

# T Level Technical Qualification in Digital Support Services

Occupational specialism assessment (OSA)

## Digital Infrastructure

Assignment 2

Mark scheme

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## Marking guidelines

You must apply the following marking guidelines to all marking undertaken throughout the marking period. This is to ensure fairness to all students, who must receive the same treatment. You must mark the first student in exactly the same way as you mark the last.

The mark scheme must be referred to throughout the marking period and applied consistently. Do not change your approach to marking once you have been standardised.

The marks awarded for each response should be clearly and legibly recorded.

If you are in any doubt about the application of the mark scheme, you must consult with your team leader or the chief examiner.

# Task 1

(4 marks)

Criteria	Marks	Guidance
Network cable creation	1	All the copper connectors connect with the cable
	1	All the ends of the cable are arranged correctly
	1	The plastic cover is at the right depth to catch under the fixing in the RJ45 end
	1	The cable tester lights show that each strand is working correctly

**Note:** Follow-through marks can be awarded if the individual cables are not in the correct order, but the lights correctly display.

## Task 2

### Step A Installing and Configuring Servers

(5 marks)

Criteria	Marks	Guidance
Operating System installation – Server01 Local Administrator: <b>Administrator / Pa\$\$w0rd</b>	1 1	Evidence must show: <ul style="list-style-type: none"><li>• Server01 with name set</li><li>• Server01 with disk partitions</li></ul>
Connect Server machines to a switch Provide each server with an appropriate IP address	1 1	Evidence must show: <ul style="list-style-type: none"><li>• Server(s) have been connected to a switch</li><li>• Server01 and Server02 have been configured with appropriate IP addresses</li></ul>
Confirm network connectivity between Server01 and Server02	1	Evidence must show: <ul style="list-style-type: none"><li>• Successful network connection between Server01 and Server02 (for example Ping, Test-NetConnection)</li></ul>

## Step B Domain Setup

(6 marks)

Criteria	Marks	Guidance
Install and configure a Directory Service on Server01	1	Evidence must show: <ul style="list-style-type: none"><li>a suitable directory service (for example Active Directory) has been installed on Server01</li></ul>
Install and configure DNS on Server01	1	Evidence must show: <ul style="list-style-type: none"><li>DNS has been installed on Server01</li></ul>
Install DHCP service on Server01	1	Evidence must show: <ul style="list-style-type: none"><li>DHCP has been installed on Server01</li></ul>
Implement the DHCP scope provided on Server01	1	Evidence must show: <ul style="list-style-type: none"><li>DHCP scope has been configured to match scenario requirement (192.168.1.11-192.168.1.20)</li></ul>
Join Server02 to the domain	1	Evidence must show: <ul style="list-style-type: none"><li>Server02 has been joined to the domain</li></ul>
Confirm a reverse DNS lookup works on Server02 using Nslookup	1	Evidence must show: <ul style="list-style-type: none"><li>Nslookup command is used and shows Server02 can access domain resources (shows Server01 IP address clearly: 192.168.1.1)</li></ul>

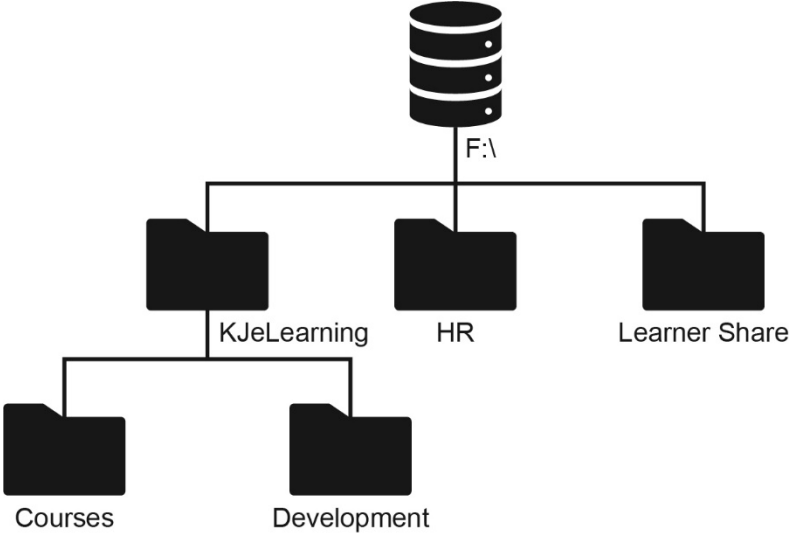
## Step C User and Group Setup

(4 marks)

