KNWE 0746 Advanced Server Services 2

Welcome to KNWE 0746 Advanced Server Services 2 Course. in this course you will learn advanced tasks necessary to deploy, manage, and maintain a Windows Server infrastructure. Topics include Network Load Balancing, failover clustering, virtual machine migration, certificate services, AD FS and AD RMS.

Course Description

Learn advanced tasks necessary to deploy, manage, and maintain a Windows Server infrastructure. Topics include Network Load Balancing, failover clustering, virtual machine migration, certificate services, AD FS and AD RMS. MCP and MCSA titles (Course 2 of 2 for exam 70-412). This course preceded by KNWE 0746 can be used as preparation to take the Microsoft 70-412 industry exam which validates the advanced configuration tasks necessary to deploy, manage, and maintain a Windows Server 2012 infrastructure and can lead to valuable resume-building titles such as Microsoft Certified Professional (MCP) and Microsoft Certified Solutions Associate (MCSA). The MCP title requires candidates to pass any single Microsoft exam and the MCSA title requires candidates to pass the following three exams: 70-410, 70-411, 70-412. Pursuing the MCSA title will validate the skills and knowledge necessary for implementing, managing, maintaining, and provisioning services and infrastructure in a Windows Server 2012 environment.

Skills developed in this course are used by Server Administrators, Systems Administrators, Network Administrators, Information Technology Specialists (IT Specialists), Local Area Network Administrators (LAN Administrators), IT Managers, Network Specialists, Network Engineers, Network Specialists, Help Desk Techs, and others.

Course Competencies

Students who successfully complete this course will be competent to perform the following functions:

1. Manage virtual machine movement. Import, export and copy virtual machines.

2. Configure and Manage High Availability. Configure site-level fault tolerance. Configure Hyper-V Replica and Replica Broker and virtual machines. Configure Network Load Balancing (NLB) and failover clustering.

3. Implement Active Directory Federation Services

4. Configure and manage Active Directory Certificate Services.

5. Install and configure Active Directory Rights Management Services.

Module 1 Learning Outcomes and Objectives

Students who complete this module will be able to perform the following tasks:

- Perform live migration
- Perform storage migration
- Import, export, and copy VMs
- Configure Hyper-V Replica
- Configure VM replication

- Perform planned and unplanned VM replication

- Demonstrate knowledge of VM movement and site-level fault tolerance concepts

Learning Activity: TestOut - Complete the 2 sections including quizzes under lesson 6 Hyper-V

0746 TestOut 6.0 Evidence of Completion

Students are required to complete each of the TestOut labs and Lesson Review Exams with a passing grade through section 6.2. In TestOut, select the Score Sheet under Personal Reports as shown in the image below. Also, ensure that Exams and Labs are selected under Resource Types. Next, use the Build Report button in the bottom right corner of the screen to build your report. Use the Windows Snipping Tool to capture an image of your report that represents you have completed all labs and quizzes with a passing score then save the image as a jpg and **submit the assignment here in Canvas**.

Learning Activity: Review Textbook Chapter 8 Virtual Machine and Site Resilience

Link to Chapter 8

0746 Module 1 Practice Exercises

Work with your instructor to identify equipment available to use for the chapter 8 practice exercises. You will use the SYD-DC you have been using but you will need to have Windows Server 2012 R2 installed directly on two additional physical machines.

Following the format used in the Example Lab Demonstration.pdf document, use MS Word and the MS Snipping Tool or equivalent tools to create screenshots of the key moments of each exercise and briefly describe what the screenshots show. Upload here and submit the assignment for your instructor's review.

Link to Chapter 8 Exercises

You will practice configuring the following:

1. Preparing servers for shared nothing live migration

2. Preparing servers for Hyper-V Replica

3. Configuring virtual machine replication

4. Performing planned virtual machine replication failover

5. Performing shared nothing live migration

6. Managing storage migration

7. Exporting, importing, and cloning a virtual machine

8. Performing unplanned virtual machine replication failover

KNWE 0746 Module 1 Exam Advanced Hyper-V

Module 2 Learning Objectives

Students who complete this module will be able to perform the following tasks:

- Configure Network Load Balancing
- Configure Failover Clustering
- Configure role-specific settings, including continuously available shares
- Configure Cluster Storage
- Configure Cluster Networking
- Migrate VM Storage
- Migrate a VM
- Demonstrate knowledge of high availability concepts

Learning Activity: TestOut - Complete the 6 sections including quizzes under lesson 7 High Availability

0746 TestOut 7.0 Evidence of Completion

Students are required to complete each of the TestOut labs and Lesson Review Exams with a passing grade through section 7.6. In TestOut, select the Score Sheet under Personal Reports as shown in the image below. Also, ensure that Exams and Labs are selected under Resource Types. Next, use the Build Report button in the bottom right corner of the screen to build your report. Use the Windows Snipping Tool to capture an image of your report that represents you have completed all labs and quizzes with a passing score then save the image as a jpg and **submit the assignment here in Canvas**.

