# **Assessment Cover Sheet**

### (Print all details and attach to front of assessment task/assignment before submitting)

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| Course code & name | ­­­­­­­­ ICT50220 - Diploma of Information Technology |
| Unit code & name | ­­­­­­­­ ICTNWK540 - Design, build and test network servers |
| Name of assessment | ­­­­­­­­ Assessment Task 5: Design a Network Server |
| Due Date | 5 / 08 / 2024 |
| Teacher name | Zhengxiangwang |
| Instructions |  |
| Comments | ­­­­­­­­ |

Declaration: Read, tick and sign below

* I declare that the attached assessment I have submitted is my own original work and any contributions from and references to other authors are clearly acknowledged and noted.
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Student signature …WangYiZhuo……………………… Date 1 /08….. / 2024…...

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| Please note that your assignment will not be accepted unless you have:   * completed all sections of the assignment * acknowledged all sources of other people’s contributions including references and students’ names for group work assessments * filled in all areas of this student assignment cover sheet. |

## 

Assessment Task 5: Design a Network Server

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| Course code and name | **ICT50220 Diploma of Information Technology** |
| Unit code and name | **ICTNWK540 - Design, build and test network servers** |
| Due date | .. / .. / 2022 (Students have 3 weeks to complete this task) |
| Resources required | Learner to provide:   * The learner may use his own laptop provided it meets the minimum requirements (refer to lab setup instructions in in Moodle)   Provided:   * Learner resources in Moodle * Access to computer and Internet * The computer used when working on tasks must have VirtualBox 6.x virtualisation software installed |
| Instructions to learners | This task involves demonstrating skills in designing a server. Refer to the Task Details below, for further information.   * This assessment will be conducted using a simulated environment where the conditions are typical of those in a working environment in the ICT industry. * This assessment task is a practical project that must be completed individually * It is to be completed in classroom delivery of this unit * You have two weeks to complete this task. * Reasonable adjustments can be made if special circumstances apply, provided the integrity of the assessment is maintained and the intent is not compromised. E.g., extension of time, oral questions and answers etc. * You must complete the coversheet. * All questions must be answered. * You have to replace all occurrences of '***99***' in this document with the lab ID that was assigned to them at the beginning of the unit. * Naming conventions for the lab environment must be followed. * Unless stated otherwise, all virtual machines must use only the 'Internal Network' adapter. * The Windows Firewall must be enabled for all profiles on the host and on the virtual machines at all times. All inbound connections that do not match a rule must be blocked. * You have to complete the answers electronically and submit the completed assessment document electronically in Moodle by the due date. |

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Task Overview

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| **Note:** | Activities in this task build upon the work completed in the previous tasks.  The knowledge gained from the work completed in the previous tasks is required for the completion of this assessment. |
| This assessment is based around a case study for the fictional company ‘Lean Development Pty Ltd’ (LD).   |  |  | | --- | --- | | ***Note:*** | ***The Case Study can be found in Moodle in the Assessments section and is published together with this document.*** |   You are to apply your knowledge of Windows 2019 to design a server that satisfies the requirements and constraints described in the case study.  Carefully read the case study and the scenario presented below. Based on the given information you will have to:   * Review the initial requirements and consult with your manager to clarify details as needed * Assess the business problems, opportunities, scope and budget * Identify system and migration requirements and produce a data migration plan * Confirm deployment timeline and effort * Produce detailed design documentation containing the server and services specification * Identify potential workplace hazards and implement risk control measures   To demonstrate your ability to produce a design report for a server with complex user and network service requirements, answer and complete all questions following the case study.   |  |  | | --- | --- | | ***Note:*** | ***As part of question 2.4 you will have to consult with your teacher. This may introduce 2-3 working days delays before you can submit your your assessment. Make sure you take this into consideration when planning your work schedule.***  ***Hint: While waiting for a response, you should continue working on Q4, Q5, Q6, Q13 and Q14.*** | | |

