# **Unit Assessment Pack (UAP) – Cover Sheet**

## **Student and Trainer/Assessor Details**

| **Student ID** |  |
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| **Student name** |  |
| **Contact number** |  |
| **Email address** |  |
| **Trainer/Assessor name** |  |

## **Course and Unit Details**

| **Course code** |  |
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| **Course name** |  |
| **Unit code** |  |
| **Unit name** |  |

## **Assessment Submission Method**

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| By hand to trainer/assessor | By email to trainer/assessor | Online submission via Learning Management System (LMS) |
| By Australia Post to RTO | Any other method \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Please mention here) | |

**Student Declaration**

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| * I certify that the work submitted for this assessment pack is my own. I have clearly referenced any sources used in my submission. I understand that a false declaration is a form of malpractice; * I have kept a copy of this assessment pack and all relevant notes, attachments, and reference material that I used in the production of the assessment pack; * For the purposes of assessment, I give the trainer/assessor of this assessment the permission to:   + Reproduce this assessment and provide a copy to another member of staff; and   + Take steps to authenticate the assessment, including communicating a copy of this assessment to a checking service (which may retain a copy of the assessment on its database for future plagiarism checking).   Student signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Date: \_\_\_\_/\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

## **Assessment Plan**

To demonstrate competence in this unit, you must be assessed as satisfactory in each of the following assessment tasks.

| **Evidence recorded** | **Evidence Type/ Method of assessment** | | | **Sufficient evidence recorded/Outcome** |
| --- | --- | --- | --- | --- |
| **Unit Assessment Task 1** | Unit Knowledge Test (UKT) | | | S / NS (First Attempt)  S / NS (Second Attempt) |
| **Unit Assessment Task 2** | Role Play/Presentations / Not applicable | | | S / NS (First Attempt)  S / NS (Second Attempt) |
| **Final result** | C/NYC | **Date assessed** |  | |
| **Trainer/Assessor Signature** |  | |

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**Assessment Conditions**

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| **Unit purpose/application** |

This unit describes the skills and knowledge required to connect network hardware devices, mainly personal computers (PCs), to an internet gateway.

It applies to individuals who are middle managers, network engineers, technical specialists or security analysts with excellent information communications and technology (ICT) skills who plan and implement networks, determine security threats and are involved in business budgeting.

No occupational licensing, certification or specific legislative requirements apply to this unit at the time of publication.

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| **What the student can expect to learn by studying this unit of competency** |

* Identifying current browser software
* Domain name server (DNS) resolution
* Features and functions of:
  + Network architecture
  + Bridges as required
  + Desktop operating systems
  + Hubs
  + Network gateways
  + Network operating systems:
  + Routers
  + Switches
* Security issues that may impact on an internet gateway
* Common security solutions and strategies
* Functions of current gateway software.

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| **Training and assessment resources required for this unit of competency** |

The student will have access to the following:

* Learner guide
* PowerPoint presentation
* Unit Assessment Pack (UAP)
* Access to other learning materials such as textbooks

The resources required for these assessment tasks also include:

* Access to a computer, the Internet and word-processing system such as MS Word
* A network and internet where gateway products may be installed and configured
* Computer technology and documentation as required
* Codes of practice and standards issued by government regulators or industry groups

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| **Submission instructions** |

Your trainer/assessor will confirm assessment submission details for each assessment task.

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| **Academic integrity, plagiarism and collusion** |

**Academic Integrity:**

Academic Integrity is about the honest presentation of your academic work. It means acknowledging the work of others while developing your own insights, knowledge and ideas.

As a student, you are required to:

* Undertake studies and research responsibly and with honesty and integrity
* Ensure that academic work is in no way falsified
* Seek permission to use the work of others, where required
* Acknowledge the work of others appropriately
* Take reasonable steps to ensure other students cannot copy or misuse your work.

**Plagiarism:**

Plagiarism means to take and use another person's ideas and or manner of expressing them and to pass them off as your own by failing to give appropriate acknowledgement. This includes material sourced from the internet, RTO staff, other students, and from published and unpublished work.

Plagiarism occurs when you fail to acknowledge that the ideas or work of others are being used, which includes:

* Paraphrasing and presenting work or ideas without a reference
* Copying work either in whole or in part
* Presenting designs, codes or images as your own work
* Using phrases and passages verbatim without quotation marks or referencing the author or web page
* Reproducing lecture notes without proper acknowledgement.

**Collusion:**

Collusion means unauthorised collaboration on assessable work (written, oral or practical) with other people. This occurs when a student presents group work as their own or as the work of someone else.

Collusion may be with another RTO student or with individuals or students external to the RTO. This applies to work assessed by any educational and training body in Australia or overseas.

Collusion occurs when you work without the authorisation of the teaching staff to:

* Work with one or more people to prepare and produce work
* Allow others to copy your work or share your answer to an assessment task
* Allow someone else to write or edit your work (without rto approval)
* Write or edit work for another student
* Offer to complete work or seek payment for completing academic work for other students.

Both collusion and plagiarism can occur in group work. For examples of plagiarism, collusion and academic misconduct in group work please refer to the RTO’s policy on Academic integrity, plagiarism and collusion.

Plagiarism and collusion constitute cheating. Disciplinary action will be taken against students who engage in plagiarism and collusion as outlined in RTO’s policy.

Proven involvement in plagiarism or collusion may be recorded on students’ academic file and could lead to disciplinary action.

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| **Other Important unit specific Information** |

N/A

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| **Unit outcome** |

* This unit is not graded and the student must complete and submit all requirements for the assessment task for this cluster or unit of competency to be deemed competent.
* Students will receive a 'satisfactorily completed' (S) or 'not yet satisfactorily completed (NS) result for each individual unit assessment task (UAT).
* Final unit result will be recorded as competency achieved/competent (C) or competency not yet achieved/not yet competent (NYC).

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| **Prerequisite/s** |

Nil

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| **Co-requisite/s** |

Nil

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| **Foundation Skills** |

The Foundation Skills describe those required skills (learning, oral communication, reading, writing, numeracy, digital technology and employment skills) that are essential to performance. Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

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| **Relevant Legislation** |

* Australian Human Rights Commission Act 1986
* Age Discrimination Act 2004
* Disability Discrimination Act 1992
* Racial Discrimination Act 1975
* Sex Discrimination Act 1984
* The Privacy Act 1988 (Privacy Act) and Australian Privacy Principles (APPs)
* Occupational Health and Safety Act 2004 – *Applicable in NT*
* Work Health and Safety Act 2011

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| **Principles of assessment and rules of evidence** |

All assessment tasks will ensure that the principles of assessment and rules of evidence are adhered to.

The principles of assessment are that assessment must be valid, fair, flexible, reliable and consistent. The rules of evidence state that evidence must be sufficient, valid, current and authentic.

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| **AQF Level** |

AQF levels and the AQF levels criteria are an indication of the relative complexity and/or depth of achievement and the autonomy required to demonstrate that achievement.

All assessment tasks must ensure compliance with the requirements of AQF level and the AQF level criteria. For more information, please visit <http://www.aqf.edu.au/>

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| **Further Information** |

For further information about this unit go to

## **Additional Information**

* This information will be managed by the provisions of the Privacy Act and the Freedom of Information Act.)
* Students are required to satisfactorily complete and submit all assessment tasks that contribute to the assessment for a unit.
* Students will be provided with one more attempt to complete this Unit assessment pack (UAP) if trainer/assessor deems them not satisfactorily completed (NS) in any Unit assessment task (UAT).
* Unit Pre-Assessment Checklist (UPAC) will be reviewed by the trainer/assessor to ensure the student is ready for the assessment.
* Feedback regarding this Unit Assessment Pack (UAP) can be emailed to the [compliance](mailto:info@caqa.online) and quality assurance department/administration department in your RTO for continuously improving our assessment and student resources.

## **Feedback to student**

Feedback on students’ assessment performance is a vital element in their learning. Its purpose is to justify to students how their competency was assessed, as well as to identify and reward specific qualities in their work, to recommend aspects needing improvement, and to guide students on what steps to take.

Feedback defines for students what their trainer/assessor thinks is important for a topic or a subject. At its best, feedback should:

* Be provided for each Unit Assessment Task (UAT)
* Guide students to adapt and adjust their learning strategies
* Guide trainers/assessors to adapt and adjust teaching to accommodate students’ learning needs
* Be a pivotal feature of learning and assessment design, not an add-on ritual
* Focus on course and unit learning outcomes
* Guide students to become independent and self-reflective learners and their own critics
* Acknowledge the developmental nature of learning

*If students have not received proper feedback, they must speak to compliance and quality assurance department/administration department in the RTO/person responsible for looking after the quality and compliance services of the RTO.*

*For more information, please refer to RTO Student Handbook.*

# **Unit Pre-Assessment Checklist (UPAC)**

# **UAT 1 – Unit Knowledge Test (UKT)**

## **Purpose of the checklist**

The pre-assessment checklist helps students determine if they are ready for assessment. The trainer/assessor must review the checklist with the student before the student attempts the assessment task. If any items of the checklist are incomplete or not clear to the student, the trainer/assessor must provide relevant information to the student to ensure they understand the requirements of the assessment task. The student must ensure they are ready for the assessment task before undertaking it.

