Student Assignment Brief

This document is intended for Coventry University Group students for their own use in completing their assessed work for this module. It must not be passed to third parties or posted on any website. If you require this document in an alternative format, please contact your Module Leader.

Contents:

The work you submit for this assignment must be your own independent work, or in the case of a group assignment your own groups' work. More information is available in the 'Assignment Task' section of this assignment brief.

Assignment Information

Module Name: Operating Systems

Module Code: 401IT

Assignment Title: Coursework 2 Portfolio of Operating Systems

Assignment Due: 1st August 2025 18:00

Assignment Credits: 20 credits

Word Count (or equivalent): 1500 words +/- 10%

Assignment Type: Written

Percentage Grade (Applied Core Assessment). You will be provided with an overall grade between 0% and 100%. You have one opportunity to pass the assignment at or above 40%. Resit attempts will be capped at 40%

Assignment Task

Introduction: This portfolio presents a collection of laboratory exercises conducted for XYZ Tech Solutions, a fictional company specialising in IT infrastructure services. The exercises explore various operating system aspects crucial for the company's operations.

The portfolio is divided into three sections, each focusing on a different aspect: installation of various operating systems, utilisation of diverse operating systems, and vulnerability management.

Each section includes evidence, detailed descriptions, and analyses to fulfil the assignment's requirements. The goal of this portfolio is to provide a comprehensive overview of the laboratory exercises, demonstrating the knowledge and skills acquired through the practical application of operating systems concepts.

This document, comprising approximately 1500 words, showcases the real-world relevance of these exercises. For XYZ Tech Solutions, mastering these aspects is vital to ensure robust IT infrastructure, efficient operations, and a strong security posture in the face of evolving cyber threats.

Part 1: Installation of Different Operating Systems (20% Marks)

- **Linux Ubuntu Installation:**
- Evidence: Screenshots of the Linux Ubuntu installation process.
- Description: Step-by-step instructions on installing Linux Ubuntu, including system requirements, disk partitioning, and user account setup.
- **Windows 11 Installation:**
- Evidence: Screenshots capturing the Windows 11 installation process.
- Description: Detailed explanation of the Windows 11 installation steps, license activation, and customisation options available during the installation.
- **Windows Server 2022 Installation:**
- Evidence: Screenshots depicting the installation of Windows Server 2022.
- Description: In-depth guide to installing Windows Server 2022, covering edition selection, server role configuration, and user account setup.

Part 2: Usage of Different Operating Systems (50% Marks)

- **User Account Management:**
- Evidence: Screenshots showcasing the creation and management of different user accounts (privileged and non-privileged) on each operating system.
- Description: Explanation of the process involved in creating and managing user accounts, including user privilege assignment, password policies, and access control.
- **Linux Bash and Windows PowerShell Scripting:**
- Evidence: Examples of Bash and PowerShell scripts used to automate various processes.
- Description: Demonstrations of the usage of Bash Shell Scripting and PowerShell scripting to automate tasks such as backups, file manipulation, and system configuration. Detailed explanations of the scripts' functionalities and the benefits of automation. Detailed explanations of the shell scripts' logic and usage.
- **Command Line Interface usage:**
- Evidence: Screenshots illustrating the execution of system commands and the corresponding output.

- Description: Comprehensive exploration of the command line interface (CLI) usage. Includes the use of system commands for several operations e.g. file system navigation, user management and manipulation, controlling system environments etc. also to automate processes.

- **Part 3: Managing Vulnerabilities (30% Marks)**
- **Operating System Security Risks and Vulnerabilities:**
- Investigation: Analysis of various security risks and vulnerabilities associated with different operating systems.
- Evidence: References to reported incidents from credible sources (CVE databases) and related research on security risks.
- Description: Identification and analysis of common security risks, such as malware infections, buffer overflows, and unauthorized access. References to reported incidents support the evaluation of these risks.
- **Technologies and Management Strategies for Risk Mitigation:**
- Investigation: Exploration of technologies and management strategies to address identified security risks and vulnerabilities.
- Evidence: Descriptions and explanations of recommended technologies and strategies.
- Description: Evaluation and recommendation of access control mechanisms, security patches and updates, intrusion detection systems, and user awareness training. Detailed explanations of how these technologies and strategies can mitigate security risks.

Particular attention should be paid to citing useful references to enable the interested reader to find more details. The report must be your own work. Remember to reference all sources using APA referencing style, including websites and do not quote sources verbatim – use your own words. You must cover all the required Intended Module Learning Outcomes in your coursework.

