**ITT TECHNICAL INSTITUTE**

**NT1330**

**Client-Server Networking II**

**GRADED ASSIGNMENTS**

# Graded Assignments

## Unit 1. Assignment 1. Windows 2008 Network Services

**Course Objectives and Learning Outcomes**

In this assignment, you will explain the function of DNS and DHCP.

Assignment Requirements

Write a 1-page report summarizing IT-management overhead in reference to DNS and DHCP.

In your report, address IT-management overhead in reference to DNS and DHCP, with the following question in mind: How many hosts does it take to justify the time and effort to setup a centrally managed solution for name resolution and address allocation? (In other words, is it worth setting up DHCP for two computers? 5? 25?)

Submission Requirements

1-page, Microsoft Word, double-spaced, 12 pt. font

## Unit 1. Exercise 1. IP Addressing Scenario

**Course Objectives and Learning Outcomes**

In this Exercise, you will explain IP address components, contrast classful and classless IP addressing, and explain the function of DNS and DHCP.

Assignment Requirements

Respond to the following scenario with design considerations and recommendations:

You are an IT Administrator for a newly founded company and have been tasked with designing an IP addressing scheme and a plan for allocation and management of IP addresses.

The company will currently have a single, physical location with approximately 145 hosts (computers, printers, etc.). IT plans should accommodate 50% growth within the next two years.

At a minimum, address these specific questions, in addition to any other concerns/considerations:

1. What subnet range/s should be used?
2. Should IP addresses be dynamically or statically assigned?
3. Should one or more network/subnets be used?
4. If DHCP is used, should a router, firewall or Windows Server be utilized and why?

Respond in detail, justifying your recommendations. In your response, consider future growth and design considerations.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 2. Assignment 1. DHCP Troubleshooting

**Course Objectives and Learning Outcomes**

In this assignment, you will nalyze DHCP configuration options.

Assignment Requirements

Review the following technical support email from a junior IT admin:

**Facilitation**
Dear IT Admin:
I am working at a branch office and have been tasked with changing out the DHCP scope to match the overall corporate IP address scheme. The main office assigned me an IP address range of 192.168.0.200 through 192.168.0.225. I changed the scope on Friday afternoon and came in on Monday morning to discover that only some of the workstations had picked up new leases from the new DHCP scope. Any ideas as to what may be happening, what I might check or adjust?

Thank you,
Junior Admin

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Respond in detail with clarifying questions, suggested approaches and/or possible solutions.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 2. Exercise 1. DNS Scenario

**Course Objectives and Learning Outcomes**

In this Exercise, you will make recommendations about DNS Server.

Assignment Requirements

Review the following request:

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Dear IT Admin:

I am working at two branch offices and have been tasked with where to place Active-Directory Integrated DNS Servers and what type to use.

One of the branch offices is very small (5 users) and has very slow network connectivity. Do I need a DNS Server and, if so, which type of zone should it host?

The second branch office is much larger (about 30 users) and has better network connectivity. Does this office need a DNS Server and, if so, what type of zone would you recommend?

Thank you,

Junior Admin

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Respond in detail with clarifying questions, recommendations and/or considerations.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 3. Assignment 1. Active Directory Design Scenario

**Course Objectives and Learning Outcomes**

In this assignment, you will determine necessary information for the design of a domain hierarchy.

Assignment Requirements

Review the following scenario:

You are an IT Administrator for a company implementing a new AD DS infrastructure. Develop a list of business-related questions that you will need answered in order to accurately design a domain hierarchy. Your job is to determine number of DCs, geographical placement, number of domains/forests and OU design. What do you need to know to effectively accomplish this?

Respond in detail, justifying your recommendations, keeping in mind that your job is to translate business requirements into technical answers/specifications.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 3. Exercise 1. Company Merger Scenario

**Course Objectives and Learning Outcomes**

In this Exercise, you will determine the necessary information to design a solution in a merger scenario.

Assignment Requirements

Review the scenario below:

As an IT Administrator, you have been tasked with designing the technical strategy for the merger of your company with another company. Develop a list of questions that you will need answered to effectively design a solution for allowing seamless sharing of information resources between the two companies. Your company has a single, Windows Server 2008 Functional-Level AD DS Forest. The new company has a directory service but that is all the information you have been given thus far.

Respond in detail. Consider trust relationships, compatibility with other directory services (previous versions of Windows, other operating systems, for instance) in your response.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 4. Assignment 1. AD Design Replication Scenario

**Course Objectives and Learning Outcomes**

In this assignment, you will make recommendations in an AD Design Replication scenario.