**Section 1: Information for Students**

* Please make sure you have completed the necessary prior learning before attempting this assessment.
* Please make sure your trainer/assessor clearly explained the assessment process and tasks to be completed.
* Please make sure you understand what evidence is required to be collected and how.
* Please make sure you know your rights and the Complaints and Appeal process.
* Please make sure you discuss any special needs or reasonable adjustments to be considered during the assessment (refer to the Reasonable Adjustments Strategy Matrix and negotiate these with your trainer/assessor).
* Please make sure that you have access to a computer and the internet (if you prefer to type the answers).
* Please ensure that you have all the required resources needed to complete this Unit Assessment Task (UAT).
* Due date of this assessment task is according to your timetable.
* In exceptional (compelling and compassionate) circumstances, an extension to submit an assessment can be granted by the trainer/assessor.
* Evidence of the compelling and compassionate circumstances must be provided together with your request for an extension to submit your assessment work.
* Request for an extension to submit your assessment work must be made before the due date of this assessment task.

## **Section 2: Reasonable adjustments**

* Students with carer responsibilities, cultural or religious obligations, English as an additional language, disability etc. can request for reasonable adjustments.
* Please note, academic standards of the unit/course will not be lowered to accommodate the needs of any student, but there is a requirement to be flexible about the way in which it is delivered or assessed.
* The Disability Standards for Education requires institutions to take reasonable steps to enable the student with a disability to participate in education on the same basis as a student without a disability.
* Trainer/Assessor must complete the section below “Reasonable Adjustment Strategies Matrix” to ensure the explanation and correct strategy have been recorded and implemented.
* Trainer/Assessor must notify the administration/compliance and quality assurance department for any reasonable adjustments made.
* All evidence and supplementary documentation must be submitted with the assessment pack to the administration/compliance and quality assurance department.

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| **Reasonable Adjustment Strategies Matrix (Trainer/Assessor to complete)** | | |
| **Category** | **Possible Issue** | **Reasonable Adjustment Strategy**  **(select as applicable)** |
| 🞎 LLN | 🞎 Speaking  🞎 Reading  🞎 Writing  🞎 Confidence | 🞎 Verbal assessment  🞎 Presentations  🞎 Demonstration of a skill  🞎 Use of diagrams  🞎 Use of supporting documents such as wordlists |
| 🞎 Non-English Speaking Background | 🞎 Speaking  🞎 Reading  🞎 Writing  🞎 Cultural background  🞎 Confidence | 🞎 Discuss with the student and supervisor (if applicable) whether language, literacy and numeracy are likely to impact on the assessment process  🞎 Use methods that do not require a higher level of language or literacy than is required to perform the job role  🞎 Use short sentences that do not contain large amounts of information  🞎 Clarify information by rephrasing, confirm understanding  🞎 Read any printed information to the student  🞎 Use graphics, pictures and colour coding instead of, or to support, text  🞎 Offer to write down, or have someone else write, oral responses given by the student  🞎 Ensure that the time available to complete the assessment, while meeting enterprise requirements, takes account of the student’s needs |
| 🞎 Indigenous | 🞎 Knowledge and understanding  🞎 Flexibility  🞎 Services  🞎 Inappropriate training and assessment | 🞎 Culturally appropriate training  🞎 Explore understanding of concepts and practical application through oral assessment  🞎 Flexible delivery  🞎 Using group rather than individual assessments  🞎 Assessment through completion of practical tasks in the field after demonstration of skills and knowledge. |
| 🞎 Age | 🞎 Educational background  🞎 Limited study skills | 🞎 Make sure font size is not too small  🞎 Trainer/Assessor should refer to the student’s experience  🞎 Ensure that the time available to complete the assessment takes account of the student’s needs  🞎 Provision of information or course materials in accessible format.  🞎 Changes in teaching practices, e.g. wearing an FM microphone to enable a student to hear lectures  🞎 Supply of specialised equipment or services, e.g. a note-taker for a student who cannot write  🞎 Changes in lecture schedules and arrangements, e.g. relocating classes to an accessible venue  🞎 Changes to course design, e.g. substituting an assessment task  🞎 Modifications to physical environment, e.g. installing lever taps, building ramps, installing a lift |
| 🞎 Educational background | 🞎 Reading  🞎 Writing  🞎 Numeracy  🞎 Limited study skills and/or learning strategies | 🞎 Discuss with the Student previous learning experience  🞎 Ensure learning and assessment methods meet the student’s individual need |
| 🞎 Disability | 🞎 Speaking  🞎 Reading  🞎 Writing  🞎 Numeracy  🞎 Limited study skills and/or learning strategies | 🞎 Identify the issues  🞎 Create a climate of support  🞎 Ensure access to support that the student has agreed to  🞎 Appropriately structure the assessment  🞎 Provide information or course materials in accessible format, e.g. a textbook in braille  🞎 Changes in teaching practices, e.g. wearing an FM microphone to enable a student to hear lectures  🞎 Supply of specialised equipment or services, e.g. a note- taker for a student who cannot write  🞎 Changes in lecture schedules and arrangements, e.g. relocating classes to an accessible venue  🞎 Changes to course design, e.g. substituting an assessment task  🞎 Modifications to physical environment, e.g. installing lever taps, building ramps, installing a lift |
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| **Explanation of reasonable adjustments strategy used (If required)** |
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# **Unit Assessment Task (UAT)**

## **Assessment Task 1 - Unit Knowledge Test (UKT)**

**Assessment type:**

* Written Questions

**Assessment task description:**

* This is the first (1) unit assessment task you have to successfully complete to be deemed competent in this unit of competency.
* The Unit Knowledge Test is comprised of fifteen (15) written questions.
* You must respond to all questions and submit them to your Trainer/Assessor.
* You must answer all questions to the required level, e.g. provide the number of points, to be deemed satisfactory in this task.
* You will receive your feedback within two weeks - you will be notified by your Trainer/Assessor when results are available.

**Applicable conditions:**

* This knowledge test is untimed and are conducted as open book tests (this means you are able to refer to your textbook during the test).
* You must read and respond to all questions.
* You may handwrite/use computers to answer the questions.
* You must complete the task independently.
* No marks or grades are allocated for this assessment task. The outcome of the task will be Satisfactory or Not Satisfactory.
* As you complete this assessment task you are predominately demonstrating your written skills and knowledge to your trainer/assessor.
* The trainer/assessor may ask you relevant questions on this assessment task to ensure that this is your own work.

**Resubmissions and reattempts:**

* Where a student’s answers are deemed not satisfactory after the first attempt, a resubmission attempt will be allowed.
* You must speak to your Trainer/Assessor if you have any difficulty in completing this task and require reasonable adjustments (e.g. can be given as an oral assessment).
* For more information, please refer to your RTO Student Handbook.

**Location:**

* This assessment task may be completed in a learning management system (i.e. Moodle) or independent learning environment.
* Your trainer/assessor will provide you further information regarding the location for completing this assessment task.

**Instructions for answering written questions:**

* Complete a written assessment consisting of a series of questions.
* You will be required to correctly answer all the questions.
* Do not start answering questions without understanding what is required from you. Read the questions carefully and critically analyse them for a few seconds, this will help you to identify what is really needed.
* Your answers must demonstrate an understanding and application of relevant concepts, critical thinking, and good writing skills.
* Be concise to the point and write answers according to the given word-limit to each question and do not provide irrelevant information. Be careful, quantity is not quality.
* Be careful to use non-discriminatory language. The language used should not devalue, demean, or exclude individuals or groups on the basis of attributes such as gender, disability, culture, race, religion, sexual preference or age. Gender inclusive language should be used.
* When you quote, paraphrase, summarise or copy information from the sources you are using to write your answers/research your work, you must always acknowledge the source.

**How your trainer/assessor will assess your work?**

* This assessment task requires the student to answer all the questions.
* Answers must demonstrate the student’s understanding and knowledge of the unit.
* If all assessment tasks are deemed Satisfactory (S), then the unit outcome is Competent (C).
* If at least one of the assessment task is deemed Not Satisfactory (NS), then the unit outcome is Not Yet Competent (NYC).
* Once all assessment tasks allocated to this Unit of Competency have been undertaken, trainer/assessor will complete an Assessment plan to record the unit outcome. The outcome will be either Competent (C) or Not Yet Competent (NYC).
* The “Assessment Plan” is available with the Unit Assessment Pack (UAP) – Cover Sheet.

