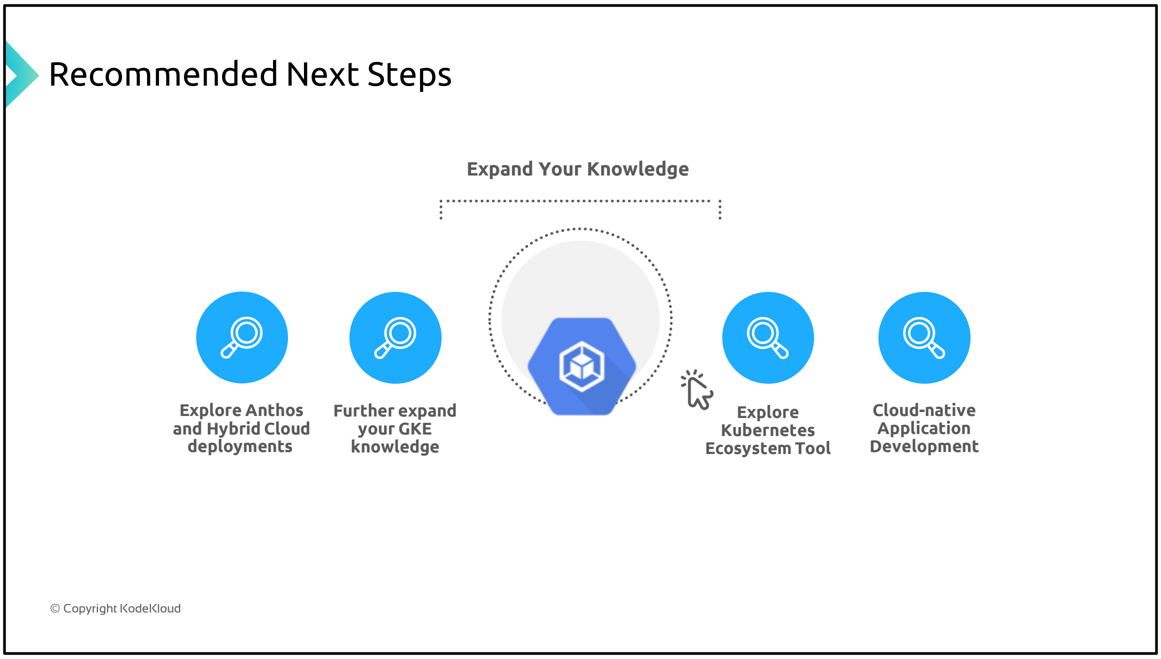
What Next?

Recommended Next Steps

CONGRATULATIONS!

Congratulations on completing the GKE Deep Dive course! You have gained a solid understanding of Google Kubernetes Engine (GKE) and its various aspects. Now, it's time to take your GKE knowledge to the next level and explore further possibilities. Here are some recommended steps to continue your learning journey:



Recommended Next Steps

Expand Your Knowledge
Explore Anthos and Hybrid Cloud deployments
Further expand your GKE knowledge
Explore Kubernetes Ecosystem Tool
Cloud-native Application Development

Further Expand Your GKE Knowledge:

•Dive deeper into GKE's advanced features and capabilities, such as workload identity, pod security policies, and custom resource definitions (CRDs).

•Explore GKE's integration with other Google Cloud services, such as Cloud Functions, Cloud Storage, and BigQuery, to build more robust and scalable applications.

Explore Kubernetes Ecosystem Tools:

•Familiarise yourself with additional tools and frameworks that complement GKE, such as Helm, Kubernetes Operators, and Prometheus for advanced monitoring and observability.

