

Docker Basic Commands with Examples and Explanations:

1. docker --version

- Displays the installed Docker version.
- `docker --version`

2. docker pull

- Downloads a Docker image from a registry like Docker Hub.
- `docker pull ubuntu`

3. docker images

- Lists all available images on your system.
- `docker images`

4. docker rmi <image_id>

- Removes a Docker image by its ID.
- `docker rmi abc123`

5. docker ps

- Lists all running containers.
- `docker ps`

6. docker ps -a

- Lists all containers, including stopped ones.
- `docker ps -a`

7. docker run <image_name>

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

8. `docker run -it <image_name>`

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

9. `docker start <container_id>`

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

10. `docker stop <container_id>`

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

11. `docker restart <container_id>`

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

12. `docker rm <container_id>`

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

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

- Executes a command in a running container.
- `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`**

- Lists the status of Docker Compose services.
 - `docker-compose ps`
29. **docker commit <container_id>
 <new_image_name>**
- Creates a new image from a container's changes.
 - `docker commit abc123 my_image:v2`
30. **docker system prune**
- Removes unused data (stopped containers, networks, etc.).
 - `docker system prune`
31. **docker stats**
- Displays a live stream of container resource usage statistics.
 - `docker stats`
32. **docker save -o <output_file> <image_name>**
- Saves an image to a tar archive.
 - `docker save -o my_image.tar my_image:v1`
33. **docker load -i <input_file>**
- Loads an image from a tar archive.
 - `docker load -i my_image.tar`
34. **docker export <container_id> -o <output_file>**
- Exports a container's filesystem to a tar archive.
 - `docker export abc123 -o container_fs.tar`

35. **docker import <input_file>**

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