Docker Concept

Zero To Millionaire

Docker Basic Commands with Examples and Explanations:

1. docker --version

   o Displays the installed Docker version.

   o docker --version

2. docker pull

   o Downloads a Docker image from a registry like
     Docker Hub.

   o docker pull ubuntu

3. docker images

   o Lists all available images on your system.

   o docker images

4. docker rmi <image_id>

   o Removes a Docker image by its ID.

   o docker rmi abc123

5. docker ps

   o Lists all running containers.

   o docker ps

6. docker ps -a

   o Lists all containers, including stopped ones.

   o docker ps -a

7. docker run <image_name>

- o Creates and starts a new container from a specified image.
- o docker run ubuntu

8. docker run -it <image_name>

- o Starts an interactive container session.
- o docker run -it ubuntu /bin/bash

9. docker start <container_id>

- o Starts an existing stopped container.
- o docker start abc123

10. docker stop <container_id>

- o Stops a running container.
- o docker stop abc123

11. docker restart <container_id>

- o Restarts a running or stopped container.
- o docker restart abc123

12. docker rm <container_id>

- o Removes a stopped container.
- o docker rm abc123

13. docker exec -it <container_id> <command>

- o Executes a command in a running container.
- o docker exec -it abc123 /bin/bash

14. docker logs <container_id>

- Displays the logs of a container.
- docker logs abc123

15. **docker inspect <container_id>**
    - Provides detailed information about a container.
    - docker inspect abc123

16. **docker build -t <image_name> <Dockerfile_path>**
    - Builds an image from a Dockerfile.
    - docker build -t my_image .

17. **docker tag <image_id> repository:tag**
    - Tags an image for a repository.
    - docker tag abc123 myrepo/myimage:v1

18. **docker push repository:tag**
    - Pushes an image to a Docker registry.
    - docker push myrepo/myimage:v1

19. docker pull repository:tag
    - Pulls an image from a Docker registry.
    - docker pull myrepo/myimage:v1

20. docker network ls
    - Lists all Docker networks.
    - docker network ls

21. docker network create <network_name>
    - Creates a new Docker network.

- docker network create my_network

22. docker network rm <network_name>

- Removes an existing Docker network.

- docker network rm my_network

23. docker volume ls

- Lists all Docker volumes.

- docker volume ls

24. docker volume create <volume_name>

- Creates a new Docker volume.

- docker volume create my_volume

25. docker volume rm <volume_name>

- Removes a Docker volume.

- docker volume rm my_volume

26. docker-compose up

- Starts services defined in a docker-compose.yml file.

- docker-compose up

27. docker-compose down

- Stops and removes services created by Docker Compose.

- docker-compose down

28. docker-compose ps

o Lists the status of Docker Compose services.

o docker-compose ps

29.   docker commit <container_id> <new_image_name>

o Creates a new image from a container's changes.

o docker commit abc123 my_image:v2

30.   docker system prune

o Removes unused data (stopped containers, networks, etc.).

o docker system prune

31.   docker stats

o Displays a live stream of container resource usage statistics.

o docker stats

32.   docker save -o <output_file> <image_name>

o Saves an image to a tar archive.

o docker save -o my_image.tar my_image:v1

33.   docker load -i <input_file>

o Loads an image from a tar archive.

o docker load -i my_image.tar

34.   docker export <container_id> -o <output_file>

o Exports a container's filesystem to a tar archive.

o docker export abc123 -o container_fs.tar

35. docker import <input_file>

- o Imports a container's filesystem from a tar archive as an image.

- o docker import container_fs.tar

36. docker pause <container_id>

Pauses all processes within a container.

docker pause abc123

37. docker unpause <container_id>

Unpauses a paused container, resuming its processes.

docker unpause abc123

38. docker rename <old_name> <new_name>

Renames an existing container.

docker rename old_container_name
new_container_name

39. docker update <container_id> --cpus <value>

Updates the resource limits for a container (e.g., CPU).

docker update abc123 --cpus 2

40. docker attach <container_id>

Attaches to a running container's standard input, output, and error streams.

docker attach abc123

41. docker cp <container_id>:/path/to/file
<host_destination>

Copies files from a container to the host machine.

docker cp abc123:/var/log/nginx.log /home/user/nginx.log

42. docker diff <container_id>

Shows the changes made to a container's filesystem.

docker diff abc123

43. docker login

Logs into a Docker registry (Docker Hub or private).

docker login

44. docker logout

Logs out from a Docker registry.

docker logout

45. docker history <image_name>

Displays the history of an image's layers.

docker history ubuntu

46. docker export <container_id> -o <filename.tar>

Exports a container's filesystem as a tar archive.

docker export abc123 -o container_backup.tar

47. docker import <filename.tar> <image_name>

Imports a tarball as a Docker image.

docker import container_backup.tar new_image_name

48. docker commit <container_id> <image_name>

Creates a new image from a container's changes.