## Scenario

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| Prerequisite The context for this scenario is the Case Study for Lean Development Pty Ltd (LD). You must be familiar with this case study before proceeding any further. Your Role You work as a system engineer for MP Tech Solutions Ltd (MP Tech). Your organisation provides consulting, system integration, network and support services to LD.  You have been given the task to produce the design document for the virtual server deployment project at LD.  The upgrade of the network and server infrastructure is managed by a MP Tech consultant. The MP Tech consultant is the central point of contact for all matters relating to LD and acts as your manager.   |  |  | | --- | --- | | ***Note:*** | ***Your teacher takes on the role of the MP Tech consultant and will act as your manager.*** |  Project Cost and Time Estimates MP Tech estimated the effort for the virtual server deployment project to be about 4 working days (8 working hours each). LD and MP Tech agreed to complete the project over a period of two weeks for a total cost of $6,000. Project Activities Your manager provided you with the following list of project steps to be completed:   |  |  | | --- | --- | | **Server Deployment Project Steps** | | |  | Review initial scope, requirements and estimated effort and timeline. | |  | Produce detailed documentation for the design and configuration of the network services, server applications, security and redundancy. | |  | Create the VM and allocate/configure hypervisor resources for the server. | |  | Install OS and services and complete the server configuration. | |  | Test access to the server and verify system and services operation. | |  | Prepare and configure workstations for using the new network services. | |  | Conduct the data migration to the new server and verify data access. | |  | Complete server documentation and produce final server status report. | |  | Clean up the work environment and secure project sign off from the client. | |

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| Additional Project Constraints After discussions with colleagues and your manager, the team agreed to use only standard RAID levels (as opposed to hybrid RAID combinations like RAID-10) for the data volume on the server. The data volume will use the maximum available disk size. Your Tasks You are to complete the first two steps of the project activities list:   * You must review the list of requirements presented to you and liaise with relevant parties to gather any missing information and clarify potential inconsistencies. * Once you have gathered all information needed for the design of the server, you are to prepare relevant section for the design document. |

## Tasks and questions

#### Confirm project details, effort and costing with your manager

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| MP Tech staff are required to review and confirm the effort for the work they need to complete. In line with these organisational requirements, and to make sure the project does not exceed agreed costs, your manager asked you to review the work plan and estimate the effort for each step prior to commencing with the project work.  Any major deviation from the initial total effort must be discussed and confirmed with your manager at MP Tech. |

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| 1 | Provide an estimate for the effort required to complete each of the steps, calculate the total hours for the project and indicate the expected project start and end date.   |  |  | | --- | --- | | ***Note:*** | ***If your estimates exceed the agreed effort by more than 20%, contact you manager to discuss a potential deviation from the initial project costing. In this case do not proceed any further until you have approval from your manager.*** |   Type your response in the answer area below. You must complete all highlighted cells in the answer area. | | |
| Answer | | SATISFACTORY | UNSATISFACTORY | | |
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| |  |  |  | | --- | --- | --- | | **Server Deployment Project Steps** | | **Effort [hours]** | |  | Review initial scope, requirements and estimated effort and timeline. | 4 | |  | Produce detailed documentation for the design and configuration of the network services, server applications, security and redundancy. | 2 | |  | Create the VM and allocate/configure hypervisor resources for the server. | 4 | |  | Install OS and services and complete the server configuration. | 2 | |  | Test access to the server and verify system and services operation. | 4 | |  | Prepare and configure workstations for using the new network services. | 2 | |  | Conduct the data migration to the new server and verify data access. | 4 | |  | Complete server documentation and produce final server status report. | 2 | |  | Clean up the work environment and secure project sign off from the client. | 4 | | **Total** | | 28 |      |  |  | | --- | --- | | **Expected project start date** | 1/07/2024 | | **Expected project completion date** | 15/07/2024 | | | | | |

#### Identify and review requirements

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| Review and analyse the requirements for the new server and identify gaps and potential inconsistencies in the case study information.  You are to arrange a meeting with your manager to discuss your findings and the potential resolution of issues you have found. Once the issues are addressed, you will need to obtain written approval to proceed with the server design. |