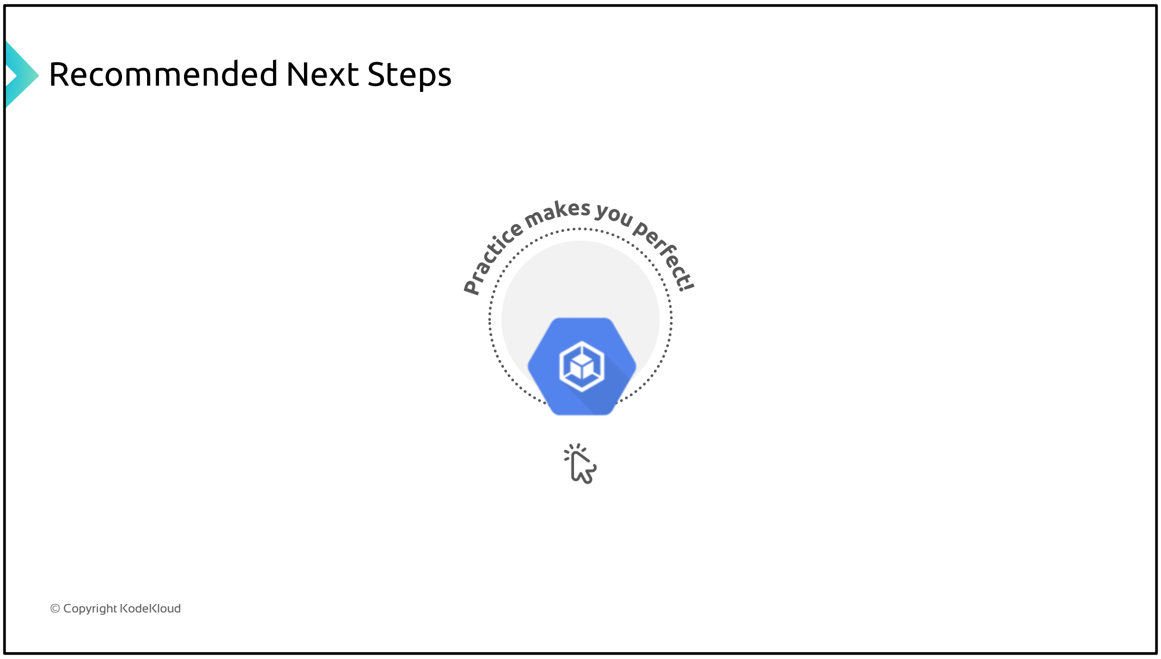
Explore Anthos and Hybrid Cloud Deployments:

•Extend your knowledge of Anthos, Google Cloud's hybrid and multi-cloud platform, which includes GKE as a core component.

•Learn about Anthos Service Mesh, Istio, and other tools for managing and securing microservices architectures across different environments.

Dive into Cloud-native Application Development:

•Deepen your understanding of cloud-native application development principles and explore technologies like serverless computing using Cloud Functions and Cloud Run.



Recommended Next Steps

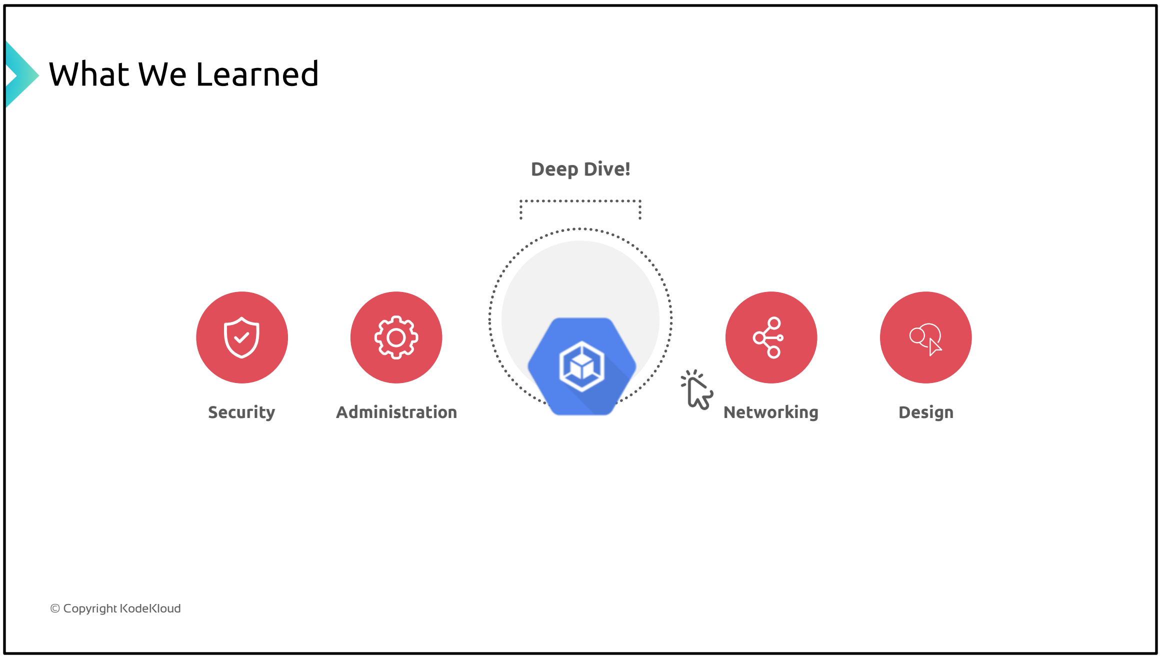
Practice makes you perfect!