Criteria	Marks	Guidance
Create the organisational units (OU) in the directory service	1	Evidence must show: <ul style="list-style-type: none"><li>the 5 provided OUs (<b>Managers, Staff, Learners, Teachers, IT</b>) have been created within the directory service</li></ul>
Create users in the directory service	1	Evidence must show: <ul style="list-style-type: none"><li>a user has been set up with the correct settings</li></ul>
Assign users to groups in the directory service	1	Evidence must show: <ul style="list-style-type: none"><li><b>Managers</b> group has been created</li></ul>
Add groups to the <b>Staff</b> group	1	Evidence must show: <ul style="list-style-type: none"><li><b>Staff</b> group should contain the following groups: <b>Managers, IT, Teachers</b></li></ul>

## Step D Shared Folder Setup

(6 marks)

Criteria	Marks	Guidance
<p>Create the required folder structure on the F:\ drive on Server01</p>	<p>1 1 1</p>	<p>Evidence must show:</p> <ul style="list-style-type: none"> <li>the F:\ drive has been used for the folder structure</li> <li>folders have been created</li> <li>hierarchical structure matches requirements</li> </ul>  <p>The diagram shows a hierarchical folder structure starting from the F:\ drive. At the top level, there are three folders: KJeLearning, HR, and Learner Share. The KJeLearning folder has two sub-folders: Courses and Development.</p> <pre> graph TD     F["F:\"] --- KJeLearning     F --- HR     F --- LearnerShare["Learner Share"]     KJeLearning --- Courses     KJeLearning --- Development     </pre>
<p>Apply appropriate permissions to the <b>KJeLearning</b> folder to ensure access is only available to those authorised:</p> <p>Managers and Teachers should have 'change' access to this folder</p> <p>IT should have 'full control' access to this folder</p> <p>Learners should not be able to access this folder</p>	<p>1</p>	<p>Evidence must show:</p> <ul style="list-style-type: none"> <li>relevant permissions have been applied to the folder</li> </ul>



Criteria	Marks	Guidance
<p>Apply appropriate permissions to the <b>HR</b> folder to ensure access is only available to those authorised:</p> <p>Only Managers should have access to the <b>HR</b> folder, all other users should have no access</p>	1	<p>Evidence must show:</p> <ul style="list-style-type: none"> <li>relevant permissions have been applied to the folder</li> </ul>
<p>Apply appropriate permissions to the <b>Learner Share</b> folder to ensure access is only available to those authorised:</p> <p>Learners should have 'change' access to this folder</p> <p>Teachers should have 'full control' access to this folder</p>	1	<p>Evidence must show:</p> <ul style="list-style-type: none"> <li>relevant permissions have been applied to the folder</li> </ul>

## Step E Client Computer Setup and Test

(10 marks)

Criteria	Marks	Guidance
Install the provided operating system on PC01	1 1	Evidence must show: <ul style="list-style-type: none"> <li>• PC01 with computer name set</li> <li>• PC01 with disk partitions</li> </ul>
Configure and confirm network settings on PC01 to ensure the computer is on the domain	1 1 1	Evidence must show: <ul style="list-style-type: none"> <li>• PC01 is connected to the correct switch/virtual switch</li> <li>• PC01 joined to the domain</li> <li>• PC01 network configuration shows expected settings (for example IP address within the DHCP scope)</li> </ul>
Confirm user John Richardson has access to relevant shared folder on network	1 1	Evidence must show: <ul style="list-style-type: none"> <li>• user John Richardson has access to shared folders</li> <li>• user John Richardson can access shared <b>HR</b> folder</li> </ul>
Confirm user Bhindi Hussain has access to relevant shared folder on network	1	Evidence must show: <ul style="list-style-type: none"> <li>• user Bhindi Hussain can access <b>Learner Share</b> and create folder and/or documents</li> </ul>
Confirm user Natalia Sobbah has correct access to relevant shared folder on network	1 1	Evidence must show: <ul style="list-style-type: none"> <li>• user Natalia Sobbah cannot access <b>HR</b> documents</li> <li>• user Natalia Sobbah can access <b>Learner Share</b> and can delete the folder 'Bhindi'</li> </ul>

