# Assessment Task 3

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| **Assessment Title:** | Observation - Network Installation, testing, and troubleshooting |
| **Assessment Instructions:** | This assessment is a practical task to test your skills to install and test small networks. It will be observed by the assessor.  In this assessment, you are required to install and configure hardware and software according to the client's network needs as defined in Assessment Task 2. You must perform the tasks listed below. You may be required to research and prepare your own manual or notes. Referencing should be used when using information from other sources.  This assessment will be conducted in class or online.  You must complete all tasks to a satisfactory level to receive a satisfactory result. |
| **Duration of the Assessment:** | 3 hours |
| **Required Knowledge** | To complete the unit requirements safely and effectively, you must demonstrate knowledge of:   * industry accepted hardware and software products, including those used for networks * building requirements that may be used in installing, configuring and securing an office * data and voice transmission technologies and protocols * hardware and software installation procedures * organisational procedures including: * software and hardware testing methods * network setting testing methods * software, hardware and network setting problem resolution procedures * local area network (LAN) capabilities and characteristics, including:   + network types   + internet protocol addressing   + switch and hub operation   + network connections, both wired and wireless   + networking technologies, including network operating systems and cabling standards   + network tools, set-up and configuration procedures * security implications and methods for a home office network * software packages supported by the organisation * industry standards applicable to small networks * installation and configuration tools |
| **Resources required for this Assessment:** | |
| **Supplied by Institute/workplace** | Standard computer room –Networked PCs and servers, MS Office (include, Visio and Project). Branch Wi-Fi routers and switches or simulators Packet Tracer.  Case study profile (Small office home office case study)  Industry standards  Building requirements  Organisations policies and procedures |
| **Supplied by student** | Client Network Design as documented in Assessment Task 2 |

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| **Assessment Task 3: Observation - Network Installation, testing, and troubleshooting**  Using the Case study from Assessment Task 2, you are required to install, configure and test the network according to the network design, industry standards, building requirements and organisation’s procedures.  This assessment has two parts: Part 1 – Network Installation Part 2 – Network testing, and troubleshooting  Your implementation of these tasks will be observed. Your assessor will observe your skills as outlined in the observation checklist below. At the conclusion of the task, the assessor will provide you with feedback. You must submit the observation checklist. |

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| **Part 1 - Network Installation- hardware and software**  1**.** Connect your network devices  2. Install and configure hardware devices  3. Download and install, configure software for your client, e.g., ZOOM or Teams |

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| **Part 2 - Test and secure the network according to organisational procedures** You are required to investigate and resolve issues raised by your clients according to organisations policies and procedures. After these steps, you can request a final sign-off to conclude your services.  Your organisation requires all testing and troubleshooting tasks to be documented, including the testing date, images and description of testing outcomes. For future maintenance purposes, the testing should also include trying two different authentication methods, Wi-Fi protocols, or channels. Complete the tasks below:   * 1. Test the firmware of the Wi-Fi router and make sure it has been updated.   2. Choose a testing tool and check the cause of connectivity issues for your client.   All your users complain that they cannot use any network services; you checked the Wi-Fi router console and you review the network settings as follows:  Graphical user interface  Description automatically generated  ©Sunraysia Institute of TAFE 2021   * 1. Select, and configure security protocols.   2. Resolve security issues.   When you check the configuration, a tool is used to scan all user computers and you find two computers having the same IP address. This could be a DHCP issue or suspected intrusion, you need to verify the cause and fix the issue  Graphical user interface, application  Description automatically generated  ©Sunraysia Institute of TAFE 2021   * 1. Test the function and connectivity of one of the installed software |

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| **Observation Checklist** | | | | | |
| ICTSAS310 – Install, configure and secure a small office or home office network | | | | | |
| **Student’s Name:** |  | | | **Student ID:** |  |
| **Student Instructions:** | You will be observed by an assessor completing the following task/s. During the task/s you may be asked oral questions by the assessor to confirm your understanding.  Observations will be recorded by the assessor as **S** if the task/s has been performed to a satisfactory skill level or **NS** if the task/s have NOT been performed satisfactorily.  You must achieve a satisfactory result for the whole of the task. | | | | |
| **Description:** | Install, configure and test a small network | | | | |
| **Location:** |  | | | | |
| **Client Details:** | Refer case study | | | | |
| **Tasks to be observed** | | **1** | **Comments on performance and/or oral question responses (Required):** | | |
| **Part 1 - Network Installation- hardware and software** | | | | | |
| 1.1. Connect network devices - according to the network design produced in assessment task 2 adhering to industry standards and building requirements | | S  NS |  | | |
| 1.2. Install hardware devices according to network design, industry standards and organisational procedures. | | S  NS |  | | |
| 1.3. Install software according to client requirements, network design and industry standards e.g., ZOOM or Teams | | S  NS |  | | |
| **Part 2 - Test and secure the network** | | | | | |
| * 1. Test the firmware of the Wi-Fi router and confirm it has been updated | | S  NS |  | | |
| 2.2 Select and use a testing tool to check the cause of any connectivity issues. | | S  NS |  | | |
| 2.3. Select, and configure security protocols according to organisational procedures. | | S  NS |  | | |
| 2.4. Resolve security issues. | | S  NS |  | | |
| 2.5 Test the function and connectivity of one of the installed software | | S  NS |  | | |