Assignment Requirements

Review the following scenario:

You are an IT administrator for a company with an existing AD Forest. The company is adding two, new branch offices and you have been tasked with designing a replication strategy prior to DC deployment.

Branch1 will be connected to the Main Office via a pair of bonded T1 lines and will contain a Call Center with high employee turnover.

Branch2 will be in a very remote location and will be connected to the Main Office via a 56k POTS line.

Respond in detail with recommendations for site-link protocols and replication schedule/frequency, as well as the possibility of recommending/justifying redundant links to each branch.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 4. Exercise 1. Site-to-Site Connectivity Scenario

**Course Objectives and Learning Outcomes**

Suggest a plan of action for troubleshooting replication.

Assignment Requirements

Review the following scenario:

A junior IT administrator has been tasked with troubleshooting problems with intersite AD replication and he sends the following email:

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To: IT Admin

I am troubleshooting replication between the Main Office and Branch Office 1. It seems that changes to user object attributes take a very long time to propagate or do not propagate at all. I am not sure when replication is supposed to occur and have no idea where to begin testing? Do you have any recommendations, any suggested steps to help me narrow down the problem? Thank you!

Junior Admin

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Respond to his inquiry with a suggested approach and any recommendations for troubleshooting.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 5. Assignment 1. AD Design Scenario: FSMO Role & GC Placement

**Course Objectives and Learning Outcomes**

In this assignment, you will determine the necessary information for the development of an FSMO/GC implementation plan.

Assignment Requirements

Review the scenario below:

You are an IT consultant for a newly forming company and have been asked to design an Active Directory Forest implementation. Your immediate task is to designate where the FSMO Roles and Global Catalog Servers will be placed in the new environment. Develop a list of 5 to 10 questions you will need answered in order to determine the most appropriate locations for the FSMO Role Holders and GCs.

Consider what information you would need to develop an FSMO/GC implementation plan for a new AD Forest.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 5. Exercise 1. AD FSMO Role Management Research: Alternate Methods

**Course Objectives and Learning Outcomes**

In this Exercise, you will determine the best tools for determining FSMO roles and develop a plan for the failure of a role holder.

Assignment Requirements

Review to the following scenario:

A junior IT administrator has been tasked with documenting current FSMO Role Holders and GC Servers, as well as documenting procedures for responding to FSMO Role unavailability and sends the following email:

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To: IT Admin

I need to determine which DCs currently hold which roles and determine which DCs are Global Catalog Servers. I also need to develop a plan for failure of a role holder. I know there are multiple ways to accomplish this task but I’m not sure the best tools for any given scenario? Would you use ntdsutil or MMC Snap-ins? What about dcdiag? Any advice or suggestions would be appreciated!

Junior Admin

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Respond with practical steps and/or a recommended approach to the problem:

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 6. Assignment 1. AD User/Group Design Scenario

**Course Objectives and Learning Outcomes**

In this assignment, you will recommend a strategy for creating groups.

Assignment Requirements

Review the following scenario:

A junior IT administrator has been tasked with creation groups for a newly formed division/s.

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To: IT Admin

I need to provide access to resources throughout our AD environment and am not sure which strategy is best for each of these situations. Please provide any thoughts or recommendations for group type and scope! Thank you.

1. Marketing wants to be able to print the company newsletter to printers in each department throughout all domains in the forest?
2. HR wants users from anywhere in the forest to be able to print vacation requests to the printer in the HR Department?
3. Research and Development wants to have administrative access to their workstations and the member server in their department but wants to make certain that these permissions are specific to their local machines, not distributed anywhere else?

Junior Admin

*---*

Respond to the request for help.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 6. Exercise 1. AD User and Group Account Creation

**Course Objectives and Learning Outcomes**

In this Exercise, you will ecommend as strategy for creating user accounts and Groups.

Assignment Requirements

Review the following scenario:

A junior IT administrator has been tasked with AD administrative tasks.

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To: IT Admin

As you may know, we recently acquired a new company and I have been given responsibility to accomplish the following tasks! I would appreciate any input on the best tool to use for each. Thank you!

1. The acquired company currently uses a Novell Netware Directory Service. I need to create user accounts for all of the existing employees, probably about 150!
2. The acquired company uses an email application I have never heard of and will continue to use this program for the foreseeable future. I need to provide them a list of users (first and last name and email address) for all users in our company so they can create a contact list in their email application.
3. I need to create a handful of Groups, maybe 5 to 10, to assign printer resources to each of the divisions in the newly acquired company?

