

Reflection	
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CPE 212 – CPE31S4	Engr. Robin Valenzuela

My biggest takeaway from this server management course was fundamentally changing how I view system administration. Before, I thought it was all about manually logging into each machine, running commands one by one, and hoping I didn't make a typo. Learning Ansible showed me a better way. I realized I could write code that acts as a blueprint for my entire server environment. It was a struggle at first to wrap my head around concepts like idempotency and inventory grouping, but it finally clicked when I saw a single `ansible-playbook` command configure a web server, a database, and a monitoring tool on different machines all at once. Moving from simple ad-hoc commands to writing complex playbooks and then finally organizing everything into reusable roles felt like leveling up. It taught me that the real skill isn't just knowing the commands, but knowing how to structure automation so that it's reliable, repeatable, and easy for others to understand.

I have to be honest, the path to getting those playbooks to work was often frustrating. I faced a lot of challenges that really tested my patience and problem-solving skills. I can't count how many times a playbook would fail because of a tiny YAML syntax error, like a missing space, and the error message wouldn't always point me to the right line. There were also countless permission and SSH issues where my control node just wouldn't connect to a managed node, leaving me stuck for hours. The midterm exam was particularly tough because I kept running into errors I couldn't immediately fix, and the pressure of the deadline made it hard to think clearly. Even in the later activities, like the Docker one, I hit that "externally-managed-environment" error that completely blocked me until I found a specific workaround online. These struggles were discouraging at the moment, but pushing through them taught me more than any perfectly smooth exercise ever could.

Despite the hurdles, there were several moments that made all the hard work feel worthwhile. I distinctly remember the first time I successfully ran a playbook I built from scratch and saw it install Apache and deploy a webpage on two different servers simultaneously; it was a genuine "wow, I actually did that" feeling. The absolute best moment, however, was after completing the final exam. Pushing that final commit and knowing I had built a playbook that could automatically set up an entire multi-server infrastructure from scratch was incredibly satisfying. This course pushed me to my limits, but it also gave me the confidence that I can automate complex tasks and somehow manage real-world systems effectively.