

Cloud Server Project & Video Explainer

ICT171 Assignment 2 - 2025

In this assignment, you will document and build an online server, accessible via a domain name, in the cloud. You are encouraged to consider this server as a long-term proposition and something that you could continue to develop as you progress throughout your degree.

Learning Outcomes

Upon completion of this assessment, you will be demonstrating the following learning outcomes:

- Develop proficiency with the Linux and Windows Command line environment
- Implement servers and applications using physical and virtualised infrastructure.
- Install and configure a Windows or Linux server.
- Develop proficiency in utilizing GitHub for version control and effectively document a project
- Develop scripts or programs in a programming language of the student's choosing
- Develop the ability to write using a variety of tasks including support tickets, a Total Cost of Ownership document and server documentation
- Configure and implement an Infrastructure as a Service (IaaS) server in the cloud

Cloud Project Overview

Some ideas, for what this server/site could do are below but don't limit yourself to these suggestions:

- A personal Internet presence that showcases your experience and technical capabilities throughout your degree.
- An Internet presence for a club you belong to, a volunteer group or a charity.
- If you are currently employed, consider developing a server that might be of value to your organisation or a prototype for a service that might be used in the future.

If you have the skills, we encourage you to push your limits extend the server past whatever you have learnt in this unit. Some examples include Wikimedia, WordPress, Drupal or a VPN. You are not limited to these ideas, feel free to make the server whatever you want and document the process. We are also keen for students to show us that they are capable of learning independently. Remember to document as you go as this is an important component of demonstrating your skills. There is a scripting component where you can show some creativity. There are also additional marks for students that implement their server in Digital Ocean or Azure as well as manually setting up SSL/TLS.

Remember: We want you to use Infrastructure as a Service. This means that you should have either SSH or RDP access to the actual machine and configure and deploy your server software manually. Simply submitting a cloud image with the server software, GitHub, WordPress, ghost already installed in a bundle is not acceptable and you would receive no points for these components in the marking rubric.

Audience: Who is this server documentation for?

IT staff are frequently asked to write documentation. You should document this server so that others could replicate it. Don't over use screenshots unless appropriate as you want to allow the yourself or a colleague to copy and paste commands. You could look at the labs in this unit as a benchmark for how things might be documented, with markup to clearly demarcate commands from the narrative that might describe their use . Another way to look at this is, if your server was hacked or accidentally deleted, you want your documentation to be so complete that you could reimplement your server, from beginning to end in an hour, while under the pressure of your boss breathing down your neck. In fact, having run this unit many times, students frequently accidentally delete machines or run out of Azure

credits. This should not be a problem for you because re-creating your server from your documentation should be easy.

The ability for you to execute on professional communications will have a big impact on your career trajectory. You will need to be professional and communicate clearly. Treat this exercise as a practice for one of the many documents that you may be asked to produce. Remember that your long term career progression may be limited by your ability to communicate; use this as an opportunity. Please don't add fluff to this document however, this is technical documentation, so think carefully about what to put in and what to leave out.

Presentation style

Your final document should be a single pdf. The reason I suggest a pdf for a final document is because it will look the same on any device. Word is fine for working documents that are still undergoing change but for a final document, create a pdf. Headings often help the reader to know what they are looking at, but I feel that they are just as useful to the writer as they are a clear signpost of what should be in each section. You get to decide what the headings are and you can look at this document as an example.

Writing Style

Please take every opportunity, with every assignment, to work on your ability to write. I will direct you to my own writing/style notes here: [https://github.com/SCH-IT-](https://github.com/SCH-IT-MurdochUni/NetworkingLabs/blob/main/Reusable_Learning_Objects/writing.md)

[MurdochUni/NetworkingLabs/blob/main/Reusable_Learning_Objects/writing.md](https://github.com/SCH-IT-MurdochUni/NetworkingLabs/blob/main/Reusable_Learning_Objects/writing.md)

This guide obviously makes use of many other resources but hopefully, it sends you down the path of continuously trying to improve your writing skills.

Referencing

You can use any referencing method you like: IEEE, APA et cetera. Just be consistent. Have a look at the following two links. You should specify any guides that you used to create your page or code that you borrowed. In ICT171, we have no objection to adapting code that you find online, it is just important to be transparent about what you borrowed and what you contributed.

- <http://library.murdoch.edu.au/Students/Referencing/>
- <http://our.murdoch.edu.au/Student-life/Study-successfully/Study-Skills/Referencing/Academic-integrity/>

Options

The goal is to permit students to engage with the material and meet the learning objectives of their assignment in the manner of their choosing. Where possible, I would like to allow the maximum possible freedom for students, while still delivering on the learning outcomes. The following are the options available in this assignment:

Your cloud server project can be on anything that you like. Please pick a topic, website or type of server that you would like to deliver on or learn about, but make sure you implement it with Infrastructure as a Service.

The assignment marking rubric tries to make the expectations of this assignment as clear as possible. For students simply pursuing a passing grade, we have been quite clear about what you need to do to demonstrate basic levels of competence with the learning outcomes. It is left for students to decide what level they would like to pursue with this assignment.

LMS submission

You will submit a pdf file of your documentation into the LMS submission system. Please include your student number and name in this document. Also, please ensure that you place the global IP address and your DNS entry at the beginning of this report to enable us to test the accessibility of your server.

You should document how you set up your web server and how you linked it with a DNS entry. This document should contain commands, screenshots and comments about the process that was required to setup your server. As a guide, the documentation should be sufficiently detailed to allow yourself, or someone else with similar skills, to rebuild the server and install the software in the future. Less detail is needed for straightforward and routine procedures, more detail for less obvious or tricky elements to the configuration.

The documentation should be complete so that you could hand the documentation to another ICT171 student and they could replicate your server without having to do independent research, You must reference sites you have based your approach on but you cannot rely on these for your documentation. Your documentation needs to stand independently.

You should also provide a commented piece of code or script and a paragraph explaining what this code or script will achieve. Please also provide some documentation or, preferably, an online link to where we can independently verify the output of this code.

Due Date

The assignment is required to be submitted electronically, in pdf format. Please check LMS for the due date. Please see the unit guide for information regarding extensions.

Assignment Marking Rubric

Your tutor will grade your assignment using a marking rubric, published in LMS, as a guide. Please take the time to familiarise yourself with the rubric published in LMS, as it will give you a clearer understanding of our expectations. Note that although there are negative points associated with submitting late or your online submission not being accessible when we check, it is not possible to receive less than zero for this assessment.

Submission Checklist:

- Simply submit a github link to your github repository.
- This github link should include:
 - A link to your server
 - Your student number and name are in the document
 - A link to the video explainer
 - Documentation of the project
- Make sure you leave your site up and running until we have graded it and returned the marks.