Junior Admin

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Respond with practical steps and/or a recommended approach to the problem.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 7. Assignment 1. AD Password Policy Planning

**Course Objectives and Learning Outcomes**

In this assignment, you will recommend a password policy.

Assignment Requirements

Review the following scenario:

You are an IT consultant and receive the following email from a client:

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To: IT Consultant

A competitor recently got “hacked” and our board of directors is suddenly concerned about information security! However, as a business manager, I am concerned about employee productivity! I don’t want staff to have to jump through 17 security hoops before getting to work every morning. Can you please give me your opinion regarding what a “strong” password is and why, as a business manager, I should care? What would you consider a reasonable approach?

Thank you,

Business Manager

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Respond with recommendations and considerations.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 7. Exercise 1. AD OU Planning Scenario

**Course Objectives and Learning Outcomes**

In this Exercise, you will determine the necessary information for recommending an OU Structure.

Assignment Requirements

Review the following scenario**:**

As an IT Administrator, you have been tasked with designing an Active Directory Domain Organizational Unit Structure for a new AD implementation at an existing organization. You are scheduled to meet with the management team and need to formulate a list of questions you will need answered in order to recommend an OU Structure appropriate to the organization.

Develop a list of 5-10 questions to guide your design plan.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 8. Assignment 1. Group Policy in a Mixed Client OS Environment

**Course Objectives and Learning Outcomes**

In this assignment, you will contrast Group Policies supported by different operating systems.

Assignment Requirements

Although Group Policies are compatible with Windows 2000 and newer versions of Windows, some policy settings are not backwards compatible, eg Remote Desktop settings do not apply to Windows 2000.

Research and identify five policies that are supported by Windows Vista and/or Windows 7 but not by Windows XP or older versions.

Required Resources

Internet access

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 8. Exercise 1. Administrative Control versus Trust: Research/Scenario

**Course Objectives and Learning Outcomes**

In this Exercise, you will recommend policies to control user/computer configuration.

Assignment Requirements

Review the following scenario:

You are an IT consultant and receive the following email from a client:

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To: IT Consultant

We have an existing network consisting of approximately 40 workstations in a Windows Workgroup environment. We do not currently take advantage of local policies to control user/computer configuration, as it is too cumbersome to manage on each individual computer. We are implementing an Active Directory Domain and are excited about the possibility of being able to control user and computer settings particularly from a security perspective.

We understand that there are hundreds and hundreds of options for things we can control and are hoping you can help us by recommending the most important initial policies? Users have had complete control of their desktops up to this point, so we would like to strike a balance between trust and control!

Thank you

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Respond with recommendations.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 9. Assignment 1. GPO Planning Scenario

**Course Objectives and Learning Outcomes**

In this assignment, you will determine information needed to develop an implementation scenario.

Assignment Requirements

Consider the following scenario:

As an IT Administrator, you have been tasked with developing a software deployment strategy for your company’s three, primary business-critical applications. In anticipation of a meeting with management, develop a list of 10 to 15 questions you will need answered regarding the applications and environment in order to accurately develop an implementation scenario.

Develop a list of 10-15 questions with the goal of obtaining all the information that would be required to develop a software deployment strategy via Group Policy. Consider assignment versus publishing, application compatibility (hardware and GPO requirements), and exceptions/filtering.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 9. Exercise 1. Research Software Deployment Options

**Course Objectives and Learning Outcomes**

Assignment Requirements

Review the following scenario:

You are an IT consultant and receive the following email from a client.

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To: IT Consultant

We have an existing Active Directory environment, consisting of 300 computer nodes. We need to install the latest version of Adobe Acrobat Reader to all compatible computers, with the following requirements:

* The application is not supported on Windows XP.
* We need to have automatic updates turned off within the application.
* We need a silent, automatic installation.
* The Engineering Department needs to be excluded, as they use a proprietary PDF app.

Can we automate this deployment through Group Policy and meet all of the requirements? Please recommend a course of action.

Thank you,

Business Manager

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Respond with a detailed, recommended approach. Be specific about assigning versus publishing applications, customization of application package, and scope filtering.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 10. Assignment 1. AD Disaster Recovery Planning Scenario

**Course Objectives and Learning Outcomes**

In this assignment, you will recommend a backup and restore strategy for Active Directory.

Assignment Requirements

Review the following email from a client.

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To: IT Consultant

We have an existing Active Directory environment, consisting of a main office with two DCs, three branch offices with one DC each and a fourth, smaller office with a Read-Only DC. We are evaluating our backup and restore strategy and are wondering which of the following solutions you might recommend for each individual environment? We want to minimize cost but maximize uptime. Which of the following would you recommend for any/all locations and, where applicable, what schedule (daily, weekly, etc):

* Fault-tolerant hardware (RAID1, RAID5, etc)?
* Backup of the DC to local disk?
* Backup of the DC to removable storage?
* Additional DC?

