Project Design Phase-1

Solution Architecture

Date	06 May 2023
Team ID	NM2023TMID19967
Project Name	Optimized Supply Chain Solutions :Streamlining Operations and Elevating Efficiency

Solution Architecture:

Cluster:

- Clustering is used to identify groups of similar objects in datasets with two or more variable quantities.

Kubernetes:

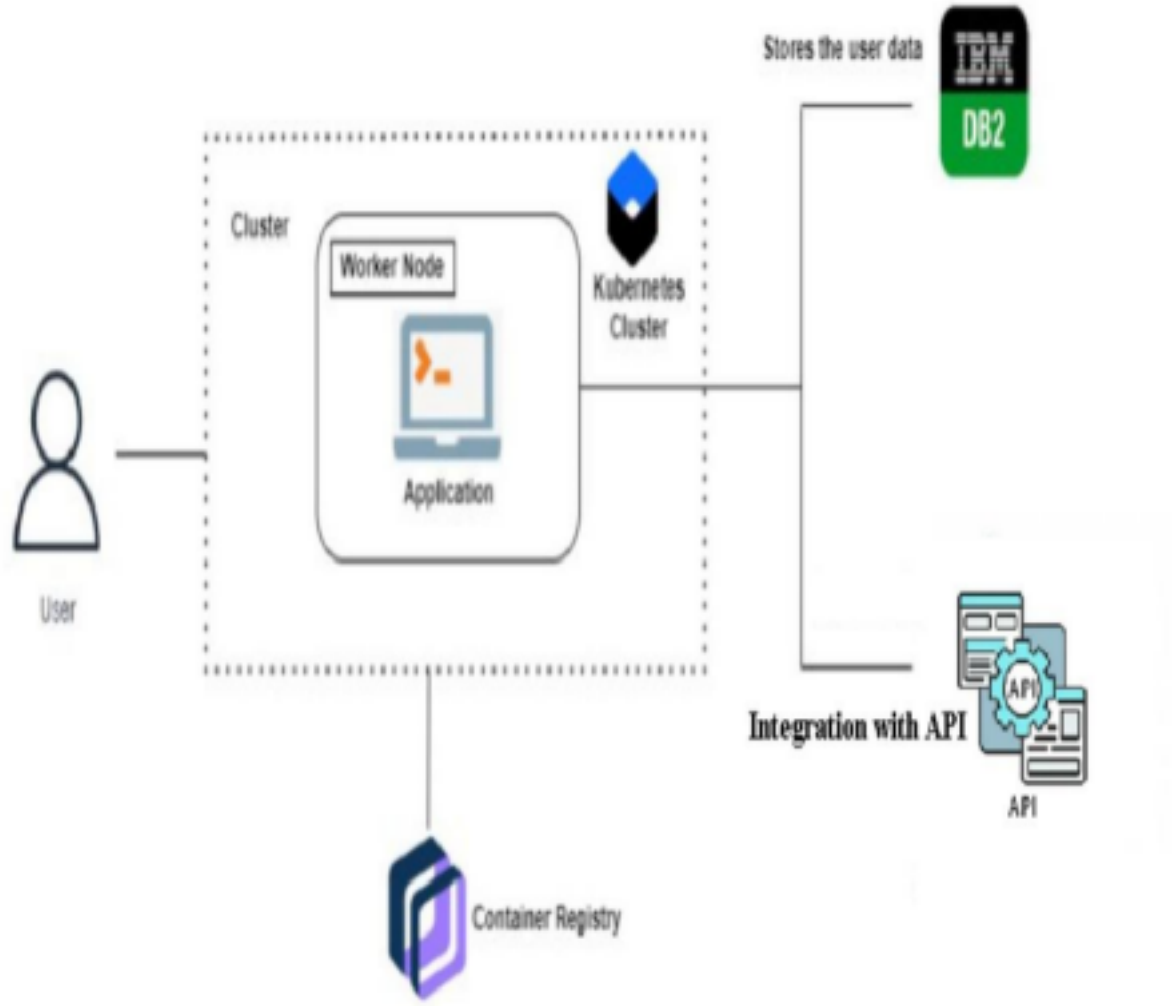
- Kubernetes check constantly the health of nodes and containers.
- **Horizontal scaling**: Kubernetes allows you scaling resources not only vertically but also horizontally, easily and quickly.
- Kubernetes clusters allow containers to run across multiple machines and environments: virtual physical, cloud-based and on-premises.
- **Container registry**: container Registry stores its tags and layer files for container images in a Cloud Storage bucket in the same project as the registry. Access to the bucket is configured using Cloud Storage's identity and access management (IAM)settings.

API:

- An application programming interface (API) is a messenger that processes request and ensures seamless functioning of enterprise systems. API enables interaction between data, applications and facilities connectivity between devices and programs. Determine the Business's Systems and Goals. Management should understand what operations need improvement and how API integration will provide the solution.

WORKER NODE:

- Worker nodes within the Kubernetes cluster are used to run containerized applications and handle networking to ensure that traffic between applications across the cluster can be properly facilitated.



Solution Architecture Diagram