(TR-102) MASTERING THE SEMANTIC WEB –

Training Day 19 Report :

9 July 2024

Introduction to Docker:

Docker is an open-source platform that automates the deployment, scaling, and management of applications using containerization. Containers package an application and its dependencies together, ensuring that it runs consistently across different environments. This approach solves the problem of "it works on my machine" by providing a standardized unit of software.

Key Components:

- Docker Engine: The runtime that allows users to build and run containers.
- Docker Images: Read-only templates used to create containers. Images contain everything needed to run a piece of software, including the code, runtime, libraries, and configurations.

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- Docker Containers: Lightweight, standalone, and executable packages that run a piece of software. Containers are created from Docker images.
- Dockerfile: A script containing a series of instructions on how to build a Docker image.

Introduction to Docker Hub:

Docker Hub is a cloud-based place where users can find and share container images. It provides:
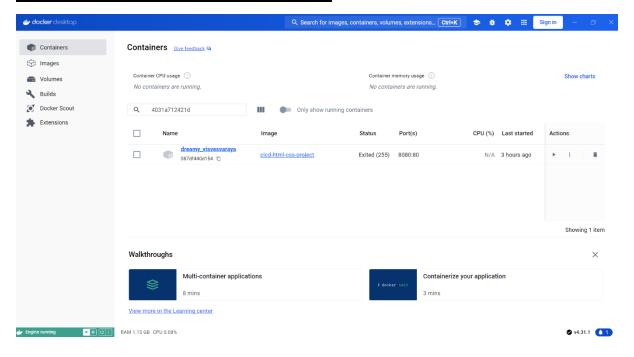
- Public Repositories: Where users can share images with the community.
- Private Repositories: For storing personal images.
- Automated Builds: Automatically create container images from GitHub or Bitbucket repositories.
- Official Images: Curated and maintained by Docker, these images provide a range of software applications and tools.

Docker Installation

- Download Docker Desktop from the [official Docker website.](#)
- Run the installer and follow the on-screen instructions.
- Start Docker Desktop from the Start menu.

Docker Desktop Setup:

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