- Images : An image is a read-only template with instructions for creating a Docker container

- Container : A container is a runnable instance of an image

- Repository : A Docker repository is where you can store 1 or more versions of a specific Docker image

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A Docker Registry (like GitHub) can contain multiple repositories (Repository), each repository can contain multiple tags (Tag), and each tag corresponds to an image.

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\*\*\*\*\*\*\*\* How can pull a image and run it \*\*\*\*\*\*\*\*\*

- pull image hello-world from remote to local

docker pull library/hello-world

- select images

docker images

- run image

docker run hello-world

- you can see this message that means Successed

Hello from Docker!

This message shows that your installation appears to be working correctly.

Diagram

Description automatically generated

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Docker Architecture

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- **Docker Client** : The Docker client is the primary way that many Docker users interact with Docker

- **Docker Daemon** : The Docker daemon listens for Docker API requests and manages Docker objects such as images, containers, networks, and volumes.

- **Docker Imag**e : An image is a read-only template with instructions for creating a Docker container. An image cant be modified (because read-only).

* Create a new image
* Download and use an existing image
* Download , update and create a new image

- **Docker Container** : A container is a runnable instance of an image

- **Docker Registry** : A Docker registry stores Docker images

Diagram

Description automatically generated

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Docker Command

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- List Docker Commands

docker

- pull image

docker pull image\_name (e.g : docker pull library/hello-world)

- remove image (stop container , remove container and last remove image)

docker rmi image\_name

- pull image and Tag

docker pull image\_name: tag\_name

- list images

docker images

- list containers running

docker ps (-a) : -a means all containers including not running

- start , restart, stop and remove a container

docker start container\_name/container\_id

docker restart container\_name/container\_id

docker stop container\_name/container\_id

docker rm container\_name/container\_id

- enter a container

docker attach container\_name/container\_id

Diagram

Description automatically generated

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Dockerfile

Docker can build images automatically by reading the instructions from a Dockerfile

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I don't know how to use it yet now, I will add it later