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| 2 | To demonstrate you have identified issues with some of the requirements in the case study, answer the questions below. | | | |
| 1. **In the table in the answer area below list at least *one* requirement where *more specific information* is needed from the client in order to proceed with the design. List the questions you will ask your manager to obtain the *missing information*. Limit your response to between 10 – 30 words per table row.** | | | | |
| Answer | | SATISFACTORY | | UNSATISFACTORY |
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| |  |  |  | | --- | --- | --- | | **List the requirement number and description (refer to case study)** | **Describe the issue you have identified** | **What will ask your manager in order to obtain the *missing* information?** | | Requirement 5: Use disk striping | RAID-0 does not provide redundancy, which conflicts with requirement 5 (ensuring that a single disk failure on the server does not lead to data loss). | Would it be possible to use RAID-1 or RAID-5 instead? | | Requirement 14: The server will go into production one day after the design is approved. | The timeline is incorrect; it should be two weeks. | How to correct a timeline error? | |  |  |  | | | | | |
| 1. **In the table in the answer area below list *two* (or more) conflicting requirements that you will discuss with your manager and describe the nature of the inconsistency you have found. Limit your response to between 10 – 30 words per table row.** | | | | |
| Answer | | SATISFACTORY | | UNSATISFACTORY |
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| |  |  |  | | --- | --- | --- | | **List the requirement number and description (refer to case study)** | **Decribe the *inconsistency, conflict* or *contradiction* you have identified** | **What will you ask your manager in order to resolve this issue?** | | Requirement 6: Use disk striping. | RAID-0 does not provide redundancy, which conflicts with Requirement 5. | Verify acceptable RAID levels. | | Requirement 5: Prevent data loss from a single disk failure. | RAID-0 contradicts Requirement 5 as it does not prevent failures. | Select an alternative RAID solution. | |  |  |  | |  |  |  | | | | | |
| 1. **In the table in the answer area below list *two* (or more) network and/or user disruptions you expect as result of the server upgrade. Provide an estimate for the duration of each disruption. Limit your response to between 5– 20 words per table row.** | | | | |
| Answer | | | SATISFACTORY | UNSATISFACTORY |
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| |  |  |  | | --- | --- | --- | | **Expected network and/or user disruption** | | **Anticipate duration of disruption** | | **1** | Server migration and configuration | 2-4 hours | | **2** | Data migration and validation | 4-6 hours | | **3** |  |  | | **4** |  |  | | **5** |  |  | | | | | |
| 1. **Arrange a meeting with your manager (verbally or via email) to discuss the project. In the meeting consult with your manager to address any questions, gaps, potential inconsistencies, anticipated disruptions and future opportunities that you have identified. After this meeting, and provided all questions are properly addressed, your manager will send you an email confirming that you may proceed with the project.**   ***[Note: Follow-up with your manager if you do not receive the email within 2 working days.]***  **To demonstrate that you confirmed the project requirements and your solution, take a screenshot of the email you received from your manager showing that you have written approval to proceed with the design.**  **Your screenshot must clearly show the following details:**   * **Recipient(s) and date/time when the email was sent** * **Subject line relevant to the context of the email** * **Message body containing the outcome of your discussions and approval to proceed with the design document**   **Paste the screenshot in the answer area below.**   |  |  | | --- | --- | | ***Note:*** | ***While waiting for feedback from your manager, continue to work on and answer the next questions.*** | | | | | |
| Answer | | SATISFACTORY | | UNSATISFACTORY |
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#### Design: Introduction - Benefits of deploying the new server

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| In your design document introduction section, you are to provide a list of benefits of deploying the new server at LD.   |  |  | | --- | --- | | ***Note:*** | ***The benefits of deploying the new server must be in line with the solution you will present and not contradict the case study and the scenario presented at the beginning of this document.*** | |

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| 3 | List and briefly outline *five* benefits of deploying the new virtual server at LD.  You must complete all highlighted cells of the table in the answer area below. Limit your explanation to between 50 – 200 words in total. | | |
| Answer | | SATISFACTORY | UNSATISFACTORY | |
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| |  |  | | --- | --- | | **Benefits of deploying the new virtual server** | | |  | Centralized management minimizes maintenance expenses and time by streamlining administrative tasks and reducing the need for manual interventions. | |  | Virtualization technology enables better isolation and protection of critical data and applications, safeguarding them from potential threats. | |  | Utilizing the existing virtualization environment allows for quicker server deployment, accelerating time-to-market for new services or applications. | |  | The new virtual server provides comprehensive backup and recovery capabilities, ensuring data integrity and reducing the risk of data loss. | |  | By reducing the number of physical servers required, virtualization decreases hardware acquisition and maintenance costs, leading to significant savings. | | | | | |

