

GLOSSARY OF DOCKER TERMS

**Unlock the Language of
Docker: A Comprehensive
Glossary of Terms**



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Term	Definition
Docker	A platform for building, shipping, and running applications in containers
Container	A lightweight, portable, and self-contained environment that packages an application along with its dependencies and config
Image	A snapshot of a container that includes the application code and its dependencies
Dockerfile	A configuration file that describes how to build a Docker image
Registry	A repository for storing and sharing Docker images
Repository	A collection of Docker images that share a common name
Namespace	A way to group and organize Docker images and repositories
Volume	A way to store persistent data for a Docker container
Networking	A way to connect Docker containers to each other and to external networks
Service	A way to manage multiple instances of a Docker container as a single entity
Swarm	A Docker tool for orchestration and scaling of containerized applications

Term	Definition
Kubernetes	An open-source container orchestration platform that automates the deployment, scaling, and management of containers
Compose	A Docker tool for defining and running multi-container applications
Stack	A collection of Docker services defined in a single Compose file
Overlay	A type of Docker network that allows multiple Docker hosts to communicate with each other
Load balancer	A tool for distributing incoming network traffic across multiple Docker containers
Orchestration	The process of automating the deployment, scaling, and management of containerized applications
Cluster	A group of Docker hosts that work together to run and manage containerized applications
Host	A physical or virtual machine that runs Docker and hosts one or more containers
Cloud	A network of remote servers that provide on-demand access to computing resources
Continuous Delivery	A software development approach where changes are continuously tested, built, and deployed with the help of automation tools

Term	Definition
Environment	A specific configuration of a production or development environment, such as "staging" or "production"
Docker Compose	A tool that allows defining and running multi-container Docker applications with a single command
Docker Hub	A cloud-based repository where Docker users can store and share Docker images
Microservices	A software architecture style that structures an application as a collection of small, independent services
Orchestration	The process of automating the deployment, scaling, and management of containerized applications
Swarm Mode	A native Docker tool for orchestration and scaling of containerized applications
Service Discovery	The process of automatically locating and connecting to other services in a distributed system
Immutable Infrastructure	A type of infrastructure where servers and containers are never changed after deployment, but instead are replaced with new ones
Canary Deployment	A deployment technique that allows testing new features with a small group of users before rolling them out to everyone

Term	Definition
Blue/Green Deployment	A deployment technique where two identical environments are created, one for production and one for testing
BuildKit	A containerized build engine for building Docker images with improved performance and security
Build Pipeline	A series of steps that automate the build and deployment process of software, including testing, packaging, and deployment
Caching	A technique that speeds up build and deployment times by reusing previously downloaded dependencies or images
Config Management	The process of managing and automating configuration settings for infrastructure and applications, including Docker containers
Container Registry	A repository that stores and distributes Docker images
Containerization	The process of encapsulating an application and its dependencies in a container for easy deployment and scaling
Container Orchestration	The process of managing multiple containers and their resources in a distributed system
Container Networking	The process of connecting and managing network traffic between Docker containers and other systems

Term	Definition
Image Registry	A repository that stores and distributes Docker images
Infrastructure as Code	A practice that involves managing and provisioning infrastructure using code and automation tools
Jenkins	An open-source automation server used to build, test, and deploy software
Kaniko	A tool for building Docker images without the need for a Docker daemon
Kubernetes Operator	A Kubernetes extension that allows creating, configuring, and managing custom resources using Kubernetes APIs
Multi-stage Build	A Docker feature that allows building and optimizing Docker images with multiple stages to reduce the image size and improve performance
Namespace	A logical partition within a Kubernetes cluster that separates resources and enables multi-tenancy
PaaS	Platform as a Service is a cloud computing model that provides a complete platform for application development, testing, and deployment
Portability	The ability of Docker containers to run consistently across different environments and infrastructure

Term	Definition
Secret Management	The process of securely managing and storing sensitive data such as passwords and keys in a Docker environment
Stateful Application	An application that requires persistent storage and data management, such as databases, and requires special handling in containers
Volume	A mechanism for persistently storing data generated by and used by a Docker container
Docker Registry	A central storage location for Docker images that is used for easy distribution of Docker images across multiple systems and teams
Elastic Container Service	A container orchestration service provided by AWS that allows deploying, scaling, and managing Docker containers
Helm	A package manager for Kubernetes that simplifies the deployment and management of applications
Ingress	A Kubernetes API object that manages external access to services in a cluster
Istio	An open-source service mesh that provides traffic management, security, and observability features for microservices
Node	A worker machine in a Kubernetes cluster that runs Docker containers

Term	Definition
Pod	The smallest deployable unit in a Kubernetes cluster, which contains one or more Docker containers
Rolling Deployment	A deployment technique that updates applications gradually, ensuring that there is no downtime or loss of service
Serverless	A cloud computing model where the cloud provider manages the infrastructure and automatically provisions resources as needed
Service Mesh	A dedicated infrastructure layer that provides service-to-service communication, security, and observability for microservices
Sidecar	A secondary container in a Pod that shares the same network namespace as the primary container, used for supporting services
StatefulSet	A Kubernetes API object that manages the deployment of stateful applications, such as databases
Taint	A Kubernetes feature that allows nodes to be marked as unschedulable, preventing pods from being deployed on those nodes
Template	A file or set of files that defines the structure and content of an application, including its configuration and dependencies

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