**Purpose of the assessment task:**

This assessment task is designed to evaluate your Knowledge for the following:

* Knowledge to identify and describe current browser software
* Knowledge to use the knowledge gained through training and learner resources.
* Knowledge to explain domain name server (DNS) resolution
* Knowledge to outline the features and functions of:
  + Network architecture
  + Bridges as required
  + Desktop operating systems
  + Hubs
  + Network gateways
  + Network operating systems:
  + Routers
  + Switches
* Knowledge to address security issues that may impact on an internet gateway
* Knowledge to describe common security solutions and strategies
* Knowledge to identify and describe the principle function of current gateway software.
* Knowledge to use familiar/known digital technology to access/get to information, document findings/results and communicate them to stakeholders.

## **Assessment Task 1 - Unit Knowledge Test (UKT)**

**Instructions:**

* This is an individual assessment.
* The purpose of this assessment task is to assess the students’ knowledge knowledge required to connect network hardware devices, mainly personal computers (PCs), to an internet gateway
* To make full and satisfactory responses you should consult a range of learning resources, other information such as handouts and textbooks, learners’ resources and slides.
* All questions must be answered in order to gain competency for this assessment.
* You may attach a separate sheet if required.
* You must include the following particulars in the footer section of each page of the attached sheets:
  + Student ID or Student Name
  + Unit ID or Unit Code
  + Course ID or Course Code
  + Trainer and assessor name
  + Page numbers
* You must staple the loose sheets together along with the cover page.
* You must attach the loose sheets chronologically as per the page numbers.
* Correction fluid and tape are not permitted. Please do any corrections by striking through the incorrect words with one or two lines and rewriting the correct words.

**Resources required to complete the assessment task:**

* Computer
* Internet
* MS Word
* Printer or e-printer
* Adobe acrobat/reader
* Learning management system

1. What is the default web browser in windows 10? How can you check version of web default browser? Write your answer in 50-100 words and include the screenshots of each step to make your answer clearer.

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| Windows 10 comes with the new Microsoft Edge as its default browser.  To check the version of web default browser we need to do things listed below as:   * Open Internet Explorer * Click on “Help” in the menu bar or press Alt+H * In the drop-down menu, click on ‘About Internet Explorer’ or press A to open the window shown in figure below:   version  Reference: Bbc.co.uk. 2020. *BBC - My Web My Way - Which Version Of My Web Browser Am I Using?*. [online] Available at: <http://www.bbc.co.uk/accessibility/guides/which\_browser.shtml> [Accessed 12 November 2020]. |

1. What do you understand from the term “Domain Name Resolution”? Write your answer in 50-100 words.

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| ***In the world of the Internet, the addresses don’t contain streets and cities, they have a numbers and symbols. There are two types of addresses: IPv4 and IPv6. In order to enter into a particular web site, the user needs to get its IP. Instead of remembering all of the IPs of every website, we simply need to remember the domain name. The domain name is usually not hard to remember, and this makes it easier. When the user types the name of the website, the process of the domain name resolution starts. The browser needs to get the IP and sends queries to the name servers. This process is involving domain name resolvers. The first answer that your browser will get is the root server, then the TLD (top level domain). The servers with the TLD of the website you want to visit (com, net or another) will refer your queries to the next step in searching authoritative servers who know the complete IP. The will resolve the domain name.***  ***Reference:*** Pramatarov, M., 2020. *What Is Domain Name Resolution? - Cloudns Blog*. [online] ClouDNS Blog. Available at: <https://www.cloudns.net/blog/domain-name-resolution/> [Accessed 12 November 2020]. |

1. Explain the features and working of each of the following networking components. Explain each in 50-100 words
   1. Network architecture
   2. Bridges
   3. Hubs
   4. Network Gateways
   5. Network operating system
   6. Routers
   7. Switches
   8. Desktop Operating nsystem

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| 1. ***Network Architecture***   ***Network architecture is the design of a computer network. It is a framework for the specification of a network's physical components and their functional organization and configuration, its operational principles and procedures, as well as communication protocols used.***  ***In telecommunication, the specification of a network architecture may also include a detailed description of products and services delivered via a communications network, as well as detailed rate and billing structures under which services are compensated.***  ***The network architecture of the Internet is predominantly expressed by its use of the Internet Protocol Suite, rather than a specific model for interconnecting networks or nodes in the network, or the usage of specific types of hardware links.***  ***Reference:*** En.wikipedia.org. 2020. *Network Architecture*. [online] Available at: <https://en.wikipedia.org/wiki/Network\_architecture> [Accessed 12 November 2020]. |
| 1. ***Bridges***   ***A network bridge is a computer networking device that creates a single aggregate network from multiple communication networks or network segments. This function is called network bridging.Bridging is distinct from routing. Routing allows multiple networks to communicate independently and yet remain separate, whereas bridging connects two separate networks as if they were a single network. In the OSI model, bridging is performed in the data link layer (layer 2).If one or more segments of the bridged network are wireless, the device is known as a wireless bridge.***  ***Reference:*** En.wikipedia.org. 2020. *Bridging (Networking)*. [online] Available at: <https://en.wikipedia.org/wiki/Bridging\_(networking)> [Accessed 12 November 2020]. |
| 1. ***Hubs***   ***A hub, also called a network hub, is a common connection point for devices in a network. Hubs are devices commonly used to connect segments of a LAN. The hub contains multiple ports. When a packet arrives at one port, it is copied to the other ports so that all segments of the LAN can see all packets.***  ***Hubs and switches serve as a central connection for all of your network equipment and handles a data type known as frames. Frames carry your data. When a frame is received, it is amplified and then transmitted on to the port of the destination PC.***  ***Reference:*** Webopedia.com. 2020. *What Is A Network Hub? Webopedia Definition*. [online] Available at: <https://www.webopedia.com/TERM/H/hub.html> [Accessed 12 November 2020]. |
| 1. ***Network Gateways***   ***A gateway is a node (router) in a computer network, a key stopping point for data on its way to or from other networks. In a workplace, the gateway is the computer that routes traffic from a workstation to the outside network that is serving up the Web pages.*** |
| 1. ***Routers***   ***A router is a networking device that forwards data packets between computer networks. Routers perform the traffic directing functions on the Internet. Data sent through the internet, such as a web page or email, is in the form of data packets. A packet is typically forwarded from one router to another router through the networks that constitute an inter-network (e.g. the Internet) until it reaches its destination node.***  ***A router is connected to two or more data lines from different IP networks.When a data packet comes in on one of the lines, the router reads the network address information in the packet header to determine the ultimate destination. Then, using information in its routing table or routing policy, it directs the packet to the next network on its journey.***  ***Reference:*** En.wikipedia.org. 2020. *Router (Computing)*. [online] Available at: <https://en.wikipedia.org/wiki/Router\_(computing)> [Accessed 12 November 2020]. |
| 1. ***Switches***   ***Switches are networking devices operating at layer 2 or a data link layer of the OSI model. They connect devices in a network and use packet switching to send, receive or forward data packets or data frames over the network.***  ***A switch has many ports, to which computers are plugged in. When a data frame arrives at any port of a network switch, it examines the destination address, performs necessary checks and sends the frame to the corresponding device(s).It supports unicast, multicast as well as broadcast communications.***  ***Reference:*** Tutorialspoint.com. 2020. *What Are Switches In Computer Network?*. [online] Available at: <https://www.tutorialspoint.com/what-are-switches-in-computer-network> [Accessed 12 November 2020]. |
| 1. ***Desktop Operating System***   ***Desktop operating system is the main control program in a user’s desktop or laptop computer, also known as client operating system. It can either be freeware or commercial software. The top 3 most popular desktop operating systems are: Windows, Mac and Linux. The first two being the fiercest competitors in the commercial market, and the third, their freeware rival the Linux.***  ***Reference:*** Sites.google.com. 2020. *Desktop Operating Systems - Operating Systems*. [online] Available at: <https://sites.google.com/site/operatingsystems10/home/desktop> [Accessed 12 November 2020]. |

1. List any ten (10) security issues that may affect internet gateway of any business?

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| ***Network security is continually becoming an area of tremendous focus for companies of all sizes. Whether you’re a corporation or a small-to-medium sized business (SMB), you’re a target for a variety of network attacks that can stop your business in its tracks.***  ***There are a plethora of network security threats that businesses should be aware of to ensure the continuous protection of their systems, software, and data. Some of the security issues that may affect internet gateway of any business are listed below as :***   * ***Malware/Ransomeware*** * ***Botnets*** * ***Computer Viruses and Worms*** * ***Phishing Attacks*** * ***DDos Attacks*** * ***Cryptojacking*** * ***APT Threats*** * ***Trojen Horses*** * ***Rootkits*** * ***SQL injection Attack***   ***Reference:*** Hasan, S., 2020. *10 Data Security Measures Every Project Manager Should Take Right Now*. [online] TaskQue. Available at: <https://blog.taskque.com/data-security-measures/> [Accessed 11 November 2020]. |

1. List and explain any four (4) most commonly used security solutions for your data over internet? Explain each in 100-150 words.