#### Design Scope - Issues that need to be addressed and requirements that need to be met

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| You are working on the scope statement and are gathering information how to resolve and address existing problems and requirements for the LD environment. |

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| 4 | Indicate the *technical solutions* *or processes* you propose to use that will address *problems* and *requirements* identified in the case study. | | |
| 1. **Identify five *problems* described in the case study and list them in the left column of the table below. In the right column of the table indicate the *technical solution or process* you propose to use to address the issue**. **You must complete** **all highlighted cells of the table in the answer area below.**   **Limit your total response to between 50 – 200 words.** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  |  | | --- | --- | --- | | ***Problem* described in the case study** | | **Indicate the *technical solution or process* you propose to use to resolve the problem** | | **1.** | All employees know the local administrator password on the PCs. | The local administrator password should be changed so that only the system administrator knows it. | | **2.** | Limited storage in email leads to expiration and potential data loss. | Avoiding email for file exchanges (by introducing shared folders) will mitigate this issue. | | **3.** | Security Risks in Device Cabling | Redesign the cabling layout to use concealed paths and locking mechanisms to enhance security. | | **4.** | Manual IP Address Assignment Leading to Conflicts | Deploy DHCP services to automatically assign IP addresses and avoid conflicts. | | **5.** | Inability to Resolve Computer Issues When Support Engineers Are Unavailable | Train multiple employees in basic system administration skills to provide support in the absence of engineers. | | | | |
| 1. **Choose five *requirements* from the case study and list them in the left column of the table below. In the right column of the table indicate the *technical solution or process* you propose to use to meet the requirement. You must complete all highlighted cells of the table in the answer area below.**   **Limit your total response to between 50 – 200 words.** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  |  | | --- | --- | --- | | ***Requirement* identified in the case study** | | **Indicate the *technical solution or process* you propose to use to satisfy the *requirement*** | | **1.** | Server Production Within One Day After Design Approval | Coordinate with the client to correct the timeline error and ensure the server is deployed according to the agreed schedule after design approval. | | **2.** | Submit Design and Solution Outline for Approval | Submit the design documentation and solution outline to obtain written approval from LD. | | **3.** | Control Risks Associated with Security Hazards | Propose risk control measures, such as organizing cabling and using conduit management, to reduce security hazards. | | **4.** | Document and Submit Network Server Design Proposal by January 31, 2021 | Coordinate with the client to determine the actual submission date and ensure the design proposal is submitted by the agreed date. | | **5.** | Control Noise to Comply with WHS Processes and Guidelines | Propose noise reduction measures, such as isolating computer equipment, to meet the company's health and safety policies. | | | | |

#### Design - Network

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| You are to decide if the ***existing network subnet*** is adequate for the deployment of the new server or if changes are required. |

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| 5 | Indicate if the existing network subnet can continue to be used. If not, provide the network settings you propose to use. Complete the highlighted cells in the answer area below as needed.  Type your response in the answer area below. | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  | | --- | --- | | ***Continue to use existing subnet [Select: Yes / No]?*** | YES | | ***If you answered NO, provide the settings you propose to use:*** | |  |  | | --- | --- | | ***Server subnet (CIDR notation):*** |  | | ***Gateway:*** |  | | | | | |

#### Design - Storage estimates

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| You are to estimate the server storage needed for the business-related data at LD.  Based on previous experience, storage use often increases faster than initially anticipated. Your manager advised you that you should base your estimates on higher values than the ones provided in the case study. You will therefore ***increase*** the average storage per user provided in the case study by the ‘Storage Increment’ assigned to you at the beginning of the unit.   |  |  | | --- | --- | | ***Note:*** | ***The ‘Storage Increment’ assigned to you can be found in the ‘Assessments’ section in Moodle in the same document that lists your lab ID.*** |   Using the amended average storage per user and the annual growth rate given in the case study, you are to calculate LD’s storage requirements for the next two years. |

