This course has been one of the most valuable learning experiences. Through the Prelims, Midterms, and Finals, I gained practical experience in automating server management work, using tools such as Ansible, SSH, GIT, and Docker, besides enterprise monitoring system setup and management. The reflection paper reflects on all that was learned during every phase of the course, from virtual machines creation to mastering containerization and OpenStack installation.

During the Prelim phase introduced the basic skills in managing a server, which covered cloud infrastructure and safe access to a server. Some of the major activities involved the creation of virtual machines on Microsoft Azure, setting up SSH key-based authentication, and installing the SSH server on CentOS or RHEL. I learned how to run elevated ad-hoc commands for administrative tasks and was introduced to Ansible for automation configuration management. The creation and implementation of Ansible roles in playbooks helped me structure automation tasks effectively.

The Midterm phase broadened my understanding of Ansible. It delved deeper into targeting specific nodes using Ansible and file management across various servers. I had automated the installation and the configuration of enterprise monitoring systems such as availability, performance, and log monitoring, using Ansible. The critical message was that automation provides the most robust means to attain reliability and performance at large scale.

The final phase shifted focus to containerization and cloud infrastructure. In this phase, I learned the use case of containerization and VMs. For this, I created a sample web app in a Docker container to understand the benefits of portability and isolation. I also learned to install and configure essential components such as Keystone, Glance, Nova, Neutron, Horizon, and Cinder in OpenStack. This phase provided comprehensive knowledge about private cloud management and containerization technologies.

It has been a very rewarding experience to automate the server management. The course developed skills in provisioning, configuration, and monitoring servers as well as automating repetitive tasks within it. Equipped with the tools and knowledge in Ansible, Docker, and OpenStack, it has become easier to handle IT infrastructures effectively and make necessary scaling adjustments. Most important of all, I learned the added value that automation can provide in efficiency, security, and reliability, something vital in today's fast-moving IT world.