

Experiment No. 6

Title: Application deployment using Kubernetes (PaaS)

Batch: A2 Roll No:16010421073 Experiment No: 6

Aim: Nodejs application deployment using Kubernetes (PaaS)

Resources needed: killercoda (online playground)

Theory:

Kubernetes is a portable, extensible, open source platform for managing containerized workloads and services that facilitates both declarative configuration and automation. It has a large, rapidly growing ecosystem. Kubernetes services support and tools are widelyavailable.

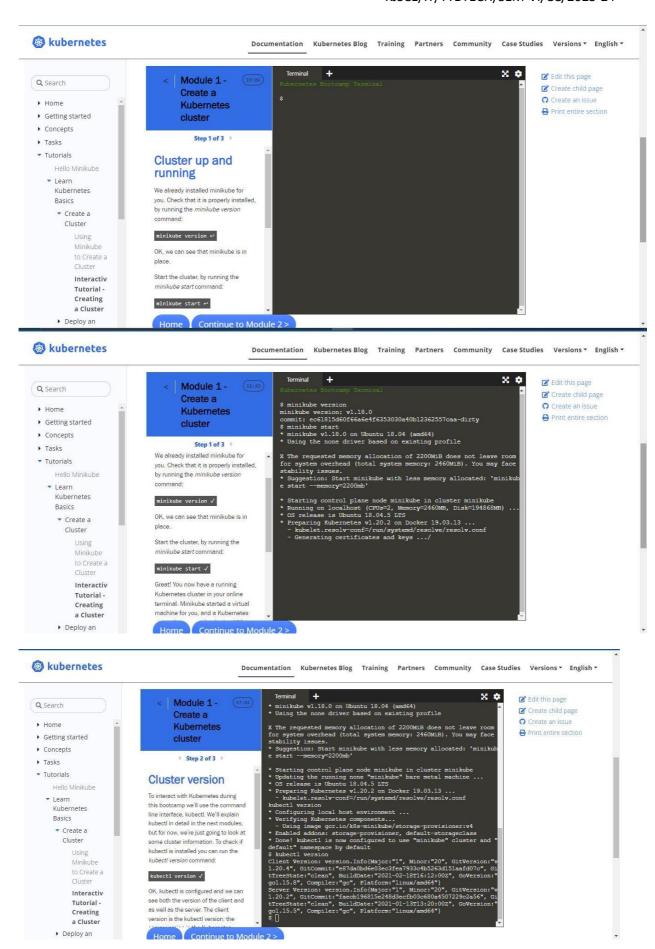
Kubernetes Basics Modules

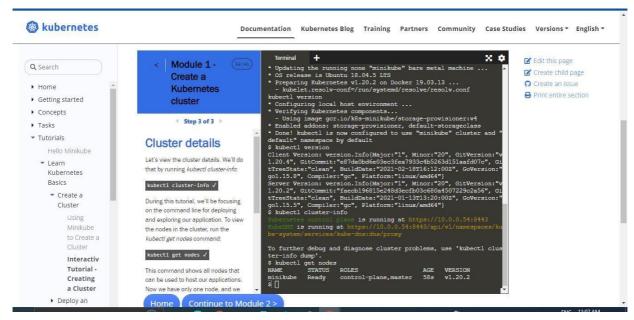


Procedure:

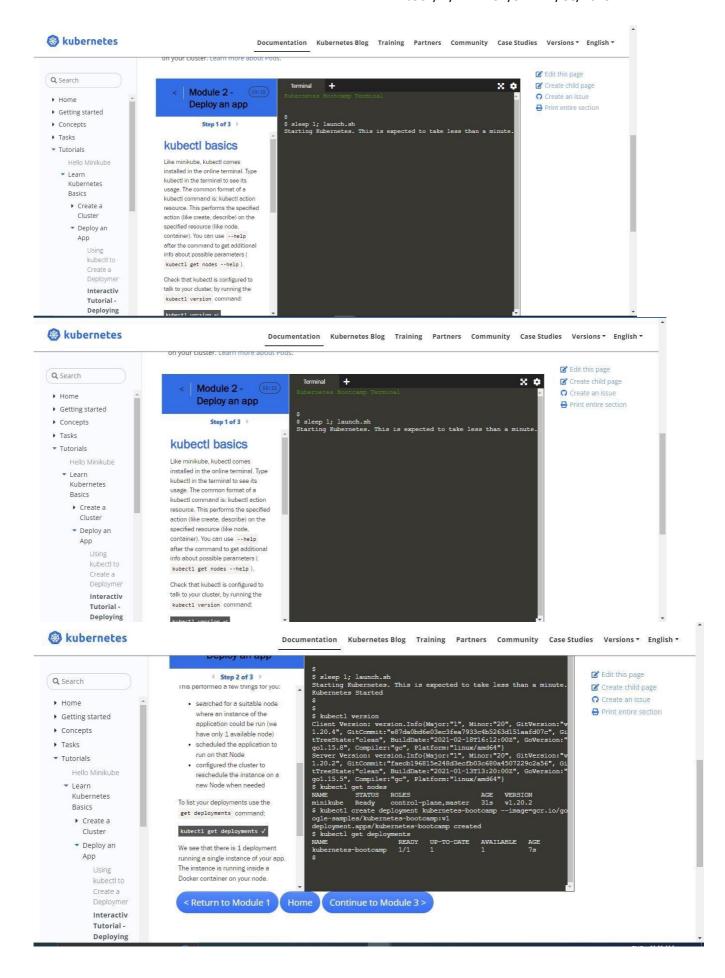
- 1. Explore all 1 to 4 modules
- 2. 10 kubctl commands on killercoda (online playground)
- 3. Deploy an app on killercoda (online playground)
- 4. Explore and Expose an app