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| ***From ransomware to targeted cyber espionage attacks, 2016 was a tough year for data security professionals as hackers continued to breach the security wall and get away with a huge amount of data and money. All big names such as Yahoo, LinkedIn, Amazon, Verizon and many financial institutions suffered from big data losses. Some of the security solutions for the data over the internet are listed below as :***   1. ***Install an antivirus***   ***First, you must invest on an effective antivirus. Free anti-viruses will only provide the basic level of protection. Go premium and choose a reliable solution provider that offer foolproof security to your projects and business. It acts as the first line of defense against security attacks and prevents them from causing damage to your sensitive data. It takes care of a variety of security threats such as malware, viruses, spyware and adware. Some even offer email protection and prevent harmful downloads.***   1. ***Take regular backup of your data***   ***If you are not taking regular backup of your data, you are risking your data. Make sure that you take frequent backups of your data. It will also help you to protect against one of the most common cyber attacks today, Ransomware. Even if a cyber attack targets your system, you can easily restore and reclaim your data if you have a backup ready. You can also use a cloud storage to make copies of your data and store it there. Schedule regular backup to protect and keep your data safe otherwise you will have to regret later.***   1. ***Install a firewall***   ***Roland Cloutier, Chief Security Officer for ADP and board member of National Cyber Security Alliance said, “Firewalls are a must to protect your network.” One of the best ways to protect your network is to install a firewall. Although, it is an old technique to secure your network but it is very effective even today. It keeps your network secure by managing internet traffic coming in and going out of the network.***   1. ***User complex passwords***   ***According to Microsoft’s password creation guidelines, you should never use any personal data, common words spelled backward and sequence of character and numbers as your password. Security experts suggest that you should use a password that is hard to guess and contains combination of numbers, upper and lower case letters and symbols to make it hack-proof. The ideal length of your passwords should be anywhere around 10-12 characters. If you follow the advice given above, you can prevent your password from getting in wrong hands.***  ***Reference:*** Hasan, S., 2020. *10 Data Security Measures Every Project Manager Should Take Right Now*. [online] TaskQue. Available at: <https://blog.taskque.com/data-security-measures/> [Accessed 12 November 2020]. |

1. Explain in 150-200 words how an online payment gateway software work for an online shopping website?

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| ***Nowadays, more and more people prefer not to waste time on physical shopping trips, and opt, instead, to buy things or services online right from the comfort of their own home. This is an understandable commodity and benefit of modern life.***  ***Online shopping means that anything can be purchased online, and not just seen or appreciated. It also means that every merchant aiming to increase sales should consider online payment gateway integration.***  ***Payment gateway is a service provider that provides payment authorization. Basically, it’s a software application connecting a website with the bank, so that the customers can pay you right there on the spot without leaving their apartment.***  ***This type of service can be used by anybody, including eCommerce websites, other service providers that want their users to pay online, and even non-profit organizations that collect donations online.***  ***There are many different payment gateways, including Stripe, PayPal, Authorize.net, Google Checkout and direct MasterCard/Visa payments. All of them have their advantages and disadvantages, and each one takes particular commissions.***  ***Generally, online payment systems can be compared with the point of service that can be successfully used for any sort of payment with the help of your bank card. Its main role, in this case, is to authorize and approve the transaction, the only difference being that you don’t have to actually use a physical point of service.***  ***If you have an eCommerce website but still wonder whether you need to implement a payment gateway, the answer for you here is, undoubtedly, yes. You will need to implement this so that you have the opportunity to obtain payments directly from your customers. Even if you also have a brick and mortar shop, it still makes sense to add a payment gateway to your website in order to drive more customers and increase sales by serving those people who would never be able to make it to your physical location.***  ***All payments that are processed online are done so as transactions with no card present, which means that you don’t get to see the client’s card, only the information your customer enters in the suggested fields. Without the physical presence of the card, it becomes a bit simpler to commit fraudulent actions on both ends. This means that the online payment system you use should be reliable and provide a high level of security.***  ***All payment systems use approximately the same mechanisms, consisting of several stages, most of which are hidden behind the stage. There is a bunch of “communication” between different facilities, series of approvals, complex processes of sending funds, etc. The whole process, in brief, looks like this:***   * ***Order confirmation and provide credit card information.*** * ***Information encryption for security reasons.*** * ***Information being sent to credit card associations: Visa, MasterCard, etc.*** * ***Transaction approval or denial.*** * ***In case of approval, transaction changes status to authorized.*** * ***Approval on the merchant’s side.*** * ***Payment gets to the card issuing company.*** * ***Payment is sent to the relevant bank.*** * ***The bank confirms the transaction and adds it to the cardholder’s statement.***   ***Reference:*** Dinarys. 2020. *How To Integrate A Payment Gateway In Your Ecommerce Website | Dinarys*. [online] Available at: <https://dinarys.com/blog/integrate-payment-gatewa-in-your-ecommerce-website> [Accessed 12 November 2020]. |

1. Explain in 50-100 words how you can connect internet gateway to computer?

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| ***An internet gateway is a router in a computer network, a key stopping point for data on its way to or from other networks. Thanks to gateways, we are able to communicate and send data back and forth. To do this, an internet gateway requires an internet connection. If the gateway is not connecting, the issue could be due to the router, modem or an internet connection failure. In a workplace, the gateway is the computer that routes traffic from a workstation to the outside network that is serving up web pages. For home internet connections, the gateway is the internet service provider that gives you access to the entire internet. If you have a wireless network at home that gives your family access to the internet, your gateway is the modem (or modem-router combo) your internet service provider gives you so you can connect to their network. Routers are gateways because a router can control the path through which information is sent in and out***  ***The most common way of connecting the internet gateway to the internet is via a home WiFi connection. However, if this is not available, the internet gateway can be connected to an internet-enabled computer via an ethernet cable. These are the internet gateway setups we most often install:***   * ***WiFi to home modem connected to a broadband internet connection*** * ***Internet gateway to a home computer via ethernet cable*** * ***FM wireless transceiver to internet gateway to home modem.***   ***In all cases, the internet connection must be permanently connected to a DSL or broadband internet service. The internet gateway cannot be connected via a dial-up or mobile hotspot connection. Before starting the installation, we determine the location of the home WiFi transmitter (or host computer that’s using an ethernet connection) along with the WiFi network name and WiFi password or passcode. Each internet gateway is labeled with its own unique internet gateway serial number. Also within the packaging of the internet gateway is the unique internet gateway passcode. This label is located on the internet gateway itself. This is required to register the internet gateway onto the internet.***  ***Reference:*** Nerds On Call Computer Repair. 2020. *Internet Gateway Installation | Nerds On Call | Internet Services*. [online] Available at: <https://callnerds.com/internet-gateway-installation/> [Accessed 12 November 2020]. |

1. Explain the method of installing a on premises data gateway on windows server 2008 R2 operating system. Write your answer in words 150-200 words.

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| ***An on-premises data gateway is software that you install in an on-premises network. The gateway facilitates access to data in that network.***  ***you can install a gateway either in personal mode, which applies to Power BI only, or in standard mode. We recommend standard mode. In that mode, you can install a standalone gateway or add a gateway to a cluster, which we recommend for high availability.***  ***Requirements:***   * ***.NET Framework 4.6*** * ***.NET Framework 4.7.2*** * ***A 64-bit version of Windows 8 or a 64-bit version of Windows Server 2012 R2 with current TLS 1.2 and cipher suites*** * ***4 GB disk space for performance monitoring logs (in default configuration)***   ***Because the gateway runs on the computer that you install it on, be sure to install it on a computer that's always turned on. For better performance and reliability, the computer is on a wired network rather than a wireless one. In the gateway installer, keep the default installation path, accept the terms of use, and then select Install. Enter the email address for your Office 365 organization account, and then select Sign in. The gateway is associated with your Office 365 organization account. You manage gateways from within the associated service. You're now signed in to your account. Select Register a new gateway on this computer > Next. Enter a name for the gateway. The name must be unique across the tenant. Also enter a recovery key. You'll need this key if you ever want to recover or move your gateway. Select Configure. Finally, you can also provide your own Azure Relay details.***  ***Reference:*** Docs.microsoft.com. 2020. *Install An On-Premises Data Gateway*. [online] Available at: <https://docs.microsoft.com/en-us/data-integration/gateway/service-gateway-install> [Accessed 12 November 2020]. |

1. Explain in 150-200 words how can you verify specifications and availability of network equipment’s required to install internet gateway.

