

CCGC 5001 - Virtualization

Course Administration



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Course description

Learn to improve computing systems and services using virtualization. Install, configure, customize, and manage virtualization through practical applications used in an enterprise environment. Explore and examine containers and practice orchestrating them into scalable, highly available applications by the Kubernetes orchestration platform. Discover how to implement and maintain apps within Kubernetes.

Learning outcomes

- Acknowledge the concepts and tools used in virtualized environments.
- Configure and manage ESXi host to create virtual machines (VMs).
- Recognize how to package and run containerized applications into portable and scalable containers.
- Create and manage images from Docker hub registry and run containerized applications in secure and isolated environment.
- Build, push, deploy, and tear down multi-service web applications using Dockerfile and Docker Compose.
- Create and manage container networks for microservice based distributed applications.
- Create persistent storage volumes and mount inside containers.
- Manage and scale applications in a cluster using Kubernetes.
- Apply the knowledge, skills, and abilities to design, implement, and maintain a production-grade Kubernetes cluster.
- Demonstrate the ability to deploy production containers at scale in a cloud environment.

Course outline

Critical path

Course book(s)

Gabriel N. Schenker; "Learn Docker - Fundamentals of Docker 19.x"; Second Edition 2020, Packt Publishing. ISBN: 9781838827472

Elton Stoneman; "Learn Kubernetes in a Month of Lunches"; 1st Edition, 2021, Manning Publications. ISBN: 9781617297984

Academic integrity

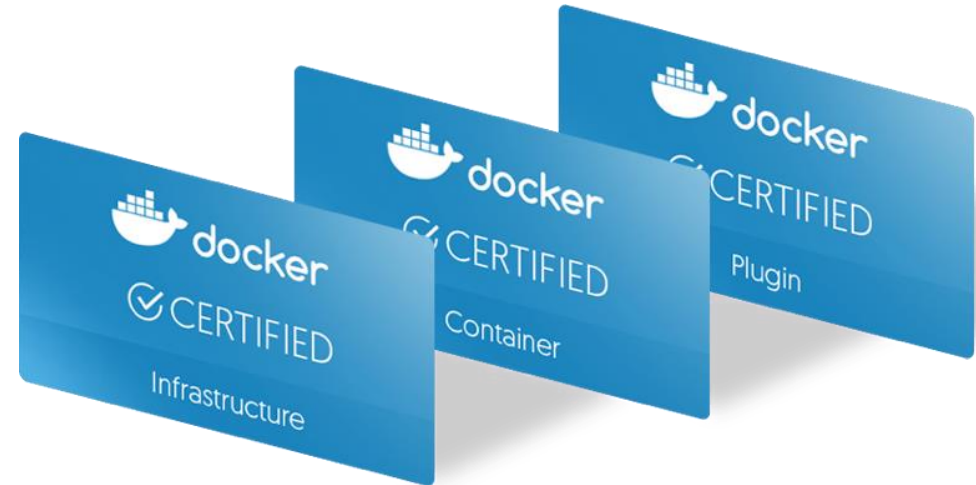
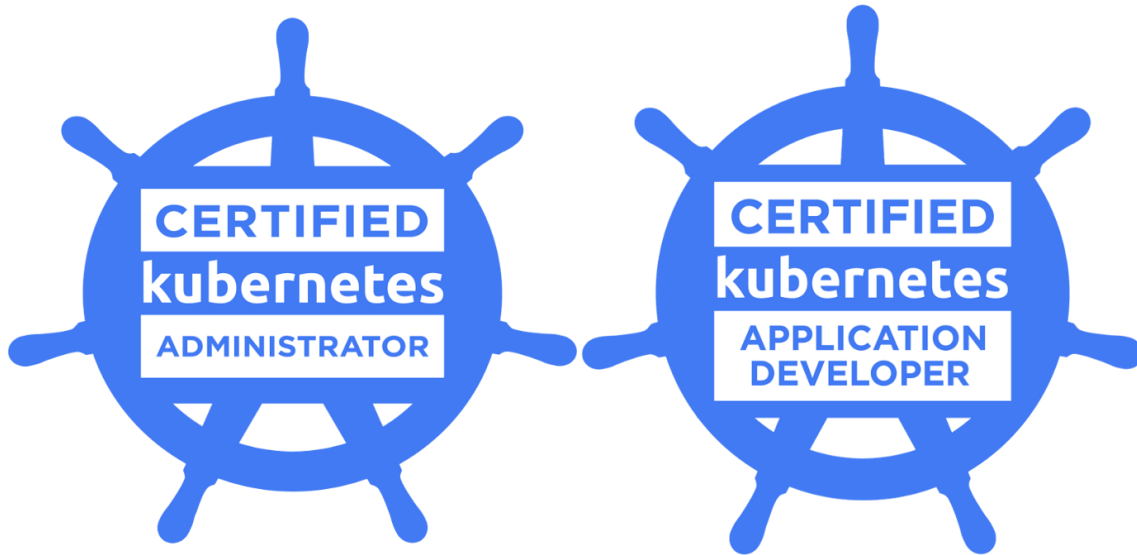
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Additional Information

For additional information, visit the [Academic Misconduct section of Humber's Academic Regulations](#).

Professional development



Office hours

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Thank you