Introduction

Docker is an excellent platform for designing, deploying, and executing programs that rely on containers. Docker allows you to construct a container that contains your program, well any packages or libraries that it relies on, as well as any configuration information. When you managed to make a webpage, you used to have to buy a server, install Linux, build up a LAMP architecture, and then run the program. If your program became famous, you used effective load balancing by adding an extra server to guarantee that it didn't crash due to excessive traffic.

The best thing about open source is whether you get to choose the tech you want to employ to finish a job. Docker engine is suitable for single engineers that want a lightweight, pure environment to run but do not require extensive management.

Docker Community Edition (docker-ce) is a wonderful method to begin with containers if Docker is installed on your system and everyone around you is comfortable with the Docker ecosystem. Because the fight to ensure open standards prevails is continuous, sticking with projects that love and appreciate open source should be a long-term plan for your container solution. Private

extras may appear interesting at first, but once you lock your tools to a solution that does not allow for the transfer, you lack your freedom of choice. Containers may be freed if they're used correctly.

*In this cheat sheet, we will highlight all the important **docker commands** that caters to freshers and experienced professionals, so let's move forward.*

Docker Tutorial: Freshers and Experienced

1. Installation of Docker

Command	Meaning	Syntax
For Windows	This command helps you to install Docker on windows.	https://download.docker.com/win/stable/InstallDocker.msi
For Linux	This command helps you to install Docker on Linux.	curl -sSL https://get.docker.com/ | sh
For mac	This command helps you to install Docker on mac os.	https://download.docker.com/mac/stable/Docker.dmg

2. Docker Registry and Repository

Command	Meaning	Syntax
Login to a Registry	This command helps you log in to your Registry.	docker login docker login localhost:8080
Logout from a registry:	This command helps you log out from your Registry.	docker logout docker logout localhost:8080
Searching an image	By using this docker command you can search any image from your docker.	search nginx docker search --filter stars=3 --no-trunc nginx
Pulling an Image	This command can be used to download a specific image or set of images.	docker image pull nginx docker image pull eon01/nginx localhost:5000/myadmin/nginx
Pushing an image	This command can be used to push a specific image or set of images.	docker image push eon01/nginx docker image push eon01/nginx localhost:5000/myadmin/nginx

3. Running Containers

Command	Meaning	Syntax
Command to create a container	This command is used to create a container without running	docker container create -t -i eon01/infinite --name XYZ
Command to run a container	This command is used to run a container	docker container run -it --name XYZ -d eon01/infinite
Command to rename a container	Use this command to rename a container	docker container rename XYZ infinity
Command for removing a container	This command is used to remove container in the topic	docker container rm infinite
Update a container	This command is used to update container in the topic	docker container update --cpu-shares 512 -m 300M infinite

4. Commands for Starting or Stopping the Container

Command	Meaning	Syntax
Command for starting a container	This command is used for starting a container	docker container start nginx
Command for stopping a container	This command is used for stopping a container	docker container stop nginx
Command for restarting the container	This command is used for restarting a container	docker container restart nginx
Command for pausing the container	This command is used for pausing a container	docker container pause nginx
Command for unpausing the container	This command is used for unpausing a container in the docker	docker container unpause nginx
Command for Blocking a container	This command is used for blocking a container in the docker	docker container wait nginx

Command	Meaning	Syntax
Sending a SIGKILL	This command is used for Sending a SIGKILL in the docker	docker container kill nginx
Command for sending another signal	This command is used for for sending another signal	docker container kill -s HUP nginx
Command for Connecting to an Existing Container	We can use this command for Command for Connecting to an Existing Container	docker container attach nginx

<mark>5. Commands for Obtaining Container Information</mark>

Command	Meaning	Syntax
Fetching information From Running Containers	We can fetch information from running container by using this command	docker ps Or docker container ls
Command for fetching about every container	This command for fetching about every container	docker container ls -a Or docker ps -a
Command for container log	We can use this command to see the container log	docker logs infinite
Command for 'tail -f' Containers' Logs	With this command Container isn't running in the foreground, and if there isn't anything running in the foreground, Docker closes automatically.	docker container logs infinite -f
Command for Inspecting Containers	This is the command use for inspecting containers	docker container inspect infinite docker container inspect --format " $(docker ps -q)
Command for Containers Events	To obtain real-time events from the server, use docker events.	docker system events infinite

Command	Meaning	Syntax
Command for Public Ports	Use this command for finding a public port	docker container port infinite
Command for Running Processes	We can use this commands for displaying the running processes in the container	docker container top infinite
Command for Container Resource Usage	It displays a live stream of resources usage statics for containers	docker container stats infinite
Commands for Inspecting changes to files or directories on a container's filesystem	This command is used for inspecting changes to files or directories on a container's filesystem	docker container diff infinite