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| 6 | Complete the tables below and fill in the storage settings you propose to use for the server. | | |
| 1. **To calculate the amended average storage requirement per user, complete relevant information in all highlighted cells of the table in the answer areas below. In the rightmost column you are to add your storage increment to the average storage identified in the case study. Values are to be presented in GB with 3 digits after the decimal point.** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  |  |  | | --- | --- | --- | --- | | **User category** | **Per user average storage used (*from case study*)** | **Your assigned storage increment (*found in Moodle*)** | **Amended total storage *per user* to be used for estimation** | | **Technical staff + Tech Management** | 6.000GB | 0.020GB | 6.020GB | | **Office personnel + Office Management + CEO** | 2.500GB | 0.020GB | 2.520GB | | | | |
| 1. **You are to present your calculation for the LD storage estimates in a summary table. Fill in relevant information and then complete the required calculations. You must provide values in all highlighted cells of the table in the answer areas below.** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | **Storage Summary** | **User Count** | **Amended total storage *per user* to be used for estimation (*from Q6.1*)** | **Total storage data to be migrated for the given user group** | **Growth Rate (*from case study*)** | **Total Storage at the *End of Year 1*** | **Total Storage at the *End of Year 2*** | | **Technical staff + Tech Management** | 20 | 6.020GB | 120.400GB | 40% | 168.560GB | 235.984GB | | **Office personnel + Office Management + CEO** | 5 | 2.520GB | 12.600GB | 40% | 17.6400GB | 24.696GB | | **Totals** | 25 | 8.540GB | 133.000GB |  | 186.2 00GB | 260.680GB | | **Round your storage projection for year 2 up to the nearest 10 GB (whole number)** | | | | | | 260GB | | | | |

#### Design - Data disks and volumes

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| You are to propose a ***data*** volume that satisfy LD’s data storage requirements. The data volume must meet the required data protection and performance characteristics, accommodate the anticipated 2-year data growth and be in line with the MP Tech guidelines.  Your storage design must show the list of virtual disks that you propose to use with your server. For each disk you have to specify:   |  |  | | --- | --- | | **Item** | **Value description / option** | | **Disk number (or name)** | As presented in Windows Disk Management | | **Disk Type** | Basic or Dynamic | | **Volume Layout** | Simple, Striped, Mirror, RAID-5 or Spanned | | **Space on the disk allocated to the volume** | A volume is made up of one or more disks. These disks may contribute all or only a fraction of their storage space to the volume. The storage contributions of disks participating in the volume determine the total volume storage capacity. The volume layout dictates how to calculate the total storage capacity of the volume.  You must ensure that your total volume capacity can accommodate the 2-year storage projection you calculated in Q6.2. | | **Volume Label** | Assign a meaningful name, e.g., describing the volume layout | | **Drive Letter** | Choose the volume drive letter from list of available drive letters on your server. |   ***[Hint: When developing your solution review the volumes you setup in assessment 1.]***  In accordance with the additional project constraints discussed with your colleagues and manager, you will allocate the maximum available virtual disk sizes to your data volume and format it using NTFS as a single partition using ‘Quick format’. |

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| 7 | You are to document your LD storage design by completing the highlighted rows of the table in the answer area below. For ‘Disk Type’ and ‘Volume Layout’ select appropriate settings from the drop-down lists and then type your answers in the remaining colums. All cells in a row must be completed.   |  |  | | --- | --- | | ***Note:*** | ***The System/Boot disk holding the OS has been prepopulated. You need to fill in only the details for your data disks. Depending on the volume layout you are proposing to use in your design, your solution must show two or more data disks.*** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Disk Number** | **Disk Type** | **Volume Layout** | **Space on the Disk allocated to the Volume** | **Volume Label** | **Volume Drive Letter** | | **0** | **Basic** | **Simple** | **50 GB** | **<System/Boot>** | **C:** | | **1** | Dynamic | RAID-5 | 130GB | RAID-5 | F: | | **2** | Dynamic | RAID-5 | 130GB | RAID-5 | F: | | **3** | Dynamic | RAID-5 | 130GB | RAID-5 | F: | | **4** | Select: | Select: |  |  |  | | | | |

#### Design - Server settings

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| List the settings you propose to use for the new virtual server.   |  |  | | --- | --- | | ***Hint:*** | ***You may base your general resources and naming on the server settings you used in assessment 3 (refer to the hypervisor settings [VirtualBox] and the computer configuration settings [Windows Server 2019] of the system).***  ***Your virtual disk count and the disk sizes must be in line with the data disks you presented in question 7.*** | |

