

Configuring Advanced Windows Server 2012 Services (ITNW 1372)



Credit: 3 semester credit hours (2 hours lecture, 4 hours lab)

Prerequisite/Co-requisite: None

Course Description

This course will validate the advanced configuring tasks necessary to deploy, manage and maintain a Windows Server 2012 infrastructure, such as fault tolerance, certificate services, and identity federation. This course along with the other two courses will collectively validate the skills and knowledge necessary for implementing, managing, maintaining and provisioning services and infrastructure in a Windows Server 2012 environment.

Required Textbook and Materials

1. *70-412 Configuring Advanced Windows Server 2012 Services* by Microsoft Official Academic Course, Wiley, 2013.
 - a. ISBN number for print book is 978-1-118-66788-0
 - b. ISBN number for CourseSmart eBook: 978-1-118-62837-9 (text only)
2. Computer Networking and Troubleshooting Technology students are required to have one portable external Hard Drive with a capacity of 500GB or larger to be used for the duration of the time to complete their respective degree.

Course Objectives

Upon completion of this course, the student will be able to:

1. Configure and Manage High Availability.
2. Configure File and Storage Solutions.
3. Implement Business Continuity and Disaster Recovery.
4. Configure Network Services.
5. Configure the Active Directory Infrastructure.
6. Configure Identity and Access Solutions.

Course Outline

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|---------------------------------------|--------------------------------------|
| A. Configuring Network Load Balancing | 1. Understanding Failover Clustering |
| 1. Understanding Fault Tolerance | C. Managing Failover Clustering |
| 2. Configuring Network Load Balancing | 1. Managing Failover Clustering |
| B. Configuring Failover Clustering | D. Managing Virtual Machine Movement |

Approved 1/2014

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1. Understanding Virtual Machine Movement
 2. Understanding Live Migration
 3. Performing Quick Migration
 4. Performing Storage Migration
 5. Exporting, Importing, and Copying Virtual Machines
 6. Migrating from Other Platforms- Understanding P2V and V2V
 7. Converting a Virtual Machine to Virtual Machine V2V Using SCVMM
- E. Configuring Advanced File Services
1. Configuring NFS Data Store
 2. Configuring BranchCache
 3. Configuring File Classification Infrastructure
 4. Configuring File Access Auditing
- F. Implementing Dynamic Access Control
1. Using Dynamic Access Control
- G. Configuring and optimizing Storage
1. Understanding Shared Storage
 2. Using iSCSI
 3. Implementing Thin Provisioning and Trim
 4. Managing Server Free Space Using Features on Demand
- H. Configuring and Managing Backups
1. Configuring and Managing Backups
- I. Recovering Servers
1. Preparing for Windows Server 2012 Restores
- J. Configuring Site-Level Fault Tolerance
1. Configuring Hyper-V Replica
 2. Configuring Multi-Site Clustering
- K. Implementing an Advanced Dynamic Host Configuration Protocol (DHCP) Solution
1. Implementing Advanced DHCP Solutions
- L. Implementing an Advanced DNS Solution
1. Configuring Security for DNS
 2. Configuring DNS Logging
 3. Configuring Delegated Administration
 4. Configuring Recursion
 5. Configuring Netmask Ordering
 6. Configuring a GlobalNames Zone
- M. Deploying and Managing IPAM
1. Configuring IPAM
 2. Creating and Managing IP Blocks and Ranges
 3. Monitoring Utilization of IP Address Space
- N. Configuring a Domain and Forest
1. Implementing Complex Active Directory Environments
 2. Upgrading Existing Domains and Forests
 3. Configuring Multiple UPN Suffixes
- O. Configuring Trusts
1. Configuring Trusts
 2. Creating External Trusts
 3. Creating Forest Trusts
 4. Creating Shortcut Trusts
 5. Creating Realm trusts
 6. Validating Trusts
 7. Configuring Trust Authentication
 8. Configuring SID Filtering
 9. Configuring Name Suffix Routing
- P. Configuring Sites
1. Configuring Sites and Subnets
- Q. Managing Active Directory and SYSVOL Replication
1. Managing Active Directory Replication

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- R. Implementing Active Directory Federation Services
 - 1. Understanding Active Directory Services
 - 2. Implementing AD FS
- S. Installing and Configuring Active Directory Certificate Services
 - 1. Understanding the Active Directory Certificate Services
- T. Managing Certificates
 - 1. Managing Digital Certificates
- U. Installing and Configuring Active Directory Rights Management Services
 - 1. Understanding Active Directory Rights Management

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Evaluation

Final grades will be calculated according to the following criteria:

1. Labs	30%
2. Study Guides	10%
3. Chapter Tests	30%
4. Final Exam	30%

Course Requirements

- 1. Demonstrate proficiency through hands-on labs as assigned.
- 2. Completion of Study Guides as assigned.