Learning Activity: Review Textbook Chapter 7 High Availability

Link to Chapter 7

0746 Module 2 Practice Exercises

Using live equipment, complete practice exercises 1-16 (17 is not required) from chapter 7 of the textbook. Following the format used in the Example Lab Demonstration.pdf document, use MS Word and the MS Snipping Tool or equivalent tools to create screenshots of the key moments of each exercise and briefly describe what the screenshots show. Upload here and submit the assignment for your instructor's review.

*Exercise Notes:

Ask your instructor for two 144.35.120.x IP addresses for you to use during these exercise.

In exercise 1, step 15, replace the two ' characters with { }. That portion of the command should look like this {name -like "*DC"} instead of 'name -like "*DC"'

In exercise 3, step 7, use one of the IP addresses given to you by your instructor and use a /24 subnet mask.

In exercise 6, steps 6 and 7, use vhdx instead of vhd. For instance, "C:\shared-disks\disk-one.vhdx" -size 10GB

In exercise 7, skip steps 10, 16, and 22 as your servers are already configured with IP address information.

In exercise 10, step 7, use one of the IP addresses given to you by your instructor and use a /24 subnet mask.

In exercise 13, step 8, use the other IP address given to you by your instructor and use a /24 subnet mask.

Link to Chapter 7 Exercises

You will practice configuring the following:

1. Installing NLB
2. Creating an NLB cluster
3. Configuring port rules and affinity
4. Removing an NLB cluster
5. Installing failover clustering
6. Creating a two-node failover cluster
7. Adding a node to an existing cluster
8. Changing failover cluster quorum configuration
9. Installing and configuring a highly available file share
10. Configuring failover and failback settings
11. Configuring and managing Cluster-Aware Updating

KNWE 0746 Module 2 Exam High Availability

Module 3 Learning Objectives

Students who complete this module will be able to perform the following tasks:

- Install an Enterprise Certificate Authority (CA)
- Configure certificate revocation lists (CRL) distribution points
- Install and configure Online Responder
- Implement administrative role separation
- Configure CA backup and recovery
- Manage certificate templates
- Implement and manage certificate deployment, validation, and revocation
- Manage certificate renewal
- Manage certificate enrollment and renewal to computers and users using Group Policies
- Configure and manage key archival and recovery
- Demonstrate knowledge of Certificate Services

Learning Activity: TestOut - Complete the 8 sections including quizzes under lesson 8 AD Certificate Services

0746 TestOut 8.0 Evidence of Completion

Students are required to complete each of the TestOut labs and Lesson Review Exams with a passing grade through section 8.8. In TestOut, select the Score Sheet under Personal Reports as shown in the image below. Also, ensure that Exams and Labs are selected under Resource Types. Next, use the Build Report button in the bottom right corner of the screen to build your report. Use the Windows Snipping Tool to capture an image of your report that represents you have completed all labs and quizzes with a passing score then save the image as a jpg and **submit the assignment here in Canvas**.

Learning Activity: Review Textbook Chapter 4 AD Certificate Services

Link to Chapter 4

0746 Module 3 Practice Exercises

Using live equipment, complete the practice exercises from chapter 4 of the textbook. Following the format used in the Example Lab Demonstration document, use MS Word and the MS Snipping Tool or equivalent tools to create screenshots of the key moments of each exercise. Upload here and submit the assignment for your instructor's review.