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| 8 | Complete the tables below and fill in the settings you propose to use. | | |
| 1. **For each entry in the left column, provide the *hypervisor settings* that you propose to use in the highlighted right column of the table in the answer area below.** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  | | --- | --- | | **Virtual Machine Details (*Hypervisor* settings)** | | | **General Information**  Virtual Machine Name: | W02-Win2019-Full-2-DE-Eval | | Operating System Type: | Microsoft Windows | | Operating system Version: | Windows 2019 (64-bit) | | **System Information**  Base Memory: | 4096MB | | System Processor(s) count: | 1 | | **Storage**  Controller: Name: | SATA | | Virtual Disk Device 0 (***<System/Boot disk***):  Type ([storage] format):  Virtual Size:  Details:  Location: | VDI  50 GB  Dynamically allocated storage  ….\W02-Win2019-Full-2-DE-Eval.vdi | | Virtual Disk Device 1 (***data disk***):  Type ([storage] format):  Virtual Size:  Details:  Location: | RAID5: Min 130GB (3 disks) | | Virtual Disk Device 2 (***data disk***):  Type ([storage] format):  Virtual Size:  Details:  Location: | RAID5: Min 130GB (3 disks) | | Virtual Disk Device 3 (***optional data disk***):  Type ([storage] format):  Virtual Size:  Details:  Location: | RAID5: Min 130GB (3 disks) | | Virtual Disk Device 4 (***optional data disk***):  Type ([storage] format):  Virtual Size:  Details:  Location: |  | | CD/DVD drive [Yes/No] | Yes | | **Network**  Adapter 1: Attached to: | *Internal Network* | | | | |
| 1. **For each entry in the left column, provide the *computer settings* that you propose to use in the highlighted right column of the table in the answer area below.** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  | | --- | --- | | **Computer settings** | | | **Server Operating System and version** | Windows Server 2019 (Desktop Experience) | | **Server Operating System Edition** | Datacentre | | **Operating System License (e.g., buy new or covered by Hyper-V)** | VM license covered by Hyper-V Windows 2019 Datacentre license of the host | | **Computer name (NetBIOS name, hostname)** | W02-SERVER2-DC | | **IPv4 address** | IPv4 Settings | | **Subnet mask** | 192.168.02.2 | | **Default gateway** | 255.255.255.0 | | **DNS server(s) used** | 192.168.02.254 | | | | |

#### Design - Active Directory services

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| You are to present the Active Directory (AD) settings you propose to use for LD. |

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| 9 | Provide details relevant Active Directory details in the highlighted cells of the table in the answer area below. | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  | | --- | --- | | **Parameter** | **Setting** | | New Forest | Yes | | Root domain name | ***W02.local*** | | Domain NetBIOS name | ***W02*** | | Domain functional level (Domain Mode) | Windows 2016 | | Forest functional level (Forest Mode) | Windows 2016 | | | | |

#### Design - Active Directory Domain Controller

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| You are to present the details of the AD Domain Controller (DC) you propose to use for LD. |

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| 10 | Provide relevant details for the AD Domain Controller in the highlighted cells of the table in the answer area below. | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  | | --- | --- | | **Parameter** | **Setting** | | Domain Controller name | W02-SERVER2-DC | | Domain | W02.local | | Roles | Holding all Operations Master roles | | Is running DNS (Yes / No) | Yes | | Is a Global Catalogue (Yes / No) | Yes | | | | |

#### Design - Security groups

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| To control access to shared data, you intend to create several global security groups.  You are to specify the names of the security groups you propose to use for controlling access to shared files/folders. Specify as many groups as you think you will need to create for controlling access to the shared data files/folders. Your solution must show at least three security groups. |

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| 11 | List the names of the security groups you propose to use for controlling access to shared data and briefly explain (1 – 10 words) what each group will be used for. Complete the highlighted cells in the table in the answer area below.   |  |  | | --- | --- | | ***Note:*** | ***Your solution must show at least three security groups, but depending on the solution you propose may include more.*** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  | | --- | --- | | **Group name** | **Group purpose / description** | | W02-Managers | Includes all managers and the CEO. | | W02-Office-Per | Includes all office personnel. | | W02-Tech-Staff | Includes all technical staff. | |  |  | |  |  | | | | |