Remember, as they say, practice makes you perfect!

Now, it is the time to reinforce your GKE skills by working on real-world projects and exploring relevant documentation and resources provided by Google Cloud.

Thank you for joining us on this GKE Deep Dive course, and we wish you success in your Google Cloud journey!

What Did We Learn?



What We Learned

Deep Dive!

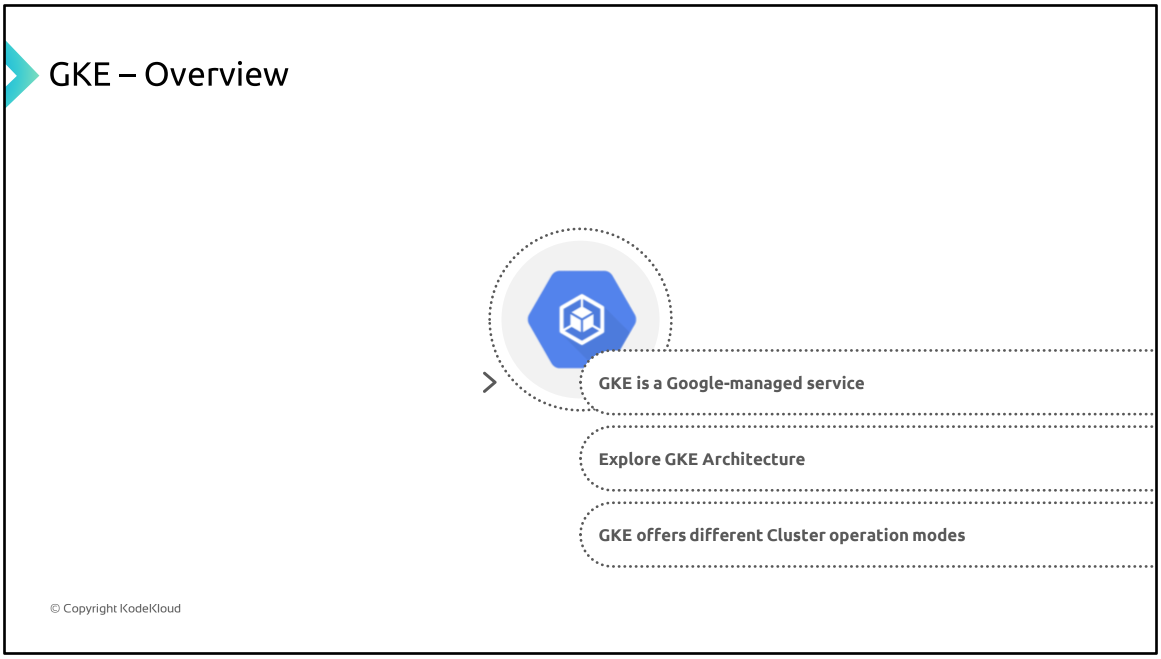
Security

Administration

Networking

Design

Throughout the GKE Deep Dive course, we covered a wide range of topics related to Google Kubernetes Engine (GKE) deployment, administration, networking, security, and design considerations. Let's summarize the key takeaways from each section.