Link to Chapter 4 Exercises

You will practice configuring the following:

1. Deploying an enterprise root CA
2. Deploying an enterprise subordinate CA
3. Deploying a standalone subordinate CA
4. Configuring a CRL distribution point
5. Configuring an Online Responder
6. Configuring administrative role separation
7. Configuring a KRA and key recovery
8. Configuring autoenrollment
9. Performing certificate revocation
10. Performing private key recovery

KNWE 0746 Module 3 Exam Certificate Services

Module 4 Learning Outcomes and Objectives

Students who complete this module will be able to demonstrate a knowledge of the following technologies and perform the following tasks:

Install and Configure AD Rights Management Services (AD RMS)

- Install a licensing or certificate AD RMS server, Manage AD RMS Service Connection Point (SCP), Manage RMS templates, Configure Exclusion Policies, Back up and restore AD RMS

Learning Activity: TestOut - Complete the 4 sections including quizzes under lesson 9 AD RMS

0746 TestOut 9.0 Evidence of Completion

Students are required to complete each of the TestOut labs and Lesson Review Exams with a passing grade through section 9.4. In TestOut, select the Score Sheet under Personal Reports as shown in the image below. Also, ensure that Exams and Labs are selected under Resource Types. Next, use the Build Report button in the bottom right corner of the screen to build your report. Use the Windows Snipping Tool to capture an image of your report that represents you have completed all labs and quizzes with a passing score then save the image as a jpg and **submit the assignment here in Canvas**.

Learning Activity: Review Textbook Chapter 9 DAC and AD RMS

Link to Chapter 9

0746 Module 4 Practice Exercises (Complete exercises 1 - 19)

Using live equipment, complete practice exercises 1 through 19 from chapter 9 of the textbook . Following the format used in the Example Lab Demonstration document, use MS Word and the MS Snipping Tool or equivalent tools to create screenshots of the key moments of each exercise and briefly describe what the screenshots show. Upload here and submit the assignment for your instructor's review.

Link to Chapter 9 Exercises

In these exercises, you will practice configuring the following

1. Configure user and device claims
2. Configure resource properties
3. Create central access rules
4. Create central access policies
5. Configure access denied assistance
6. Installing and configuring AD RMS

7. Creating AD RMS templates

8. Configuring template distribution

9. Configuring application extensions

10. Applying AD RMS templates using file classification

KNWE 0746 Module 4 Exam AD RMS

Module 5 Learning Outcomes and Objectives-2

Students who complete this module will be able to demonstrate a knowledge of the following technologies and perform the following tasks:

Implement AD Federation Services (AD FS)

- Install AD FS, Implement claims-based authentication, including Relying Party Trusts, Configure authentication policies, Configure Workplace Join, Configure multi-factor authentication

Learning Activity: TestOut - Complete the 7 sections including quizzes under lesson 10 AD FS

0746 TestOut 10.0 Evidence of Completion

Students are required to complete each of the TestOut labs and Lesson Review Exams with a passing grade through section 10.7. In TestOut, select the Score Sheet under Personal Reports as shown in the image below. Also, ensure that Exams and Labs are selected under Resource Types. Next, use the Build Report button in the bottom right corner of the screen to build your report. Use the Windows Snipping Tool to capture an image of your report that represents you have completed all labs and quizzes with a passing score then save the image as a jpg and **submit the assignment here in Canvas**.

Learning Activity: Review Textbook Chapter 10 AD Federation Services

Link to Chapter 10

0746 Module 5 Practice Exercises

Using live equipment, complete the practice exercises from chapter 10 of the textbook. Following the format used in the Example Lab Demonstration document, use MS Word and the MS Snipping Tool or equivalent tools to create screenshots of the key moments of each exercise and briefly describe what the screenshots show. Upload here and submit the assignment for your instructor's review.

Link to Chapter 10 Exercises

You will practice configuring the following:

1. Configuring a cross-organization CA trust

2. Deploying AD FS

3. Configuring a relying party trust

4. Configuring a claims provider trust

5. Configure claim rules

KNWE 0746 Module 5 Exam AD FS

Microsoft Exam 70-412

The Microsoft 70-412 exam is a challenging exam that will validate your ability to implement and configure Windows Server 2012 advanced services.

Before taking the exam:

1. Request the MeasureUp practice exam software from your instructor. It is recommended to start in Custom Exam mode and focus on one specific topic at a time until you have it mastered.

2. Check to see if Microsoft is offering a free 2nd try for those who may not pass the exam on their first attempt. This information can usually be found on the exam website (https://www.microsoft.com/learning/en-us/exam-70-412.aspxLinks to an external site.).

3. Refer to the following Microsoft web page for recommendations on preparing for an exam and preparing for exam day: https://www.microsoft.com/learning/en-us/certification-exams.aspx (Links to an external site.)Links to an external site..Links to an external site.