#### Design - File Services

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| To cater for LD’s data storage and data access requirements at least three shared folders will have to be configured on your data volume. You are to propose details for the configuration of these shared folders. |

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| 12 | Provide relevant details for the shared folders you propose to use in the highlighted cells of table in the answer area below.   |  |  | | --- | --- | | ***Note:*** | ***Your solution must show at least three shared folders, but depending on the solution you propose may include more.***  ***The local path to the shared folders must comply with the data volume details you proposed in Q7.*** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| |  |  |  |  | | --- | --- | --- | --- | | **Specify the full *local path* to the folder you will share on the server** | **Specify the *share name* you will use** | **List one or more security groups (from question 11) that will have *full* *NTFS* access rights to the folder** | **List one or more security groups (from question 11) that have *full share* access rights to the file share** | | D:\Managers | Managers | W02-Managers | W02-Managers | | D:\TechStaff | TechStaff | W02-Tech-Staff  W02-Managers | W02-Tech-Staff  W02-Managers | | D:\OfficePer | OfficePer | W02-Office-Pers  W02-Managers | W02-Office-Pers  W02-Managers | |  |  |  |  | |  |  |  |  | | | | |

#### Design - Workstations

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| Workstations have to be reconfigured once all network services are operational and the AD user accounts are set up. You have identified a problem with some of the workstations that will prevent them from participating in AD. |

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| 13 | Describe what you will have to do with some of the workstations before they can be joined to the AD domain. Type your response in the answer area below and limit your explanation to between 20 – 40 words. | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| Due to the limitations of Windows 10 Home edition in accessing AD domain services, an upgrade is necessary. The affected workstation operating systems must be changed to Windows 10 Professional or higher to ensure they can join and operate within the AD domain smoothly.  Since Windows 10 Home lacks the essential Group Policy and domain join features, we need to upgrade these workstations to Windows 10 Professional or Enterprise. This upgrade will allow them to be included in AD domain management and fully utilize domain services. | | | |

#### Design Appendix 1 - WHS risk control measures

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| You have investigated options for mitigating the hazard caused by the communications and virtualisation infrastructure located in the office and need to implement appropriate risk control measures which are in line with your design. |

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| 14 | Answer the WHS questions below. | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
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| 1. **Propose risk control measures that LD needs to put in place to mitigate the equipment cabling hazard. Type your response in the answer area below and limit your response to between 10 – 30 words.** | | | |
| Wiring Along Wall Layout: Adjust the wiring path to run along the wall edges to enhance safety and reduce tripping hazards.  Cable Overhead Layout: Arrange the cables on the ceiling to avoid floor clutter and improve cable protection. | | | |
| 1. **Propose risk control measures that LD needs to put in place to mitigate the equipment noise hazard. Type your response in the answer area below and limit your response to between 10 – 30 words.** | | | |
| Answer | | SATISFACTORY | UNSATISFACTORY |
|  | |  |  |
| Portable partitions are cost-effective and easy to adjust. Permanent partitions, while more expensive, are suitable for environments requiring long-term stability and privacy | | | |

## Learner Declaration (hard copy submission only)

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| Please read, tick and sign below | | | |
| * I declare that the attached assessment I have submitted is my own original work and any contributions from and references to other authors are clearly acknowledged and noted. * This document has been created for the purpose of this assessment only and has not been submitted as another form of assessment at Melbourne Polytechnic or any other tertiary institute. * I have retained a copy of this work for my reference in the event that this application is lost or damaged. * I give permission for Melbourne Polytechnic to keep, make copies of and communicate my work for the purpose of investigating plagiarism and/or review by internal and external assessors. * I understand that plagiarism is the act of using another person’s idea or work and presenting it as my own. This is a serious offence and I will accept that penalties will be imposed on me should I breach Melbourne Polytechnic’s plagiarism policy. | | | |
| Student Signature | WangYiZhuo | Date | 2024-8-1 |
| Please note that your assignment will not be accepted unless you have:   * Completed all sections of the assignment * Acknowledged all sources of other people’s contributions including references and Students’ names for group work assessments * Completed all areas of this Student assignment cover sheet. | | | |