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| ***There are two basic models for interconnecting local-area networks and wide-area (or long-haul) networks in the Internet. In the first, the local-area network is assigned a network number and all gateways in the Internet must know how to route to that network. In the second, the local-area network shares (a small part of) the address space of the wide-area network. Gateways that support this second model are called "address sharing gateways" or "transparent gateways". The focus of this memo is on gateways that support the first model, but this is not intended to exclude the use of transparent gateways.***   * ***Internet Gateways: An internet gateway is an IP-level router that performs the following functions:*** * ***Conforms to specific Internet protocols specified in this document, including the Internet Protocol (IP), Internet Control Message Protocol (ICMP), and others as necessary.*** * ***Interfaces to two or more packet networks. For each connected network the gateway must implement the functions required by that network.*** * ***Receives and forwards Internet datagrams. Important issues are buffer management, congestion control, and fairness.*** * ***Provides system support facilities, including loading, debugging, status reporting, exception reporting and control.***   ***Reference:*** Tools.ietf.org. 2020. *RFC 1009 - Requirements For Internet Gateways*. [online] Available at: <https://tools.ietf.org/html/rfc1009> [Accessed 12 November 2020]. |

1. List five (5) the security features of e-business (Online shopping and payment) gateway shared by multiple users at same instance of time and explain each in 50-100 words.

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| ***Researches on payment gateway security consider about different security mechanisms to enhance the security of transferring sensitive customer information. These mechanisms include security standards, protocols, hashing methods and encryption methods.***  ***Some of the security features of e-business gateway are listed below:***   * ***Data Encryption: One of the main security method used in payment gateways is the data encryption. When the customer enter their payment information like credit and debit card details, payment gateway should protect them by the different network attackers. Payment gateways pass these sensitive customer details securely between merchants and customers by using this method. Transformation of data depends on the data encryption algorithm and the key value. After got the payment information payment gateway encrypt that information using payment gateway’s public key. It can be only decrypted by using payment gateway’s private key. The security of this encryption process depends on the secrecy of these keys. That prevents the decrypting the encrypted data from the unauthorized parities.*** * ***Secure Sockets Layer: Secure Sockets Layer (SSL) is a secure network protocol used in web browsers and servers. It creates a uniquely encrypted channel for transferring private data over public channels with the certificate authentication. SSL is used in payment gateways to provide more secure service for both customer and merchant. Basically SSL secures point-to-point links at session layer.*** * ***Secure Electronic Transaction: Secure Electronic Transaction (SET) is a standard protocol which was developed by the Visa and Master card in cooperation with various other companies like Microsoft, Netscape and VeriSign. SET transaction involves three main parities. They are customer, merchant and the payment gateway.*** * ***Public Key Infrastructure: Payment gateways always contain sensitive information such as credit card numbers. So there should be some mechanisms to protect them from unauthorized users. Public Key Infrastructure (PKI) is a system to enhance the security of mobile commerce which consists with digital certificates, certification authorities and other registration authorities. PKI based on public key cryptography which uses two keys, private key and public key. The private key is used for computing signatures and is kept secret and the public key is used to verify signatures.*** * ***Certification Authority: Stephen Kent presented a new approach to enhance the security of payment gateway. It provides online transactions secure by authenticating the authorities by doing certification. In this approach, first user generates Certificate Signing Request (CSR) to the Certification Authority. Certification Authority hashes the unsigned certificate and hashed certificate is encrypted by using asymmetric algorithm. Then Certification Authority issues the signed certificate to the user.***   ***Reference:*** UKEssays.com. 2020. *Security Features Of Payment Gateway Information Technology Essay*. [online] Available at: <https://www.ukessays.com/essays/information-technology/security-features-of-payment-gateway-information-technology-essay.php> [Accessed 11 November 2020]. |

1. Write essential steps to configure the “NETGEAR” N600 gateway to your home network. Write your answer in 250-300 words and attach screen shot of each step to make your answer clearer.

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| ***The NETGEAR N600 Wireless Dual Band Gigabit ADSL2+ Modem Router DGND3700 is the Ultimate Integrated ADSL Networking Gateway. It offers concurrent dual-band technology that allows devices to avoid interference and also ensures top speeds and the greatest range for demanding applications, such as streaming HD video and multiplayer gaming. Complete with a built-in ADSL modem, it is compatible with all major ADSL Internet service providers. The Gigabit port on the WAN side also has an option to connect to a fiber/cable modem.***   * ***All-in-One: Built-in ADSL2+ modem and WAN Gigabit Ethernet port for cable/fiber combined with a wireless router create the ultimate integrated home gateway.*** * ***Concurrent dual band: Ensures top speeds and the greatest range while minimizing interference.*** * ***Faster multimedia streaming: Provides Wireless-N speed for streaming HD videos, simultaneous downloads, and online gaming in addition to basic Internet applications.*** * ***Shared storage: Two (2) ports for ReadySHARE USB storage access provide fast and easy shared access to an external USB storage device.*** * ***Live Parental Controls: Keep your Internet experience safe.*** * ***Guest Network Access: Provides separate security and access restrictions for guests using the network.*** * ***Secured Connection: Push 'N' Connect ensures a quick and secure network connection.*** * ***Easy installation: Connect to PC and open your browser to install.*** * ***Compatibility: Compatible with all major ADSL Internet service providers (ISPs).***   ***Reference:*** Downloads.netgear.com. 2020. [online] Available at: <https://www.downloads.netgear.com/files/GDC/DGND3700/DGND3700\_UM\_11May11.pdf> [Accessed 12 November 2020]. |

1. “Ping” is the command used to test the connectivity of internet gateway. Successful “Ping” command return information of packet sent, packets received and time in milli- seconds but a unsuccessful command return the following message
   1. Request timed out
   2. Unknown Host
   3. Destination Host unreachable

Explain each of the unsuccessful message in 100-150 words.

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| 1. ***Request timed out***   ***The request timed out error message means that the host you’re pinging might be:***   * ***down or unreachable (e.g. because it’s on a different network/subnet, it’s shut down, it went down temporarily or for an extended time frame, etc.)*** * ***behind a firewall that drops your ICMP echo request packets*** * ***the ping command has been disabled for that network by the syadmin*** * ***you have no Internet connection/network connectivity***   ***To rule out Internet connection problems, ping Google or 8.8.8.8 (Google DNS) and you should get a successful response.***  ***If this is not the case, something’s wrong (network cable disconnected, incorrect network adapter drivers, connection to the ISP down, NIC not working correctly, etc.).*** |
| 1. ***Unknown Host***   ***An unknown host is an error message that generates when a destination computer or host server name cannot be resolved. The message indicates that the user's provided host server name does not exist or match any Domain Name System (DNS) records.***  ***The unknown host message is common when a user tries to connect to a remote host. The error occurs for a number of reasons, including underlying configuration, server unavailability or incorrect host name.***  ***An unknown host message is generated when a user attempts to ping a host name without a configured DNS resolution. If the ping is unsuccessful, the user should verify that the ping was sent to the correct remote host address. If so, the user should verify DNS name resolution, configuration and Windows Internet Naming Service (WINS) availability.***  ***Commands are often used to deduce the root cause of an issue. For example, the "nslookup" command tests host name resolution and verifies DNS server registration. This command usually follows testing a computer's Fully Qualified Domain Name (FQDN) host name resolution, where the computer's Internet Protocol (IP) address is located and verified.***  ***Reference:*** Techopedia.com. 2020. *What Is An Unknown Host? - Definition From Techopedia*. [online] Available at: <https://www.techopedia.com/definition/1882/unknown-host> [Accessed 12 November 2020]. |
| 1. ***Destination Host unreachable***   ***There are many possible reasons for getting a “destination host unreachable” error, including things as simple as erroneously connected cables or an overly aggressive firewall. With this in mind, it’s useful to follow these steps to fix an IPv6 error first to see if they resolve your networking issues.***  ***If the problem persists, you need to look at your network infrastructure to establish where the issue is.*** |

1. Explain the procedure to configure the “Gateway Node” in VMWARE AirWatch console in 250-300 words

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| ***The Workspace ONE UEM powered by AirWatch provides VMware Content Gateway as a secure and effective medium for end users to access internal repositories. Using the VMware Content Gateway with VMware Workspace ONE Content provides levels of access to your corporate content.Your end users can remotely access their documentation, financial documents, board books, and more directly from content repositories or internal file shares. As files are added or updated within your existing content repository, the changes immediately display in VMware Workspace ONE Content. Users are granted access to their approved files and folders based on the existing access control lists defined in your internal repository.By default, Content Gateway on Window Servers supports SMB2 through SMB3 versions. Due to security vulnerabilities, SMB1 is not supported by default but if necessary can be customized to support SMB1.***  ***The basic endpoint deployment model of VMware Content Gateway is a single instance of the product installed on a server with a publicly available DNS.In the Basic deployment model, VMware Content Gateway is typically installed in the internal network behind a load balancer in the DMZ that forwards traffic on the configured ports to the VMware Content Gateway. VMware Content Gateway then connects directly to your internal content repositories. All deployment configurations support load balancing and reverse proxy.The basic endpoint Content Gateway server communicates with the Devices Services. Device Services connects the end-user device to the correct Content Gateway.If the basic endpoint is installed in the DMZ, the proper network changes must be made for the VMware Content Gateway to access various internal resources over the necessary ports. Installing this component behind a load balancer in the DMZ minimizes the number of network changes to implement the VMware Content Gateway. It provides a layer of security because the public DNS is not pointed directly to the server that hosts the VMware Content Gateway.***  ***Reference:*** Docs.vmware.com. 2020. [online] Available at: <https://docs.vmware.com/en/VMware-Workspace-ONE-UEM/1907/WS1\_Content\_Gateway\_Windows.pdf> [Accessed 12 November 2020]. |

1. How can you determine the type of internet network architecture (Dial-up, DSL or cable) available before configuring the internet gateway? Write your answer in 150-200 words.