GKE – Overview

GKE is a Google-managed service

Explore GKE Architecture

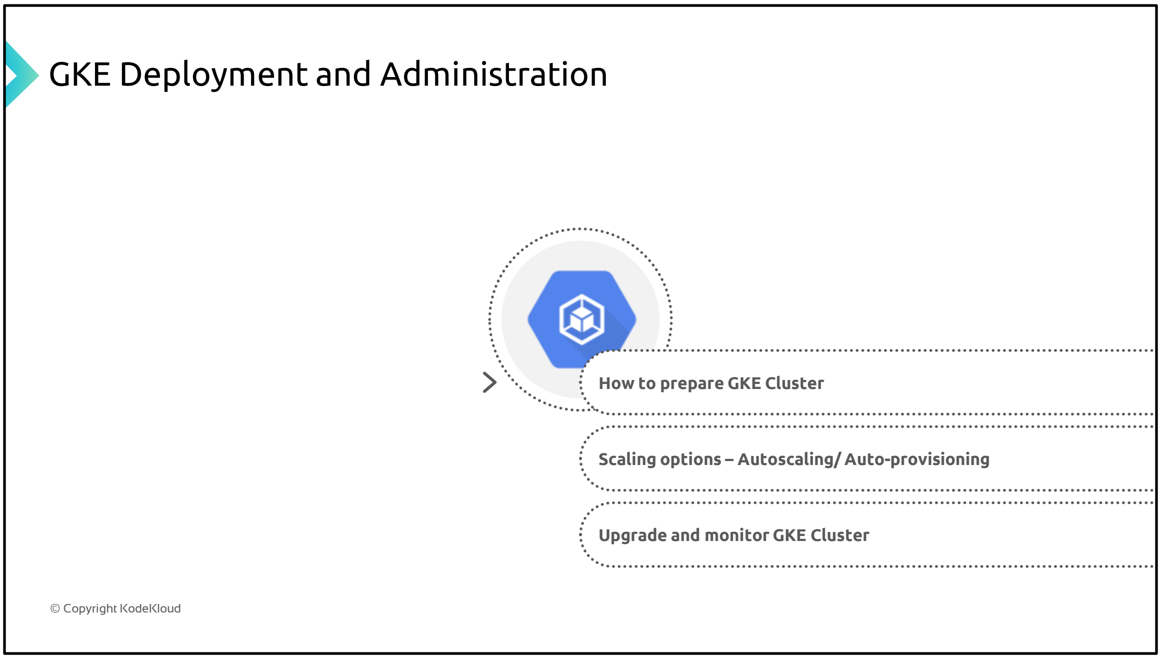
GKE offers different Cluster operation modes

We started by learning about the basics of GKE, including its architecture and different deployment modes.

•GKE is a Google-managed service for running Kubernetes clusters.

•We explored the architecture of GKE and learned about its components.

•GKE offers different cluster operation modes, such as Autopilot and Standard clusters, each with its use cases.



GKE Deployment and Administration

How to prepare GKE Cluster

Scaling options – Autoscaling/ Auto-provisioning

Upgrade and monitor GKE Cluster

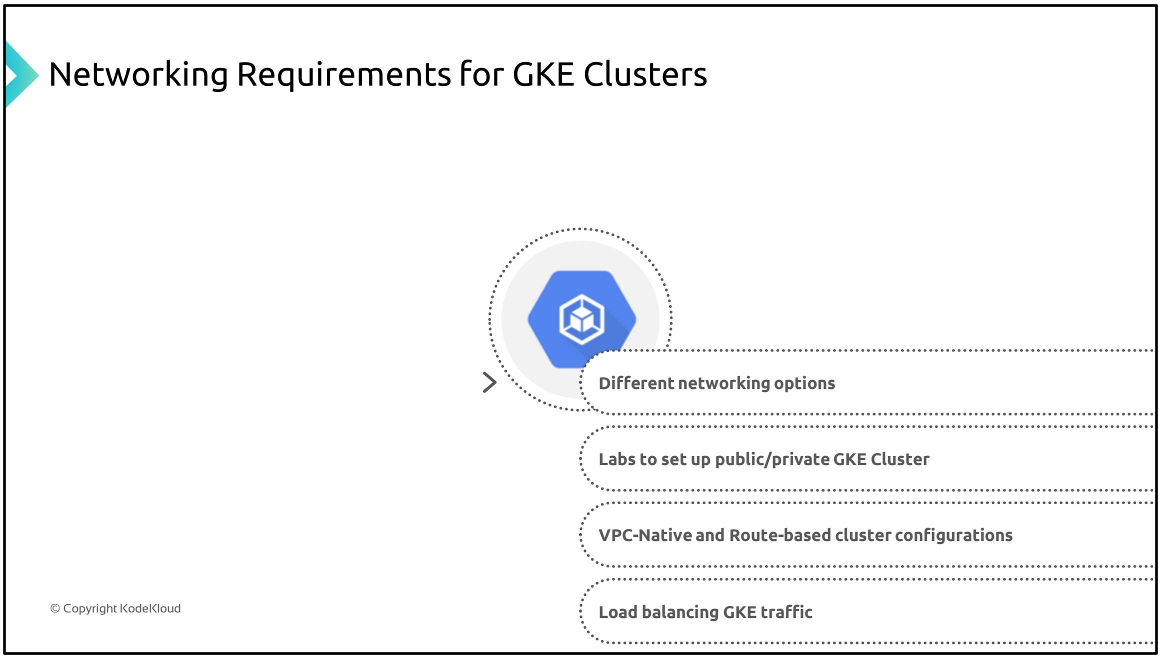
We then moved on to discuss:

