

KNWE 0742 Installing and Configuring Windows Servers 2

Course Description

In this course, students will learn to install, configure, and troubleshoot Windows Server services such as file and share access, print and document services, Group Policy, IPv4 and IPv6 networking as well as DHCP configuration. These skills are used in business environments to manage day-to-day network and systems operations. This course preceded by KNWE 0642 can be used as preparation to take the Microsoft 70-410 industry exam which validates candidate's knowledge and skills required to implement and configure Windows Server 2012 core services 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. Configure print and document services including print permissions and priorities, print drivers, and printer pooling.
2. Configure network shares and configure permissions for file and folder access and security.
3. Create and deploy Group Policy Objects for given scenarios
4. Document and report on device, network, and service settings
5. Configure security policies, security options settings, security templates, and Audit Policy settings.
6. Configure Windows Firewall to allow or deny applications, scopes, ports, and/or users. Create firewall exceptions.
7. Install, configure, and deploy DHCP services including configuring DHCP options and reservations, creating DHCP scopes, and implementing the DHCP Relay Agent.
8. Configure IPv4 and IPv6 addresses.
9. Plan and implement network addressing for given scenarios using subnetting/supernetting.
10. Troubleshoot, document, and resolve network communication issues.

Module 1: Learning Objectives and Competency

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

Learning Objectives:

- Configure NTFS permissions
- Configure NTFS quotas
- Configure Volume Shadow Copy Service (VSS)
- Configure Access-based Enumeration (ABE)
- Create and configure shares and share permissions
- Configure combined share and NTFS permissions

Competency: Configure file and share access

Learning Activity: TestOut 6.0 - Complete the five sections including quizzes under lesson 6.0 File and Share Access**KNWE 0742 Module 1 Skills Demonstration**

Using the **Installing and Configuring Windows Server 2012 R2** lab manual available in the classroom, complete each of the exercises from **Lab 4**. You will have approximately 2 hours to complete these exercises.

Answer the questions and take screen captures as requested in the following lab worksheet ([lab04.docx](#)). Once you have completed the exercises and worksheet, upload the worksheet here and click on the Submit button.

In this lab you will practice and demonstrate that you are able to follow step-by-step instructions to configure the following:

Lab 4: Configuring File and Share Access

1. Sharing a folder
2. Testing share access
3. Working with NTFS permissions
4. Creating Shares with Server Manager
5. Creating Work Folders
6. Lab Challenge: Creating Shares with Windows PowerShell

To demonstrate the required level of competency, working in a live environment, you are expected to be able to follow the lab instructions, set your servers up as indicated at the beginning of the lab, inform your instructor of any concerns with the lab set up, and troubleshoot problems should they arise. You may use online resources or ask your instructor for pointers if something does not seem to be working as expected.

These types of assignments are graded as Complete or Incomplete (a score of 100 will indicate the assignment has been graded "Complete"). Comments to you returned by your instructor will indicate there is additional work to do to receive a grade of "Complete."

KNWE 0742 Module 1 Exam - File and Share Access**Module 2: Learning Objectives and Competency**

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

Learning Objectives:

- Configure a network printer
- Create and share a printer
- Configure print permissions
- Configure print priorities
- Configure printer pooling
- Deploy printers with Group Policy

Competency: Configure print and document services

Learning Activity: TestOut 7.0 - Complete the two sections including quizzes under lesson 7.0 Print and Document Services

KNWE 0742 Module 2 Skills Demonstration

Using the **Installing and Configuring Windows Server 2012 R2** lab manual available in the classroom, complete each of the exercises from **Lab 5**. You will have approximately 2.5 hours to complete these exercises.

Answer the questions and take screen captures as requested in the following lab worksheet ([lab05.docx](#)). Once you have completed the exercises and worksheet, upload the worksheet here and click on the Submit button.

In this lab you will practice and demonstrate that you are able to follow step-by-step instructions to configure the following:

Lab 5: Configuring Print and Document Services

1. Installing a printer
2. Deploying printers using Active Directory
3. Scheduling Print Access
4. Lab Challenge: Creating a Printer Pool

To demonstrate the required level of competency, working in a live environment, you are expected to be able to follow the lab instructions, set your servers up as indicated at the beginning of the lab, inform your instructor of any concerns with the lab set up, and troubleshoot problems should they arise. You may use online resources or ask your instructor for pointers if something does not seem to be working as expected.