## Step F Configuring Server Backup

(7 marks)

Criteria	Marks	Guidance
Add an additional hard disk drive to Server02	1 1	Evidence must show: <ul style="list-style-type: none"> <li>additional HDD has been added to Server02 (physical or virtual)</li> <li>new disk has been setup in Disk Management</li> </ul>
Install Windows Server Backup feature on Server01	1	Evidence must show: <ul style="list-style-type: none"> <li>Windows Server Backup feature has been installed correctly</li> </ul>
Configure Windows Server Backup to run on agreed schedule	1	Evidence must show: <ul style="list-style-type: none"> <li>Windows Server Backup feature has been configured to run hourly back-up</li> </ul>
Confirm back-up has successfully completed	1	Evidence must show: <ul style="list-style-type: none"> <li>back-up has been completed successfully</li> </ul>
Confirm restore process works correctly	1 1	Evidence must show: <ul style="list-style-type: none"> <li>files within <b>KJeLearning</b> folder have been deleted</li> <li>restore process is complete and files are present in <b>KJeLearning</b> folder</li> </ul>

## Step G Setting up and Testing Web Services

(4 marks)

Criteria	Marks	Guidance
Install Internet Information Services (IIS) service on Server02	1	Evidence must show: <ul style="list-style-type: none"><li>IIS has been installed on Server02</li></ul>
Configure the IIS feature	1	Evidence must show: <ul style="list-style-type: none"><li>IIS feature has been configured on Server02</li></ul>
Add DNS record for the web server	1	Evidence must show: <ul style="list-style-type: none"><li>DNS record for <a href="http://www.kjelearning.com">www.kjelearning.com</a> has been added with IP address of 192.168.1.2</li></ul>
Test website works on PC01	1	Evidence must show: <ul style="list-style-type: none"><li>website opens correctly from PC01 client</li></ul>

## Step H Remote Connection

(4 marks)

Criteria	Marks	Guidance
Create a remote connection between PC02 and Server01 using Remote Desktop Connection.  <b>Note:</b> You are <b>not</b> permitted to join the computer to the domain	1	Evidence must show: <ul style="list-style-type: none"><li>attempted remote connection between PC02 and Server01 (192.168.1.1) – this step will likely fail</li></ul>
Successful remote connection between Server01 and PC02	1	Evidence must show: <ul style="list-style-type: none"><li>successful remote desktop connection to Server01 from PC02</li></ul>
Securing directory services accounts	1	Evidence must show: <ul style="list-style-type: none"><li>reset user Natalia Sobbah password and disable the account</li></ul>
Confirm user cannot log in to network devices	1	Evidence must show: <ul style="list-style-type: none"><li>user Natalia Sobbah cannot log on to PC01</li></ul>

## Step I Configuring Group Policies

(3 marks)

Criteria	Marks	Guidance
Configure browser home page for all users to be <a href="http://www.kjelearning.com">www.kjelearning.com</a>	1	Evidence must show: <ul style="list-style-type: none"><li>• browser home page policy has been configured as required</li></ul>
Configure the <b>Learner Share</b> folder as a mapped drive for learners	1	Evidence must show: <ul style="list-style-type: none"><li>• drive mapping policy configured to map <b>Learner Share</b> folder</li></ul>
Test and confirm configured policies	1	Evidence must show: <ul style="list-style-type: none"><li>• PC01 has received the policies as configured</li></ul>

## Performance outcome grid

Task	PO1	PO2	PO3	Total
1		4		4
2	10	39		49
<b>Total marks</b>	10	43		53
<b>% Weighting</b>	19%	81%		100%

## Document information

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