



National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

Exemplar for Internal Achievement Standard

Digital Technologies Level 2

This exemplar supports assessment against:

Achievement Standard 91895

Use advanced techniques to develop a network

An annotated exemplar is an extract of student evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualifications Authority

To support internal assessment

	Grade: Excellence
1.	<p>For Excellence, the student needs to use advanced techniques to develop a refined network.</p> <p>This involves:</p> <ul style="list-style-type: none">• accurately using tools, procedures and protocols to ensure the network meets end-user requirements,• justifying the choice of parts and components (hardware and software). <p>There is no student work currently available at this grade.</p> <p>The student showed how their network met the end-user requirements, through their accurate use of tools, procedures and protocols. For instance, they followed normal expected protocols when working on the server, such as antistatic precautions and manufacturer-recommended processes for installing and configuring hardware, rather than using trial and error.</p> <p>The student justified the choice of parts and components used. They compared hardware components and software, and then justified their decisions in using one over the other.</p>

	Grade: Merit
2.	<p>For Merit, the student needs to use advanced techniques to develop an informed network.</p> <p>This involves:</p> <ul style="list-style-type: none"> • using information gained from testing procedures, diagnosis and troubleshooting to inform further development and improve the quality of the specified network • explaining the purpose and function of the parts and components (hardware and software) • addressing relevant implications. <p>There is no student work currently available at this grade.</p> <p>The student has used information gained from testing procedures, diagnosing and troubleshooting to inform further development for improving the quality of a specified network. For example, they have:</p> <ul style="list-style-type: none"> • thoroughly tested the network and made significant improvements to its behaviour and function as a result (more than just correcting errors in the network) • tested and revised the configuration settings, changing hardware components where necessary, and making the network more reliable as a result. <p>The student has explained the purpose, function and behaviour of the parts and components (hardware and software) used. For example, they have explained:</p> <ul style="list-style-type: none"> • the purpose, function and behaviour of a Raspberry Pi set up to be a media server • why software is configured to ensure that all components can ‘talk’ to each other. <p>The student showed how their network addresses at least two relevant implications. This could include how copyright concerns have been addressed and how end-user considerations have been met.</p>

	Grade: Achieved
3.	<p>For Achieved, the student needs to use advanced techniques to develop a network.</p> <p>This involves:</p> <ul style="list-style-type: none"> • using appropriate tools, procedures and protocols to install and configure hardware (including peripherals) and software • undertaking a range of appropriate testing procedures, diagnosis and troubleshooting to identify and resolve setup and configuration errors • investigating the parts and components (hardware and software) to be used • explaining relevant implications. <p>There is no student work currently available at this grade.</p> <p>The student has used appropriate tools, procedures and protocols to install and configure hardware and software. They have used at least two advanced techniques from the list in Explanatory Note 5, such as:</p> <ul style="list-style-type: none"> • connecting the server and the clients to the switch • installing and configuring hardware and software with appropriate IP addresses and gateway • demonstrating a working network. <p>Testing, diagnosing and troubleshooting have been used to identify and resolve set-up and configuration errors, showing that the network functions as intended. For example, the student has:</p> <ul style="list-style-type: none"> • tested that all devices in the network can see each other, are connected to the same network, and can access the internet • checked that shares in the network are configured properly • modified configuration for clients and the server so the network functions as intended. <p>The student investigated the parts and components (hardware and software) to be used. For example, they have looked at several network hubs and switches and chosen Brand A, as it's very easy to set up compared to Brand B (but identified that there have been confirmed security issues with them). After some investigation, they have also chosen Plex out of a selection of suitable Raspberry Pi media servers.</p> <p>The student explained at least two identified relevant implications for their network, i.e. end-user considerations and functionality. They explained what the relevant implication is, why it is relevant to their network, and how they might address the implication in the actual network built.</p>