Day 22 Revisit

- Pub/Sub Model – Publish & Subscribe
- Producer/Consumer Pattern
- Producer produce data
- Consumer consumes data
- Writer & Reader [Write & Read Operation]
- Kafka – Open Source, distributed Event Streaming platform.
- Kafka Installation.
- Event Streaming VS Message Queue (Kafka vs RabbitMQ)
- Started Zookeeper (Monitoring Data & Process) server & Kafka Server.
- Created event with Kafka Producer.
- Consumed it with kafka Consumer.
- File Handling with Kafka connect tool.
- Streams handling with Kafka.
- Kafka with SpringBoot and demo.
- Kafka – Digital version of human body nervous system.
- Installed Docker Desktop by enabling Hyper-V, WSL2

Day 23 Agenda

- Docker
- Introduction to Docker
- Docker Architecture
- The Docker Hub
- Docker Installation
- Creating Our First Image
- Working with Multiple Images
- Containers
- Packaging A Customized Container
- Running Container Commands with Docker
- Exposing Our Container with Port Redirects
- Exercise: Exercise: Installation and Image Setup
- Exercise: Exercise: Creating Images from Containers
- Exercise: Exercise: Exposing Container Ports to the Host
- Docker Hub, Docker Compose

Docker - https://www.docker.com/

Docker is one of the DevOps Tool.

DevOps = Development + Operations

Docker is a containerization Tool,

Images & Containers

Virtual Machine – A Machine in Cloud/OS installed in the current OS.

IaaS or PaaS – Virtual Machine.

IaaS – Infrastructure as a Service

PaaS – Platform as a Service

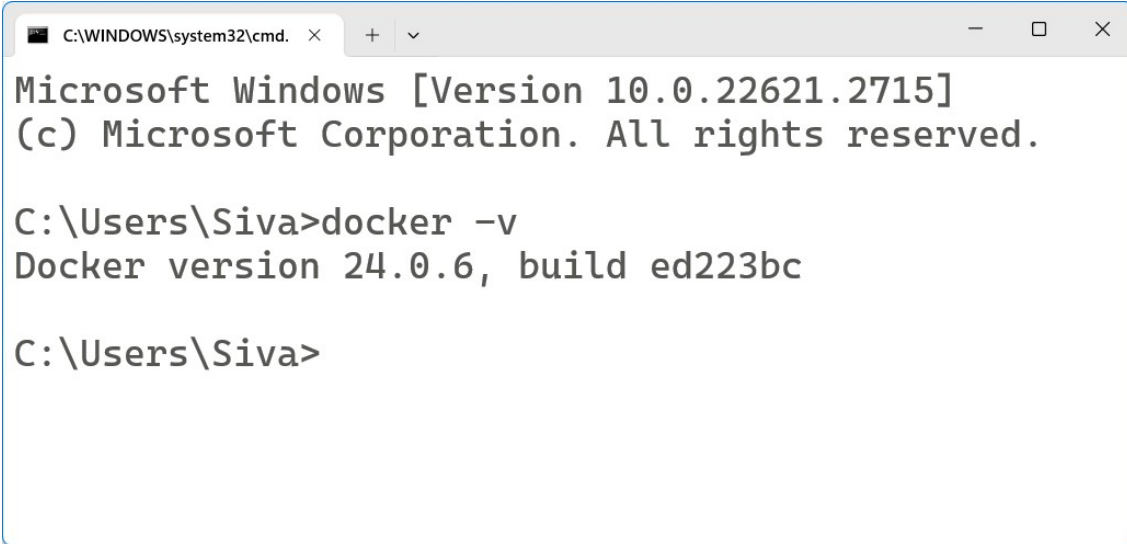SaaS – Software as a Service

Dual Booting/ Multi Partition.

Virtualization Tools – It helps in Installing another OS inside the current OS.

Actually installed one is called as Host – Virtual one is called as guest/client/node.

Docker Client [CLI Client/GUI Client (Docker Desktop)]

Docker CLI client. [Normal Command prompt having the power to execute docker commands]

1) Docker Client
2) Docker HOST (Server/Engine) [Docker Deamon, Images, Containers]
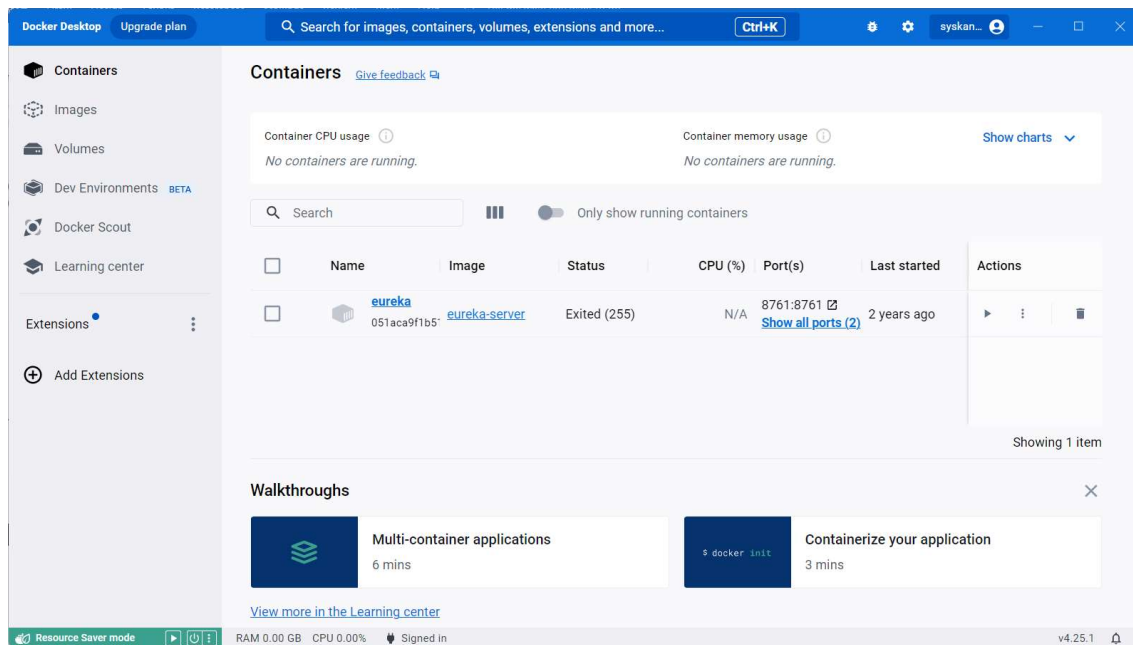3) Docker Hub/Registry (hub.docker.com) [Cloud Image Storage Service]

```
C:\WINDOWS\system32\cmd.   ✕    +   ⌄                          —   ☐   ✕

Microsoft Windows [Version 10.0.22621.2715]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Siva>docker -v
Docker version 24.0.6, build ed223bc

C:\Users\Siva>
```

Docker Desktop (GUI Client)

Images VS Containers

Images – Is a single file which contains everything to run the code (Class)

Container – Is a running version of images. (Object)

https://geekflare.com/docker-architecture/