that appropriately meets the organization's needs.
- A network printer implementation strategy that that is accurately represented using design diagrams and a comprehensive, written analysis that appropriately meets the organization's needs.
- A plan to integrate print servers and printers to your network infrastructure to display the print server topology and network printer placement choices.
- A description topology and device placement strategies that are appropriate.
- A description of the configuration of Windows Server that is necessary to achieve the described network printer infrastructure for Happy Health Systems.
- A description of printer administration tasks necessary to maintain a printing infrastructure, including information relative to print drivers, Client-Side Rendering (CSR), printer permissions, and printer pooling.

Requirements

- **Written communication:** Written communication is free of errors that detract from the overall message.
- **APA formatting:** Resources and citations are formatted according to APA (6th edition) style and formatting.
- **Number of resources:** Six or more references are required.
- **Length of paper:** 6–10 pages.
- **Font and font size:** Arial, 10 point.

Make sure your paper is professionally written, structured, and free of errors. Apply APA formatting throughout.

Submit your document in the assignment area.

Course Resources

[APA Style and Format](#)

u05d1 - Reflection

As part of the learning process, reflect on what you learned in this course and how you might apply your new knowledge and skills. Address the following:

- What did you learn in this course? What do you now know that you did not understand before?
- What were the two most valuable parts of the course? Why were they valuable?
- How will you apply what you have learned in your current job or in the future?