docker commit abc123 my_custom_image

49.   docker exec <container_id> <command>

Executes a command inside a running container.

docker exec abc123 ls /app

50.   docker stats

Displays a live stream of resource usage statistics for running containers.

docker stats

51.   docker events

Displays real-time events from the Docker daemon.

docker events

52.   docker version

Displays the Docker version information.

docker version

53.   docker info

Displays system-wide information about Docker.

docker info

54.   docker wait <container_id>

Blocks until a container stops, then prints the exit code.

docker wait abc123

55.   docker prune

Cleans up unused containers, networks, images
(dangling), and volumes.

docker system prune

56.   docker image prune

Removes unused or dangling images.

docker image prune

57. docker volume prune

Removes unused volumes.

docker volume prune

58.   docker network prune

Removes unused networks.

docker network prune

59.   docker network create <network_name>

Creates a new network for containers.

docker network create my_network

60.   docker network ls

Lists all available Docker networks.

docker network ls

61.   docker network inspect <network_name>

Shows detailed information about a specific network.

docker network inspect my_network

62.   docker volume create <volume_name>

Creates a new Docker volume.

docker volume create my_volume

63.   docker volume ls

Lists all Docker volumes.

docker volume ls

64.   docker volume inspect <volume_name>

Shows detailed information about a specific volume.

docker volume inspect my_volume

65.   docker-compose up

Starts containers defined in a docker-compose.yml file.

docker-compose up

66.   docker-compose down

Stops and removes containers, networks, images, and
 volumes created by docker-compose up.

docker-compose down

67.   docker-compose build

 Builds or rebuilds services defined in the docker-
 compose.yml file.

docker-compose build

68.   docker-compose stop

Stops running containers without removing them.

docker-compose stop

69. docker-compose restart

Restarts all services in a docker-compose setup.

docker-compose restart

70. docker-compose ps

Lists all containers in a docker-compose environment.

docker-compose ps

71. docker-compose logs

Displays output from the running containers managed by docker-compose.

docker-compose logs

72. docker-compose rm

Removes stopped service containers.

docker-compose rm

73. docker-compose pull

Pulls images for services defined in the docker-compose.yml file.

docker-compose pull

74. docker-compose exec <service_name> <command>

Executes a command inside a running service container.

docker-compose exec web ls /app

75. docker-compose scale <service_name>=<num_instances>

Scales the number of containers for a service.

docker-compose scale web=3

76. docker tag <image> <new_image_tag>

Tags an image with a new tag.

docker tag my_image my_image:v2

77. docker save -o <filename.tar> <image_name>

Saves an image to a tar archive.

docker save -o my_image.tar my_image

78. docker load -i <filename.tar>

Loads an image from a tar archive.

docker load -i my_image.tar

79. docker stop $(docker ps -q)

Stops all running containers.

docker stop $(docker ps -q)

80. docker rm $(docker ps -a -q)

Removes all stopped containers.

docker rm $(docker ps -a -q)

81. docker rmi $(docker images -q)

Removes all images.

docker rmi $(docker images -q)

82.   docker rename <old_container_name> <new_container_name>

Renames a running or stopped container.

docker rename my_old_container my_new_container

83.   docker update --cpu-shares <value> <container_id>

Updates CPU shares for a container.

docker update --cpu-shares 512 abc123

84.   docker update --memory <value> <container_id>

Updates memory limit for a container.

docker update --memory 512m abc123

85.   docker daemon

Runs the Docker daemon manually (typically done automatically).

docker daemon

86.   docker logs -f <container_id>

Follows the logs of a container in real-time.

docker logs -f abc123

87.   docker history <image_name>

Shows the history of an image's layers.

docker history ubuntu

88.   docker inspect <container_id>

Shows detailed information about a container or image.

docker inspect abc123

89. docker diff <container_id>

Shows changes made to a container's filesystem.

docker diff abc123

90. docker cp <container_id>:<source_path> <destination_path>

Copies files from a container to the host system.

docker cp abc123:/app/file.txt /tmp

91. docker wait <container_id>

Blocks until a container stops, then prints its exit code.

docker wait abc123

92 docker kill <container_id>

Forcefully stops a running container.

docker kill abc123

93. docker attach <container_id>

Attaches to a running container to view logs or interact with it.

docker attach abc123

94. docker pause <container_id>

Pauses all processes within a container.

docker pause abc123

95.   docker unpause <container_id>

Resumes all processes within a paused container.

docker unpause abc123

96.   docker top <container_id>

Shows running processes within a container.

docker top abc123

97.   docker port <container_id>

Displays a list of port mappings for a container.

docker port abc123

98.   docker exec -it <container_id> /bin/bash

Opens an interactive shell inside a running container.

docker exec -it abc123 /bin/bash

99.   docker network create <network_name>

Creates a new network for Docker containers to communicate.

docker network create my_network

100.   docker network ls

Lists all available networks.

docker network ls

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