

Docker Commands Guide

This guide provides an organized and detailed overview of essential Docker commands categorized by their functionalities. Each section includes explanations and usage examples for better understanding.

1. Basic Docker Commands

Command	Description	Example
<code>docker --version</code>	Displays the installed Docker version.	<code>docker --version</code>
<code>docker info</code>	Shows system-wide information about Docker.	<code>docker info</code>
<code>docker help</code>	Lists available Docker commands or gets help on a specific command.	<code>docker help run</code>

2. Working with Images

Command	Description	Example
<code>docker images</code>	Lists all Docker images present on the system.	<code>docker images</code>
<code>docker pull <image></code>	Downloads an image from a Docker registry (like Docker Hub).	<code>docker pull ubuntu</code>
<code>docker build -t <name> .</code>	Builds a Docker image from a Dockerfile in the current directory.	<code>docker build -t myapp .</code>
<code>docker rmi <image></code>	Removes one or more Docker images.	<code>docker rmi ubuntu</code>
<code>docker tag <image> <new-tag></code>	Tags an image with a new name.	<code>docker tag myapp myrepo/myapp:latest</code>
<code>docker save -o <file> <image></code>	Saves an image to a tar file.	<code>docker save -o myapp.tar myapp</code>
<code>docker load -i <file></code>	Loads an image from a tar file.	<code>docker load -i myapp.tar</code>

3. Working with Containers

Command	Description	Example
<code>docker ps</code>	Lists all running containers.	<code>docker ps</code>
<code>docker ps -a</code>	Lists all containers, including stopped ones.	<code>docker ps -a</code>
<code>docker run <image></code>	Creates and starts a container from an image.	<code>docker run -it ubuntu</code>
<code>docker start <container></code>	Starts a stopped container.	<code>docker start my_container</code>
<code>docker stop <container></code>	Stops a running container.	<code>docker stop my_container</code>
<code>docker restart <container></code>	Restarts a container.	<code>docker restart my_container</code>
<code>docker rm <container></code>	Removes one or more containers.	<code>docker rm my_container</code>
<code>docker exec -it <container> <command></code>	Runs a command inside a running container.	<code>docker exec -it my_container bash</code>
<code>docker logs <container></code>	Displays logs of a container.	<code>docker logs my_container</code>
<code>docker inspect <container></code>	Provides detailed information about a container.	<code>docker inspect my_container</code>
<code>docker attach <container></code>	Attaches to a running container's standard input/output.	<code>docker attach my_container</code>

4. Volumes and Data Management

Command	Description	Example
<code>docker volume create <volume></code>	Creates a new Docker volume.	<code>docker volume create my_volume</code>
<code>docker volume ls</code>	Lists all Docker volumes.	<code>docker volume ls</code>
<code>docker volume rm <volume></code>	Removes a specified volume.	<code>docker volume rm my_volume</code>
<code>docker run -v <volume>:<path></code>	Mounts a volume to a specific path inside a container.	<code>docker run -v my_volume:/app/data ubuntu</code>

5. Networking

Command	Description	Example
<code>docker network ls</code>	Lists all Docker networks.	<code>docker network ls</code>
<code>docker network create <network></code>	Creates a new network.	<code>docker network create my_network</code>
<code>docker network connect <network> <container></code>	Connects a container to a specified network.	<code>docker network connect my_network my_container</code>
<code>docker network disconnect <network> <container></code>	Disconnects a container from a specified network.	<code>docker network disconnect my_network my_container</code>
<code>docker network rm <network></code>	Removes a specified network.	<code>docker network rm my_network</code>

6. Docker Compose

Command	Description	Example
<code>docker-compose up</code>	Starts all services defined in the docker-compose.yml file.	<code>docker-compose up</code>
<code>docker-compose down</code>	Stops and removes containers defined in the Compose file.	<code>docker-compose down</code>
<code>docker-compose ps</code>	Lists running containers managed by Docker Compose.	<code>docker-compose ps</code>
<code>docker-compose logs</code>	Displays logs for services managed by Docker Compose.	<code>docker-compose logs</code>
<code>docker-compose build</code>	Builds services defined in the Compose file.	<code>docker-compose build</code>

7. System Management

Command	Description	Example
<code>docker system df</code>	Shows disk usage by Docker.	<code>docker system df</code>
<code>docker system prune</code>	Removes unused data (images, containers, volumes, etc.).	<code>docker system prune</code>
<code>docker stats</code>	Displays real-time resource usage statistics for containers.	<code>docker stats</code>

8. Tagging and Pushing Images

Command	Description	Example
<code>docker tag <image> <repo>:<tag></code>	Tags an image for pushing to a Docker registry.	<code>docker tag myapp myrepo/myapp:v1.0</code>
<code>docker push <repo>:<tag></code>	Pushes an image to a Docker registry.	<code>docker push myrepo/myapp:v1.0</code>
<code>docker login</code>	Authenticates with a Docker registry.	<code>docker login</code>
<code>docker logout</code>	Logs out from a Docker registry.	<code>docker logout</code>