Course Policies

- 1. No food, drinks, or use of tobacco products in class.
- 2. Beepers, telephones, headphones, and any other electronic devices must be turned off while in class.
- 3. Do not bring children to class.
- 4. No late assignments will be accepted.
- 5. Certification. If a student passes the certification test that is associated with this class, you will receive an “A” on the final exam and credit for 25% of your labs. If you have missed a previous test, you must still take the final exam to substitute for that grade.
- 6. Attendance Policy. Three absences are allowed. If a student is tardy to class or departs early three (3) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 2 point deduction from your final grade.

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7. If you wish to drop a course, the student is responsible for initiating and completing the drop process. If you stop coming to class and fail to drop the course, you will earn an 'F' in the course.
8. Labs. Due dates will be announced by the instructor.
9. Tools. Return all tools and/or software to their designated place.
10. A grade of 'C' or better must be earned in this course for credit toward degree requirement.
11. Additional class policies as defined by the individual course instructor.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. Among other things, these statutes require that all students with documented disabilities be guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409) 880-1737 or visit the office in Student Services, Cecil Beeson Building.

Course Schedule

Week of	Topic	Reference
Week 1	Syllabus and policies Course Introduction Lesson 1: Configuring Network Load Balancing	pp. 1-17 Lab
Week 2	Lesson 2: Configuring Failover Clustering Lesson 3: Managing Failover Clustering	pp. 18-43 & Lab pp. 44-59 & Lab
Week 3	Lesson 4: Managing Virtual Machine Movement	pp. 60-83 Lab
Week 4	Lesson 5: Configuring Advanced File Services Lesson 6: Implementing Dynamic Access Control	pp. 84-110 Lab pp. 111-131 Lab
Week 5	Lesson 7: Configuring and optimizing Storage Chapter 8: Configuring and Managing Backups	pp. 132-151 Lab pp. 152-184 Lab
Week 6	Chapter 9: Recovering Servers Chapter 10: Configuring Site-Level Fault	pp. 185-215 & Lab pp. 216-228

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Week of	Topic	Reference
	Tolerance	Lab
Week 7	Chapter 11: Implementing an Advanced Dynamic Host Configuration Protocol (DHCP) Solution	pp. 229-254 Lab
Week 8	Chapter 12: Implementing an Advanced DNS Solution	pp. 255-273 Lab
Week 9	Chapter 13: Deploying and Managing IPAM	pp. 274-292 Lab
Week 10	Chapter 14: Configuring a Domain and Forest Chapter 15: Configuring Trusts	pp. 293-310 & Lab pp. 311-339 & Lab
Week 11	Chapter 16: Configuring Sites Chapter 17: Managing Active Directory and SYSVOL Replication	pp. 340-362 & Lab pp. 363-386 Lab
Week 12	Chapter 18: Implementing Active Directory Federation Services	pp. 387-416 Lab
Week 13	Chapter 19: Installing and Configuring Active Directory Certificate Services	pp. 417-443 Lab
Week 14	Chapter 20: Managing Certificates	pp. 444-471 & Lab
Week 15	Chapter 21: Installing and Configuring Active Directory Rights Management Services	pp. 472-501 Lab
Week 16	Final Exam	

Contact Information:

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Additional Course Policies

- **Lab Grading.** You must answer all questions in the assigned labs, as well as any review questions at the end of the lab. Labs are submitted through Blackboard and must be turned in on or before the due date. 5 points will be deducted for each

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question in the lab that is not answered and 7 points will be deducted for each review question that is not answered. If none of the questions are answered then the lab will receive a '0'. Labs that are not turned in will receive a '0'. Do not do the lab challenges or the troubleshooting labs.