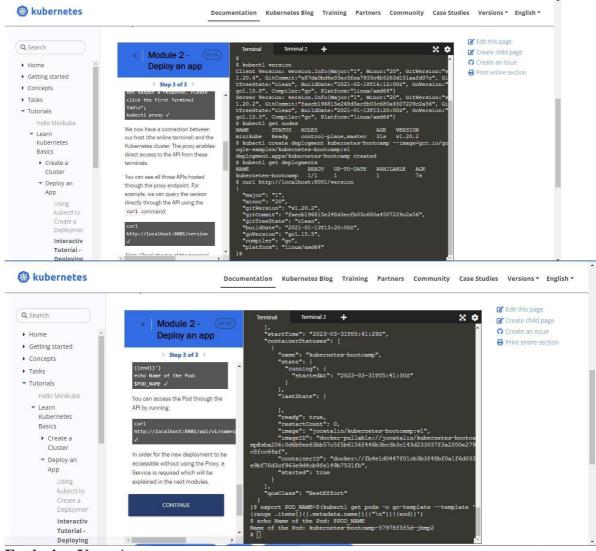
Results: (Program / Steps with screenshots)



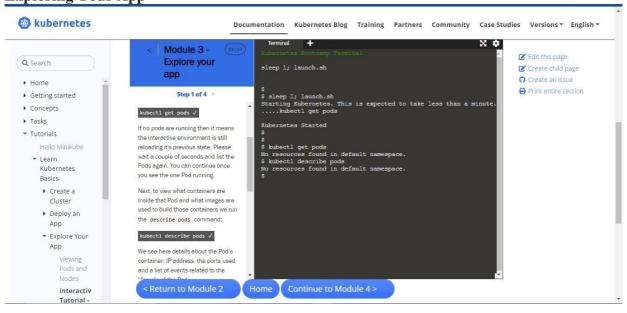


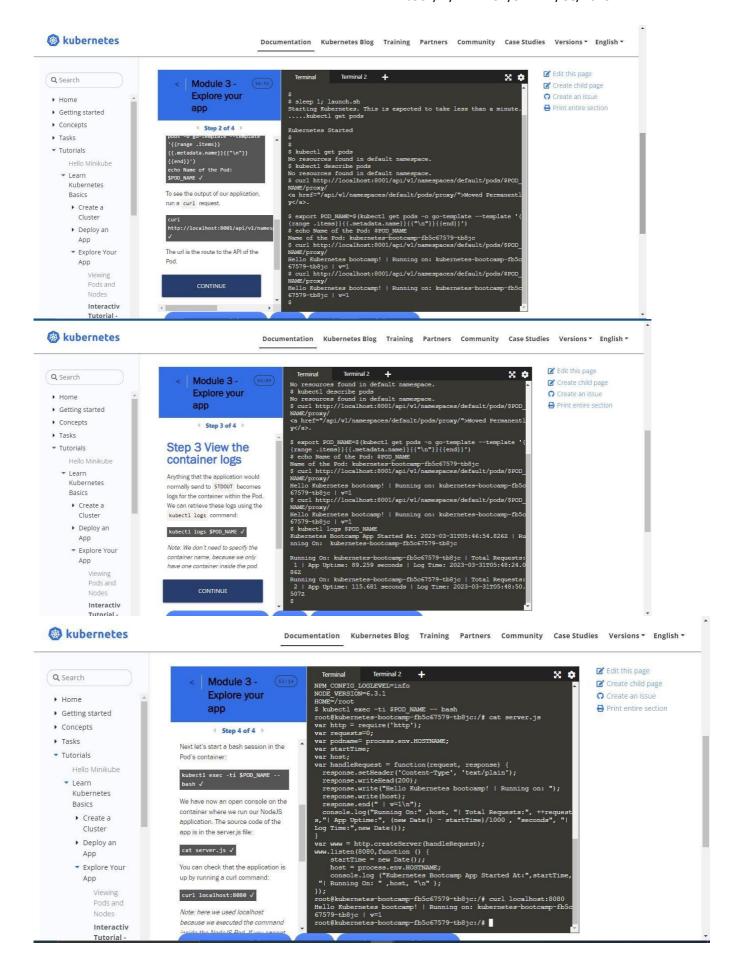
Module 2 - Deploy an app

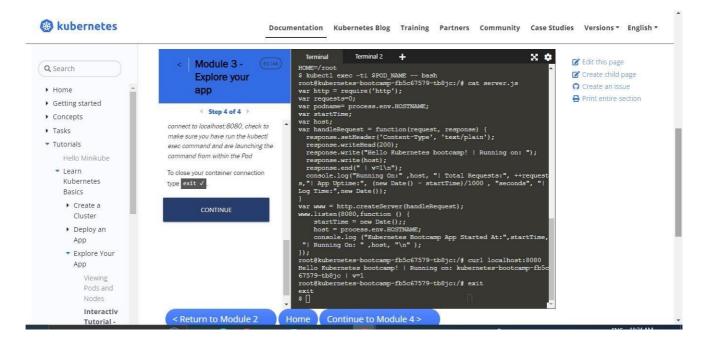




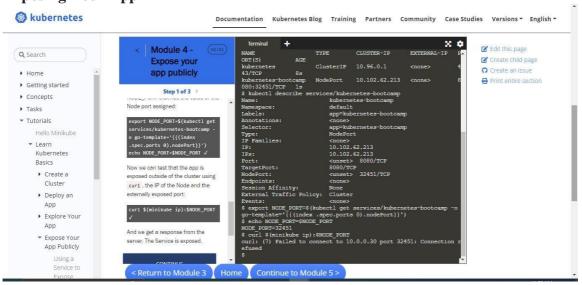
Exploring Your App

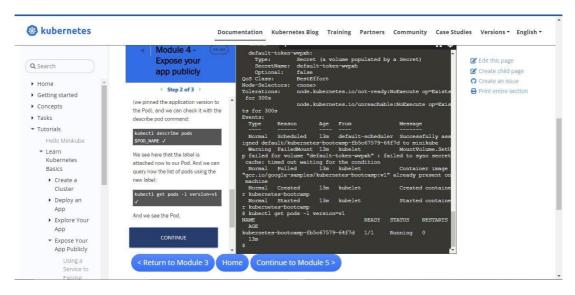


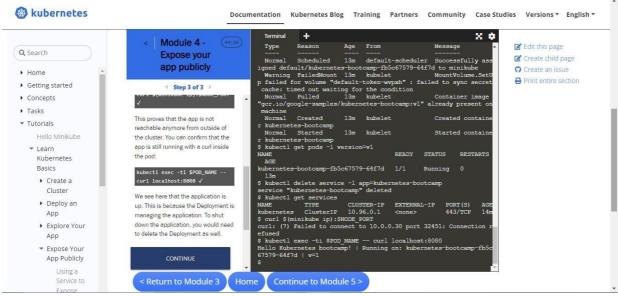


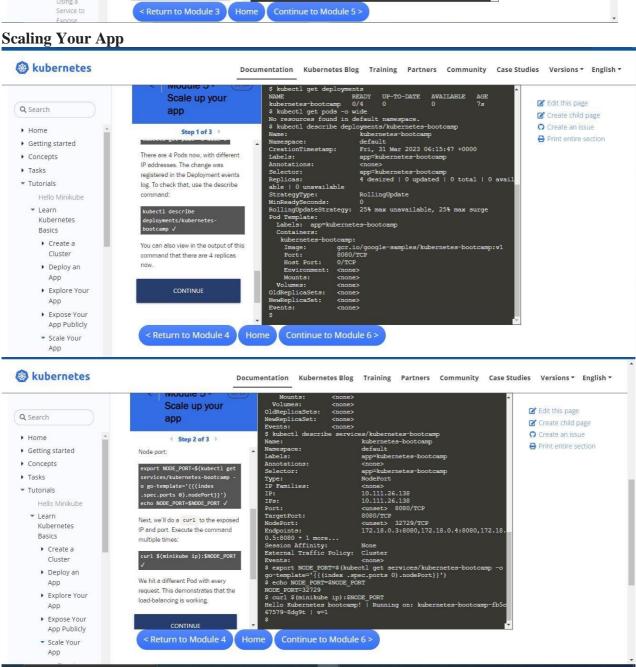


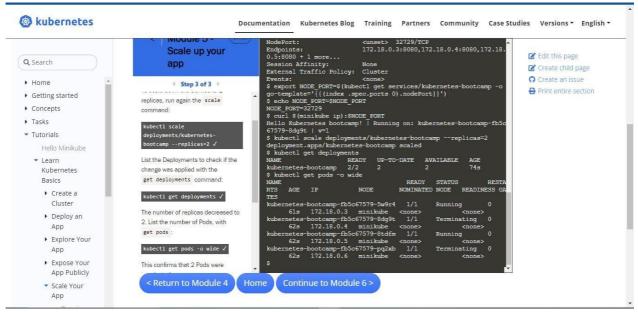
Exposing Your App

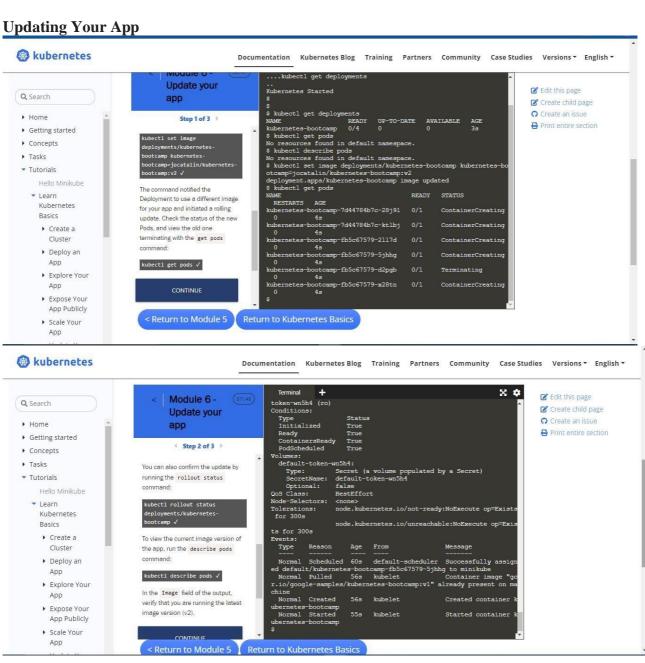


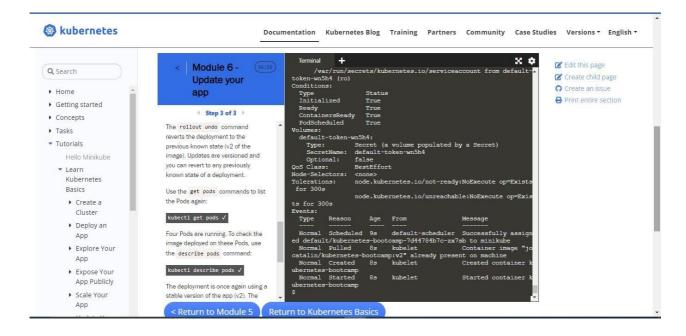












Questions:

Q1. Explain microservices with an example.

Microservice architecture is a distinctive method of developing software systems that tries to focus on building single-function modules with well-defined interfaces and operations. The trend has grown in recent years as enterprises look to become more Agile and move towards a DevOps and continuous testing.

Microservices have many benefits for Agile and DevOps teams - as Martin Fowler points out, Netflix, eBay, Amazon, Twitter, PayPal, and other tech stars have all evolved from monolithic to microservices architecture.

Example: Netflix has a widespread architecture that has evolved from monolithic to SOA. It receives more than one billion calls every day, from more than 800 different types of devices, to its streaming-video API. Each API call then prompts around five additional calls to the backend service.

Amazon has also migrated to microservices. They get countless calls from a variety of applications – including applications that manage the web service API as well as the website itself – which would have been simply impossible for their old, two-tiered architecture to handle

Outcomes:	
CO2 Study the Evolution of Cloud Computing and its models	
Conclusion:	
Thus, I have deployed application using Kubernetes.	
Grade: AA / AB / BB / BC / CC / CD /DD	
Signature of faculty in-charge with date	
References:	
Websites: • https://kubernetes.io/docs/tutorials/kubernetes-basics/	