- How to prepare a GKE cluster for accessibility and management, including using kubectl, labels, and tags.
- We prepared clusters for accessibility and management, including configuring kubectl, cluster access, and using labels and tags.

- We then discussed scaling options like cluster autoscaling and node auto-provisioning.

- We also covered upgrading GKE clusters and node pools.

- And, we explored monitoring and logging in GKE clusters.



Networking Requirements for GKE Clusters

- Different networking options
- Labs to set up public/private GKE Cluster
- VPC-Native and Route-based cluster configurations
- Load balancing GKE traffic

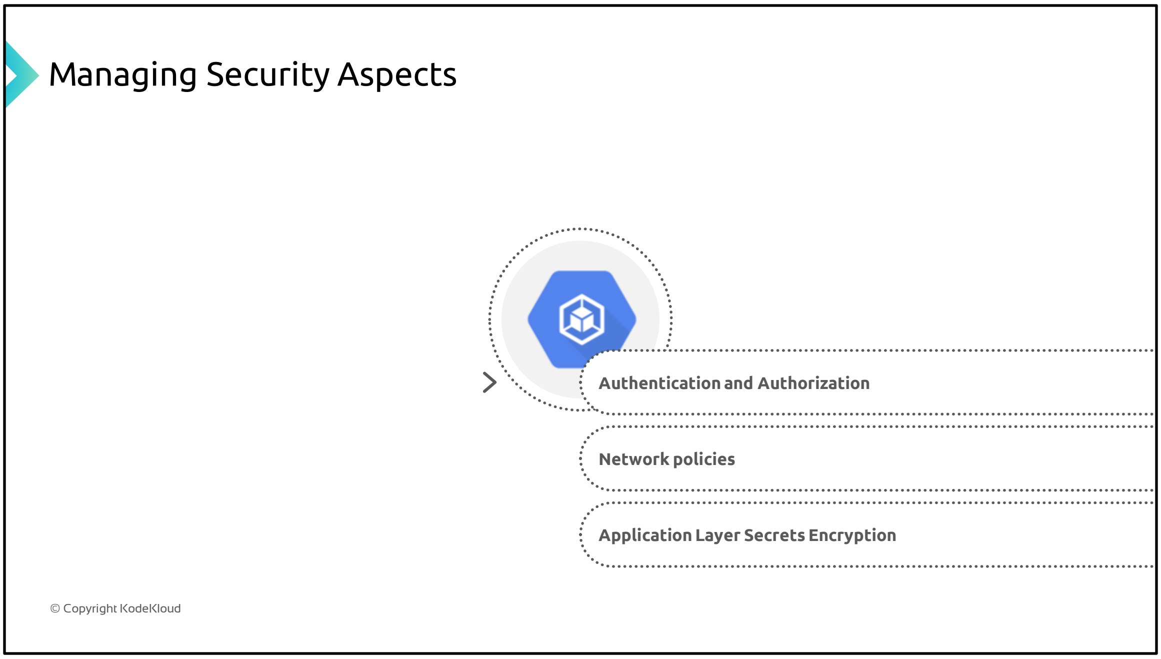
In the networking section, we learned about:

•Different networking options available for GKE clusters, including public and private clusters