Submission Instructions:

What do I need to submit?

Component 1: Technical Report (1500 words) – 100 Marks

Submit a single technical report document covering all three sections:

Installation of Different Operating Systems (20 Marks)

Evidence and descriptions of installing Linux Ubuntu, Windows 10, and Windows Server 2012/2019.

Usage of Different Operating Systems (50 Marks)

Evidence and descriptions of user account management, text and PowerShell scripting, and command line interface/shell scripting.

Managing Vulnerabilities (30 Marks)

Analysis of security risks and vulnerabilities, and exploration of technologies and management strategies for risk mitigation.

Submission Requirements:

Title Page: Include your name, student number, and the module code (e.g., 1234567_605IT_CW2.docx).

Report Structure: Ensure the report covers all three sections with required evidence.

References: Use scholarly sources and cite in APA style. Avoid verbatim quotations.

Ethical Considerations: Approach the task ethically, avoiding any illegal activities.

Format: Submit as a single Microsoft Word document via the AULA upload link.

Backup: Keep backup copies of your submission to prevent upload issues.

This is an individual assignment; group submissions are not permitted. Ensure your submission meets all specified requirements to avoid penalties.

Marking and Feedback

How will my assignment be marked?

Your assignment will be marked by the module team

How will I receive my grades and feedback?

Provisional marks will be released once internally moderated

Feedback will be provided by the module team alongside grades release

After marking is completed, you can access your marked work and feedback by clicking on the submission link. Feedback will be provided in the Turnitin viewer and mark distributions will show you where marks were awarded or deducted. If you are unsure how to access your feedback, please ask your tutor for clarification.

Your provisional marks and feedback should be available within 2 weeks 10 working days.

What will I be marked against?

Details of the marking criteria for this task can be found at the bottom of this assignment brief.

Assessed Module Learning Outcomes

The Learning Outcomes for this module align to the marking criteria which can be found at the end of this brief. Ensure you understand the marking criteria to ensure successful achievement of the assessment task. The following module learning outcomes are assessed in this task:

1	Install operating systems and make use of them for common tasks such as making directories, moving and copying files, starting and stopping services, working with both privileged and non-privileged accounts.
2	Use command-line interfaces (e.g. bash and PowerShell) and write simple scripts to automate processes.
3	Describe and make productive use of operating system services for activities such as process control, threading, memory management and device access.
4	Evaluate operating systems and identify related security risks and ways to manage these with a range of supporting technologies.

Assignment Support and Academic Integrity

If you have any questions about this assignment please see the Student Guidance on Coursework for more information.

Spelling, Punctuation, and Grammar:

You are expected to use effective, accurate, and appropriate language within this assessment task.

Academic Integrity:

The work you submit must be your own, or in the case of groupwork, that of your group. All sources of information need to be acknowledged and attributed; therefore, you must provide references for all sources of information and acknowledge any tools used in the production of your work, including Artificial Intelligence (AI). We use detection software and make routine checks for evidence of academic misconduct.

Definitions of academic misconduct, including plagiarism, self-plagiarism, and collusion can be found on the Student Portal. All cases of suspected academic misconduct are referred for investigation, the outcomes of which can have profound consequences to your studies. For more information on academic integrity please visit the Academic and Research Integrity section of the Student Portal.

Support for Students with Disabilities or Additional Needs:

If you have a disability, long-term health condition, specific learning difference, mental health diagnosis or symptoms and have discussed your support needs with health and wellbeing you may be able to access support that will help with your studies.

If you feel you may benefit from additional support, but have not disclosed a disability to the University, or have disclosed but are yet to discuss your support needs it is important to let us know so we can provide the right support for your circumstances. Visit the Student Portal to find out more.

Unable to Submit on Time?

