Reflection on Project

The process of configuring and deploying a Kubernetes environment using Terraform provided a meaningful opportunity to deepen my understanding of infrastructure-as-code practices and their interaction with live cluster states. A notable challenge arose when Terraform attempted to recreate resources that already existed within the cluster, resulting in the "namespace already exists" error. This issue underscored the importance of maintaining alignment between Terraform's state management and the actual Kubernetes environment, as discrepancies can lead to operational conflicts and failed deployments. Addressing the problem required careful examination of cluster configuration, Terraform state behavior, and the underlying mechanisms of resource reconciliation. Overall, the experience reinforced the value of precision, consistency, and methodical troubleshooting when managing cloud-native infrastructure in a declarative and automated manner.