Task 2 - Personal Reflection

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Main

In this report, I will reflect on my experience of working on the Team BH - Network Automation project. The aim of this project was to produce a set of network automation scripts to assist in the maintenance and diagnosis of a hypothetical network.

For the duration of this project, I was responsible for developing various Ansible playbooks to automate network updates, creating a 'main' program through bat scripting to execute all of the playbooks at ease, conducting the relevant research necessary to achieve this, as well as putting together a brief power point presentation for the demonstration. These roles allowed me to develop transferable skills such as task ownership, time management, and the ability to independently research and learn how to use new technologies, skills that are highly applicable in a professional IT environment.

Early on when I began developing my first playbook for the program (configure_router_backup.yaml) I had encountered a lot of difficulty in understanding of how ansible scripting works: although it was much simpler than most programming languages, it was difficult from what I'd worked with before. However, by looking through ansible's documentation[1] and a blog online which gave comprehensive example based explanations [2] I was able to gain a much better understanding of ansible.

A feature that wasn't initially planned on, but I greatly enjoyed implementing was the main menu (main.bat). During the first round of testing on the routers, I'd found that typing out the commands each time or modifying them to test different scripts was burdensome and frustrating, which made me realise that a set of Ansible playbooks on its own would not be a deliverable product; for actual practical use, it would be in our interest to produce a main menu of sorts to select each script from. This portion of the project allowed me to further develop my batch scripting skills from last year's Operating Systems course and reinforced my ability to think from an end-user perspective, improving my design thinking and usability awareness.

During development, a particular problem I faced was that I was unable to get the virtual routers working. This was at a time when we had believed it would be more convenient to construct a test network in Oracle VirtualBox, which could then be saved and loaded for easy and repeatable testing/demonstration. However, actually running the virtual router proved difficult, which meant that testing the scripts would not be easy. It was decided that we would use real routers in the lab instead, as this has the benefit of greater accuracy and a much simpler setup.

Another important aspect of this project was the teamwork and communication involved. Working as part of a team meant that regular communication was required to ensure that individual components integrated correctly into the final solution and that we were both on the same page. As a result of its collaborative

nature, throughout this project, I developed stronger communication and collaboration skills, gaining a better ability to align work with a teammate's contributions and taking shared responsibility for the final outcome.

Bibliography

[1]"Ansible playbooks — Ansible Community Documentation," *Ansible.com*, 2025. https://docs.ansible.com/projects/ansible/latest/playbook_guide/playbooks_intro.html

[2] "Network Test Automation with Ansible | Jason Edelman's Blog," *Jedelman.com*, 2026. https://jedelman.com/home/network-test-automation-with-ansible/