6. Commands for Managing Images

Command	Meaning	Syntax
Commands for listing images	This command is used to listing images	docker image ls
Command for Building images From the current directory's Dockerfile	This command is used for building from the current directory's dockerfile	docker build
Command for Building images From a GIT remote repository	This command is used Building images command Using a remote GIT repository	docker build github.com/creack/docker-firefox
Commands for tagging and building	This command for tagging and building.	docker build -t eon/infinite
Specifying the Build Context while creating a Dockerfile	This is use to Build an image from a Dockerfile	docker build -f myDockerfile
Creating a Dockerfile from a URL	It wil help to create a dockerfile with a specific URL.	curl example.com/remote/Dockerfile | docker build -f -
Command for removing image	This command is used to removing a7n image	docker image rm nginx
Using a File or the Normal Input Stream to Load a Tarred Repository	Use STDIN or a tar archive to load an image.	docker image load < ubuntu.tar.gz

Command	Meaning	Syntax
		docker build -f myOtherDockerfile
Image Saving to a Tar Archiveard Input Stream	It is used Save one or more images to a tar archive	docker image save busybox > ubuntu.tar
Showing the History of an Image	This command will let know the history of the image inside the docker	image history
Making an Image Out of a Container	This command will help you to take an image out of the container	docker container commit nginx
Command for image tagging	We can use this command for image tagging	docker image tag nginx eon01/nginx
Command for pushing an image	We can push any image through this command	docker image push eon01/nginx

7. Commands for Networking

Command	Meaning	Syntax
Command for overlay network	This is used to establish a distributed network between many Docker daemon hosts.	docker network create -d overlay MyOverlayNetwork
Command for Bridge network	To establish container test1 to bridge demo-bridge, type docker network connect demo-bridge test1.	docker network create -d bridge MyBridgeNetwork
Command for removing a network	This command s used to remove an overlay network	docker network rm MyOverlayNetwork
Command for network listing	This command is used to listing the overlay networks	docker network ls
Command for Getting Information About a Network	We can get information about an overlay network with the help of this command	docker network inspect MyOverlayNetwork
Command for Connecting a Running Container to a Network	By using this command we can connect a container to network	docker network connect MyOverlayNetwork nginx

Command	Meaning	Syntax
Command for Connecting a Container to a Network When it Starts	When the container starts we can use this command to connect a container to network	docker container run -it -d --network=MyOverlayNetwork nginx
Command for Disconnecting a Container from a Network	We can use this Command for disconnecting a container from network	docker network disconnect MyOverlayNetwork nginx
Command for Exposing Ports	We can expose the empty ports using this command	EXPOSE <port_number>

8. Commands for Cleaning Docker

Command	Meaning	Syntax
Command for Removing a Running Container	We can remove a running container by using this command	docker container rm nginx
Command for Removing a Container and its Volume	We can use this command for removing the container and the things inside it	docker container rm -v nginx
Command for Removing all Exited Containers	We can use this command for removing all the exited containers	docker container rm $(docker container ls -a -f status=exited -q)
Command for Removing All Stopped Containers	We can remove all the stopped containers by using this command	docker container rm `docker container ls -a -q`
Command for Removing a Docker Image	This command is used fr removing a docker image	docker image rm nginx
Command for Dangling Images	We can dangle the images with this command	docker image rm $(docker image ls -f dangling=true -q)
Command for Removing all Images	We can remove all the image in the docker by using this commands	docker image rm $(docker image ls -a -q)

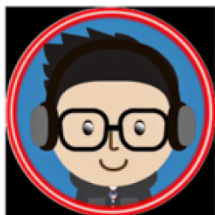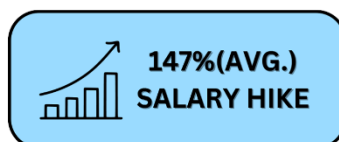| Command	Meaning	Syntax
Commands for Delete all Untagged Images	We can delete all the untagged images with the use of this command	docker image rm -f $(docker image ls | grep "^<none>" | awk "{print $3}")
Command for Stopping & Removing all Containers	For stopping and removing all the container we can use this command	docker container stop $(docker container ls -a -q) && docker container rm $(docker container ls -a -q)
Command for Removing Dangling Volumes	We can remove all the dangling volumes by using this command	docker volume rm $(docker volume ls -f dangling=true -q)
Command for removing all unneeded (containers, images, networks and volumes)	This command is use to remove the unnecessary thing	docker system prune -f
Command for Clean all	We cam use this command for cleaning everything in the docker	docker system prune -a

Conclusion

You should have a solid knowledge of what Docker is and how it operates by this point. Docker's finest feature is cooperation. Docker images may be uploaded to a repo and then downloaded to any other server to execute containers. Furthermore, the Docker hub has hundreds of images developed by users, which you may download down to your servers depending on your specific application. It is also often used throughout container orchestration technologies such as Kubernetes.

Docker is one of the greatest production technologies available today, and its demand is expanding rapidly. It is considered ideal for larger businesses, and because it is open-source, it is a versatile platform that can be used to construct a wide range of applications.

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