Register to Take the Exam

You should generally schedule your exam a few days in advance to ensure the day and time you would like to test are available.

1. Click the *Register For An Exam* button found on the right side of the page at the following link: http://www.pearsonvue.com/microsoft/.)Links to an external site.

2. Select the 70-412 exam for instance (there are two options; one exam you schedule to take at a testing center and the 70-412-OP you schedule to take in the online proctored format. You can read more about the online proctored exams here https://www.microsoft.com/learning/en-us/online-proctored-exams.aspxLinks to an external site.)

3. This takes you here: https://www.microsoft.com/learning/en-us/exam-70-412.aspx)Links to an external site.. Click on the Schedule exam button. This takes you to login with your Windows Live account (you will need to create an account if you do not already have one).

4. The Welcome screen pops up and **to receive the student pricing ensure you select Student as your job function**. Click Save Profile. After updating your profile, the next screen is Confirm Your Registration Details and click Submit which transfers you to Pearson Vue to schedule and pay.

5. On PearsonVue's site, select the "*I will be scheduling for a future date at a test center.*"

6. Select English as the language.

7. The price should show as $83.00 ($150 is the regular price) and you can pay either with a credit card or with a voucher. If you intend to purchase a voucher through the SLCC bookstore, the voucher price is approximately $110. **If you plan to buy a voucher, you will need to request at least a week in advance that the department coordinator place a request to have the bookstore order in a voucher for you**.

8. Click the Schedule this exam button and then select the location where you would like to test. Select a testing center convenient to your location that has time slots available to meet your needs. SLCC offers testing at the South City campus and at the Miller campus but testing times may be limited. In the PearsonVue online scheduler, the SLCC South City campus shows appointments available on Mondays and Tuesdays only. If you would like to test on a different day, contact your instructor who can work with the Testing Center to arrange an alternative time. To proceed with scheduling to test at the South City campus at a time that is not showing as available, perform the following:

   1. Speak with your instructor to have him/her contact the South City testing center to see if the time you would like to test is available

   2. Schedule your test online through PearsonVue and select a testing date 3 or 4 weeks out and pay for the exam. Inform your instructor that you have scheduled the exam online and your instructor will then contact the South City campus testing center to request they modify your testing appointment.

Please see your instructor if you have any questions or need further assistance.

KNWE 0746 Final Skills Assessment

The Final Skills Assessment will allow students to demonstrate their ability to configure services and settings presented throughout this course. The exam will be administered through TestOut as your other exams have been and will include 15 performance-based assessment items and will require a score of 75% or higher to pass. Students are allowed 150 minutes to complete this closed-book exam which must be taken in the TB 517 classroom or other room as directed by your instructor.

Please notify your instructor when you are ready to take this exam. Once you have passed the exam, upload a screen capture of your score here in Canvas and click on the Submit button.

This exam can be waived for students who pass the TestOut Windows Server Pro: Advanced Services Certification exam prior to their course end date.

TestOut Advanced Services Exam

Please read carefully!

Included with the purchase of TestOut, the instructor has access to a single voucher per student that allows the instructor to enable the TestOut Windows Server Pro: Advanced Services exam for students to take in the classroom. This exam is closed-book and instructor proctored and the exam will include 11 performance-based questions and there will be a 120 minute time limit (information deemed accurate at the time of this posting) and allows students the opportunity to demonstrate their knowledge, skills, and abilities in configuring advanced server services.

Students who pass the exam will receive a certificate signed by TestOut and may forgo the KNWE 0746 course final exam. Students who do not pass the exam may retake the exam if they would like the TestOut certification at an additional cost by doing the following steps:

Student TestOut Pro Exam Voucher Order process - $39

Go to www.testout.com (Links to an external site.)Links to an external site. and click on the **Shopping Cart icon** in upper right corner.

- Enter Price Code: **14-339TA** and press Continue

- Select the Exam voucher you need. Add to Cart and press Checkout

- Type in School Name: **Salt Lake Community College**

- No State Sales Tax except for Utah residents.

- You will be emailed your LabSim activation code.

- Please enter the 16-digit code on your LabSim Home page under My Products by clicking Add button. Then contact your teacher to let him/her know that the new Pro Exam voucher has been activated.

Students who do not pass this exam must pass the KNWE 0746 Final Skills Assessment to pass the KNWE 0746 course.

Once you have taken the exam, submit your score here.

Please speak with your instructor if you have questions or would like further clarification.