•Conducting labs to set up public and private GKE clusters

•VPC-native and route-based cluster configurations

•Load balancing GKE traffic using Ingress and Services



Managing Security Aspects

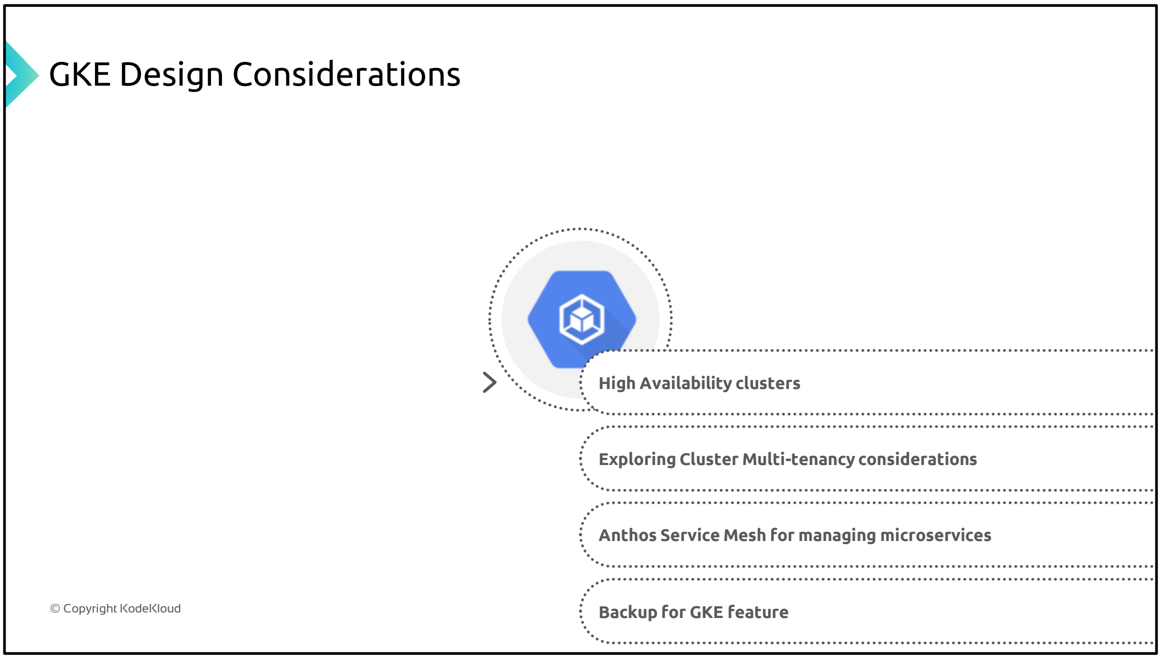
Authentication and Authorization

Network policies

Application Layer Secrets Encryption

The security section covered

- Authentication and authorization methods, including Kubernetes RBAC and GCP IAM,
- Network policies for controlling traffic between pods, and
- Application layer secrets encryption.