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| ***Small businesses in metropolitan areas often operate off a broadband connection, but companies in rural locations might not have access to cable or DSL. High-speed Internet, as the name indicates, should be faster than dial-up, but line problems, signal interference and other issues can prevent an organization from receiving the benefits of a broadband connection. You should know what kind of Internet connection your computer uses to connect to the Web to ensure that you're receiving reliable service. Use Network and Sharing Center in Windows 8 to find out whether your computer connects to a wired or wireless network -- or to no network at all -- and then check your network equipment to find out if you have dial-up, cable or DSL service.***  ***Check the side of the notebook or the back of the desktop for a telephone cord connecting the computer to a wall telephone jack, which indicates a dial-up connection.***  ***Locate the modem if the computer isn't connected to a telephone jack. If you're connected to an Ethernet network, your computer is attached to the modem via a network cable; if you're connected via Wi-Fi, search the inside of your home or office for a small, black box with flashing green or blue lights on the front. The modem should have just a single Ethernet port; if the box features multiple ports, it's most likely a router, not a modem.***  ***Check the back of the modem to see if the device connects to the wall outlet via a coaxial cable or a telephone cable. Coaxial cables are used for cable broadband, and telephone cables for DSL.***  ***Reference:*** Small Business - Chron.com. 2020. *How To Determine What Kind Of Internet Connection You Have*. [online] Available at: <https://smallbusiness.chron.com/determine-kind-internet-connection-70977.html> [Accessed 12 November 2020]. |

Question 15:

**Scenario**

Nick has a broadband connection to the Internet and he wants to share internet connection on three Computers which are being used by himself, his girlfriend and his mom. They want to have access to the Internet for all these three laptops because they are using their laptops in their bedrooms. Nick and his wife are working till late night to stand/run their newly started online business. There is a wired network infrastructure connected to all bedrooms, lounge room and garage through a hub. Nick has a spare computer, which is a bit old but its’ condition is good to be used as an Internet gateway. He kept this computer in garage because this computer has access to ADSL broadband connection because phone line is terminated in garage. Computer specifications are Pentium 4 processor with 512 MB of RAM. This computer is equipped with DVD rom and a ZIP disk. He knows that you are working as technician in a communication company and ask you to help him.

According to above mention scenario, explain how will you perform the below mention activities. Write your answer in 100-200 words for each activity.

15.1: Identify and select installation and configuration options.

15.2: Install and configure gateway products and equipment as required by technical guidelines

15.3: Plan and execute tests with reference to client requirements and network impact

15. 4: Analyse error reports and make changes as required

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# **Unit Assessment Result Sheet (UARS)**

## **Assessment Task 1 – Unit Knowledge Test (UKT)**

## **Student and Trainer/Assessor Details**

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| **Unit code** | ICTNWK531 |
| **Unit name** | Configure an internet gateway |
| **Outcome of Unit Assessment Task (UAT)** | |  | | --- | | **First attempt:** |   Outcome (please make sure to tick the correct checkbox):  Satisfactory (S)  or Not Satisfactory (NS)  Date: \_\_\_\_\_\_\_(day)/ \_\_\_\_\_\_\_(month)/ \_\_\_\_\_\_\_\_\_\_\_\_(year)   |  | | --- | | **Second attempt:** |   Outcome (please make sure to tick the correct checkbox):  Satisfactory (S)  or Not Satisfactory (NS)  Date: \_\_\_\_\_\_\_(day)/ \_\_\_\_\_\_\_(month)/ \_\_\_\_\_\_\_\_\_\_\_\_(year) |
| **Feedback to Student** | |  | | --- | | * **First attempt:** |  |  | | --- | | * **Second attempt:** | |
| **Student Declaration** | * I declare that the answers I have provided are my own work. Where I have accessed information from other sources, I have provided references and or links to my sources. * I have kept a copy of all relevant notes and reference material that I used as part of my submission. * I have provided references for all sources where the information is not my own. I understand the consequences of falsifying documentation and plagiarism. I understand how the assessment is structured. I accept that all work I submit must be verifiable as my own. * I understand that if I disagree with the assessment outcome, I can appeal the assessment process, and either re-submit additional evidence undertake gap training and or have my submission re-assessed. * All appeal options have been explained to me. |
| **Student Signature** |  |
| **Date** |  |
| **Trainer/Assessor Name** |  |
| **Trainer/Assessor Declaration** | I hold:  🗹 Vocational competencies at least to the level being delivered  🗹 Current relevant industry skills  🗹 Current knowledge and skills in VET, *and undertake*  🗹 Ongoing professional development in VET  *I declare that I have conducted an assessment of this candidate’s submission. The assessment tasks were deemed current, sufficient, valid and reliable. I declare that I have conducted a fair, valid, reliable, and flexible assessment. I have provided feedback to the above-named candidate.* |
| **Trainer/Assessor Signature** |  |
| **Date** |  |
| **Office Use Only** | Outcome of Assessment has been entered onto the Student Management System on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (insert date)  by (insert Name) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Unit Pre-Assessment Checklist (UPAC)**

# **UAT 2 – Role Play/ Presentation**

## **Purpose of the checklist**

The pre-assessment checklist helps students determine if they are ready for assessment. The trainer/assessor must review the checklist with the student before the student attempts the assessment task. If any items of the checklist are incomplete or not clear to the student, the trainer/assessor must provide relevant information to the student to ensure they understand the requirements of the assessment task. The student must ensure they are ready for the assessment task before undertaking it.**Section 1: Information for Students**

* Please make sure you have completed the necessary prior learning before attempting this assessment.
* Please make sure your trainer/assessor clearly explained the assessment process and tasks to be completed.
* Please make sure you understand what evidence is required to be collected and how.
* Please make sure you know your rights and the Complaints and Appeal process.
* Please make sure you discuss any special needs or reasonable adjustments to be considered during the assessment (refer to the Reasonable Adjustments Strategy Matrix and negotiate these with your trainer/assessor).
* Please make sure that you have access to a computer and the internet (if you prefer to type the answers).
* Please ensure that you have all the required resources needed to complete this Unit Assessment Task (UAT).
* Due date of this assessment task is according to your timetable.
* In exceptional (compelling and compassionate) circumstances, an extension to submit an assessment can be granted by the trainer/assessor.
* Evidence of the compelling and compassionate circumstances must be provided together with your request for an extension to submit your assessment work.
* Request for an extension to submit your assessment work must be made before the due date of this assessment task.

## **Section 2: Reasonable adjustments**

* Students with carer responsibilities, cultural or religious obligations, English as an additional language, disability etc. can request for reasonable adjustments.
* Please note, academic standards of the unit/course will not be lowered to accommodate the needs of any student, but there is a requirement to be flexible about the way in which it is delivered or assessed.
* The Disability Standards for Education requires institutions to take reasonable steps to enable the student with a disability to participate in education on the same basis as a student without a disability.
* Trainer/Assessor must complete the section below “Reasonable Adjustment Strategies Matrix” to ensure the explanation and correct strategy have been recorded and implemented.
* Trainer/Assessor must notify the administration/compliance and quality assurance department for any reasonable adjustments made.
* All evidence and supplementary documentation must be submitted with the assessment pack to the administration/compliance and quality assurance department.