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KNWE 0742 Module 2 Exam – Printing

Module 3: Learning Objectives and Competency

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

- Configure a Central Store
- Create and manage Group Policy Objects
- Configure GPO links
- Configure multiple local Group Policies

Learning Activity: TestOut - Complete sections 8.1 and 8.2 including lab simulations and quizzes

KNWE 0742 Module 3 Skills Demonstration

Using the **Installing and Configuring Windows Server 2012 R2** lab manual available in the classroom, complete each of the exercises from **Lab 16**. You will have approximately 1.5 hours to complete these exercises.

Answer the questions and take screen captures as requested in the following lab worksheet ([lab16.docx](#)). Once you have completed the exercises and worksheet, upload the worksheet here and click on the Submit button.

In this lab you will practice and demonstrate that you are able to follow step-by-step instructions to configure the following:

Lab 16: Creating Group Policy Objects (1.5 hours)

1. Installing Group Policy Management
2. Creating a Starter GPO
3. Creating Group Policy Objects
4. Linking a Group Policy Object
5. Confirming GPO Application

To demonstrate a level of competency, working in a live environment, you are expected to be able to follow the lab instructions, set your servers up as indicated at the beginning of the lab, inform your instructor of any concerns with the lab set up, and troubleshoot problems should they arise. You may use online resources or ask your instructor for pointers if something does not seem to be working as expected.

These types of assignments are graded as Complete or Incomplete (a score of 100 will indicate the assignment has been graded "Complete"). Comments to you returned by your instructor will indicate there is additional work to do to receive a grade of "Complete."

KNWE 0742 Module 3 Exam - Group Policy

Module 4: Learning Objectives and Competency

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

- Configure user rights
- Configure User Account Control (UAC)

- Configure security policies, security options settings, and security templates
- Configure Audit Policies

Learning Activity: TestOut - Complete sections 8.3 through 8.7 Including Lab Simulations and Exams

KNWE 0742 Module 4 Skills Demonstration

Using the **Installing and Configuring Windows Server 2012 R2** lab manual available in the classroom, complete each of the exercises from **Lab 17**. You will have approximately 1.5 hours to complete these exercises.

Answer the questions and take screen captures as requested in the following lab worksheet ([lab17.docx](#)). Once you have completed the exercises and worksheet, upload the worksheet here and click on the Submit button.

In this lab you will practice and demonstrate that you are able to follow step-by-step instructions to configure the following:

Lab 17: Configuring Security Policies (1.5 hours)

1. Configuring Security Policies
2. Assigning User Rights
3. Configuring Audit Policies
4. Lab Challenge: Viewing Audit Data

To demonstrate the required level of competency, working in a live environment, you are expected to be able to follow the lab instructions, set your servers up as indicated at the beginning of the lab, inform your instructor of any concerns with the lab set up, and troubleshoot problems should they arise. You may use online resources or ask your instructor for pointers if something does not seem to be working as expected.

These types of assignments are graded as Complete or Incomplete (a score of 100 will indicate the assignment has been graded "Complete"). Comments to you returned by your instructor will indicate there is additional work to do to receive a grade of "Complete."

KNWE 0742 Module 4 Exam - Security Policies

Module 5: Learning Objectives and Competency

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

- Configure application restriction rules using AppLocker
- Configure Windows Firewall to allow or deny applications, scopes, ports, and users
- Create firewall exceptions
- Import and export firewall settings

Learning Activity: TestOut - Complete sections 8.8 through 8.10 Including Lab Simulations and Exams

KNWE 0742 Module 5 Skills Demonstration

Using the **Installing and Configuring Windows Server 2012 R2** lab manual available in the classroom, complete each of the exercises from **Labs 18 and 19**. You will have approximately 3 hours to complete these exercises.

Answer the questions and take screen captures as requested in the following lab worksheets ([lab18.docx](#) and [lab19.docx](#)). Once you have completed the exercises and worksheets, upload the worksheets here and click on the Submit button.

