T Level Technical Qualification in Digital Support Services

Occupational specialism assessment (OSA)

Digital Support

Assignment 3

Assignment brief

NCFE

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About this assignment

Introduction

This assignment is set by NCFE and administered by your provider during a set 2 week window.

The assignment will be completed under supervised conditions.

You must complete all tasks in this assignment independently. You are required to sign a declaration of authenticity to confirm that the work is your own. This is to ensure authenticity and to prevent potential malpractice and maladministration. If any evidence was found not to be your own work, it could impact your overall grade.

Internet access is available to allow you to access developer notes and help pages and to install, configure and update operating system, drivers and software applications and deploy them remotely. You are **not** permitted to use the internet for any other purpose, such as research. A copy of your browsing history must be submitted as part of your evidence for this assignment.

You have 10 hours to complete all tasks within this assignment. Each task has the following number of hours:

Task 1 = 6 hours (this task will be spread over 2 days).

Task 2 = 4 hours (this will be provided after completion of task 1 and be completed in one day).

Individual tasks must be completed within the timescales stated within each task, but it is up to you how long you spend on each part of the task, therefore be careful to manage your time appropriately.

Total marks available across all assignment 3 tasks = 27.

Details on the marks available are provided in each task.

You should attempt to complete all of the tasks.

Read the instructions provided carefully.

Take all photographs using the digital camera supplied by your provider. Use of mobile phones is **not** permitted.

Performance outcomes

This assessment requires students to:

PO1: Apply procedures and controls to maintain the digital security of an organisation and its data

PO2: Install, configure and support software applications and operating systems

PO3: Discover, evaluate and apply reliable sources of knowledge

Scenario

Monitoring and maintaining all infrastructure, whilst documenting the process is the key to an efficient and functional system. During this process you will analyse the recent penetration test report that has been produced on a network. This will lead to you identifying vulnerabilities, providing solutions, identifying trends and underlying problems, all of which will be documented in a continuous improvement plan.

Alongside this, to save time and improve efficiency, you are required to create and deploy an image remotely which consists of an operating system and software applications.

Task 1: network analysis

Time limit

6 hours

You can use this time how you want but task 1 must be completed within the time limit.

(12 marks)

Student instructions

In this assignment you need to monitor, maintain and demonstrate continuous improvement of a network. For this, you will need to produce an infrastructure status log (worksheet in appendix 3) for the equipment listing (worksheet in appendix 3) and network overview diagram provided (appendix 4). You will log and update the infrastructure status log and produce maintenance notes for each of these devices.

You must also analyse the penetration test report provided (appendix 5) and filter your findings and solutions in the penetration test remediation log (worksheet in appendix 3), into your future planning to demonstrate understanding of continuous improvements. This will include how current and future vulnerabilities will be mitigated and will also identify trends and document underlying problems to produce solutions faster.

Documentation and screenshots, where applicable, will need to be provided to show the work you have conducted and any future planning.

1) You are required to monitor, maintain and demonstrate continuous improvement of the new network including:

- log infrastructure status

- maintenance notes for the installations

- analysis of penetration testing report

- mitigation of vulnerabilities

- future planning, identifying trends and document underlying problems

You will have access to the following equipment:

- 1 x workstation set-up with office software installed

- internet access for developer notes and help pages

- digital camera

Evidence required for submission to NCFE

The following evidence should be submitted:

- annotated screenshots (if using virtual machines) or photographs (if using physical machines/devices) showing the issues identified in the penetration test report and maintenance notes for the installations within the infrastructure status log (worksheet in appendix 3)

- infrastructure status log (worksheet in appendix 3)

- penetration test remediation log (worksheet in appendix 3)

- documented/planned improvements (word processing document)

- internet browsing history

Task 2: Deploy image remotely

Time limit

4 hours

You can use this time how you want but task 2 must be completed within the time limit.

(15 marks)

Instructions for students

As part of your continuous improvement of the network created, it has been logged that new software applications are needed for computers in an office. To save time and increase efficiency, this will be completed remotely.

For this you must create an image which includes an operating system, office software applications, drivers, rules, active directory permissions and a deployment task sequence. You will deploy this remotely. A test plan and test log (worksheet in appendix 3) will need to be completed for this task. This is required as the image may be deployed on different hardware platforms (for example graphic cards) as it is necessary to quality assure the device to ensure the deployed image is acting as expected.

Screenshots and notes will need to be made throughout the creation, deployment and testing of the image.

This can be performed either virtually or physically.

2) You are required to demonstrate creation of an image and deployment of that image remotely for **one** virtual or physical machine including:

- create an image:
    - operating system
    - software applications
    - active directory joined
    - deployment task sequence
- upload image to image distribution system and make available for example, WDS (windows deployment service)
- deploy image
- create a test plan and complete log

You will have access to the following equipment:

- machine running WDS or similar
- internet access for developer notes and help pages
- 1 end-user device or virtual machine
- access to servers, firewalls, network devices, network-based services
- operating system and office licenses for basic image deployment
- digital camera

Evidence required for submission to NCFE

The following evidence should be submitted:

- annotated screenshots (if using virtual machines) or photographs (if using physical machines/devices) and documented notes showing creation and deployment of image

- test plan (worksheet in appendix 3)

- test log (worksheet in appendix 3)

- internet browsing history

Document information

The T Level Technical Qualification is a qualification approved and managed by the Institute for Apprenticeships and Technical Education.

Owner: Head of Assessment Design

Change History Record

Version	Description of change	Approval	Date of Issue
v1.0	Post approval, updated for publication.		December 2020
v1.1	Branding and formatting final updates. NCFE rebrand.		September 2021