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| **Reasonable Adjustment Strategies Matrix (Trainer/Assessor to complete)** | | |
| **Category** | **Possible Issue** | **Reasonable Adjustment Strategy**  **(select as applicable)** |
| 🞎 LLN | 🞎 Speaking  🞎 Reading  🞎 Writing  🞎 Confidence | 🞎 Verbal assessment  🞎 Presentations  🞎 Demonstration of a skill  🞎 Use of diagrams  🞎 Use of supporting documents such as wordlists |
| 🞎 Non-English Speaking Background | 🞎 Speaking  🞎 Reading  🞎 Writing  🞎 Cultural background  🞎 Confidence | 🞎 Discuss with the student and supervisor (if applicable) whether language, literacy and numeracy are likely to impact on the assessment process  🞎 Use methods that do not require a higher level of language or literacy than is required to perform the job role  🞎 Use short sentences that do not contain large amounts of information  🞎 Clarify information by rephrasing, confirm understanding  🞎 Read any printed information to the student  🞎 Use graphics, pictures and colour coding instead of, or to support, text  🞎 Offer to write down, or have someone else write, oral responses given by the student  🞎 Ensure that the time available to complete the assessment, while meeting enterprise requirements, takes account of the student’s needs |
| 🞎 Indigenous | 🞎 Knowledge and understanding  🞎 Flexibility  🞎 Services  🞎 Inappropriate training and assessment | 🞎 Culturally appropriate training  🞎 Explore understanding of concepts and practical application through oral assessment  🞎 Flexible delivery  🞎 Using group rather than individual assessments  🞎 Assessment through completion of practical tasks in the field after demonstration of skills and knowledge. |
| 🞎 Age | 🞎 Educational background  🞎 Limited study skills | 🞎 Make sure font size is not too small  🞎 Trainer/Assessor should refer to the student’s experience  🞎 Ensure that the time available to complete the assessment takes account of the student’s needs  🞎 Provision of information or course materials in accessible format.  🞎 Changes in teaching practices, e.g. wearing an FM microphone to enable a student to hear lectures  🞎 Supply of specialised equipment or services, e.g. a note-taker for a student who cannot write  🞎 Changes in lecture schedules and arrangements, e.g. relocating classes to an accessible venue  🞎 Changes to course design, e.g. substituting an assessment task  🞎 Modifications to physical environment, e.g. installing lever taps, building ramps, installing a lift |
| 🞎 Educational background | 🞎 Reading  🞎 Writing  🞎 Numeracy  🞎 Limited study skills and/or learning strategies | 🞎 Discuss with the Student previous learning experience  🞎 Ensure learning and assessment methods meet the student’s individual need |
| 🞎 Disability | 🞎 Speaking  🞎 Reading  🞎 Writing  🞎 Numeracy  🞎 Limited study skills and/or learning strategies | 🞎 Identify the issues  🞎 Create a climate of support  🞎 Ensure access to support that the student has agreed to  🞎 Appropriately structure the assessment  🞎 Provision of information or course materials in accessible format, e.g. a text book in braille  🞎 Changes in teaching practices, e.g. wearing an FM microphone to enable a student to hear lectures  🞎 Supply of specialised equipment or services, e.g. a note taker for a student who cannot write  🞎 Changes in lecture schedules and arrangements, e.g. relocating classes to an accessible venue  🞎 Changes to course design, e.g. substituting an assessment task  🞎 Modifications to physical environment, e.g. installing lever taps, building ramps, installing a lift |

| **Explanation of reasonable adjustments strategy used (If required)** |
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# **Unit Assessment Task (UAT)**

## **Assessment Task 2 – Role Play/ Presentation**

**Assessment type:**

* Role Play/ Presentation

**Assessment task description:**

* This is the second (2) unit assessment task you have to successfully complete to be deemed competent in this unit of competency.
* This assessment task is comprised of a role play/ presentation to be completed in front of your trainer/assessor.
* The premise of the role play must be closely related to the previous assessment task.
* You will receive your feedback within two weeks - you will be notified by your Trainer/Assessor when results are available.

**Applicable conditions:**

* This role play /presentation test is timed.
* Time allowed to deliver the presentation is 15-20 minutes.
* Time allowed to develop required resources for presentation is 3 weeks prior to the presentation.
* You are expected to make 15-20 slides of PowerPoint presentation.
* Electronic devices are allowed during this assessment task.
* You must complete the task independently.
* No marks or grades are allocated for this assessment task. The outcome of the task will be Satisfactory or Not Satisfactory.
* As you complete this assessment task you are predominately demonstrating your practical skills, techniques and knowledge to your trainer/assessor.
* Trainer/Assessor may ask you relevant questions during this assessment task.

**Resubmissions and reattempts:**

* Where your answers are deemed not satisfactory after the first attempt, a resubmission attempt will be allowed.
* You must speak to your Trainer/Assessor if you have any difficulty in completing this task and require reasonable adjustments (e.g. can be given as an oral assessment).
* For more information, please refer to your RTO Student Handbook.

**Location:**

* This assessment task may be completed in an independent learning environment or learning management system.
* Your trainer/assessor will provide you further information regarding the location of completing this assessment task.

**General Instructions for attempting the role play:**

* You must not cut and paste chunk of text on the presentation slides however you are advised to write down the keywords and important phrases to help you to deliver the presentation.
* You must not read the presentation word-by-word and should use the presentation for reference purpose only.
* You must explain the topics appropriately.
* Your tone, gestures, body language has to be according to the role you are portraying.
* You will be required to correctly discuss all topics appropriately in easy-to-understand, slang and abbreviation free language, friendly yet professional manner for this assessment task.

**Information about role play:**

* Please note that the task includes participation in the role play.
* The aim of the task is to show your skills to understand the client’s requirements and configure gateway product.
* This type of learning provides a controlled environment in which role players can practice skills, roles and processes.
* In addition to preparing your own role play, learning is reinforced by observing other team members and offering comments and constructive feedback.
* This role play focuses on the elements and performance criteria for the unit of competence, which is available on the training package website [http://training.gov.au](http://training.gov.au/).
* You have to present your role play to your trainer/assessor on the due date.
* Reasonable adjustment will be allowed for those candidates who are eligible to receive it.
* Please read through the instructions and assessment information carefully, prior to commencing the tasks.

**How your trainer/assessor will assess your work?**

* This assessment task requires the student to participate in a role play and show his/her skills to understand client’s requirements and install internet Gateway.
* Presentation must demonstrate the student’s understanding and skills of the unit.
* Student need to be briefed on the role play a minimum of 3 weeks prior to the due date as set out in the delivery and assessment guide for this unit.
* A copy of the observation checklist (found in the Assessment Guide) in relation to this unit must be made available to students a minimum of three weeks prior to the assessment.
* Your assessor will provide you with initial oral feedback in class, after the presentations by yourself and others. This may take the form of individual feedback, if time allows, or it may be incorporated in observations of a general nature in the debriefing exercise following the role play. Written feedback incorporating the feedback on your individual presentation, role play and preparatory work will be provided within two weeks from the due date of your assessment.
* Your assessor will use an observation checklist/observation guide and provide written feedback indicating whether your role play and related preparatory work is satisfactory or not satisfactory.
* A copy of the observation checklist will be made available to students with this role play task, a minimum of three weeks prior to the assessment.
* If all assessment tasks are deemed Satisfactory (S), then the unit outcome is Competent (C).
* If at least one of the assessment task is deemed Not Satisfactory (NS), then the unit outcome is Not Yet Competent (NYC).
* Once all assessment tasks allocated to this Unit of Competency have been undertaken, trainer/assessor will complete an Assessment plan to record the unit outcome. The outcome will be either Competent (C) or Not Yet Competent (NYC).
* The “Assessment Plan” is available with the Unit Assessment Pack (UAP) – Cover Sheet.

**Purpose of the assessment task:**

This assessment task is designed to evaluate your following skills and abilities:

* Skills to identify the clients Requirements
* Skills to use the knowledge gained through training and learner resources.
* Skills to Install and configure internet gateway.
* Skills to review security features provided by Internet service provider
* Skills to address security issues that may impact on an internet gateway
* Skills to describe common security solutions and strategies
* Skills to identify and describe the principle function of current gateway software.
* Skills to create and configure the nodes for different devices.
* Skills to use familiar/known digital technology to access/get to information, document findings/results and communicate them to stakeholders.
* Skills to identify and describe the principle function of current gateway software.
* Skills to use familiar/known digital technology to access/get to information, document findings/results and communicate them to stakeholders.

## **Assessment Task 2 – Role Play/ Presentation**

**Instructions to complete this assessment task:**

* This task requires you to develop and deliver a presentation on your understanding of documenting clients requirments and configure the same in clients network.
* You must use PowerPoint to develop your presentation.
* You may use models, aids, equipment’s to deliver your presentation effectively.
* Presentation may include diagrams, infographics, and pictures to be interactive and interesting.
* Role plays provide students with the opportunity to take part in activities which mirror real life career-related scenarios.
* During the role play, the assessor will be looking for:
  + Appropriate interaction, body language and communication skills
  + The student’s ability to establish rapport and defuse potentially difficult situations
  + The ability to understand, interpret and answer the questions appropriately.
  + Suitably documenting and presenting the topics to audience.
  + The student meet the requirements of the unit of competency or performance criteria mentioned in the assessment task.
* The presentation should be consistent, well organised and must cover all the criteria mentioned in the observation guide.