In these labs you will practice and demonstrate that you are able to follow step-by-step instructions to configure the following:

Lab 18: Configuring Application Restriction Policies (1.5 hours)

1. Creating Software Restriction Policies
2. Using AppLocker
3. Lab Challenge: Creating Additional Rules

Lab 19: Configure Windows Firewall (1.5 hours)

1. Install Internet Information Services
2. Testing IIS Connectivity
3. Allowing Apps through the Windows Firewall Control Panel
4. Creating Windows Firewall Rules
5. Creating an FTP Server Rule

To demonstrate the required level of competency, working in a live environment, you are expected to be able to follow the lab instructions, set your servers up as indicated at the beginning of the labs, inform your instructor of any concerns with the lab set up, and troubleshoot problems should they arise. You may use online resources or ask your instructor for pointers if something does not seem to be working as expected.

These types of assignments are graded as Complete or Incomplete (a score of 100 will indicate the assignment has been graded "Complete"). Comments to you returned by your instructor will indicate there is additional work to do to receive a grade of "Complete."

KNWE 0742 Module 5 Exam - Firewall & App Restrictions

Module 6: Learning Objectives and Competency

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

Learning Objectives:

- Configure IPv4 and IPv6 Addresses
- Configure IPv4 subnetting, VLSM and supernetting
- Troubleshoot and resolve network communication issues

Competency: Plan, configure, document, and troubleshoot IP addressing for given scenarios involving multiple subnets and IPv4 and IPv6 addresses.

Learning Activity: TestOut 9.0 - Complete the three sections including quizzes under lesson 9.0 Networking

Networking Learning Activities

Refer to the following textbook section: [Configure IPv4 and IPv6 Addresses](#)

Practice the following:

1. Setting IPv4 and IPv6 addresses on Windows client and server machines and verifying successful communication between machines
2. IPv4 Subnetting, supernetting, and VLSM. Please ask your instructor for assistance if you are not confident in your VLSM skills.
3. Applying correct addresses (including IP address, subnet mask, default gateway, and Preferred DNS Server addresses) to computers in multi-subnet scenarios
4. Using utilities such as ping and tracert to verify communication and troubleshoot connectivity issues

KNWE 0742 Module 6 Skills Demonstration

Using the **Installing and Configuring Windows Server 2012 R2** lab manual available in the classroom, complete each of the exercises from **Lab 10**. You will have approximately 2 hours to complete these exercises.

Answer the questions and take screen captures as requested in the following lab worksheet ([lab10.docx](#)). Once you have completed the exercises and worksheet, upload the worksheet here and click on the Submit button.

In this lab you will practice and demonstrate that you are able to follow step-by-step instructions to configure the following:

Lab 10: Configuring IPv4 and IPv6 Addressing

1. Calculating IP Addresses
2. Manually Configuring TCP/IP
3. Configuring TCP/IP with Windows PowerShell
4. Testing Network Connections

To demonstrate the required level of competency, working in a live environment, you are expected to be able to follow the lab instructions, set your servers up as indicated at the beginning of the lab, inform your instructor of any concerns with the lab set up, and troubleshoot problems should they arise. You may use online resources or ask your instructor for pointers if something does not seem to be working as expected.

These types of assignments are graded as Complete or Incomplete (a score of 100 will indicate the assignment has been graded "Complete"). Comments to you returned by your instructor will indicate there is additional work to do to receive a grade of "Complete."

KNWE 0742 Module 6 Exam - IP Addressing

Module 7: Learning Objectives and Competency

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

Learning Objectives:

- Install the DHCP role
- Create and configure scopes
- Configure DHCP options
- Configure DHCP reservations and exclusions
- Configure DHCP relay agent
- Troubleshoot DHCP-related issues

Competency: Install, configure, deploy, and troubleshoot DHCP services

Learning Activity: TestOut 10.0 - Complete the four sections including quizzes under lesson 10.0 DHCP

Optional DHCP Learning Activities

Practice configuring the following on live equipment. If you are using a virtual server in the classroom set up for you by your instructor, do not activate your DHCP scope to avoid causing connectivity issues for other students. Your instructor can provide you with additional equipment for you to practice installing and implementing DHCP.