The University wants you to do your best. However, we know that sometimes events happen which mean that you cannot submit your assessment by the deadline or sit a scheduled exam. If you think this might be the case, guidance on understanding what counts as an extenuating circumstance, and how to apply is available on the Student Portal

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Administration of Assessment

Module Tutor Name: As per Campus

Module Tutor Email: As per Campus

Assignment Category: Written

Attempt Type: Normal

Component Code: CW2

Assessment Marking Criteria

Coventry University Generic Assessment Criteria: Undergraduate

Mark band	Outcome	Guidelines
80-110% 1st	Meets learning outcomes	1st - Exceptional work with very high degree of understanding, creativity, and critical/analytic skills. Evidence of exceptional research well beyond minimum recommended using a range of methodologies. Exceptional understanding of knowledge and subject-specific theories. Demonstrates creative flair, a high degree of originality and autonomy. Exceptional ability to apply learning resources. Demonstrates well-developed problem-solving skills. Work completed with very high degree of accuracy and proficiency and autonomy. Exceptional communication and expression, significant evidence of professional skill set. Student evidences deployment of a full range of exceptional technical, including proficiency in the English Language, and/or artistic skills.
70-79% 1st		1st - Excellent work with clear evidence of understanding, creativity and critical/analytical skills. Thorough research well beyond the minimum recommended using methodologies beyond the usual range. Excellent understanding of knowledge and subject-specific theories with evidence of considerable originality and autonomy. Excellent ability to apply learning resources. Demonstrates consistent, coherent substantiated argument and interpretation. Demonstrates considerable creativity and clear problem-solving skills. Assessment completed with accuracy, proficiency, and considerable autonomy. Excellent communication and expression, some evidence of professional skill set. Student evidences deployment of a highly developed range of technical, including proficiency in the English Language, and/or artistic skills.
60-69%		2:1 - Very good work demonstrating strong understanding of theories, concepts and issues with clear critical analysis. Thorough research, using established methodologies accurately, beyond the recommended minimum with little, if any, irrelevant material present. Very good understanding,

2:1		evidencing breadth and depth, of knowledge and subject-specific theories with some originality and autonomy. Very good ability to apply learning resources. Demonstrates coherent substantiated argument and interpretation. Demonstrates some originality, creativity and problem-solving skills. Work completed with accuracy, proficiency, and autonomy. Very good communication and expression with evidence of professional skill set. Student has a thorough command of a good range of technical, including proficiency in the English Language, and/or artistic skills.
50-59% 2:2		2:2 - Good understanding of relevant theories, concepts and issues with some critical analysis. Research undertaken accurately using established methodologies, enquiry beyond that recommended may be present. Some errors may be present and some inclusion of irrelevant material. Good understanding, with evidence of breadth and depth, of knowledge and subject-specific theories with indications of originality and autonomy. Good ability to apply learning resources. Demonstrates logical argument and interpretation with supporting evidence. Demonstrates some originality, creativity and problem-solving skills but with inconsistencies. Expression and presentation mostly accurate, proficient, and conducted with some autonomy. Good communication and expression with appropriate professional skill set. Student consistently demonstrates a well-developed range of technical, including proficiency in the English Language, and/or artistic skills.
40-49% 3rd Class		3rd - Meet the learning outcomes with a basic understanding of relevant theories, concepts and issues. Demonstrates an understanding of knowledge and subject-specific theories sufficient to deal with concepts. Assessment may be incomplete and with some errors. Research scope sufficient to evidence use of some established methodologies. Some irrelevant material likely to be present. Basic ability to apply learning resources. Demonstrates ability to devise and sustain an argument. Demonstrates some originality, creativity and problem-solving skills but with inconsistencies. Expression and presentation sufficient for accuracy and proficiency. Sufficient communication and expression with basic professional skill set. Student demonstrates technical, including a basic level of proficiency in the English Language, and/or artistic skills.

30-39% Fail	Fails to achieve learning outcomes	Fail – Outcomes not met. Limited understanding of relevant theories, concepts and issues. Little evidence of research and use of established methodologies. Some relevant material will be present. Deficiencies evident in analysis. Fundamental errors and some misunderstanding likely to be present. Limited ability to apply learning resources. Student's arguments are weak and poorly constructed. Limited originality, creativity, and struggles with problem-solving skills. Expression and presentation insufficient for accuracy and proficiency. Insufficient communication and expression and with deficiencies in professional skill set. Student demonstrates some deficiencies in technical, including in their use of the English Language, and/or artistic skills.
0-29% Fail		Fail – Outcomes not met. Clear failure demonstrating very little understanding of relevant theories, concepts and issues. Minimal evidence of research and use of established methodologies and incomplete knowledge of the area. Serious and fundamental errors and aspects missing. Very little evidence of ability to apply learning resources. Student's arguments are very weak and with no evidence of alternative views. Little evidence of originality, creativity, and problem-solving skills. Expression and presentation deficient for accuracy and proficiency. Insufficient communication and expression and with deficiencies in professional skill set. Student demonstrates a lack of technical, including in their use of the English Language, and/or artistic skills.