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Respond with recommendations and considerations. Justify your recommendations with explanation of benefit (ROI), etc.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

## Unit 10. Exercise 1. AD Troubleshooting Scenario: Troubleshooting Tools

**Course Objectives and Learning Outcomes**

Assignment Requirements

Review the following scenario:

You are an IT Administrator and receive the following request for help from a Junior IT Admin:

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To: IT Admin

I have been tasked with developing a proactive maintenance schedule for the three DCs in our branch office and am hoping for your advice and input. What types of things should I be paying attention to on a regular basis and how often? I’m not sure what tools are available and want to be thorough! Can you help me develop a plan?

Thank you,

Junior IT Admin

*---*

Respond with clarifying questions, suggestions and/or recommended approaches. Be specific in your recommendations for tools and frequency of use. Consider backup/restore planning in your response.

Submission Requirements

1-2 pages, Microsoft Word, double-spaced, 12 pt. font

# Laboratory Assignments

## Unit 1. Lab 1. Preparing a Virtual Workstation Image

**Course Objectives and Learning Outcomes**

In this lab, you will prepare a virtual workstation image.

**See the Lab Manual for set up, procedures, and deliverables.**

**Installing and Re-arming Windows Server 2008**

The Windows Server 2008 Evaluation Edition may be installed without activation, and it may be evaluated for 60 days. Additionally, the 60-day evaluation period may be reset (re-armed) three times. This action extends the original 60-day evaluation period by up to 180 days for a total possible evaluation time of 240 days.

**How to Install Windows Server 2008 without Activating It**

1. Run the Windows Server 2008 Setup program.
2. When you are prompted to enter the product key for activation, do not enter a key. Click No when Setup asks you to confirm your selection.
3. You may be prompted to select the edition of Windows Server 2008 that you want to evaluate. Select the edition you want to install.
4. When you are prompted, read the evaluation terms in the Microsoft Software License Terms, and then accept the terms.
5. When the Windows Server 2008 Setup program is finished, your initial 60-day evaluation period starts. To check the time that is left on your current evaluation period, run the **slmgr.vbs** script that is in the System32 folder. Use the **–dli** switch to run this script. The **slmgr.vbs –dli** command displays the number of days that are left in the current 60-day evaluation period.

**How to Re-arm the Evaluation Period**

When the initial 60-day evaluation period nears its end, you can run the **slmgr.vbs** script to rest the evaluation period. To do this, follow these steps:

1. Click **Start**, and then click **Command Prompt**.
2. Type **slmge.vbs –dli**, and then press the **Enter** key to check the current status of your evaluation period.
3. To reset the evaluation period, type **slmgr.vbs –rearm**, and then press the **Enter** key.
4. Restart the computer.

This resets the evaluation period to 60 days.

## Unit 2. Lab 1. Configuring DNS and DHCP

**Course Objectives and Learning Outcomes**

In this lab, you will configure DNS and DHCP.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 3. Lab 1. Creating a Replica Domain Controller

**Course Objectives and Learning Outcomes**

In this lab, you will create a replica domain controller.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 4. Lab 1. Working with Active Directory Sites

**Course Objectives and Learning Outcomes**

In this lab, you will configure Active Directory Replication.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 5. Lab 1. Global Catalog and Flexible Single Master Operations (FSMO) Roles

**Course Objectives and Learning Outcomes**

In this lab, you will plan FSMO role holders.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 6. Lab 1. Creating and Managing Users and Groups

**Course Objectives and Learning Outcomes**

In this lab, you will create users, computers and groups.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 7. Lab 1. Employing Security Concepts

**Course Objectives and Learning Outcomes**

In this lab, you will implement user-account security and secure access to active directory.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 8. Lab 1. Exploring Group Policy Administration

**Course Objectives and Learning Outcomes**

In this lab, you will use advanced Group Policy management tools to control Group Policy application.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 9. Lab 1. Software Distribution and Controlling Group Policy

**Course Objectives and Learning Outcomes**

In this lab, you will perform software installation with Group Policy.

**See the Lab Manual for set up, procedures, and deliverables.**

## Unit 10. Lab 1. Disaster Recovery and Maintenance

**Course Objectives and Learning Outcomes**

In this lab, you will backup and restore Active Directory.

**See the Lab Manual for set up, procedures, and deliverables.**