Resources required to complete the assessment task:

* *Computers*
* *Internet*
* *MS Powerpoint*
* *Internet Gateway products*
* *Patch cords*
* *Network Switch*
* *Modem/Router*
* *Printer or e-printer*
* *Learning management system*

(Your Assessor will provide you the relevant information and required material for this task)

1. Roleplay Task (How, where and to what audience):

You will assume/take on the role of a network engineer and your assessor will act as authorised person/Client.

1. Presentation should be delivered in front of your trainer/assessor and other students.

Delivery time: 15-20 minutes

Preparatory Work

In order to participate meaningfully in the roleplay, you are required to prepare the following work in advance of the due date and hand it in to your assessor on the due date.

1. A copy of the presentation including the key items in a slide format, with a maximum of 15-20 slides. See step 2 below for more details.
2. Explanation of any terms you may use as part of your presentation.
3. Power-point presentation can be submitted as soft-copy or printed copy.
4. Must discuss any models, aids, equipment’s you may use to deliver the presentation.

Your presentation:

1. You are delivering this presentation as a network engineer.
2. Ensure that you use clear culturally appropriate language and take care to define legal or technical terms. (Explain these terms in a way that a businessperson, without a legal or compliance background, could understand).
3. You must cover all the topics approproautely according to the timelimit and observation guide.

Scenario

“Linking Loop” is an established call centre which handles inbound queries from the clients of many organisations located in “Australia” and other countries as well. In the face of rapid growth traditional call centre infrastructure of “Linking Loop” faced many challenges. The main challenge is network speed. Due to load on network some time it takes long time to fetch the information form the organisation’s servers to answer client’s queries. Due to this “Linking Loop” start losing its clients.

Management form “Linking Loop” decide update network infrastructure to support to handle the inbound calls effectively. “Linking Loop” call for many companies to provide an estimate quote for network infrastructure.” James Communications “is one of those company where you are working as network engineer. Your boss wants you to lead this project and ask you to meet authorised person from “Linking Loop” and collect the relevant information about their requirements before submitting and estimated quote.

Assume your class as office of “Linking loop” and your assessor as authorise person and perform the following activities.

Note: - Your assessor will provide you the relevant information and required material for this task.

Activity1: Talk to authorise person (Your assessor) and record and validate their requirements in below given format

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Internet Gateway - Client Requirements** | | | | |
| **Client Details** |  |  |  |  |
| **Name** |  | | |  |
| **Address** |  | | |  |
| **Contact(s)** | **1** | |  |  |
| **Network Gateway is Capable**  **(Yes/No)** | | | | |
| **Date** |  | | |  |
| **Internet Services Required** |  | | |  |
| **Time Frame for Installing Infrastructure** |  | | |  |
| **Overview of the project** |  | | |  |
| **Budget** |  | | |  |
| **ISP Name** |  | | |  |
| **LAN Requirements** |  | | |  |
| **LAN Specifications** |  | | |  |
| **WAN Requirements** |  | | |  |
| **DMZ Requirements** |  | | |  |
| **Business Continuance considerations** |  | | |  |
| **NAT, HTTP, VoIP requirements** |  | | |  |
| **Antivirus Requirements** |  | | |  |
| **FTP ports Requirement** |  | | |  |
| **Network Security Requirements** |  | | |  |
| **Scope of Project** |  | | |  |

After reviewing the validation report your boss submit the quote to “Linking Loop” and get the contarct and provide you the required material form compan’y stock. After recieving the required material your Job is to update the existing network of “Linking Loop”.In order to update the the network infrastructure you have to perform following activities

Act2 : Identify the Installation option for “Internet Gateway”

Act3: Install and test “Network Gateway” according to vendors guidelines and Create a report of URL’s tested with the expected out come and results obtained.

Act4: Check information Portal of ISP to review the security measures provided by ISP

Act5: Educate the users about hazards over internet

Act6: Test the new internetgateway with minimum distruction to cleints working

Act7: Assign one node with static IP to server,printers,gateway and Other node with DHCP for the work stations accoding to clien requirements.

|  |
| --- |
|  |

**Your presentation will be assessed by your assessor and must cover the following “Observation guide”:**

|  |  |  |  |
| --- | --- | --- | --- |
| **To be assessed as satisfactory (S) in this assessment task the participant needs to demonstrate competency in the following critical aspects of evidence** | S | N/S | Comments and feedback to student |
| 1. Appropriate and professional body language, gestures and tone |  |  |  |
| 1. Effectiveness of the PowerPoint presentation, overall (Interesting, informative and interactive) |  |  |  |
| 1. Discuss and document the client’s requirement for internet gateway |  |  |  |
| 1. Selection of appropriate hardware for installing internet gateway |  |  |  |
| 1. Skills to Install & configure the network devices properly |  |  |  |
| 1. Ability to follow the guidelines |  |  |  |
| 1. knowledge of relevant legislation, codes of practice and national standards |  |  |  |

**Your assessor will be looking for evidence of the following skills while reviewing your draft assessment plan:**

* Ability to communicate with client to understand their requirements
* Ability to identify, analyse and interpret legislation, codes of practices and national standards.
* Ability to effectively deliver the presentation with good body language.
* Ability to conduct an interactive and creative presentation/ role play.
* Reading skills to collect, review, interpret/understand and analyse/review text-based business information from a range/number of sources
* Written and oral/speech communication skills to organise and deliver information to effectively communicate the hazards over internet to clients.
* Numeracy/numbers- mathematical skills to interpret/understand mathematical data when reviewing and analysing scenario/setting-situation business information
* Ability to work independently/freely as well as collaboratively/together to make decisions about risk management
* Ability to interact/cooperate with others using appropriate conventions/systems when communicating to, and consulting/discussing with stakeholders/interested parties
* Ability/skill to sequence/in order and schedule/plan activities and manage communication
* Ability to analyse relevant/appropriate information to identify scope/range of work, goals and objectives and to evaluate/review options/other choices
* Ability to use familiar/known digital technology to access/get to information, document findings/results and communicate them to stakeholders.
* Ability to analyse any reasonable adjustment in the workplace for people with a disability or special needs.
* Ability to answer the questions asked by the audience/trainer and assessor.

# **Unit Assessment Result Sheet (UARS)**

## **Assessment Task 2 – Role Play/ Presentation**

## **Student and Trainer/Assessor Details**

|  |  |
| --- | --- |
| **Unit code** | ICTNWK531 |
| **Unit name** | Configure an internet gateway |
| **Outcome of Unit Assessment Task (UAT)** | |  | | --- | | **First attempt:** |   Outcome (please make sure to tick the correct checkbox):  Satisfactory (S)  or Not Satisfactory (NS)  Date: \_\_\_\_\_\_\_(day)/ \_\_\_\_\_\_\_(month)/ \_\_\_\_\_\_\_\_\_\_\_\_(year)   |  | | --- | | **Second attempt:** |   Outcome (please make sure to tick the correct checkbox):  Satisfactory (S)  or Not Satisfactory (NS)  Date: \_\_\_\_\_\_\_(day)/ \_\_\_\_\_\_\_(month)/ \_\_\_\_\_\_\_\_\_\_\_\_(year) |
| **Feedback to Student** | |  | | --- | | * **First attempt:** |  |  | | --- | | * **Second attempt:** | |
| **Student Declaration** | * I declare that the answers I have provided are my own work. Where I have accessed information from other sources, I have provided references and or links to my sources. * I have kept a copy of all relevant notes and reference material that I used as part of my submission. * I have provided references for all sources where the information is not my own. I understand the consequences of falsifying documentation and plagiarism. I understand how the assessment is structured. I accept that all work I submit must be verifiable as my own. * I understand that if I disagree with the assessment outcome, I can appeal the assessment process, and either re-submit additional evidence undertake gap training and or have my submission re-assessed. * All appeal options have been explained to me. |
| **Student Signature** |  |
| **Date** |  |
| **Trainer/Assessor Name** |  |
| **Trainer/Assessor Declaration** | I hold:  🗹 Vocational competencies at least to the level being delivered  🗹 Current relevant industry skills  🗹 Current knowledge and skills in VET, *and undertake*  🗹 Ongoing professional development in VET  *I declare that I have conducted an assessment of this candidate’s submission. The assessment tasks were deemed current, sufficient, valid and reliable. I declare that I have conducted a fair, valid, reliable, and flexible assessment. I have provided feedback to the above-named candidate.* |
| **Trainer/Assessor Signature** |  |
| **Date** |  |
| **Office Use Only** | Outcome of Assessment has been entered onto the Student Management System on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (insert date)  by (insert Name) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |