

Team 14 Report on Effort Expended PA2

While working on this PA, we came across multiple issues and hangups, however with enough troubleshooting we were able to complete it successfully.

The biggest improvement of this PA was the time reduced by using our previous ansible scripts. Since we were more comfortable writing these plays, adding the necessary extra steps for this assignment was relatively easy. In PA 2 this step took us roughly 5 hours, however for PA 3 this step only took about 2-3 hours of work which is far better. This highlights the benefits technologies like ansible offer in terms of automation.

Our next step was configuring the Kubernetes cluster. Initially, this step was not very difficult, as we were able to follow the provided lecture and replicate a majority of the actions. Once we got the cluster set up and went to deploy the pods, we ran into a major issue. We were having DNS and connectivity issues where pods that were not on the same node could not communicate. We spent a very large amount of time troubleshooting this issue, however one fix seemed to spawn even more. This speaks to a major difficulty in distributed systems, the difficulty of debugging. Being fairly inexperienced certainly made this process take even longer. We ultimately decided to start with a clean slate and completely removed kubernetes and docker from our VMs and restarted. We were more careful with our steps and were able to finally deploy the pods and overcome the connectivity issues.

In retrospect, while there was a steep learning curve, this project offered great experience in managing and implementing complex, distributed cloud-based systems. With enough time and research overcoming these obstacles was completely doable and very educational.