1. Install the DHCP role in GUI mode (<http://tinyurl.com/pydegar> (Links to an external site.)Links to an external site. - chapter 4 section 2 of the 70-410 Exam Ref book pages 216-231)
2. Install the DHCP role on Server Core (pages 133-135 of the Mastering Windows Server 2012 R2 textbook)
3. Configure a single DHCP scope with options to provide DNS, DNS suffix, and default gateway options to clients
4. Configure a DHCP reservation
5. Configure multiple scopes on a DHCP server and configure scope and server options for the multi-scope environment as well as reservations and exclusion ranges. Example: The DHCP server is directly attached to subnet A which uses addresses in the 192.168.0.0 /24 range. 192.168.0.1 is the default gateway for subnet A clients. Subnet B is on the other side of a router from the DHCP server and clients on that subnet use address in the 192.168.1.0 /24 range. 192.168.1.1 is the default gateway for subnet B clients. The DNS server for the environment is also the DHCP server and the address of that server is 192.168.0.5. Configure a DHCP relay agent on subnet B to allow subnet B clients to obtain IP addresses from the DHCP server.

KNWE 0742 Module 7 Skills Demonstration

Using the **Installing and Configuring Windows Server 2012 R2** lab manual available in the classroom, complete each of the exercises from **Lab 11**. You will have approximately 2 hours to complete these exercises.

Answer the questions and take screen captures as requested in the following lab worksheet ([lab11.docx](#)). Once you have completed the exercises and worksheet, upload the worksheet here and click on the Submit button.

In this lab you will practice and demonstrate that you are able to follow step-by-step instructions to configure the following:

Lab 11: Deploying and Configuring the DHCP Service (2 hours)

1. Install the DHCP Server Role
2. Creating a DHCPv4 scope
3. Creating a DHCPv6 Scope
4. Activating DHCP
5. Lab Challenge: Confirming DHCP

To demonstrate the required level of competency, working in a live environment, you are expected to be able to follow the lab instructions, set your servers up as indicated at the beginning of the lab, inform your instructor of any concerns with the lab set up, and troubleshoot problems should they arise. You may use online resources or ask your instructor for pointers if something does not seem to be working as expected.

These types of assignments are graded as Complete or Incomplete (a score of 100 will indicate the assignment has been graded "Complete"). Comments to you returned by your instructor will indicate there is additional work to do to receive a grade of "Complete."

KNWE 0742 Module 7 Exam – DHCP

KNWE 0742 Final Skills Assessment

Please read through the information below and then information about the TestOut certification test that is part of the next assignment before taking this exam.

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 this exam or the TestOut certification 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: Install and Configure certification exam prior to their course end date.

TestOut Windows Server Pro: Install and Configure Certification 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: Install and Configure exam for students to take in the classroom. This exam is closed-book and instructor proctored and the exam will include 15 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 installing and configuring server roles and services.

Students who pass the exam will receive a certificate signed by TestOut and may forgo the KNWE 0742 course final exam. Students who do not pass the exam may retake the exam at an additional cost if they would like the TestOut certification by following these 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 0742 Final Skills Assessment to pass the KNWE 0742 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.

Microsoft Server Fundamentals MTA Exam

The department you are enrolled in has paid for a site license that allows students to take MTA exams at no additional cost to the student. One of the MTA exams is the Windows Server Administration Fundamentals exam. You can find out more about this exam at the following site - <https://www.microsoft.com/learning/en-us/exam-98-365.aspx> (Links to an external site.)Links to an external site..

The exam is based on Windows Server 2008 technology (they have not updated the exam to 2012 at this time) but many of the topics are the same between 2008 and 2012.

To prepare for this exam, request the MeasureUp practice test software from your instructor.

Microsoft Exam 70-410

The Microsoft 70-410 exam is a rigorous exam (do not take this exam lightly!) that will validate your ability to implement and configure Windows Server 2012 core 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. 2nd shot information is generally posted on the Microsoft 70-410 website. (<https://www.microsoft.com/en-us/learning/exam-70-410.aspx> (Links to an external site.)Links 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/en-us/learning/exam-70-410.aspx> (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 70-410 exam for instance (there are two options; one exam you schedule to take at a testing center and the 70-410-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.aspx>[Links to an external site.](#))
3. This takes you here: [Links to an external site.https://www.microsoft.com/en-us/learning/exam-70-410.aspx](https://www.microsoft.com/en-us/learning/exam-70-410.aspx) ([Links to an external site.](#))[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, at least a week in advance, you will need to request 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.