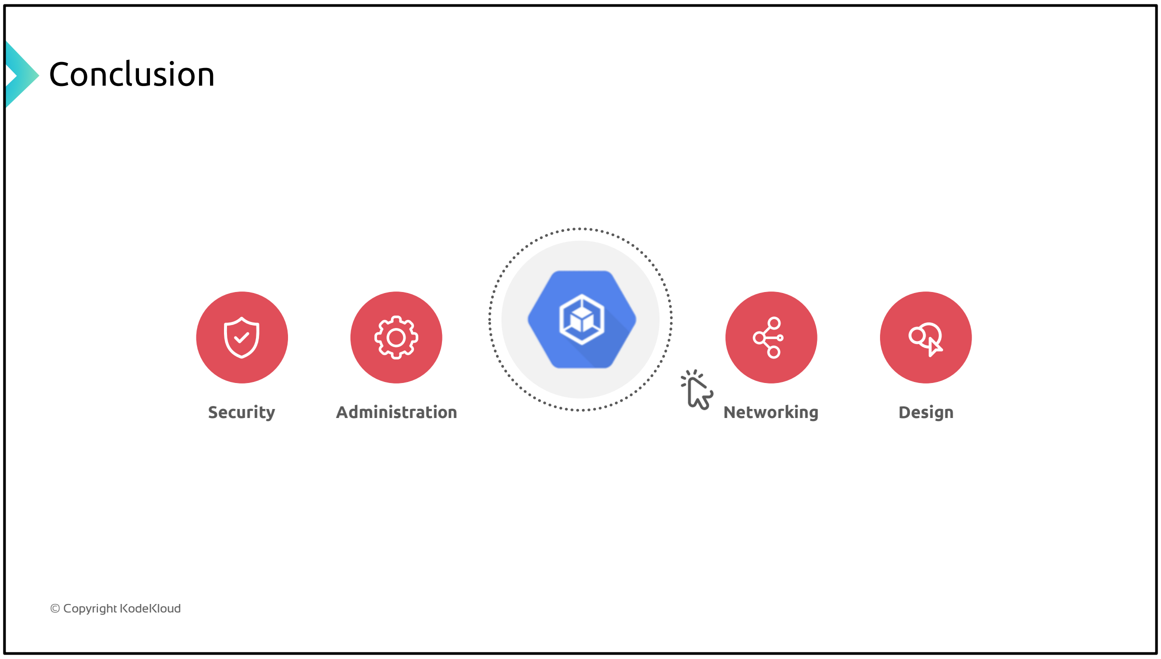


GKE Design Considerations

- High Availability clusters
- Exploring Cluster Multi-tenancy considerations
- Anthos Service Mesh for managing microservices
- Backup for GKE feature

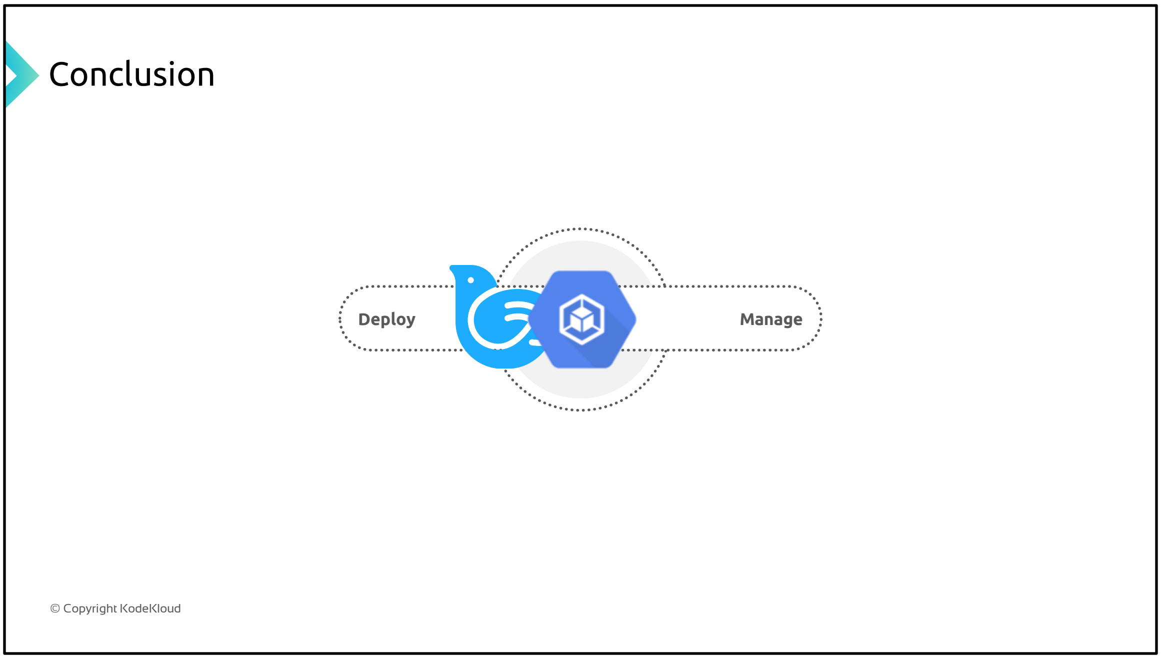
Finally, we discussed some of the design considerations for GKE clusters, such as:

- High availability clusters and their importance in ensuring application resilience
- Exploring Cluster multi-tenancy considerations
- Exploring Anthos Service Mesh for managing microservices communication
- Backup for GKE feature, emphasising the importance of backing up GKE clusters



Conclusion

In conclusion, the GKE Deep Dive course provided a comprehensive understanding of GKE deployment, administration, networking, security, and design considerations.



Conclusion

With this knowledge, you are equipped to deploy and manage robust and secure Kubernetes clusters on GKE, leverage advanced networking features, and make informed design decisions for your applications.

We hope that this course has given you a solid foundation in GKE and that you are now able to deploy and manage GKE clusters in a production environment.