

# Docker Compose Cheatsheet

**Docker** is a popular **container tool** used by developers and operations teams to **automate** the creation and deployment of applications in lightweight containers on VMs. This allows applications to work in different environments.

**Docker Compose** can be used to run multiple containers at once. The containers can run independently but can also interact with one another when necessary. It is very simple to create Docker Compose files using **YAML** (a scripting language that uses XML). YAML stands for Yet Another Markup Language. Docker Compose's best feature is the ability to activate all services (containers), with one command.

## docker-compose up

docker-compose up is used to create defined docker compose services. It can either **create images** from .yml files, **or launch services** from existing images on the docker host. dockercompose up uses **docker-compose.yml** to start services.

Option	Description
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--: --	
-d, --detach	It will run the services in detached/background mode
--build	Before you start services, build forces image from dockerfile
--no-build	Bypasses the image build
--force-recreate	Force recreation of containers when starting services
--no-color	Outputs without colour
--quiet-pull	Pull information without printing it
--no-deps	Don't start linked services
--always-recreate-deps	Recreate dependent containers. Incompatible with --no-recreate.
--no-recreate	If containers already exist, don't recreate them. Incompatible with --force-recreate and --renew-anon-volumes.
--no-start	Don't start the services after creating them.
--abort-on-container-exit	Stops all containers if any container was stopped. Incompatible with --detach.
--attach-dependencies	Attach to dependent containers.
-t, --timeout TIMEOUT	Use this timeout in seconds for container shutdown when attached or when containers are already running. (default: 10)
-V, --renew-anon-volumes	Recreate anonymous volumes instead of retrieving data from the previous containers.
--remove-orphans	Remove containers for services not defined in the Compose file.
--exit-code-from SERVICE	Return the exit code of the selected service container. Implies --abort-on-container-exit.
--scale SERVICE=NUM	Scale SERVICE to NUM instances. Overrides the <b>scale</b> setting in the Compose file if present.

# docker-compose down

**Stops** containers and **removes containers, images, volumes and networks** (defined in docker-compose.yml) that are created by docker-compose up.

Option|Description

- |:--
- rmi type|Remove images. Type is 'all' or 'local'
- v, -volumes|Remove named volumes declared in the volumes section of the Compose file and anonymous volumes attached to containers.
- remove-orphans|Remove containers for services not defined in the Compose file
- t, -timeout|TIMEOUT Specify a shutdown timeout in seconds. default - 10.

# docker-compose version

Prints the docker-compose version.

# docker-compose start

Starts an **existing service** container.

```
docker-compose start [SERVICE...]
```

# docker-compose stop

Pauses running containers of a service. They can be unpaused with docker-compose unpause.

```
docker-compose stop [SERVICE...]
```

# docker-compose unpause

Unpauses paused containers of a service.

```
docker-compose unpause [SERVICE...]docker-compose unpause [SERVICE...]
```

# docker-compose exec

```
docker-compose exec [options] [-e KEY=VAL...] SERVICE COMMAND [ARGS...]
```

Option	Description
-d, -detach	Detached mode: Run command in the background.
-privileged	Give extended privileges to the process.

Option	Description
-u, --user	USER Run the command as this user.
-T	Disable pseudo-tty allocation. By default docker-compose exec allocates a TTY.
--index=index	index of the container if there are multiple instances of service [default: 1]
-e, --env --KEY=VAL	Set environment variables (can be used multiple times, not supported in API < 1.25)
-w, --workdir	DIR Path to workdir directory for this command.

## docker-compose help

Displays help and usage instructions for a command.

```
docker-compose help COMMAND
```

## docker-compose kill

SIGKILL signals are used to force running containers to stop.

```
docker-compose kill [options] [SERVICE...]
```

## docker-compose restart

Restarts all stopped and running services.

```
docker-compose restart [options] [SERVICE...]
```

**Command options:**

-t, --timeout -- TIMEOUT Specify a shutdown timeout in seconds. (default: 10)

## docker-compose rm

Stopped containers get removed. All data that isn't in a volume are lost. Anonymous volumes attached to containers by default are not deleted. This can be overridden with -v.

```
docker-compose rm [options] [SERVICE...]
```

Option	Description
-f, --force	Don't ask to confirm the removal
-s, --stop	Stop the containers, if required, before removing

Option	Description
-v	Remove any anonymous volumes attached to containers

# docker-compose top

View the processes running within each service container.

```
docker-compose top [SERVICE...]
```

# docker-compose run

This command runs a single command against a service. The following command will start the web service and run bash with its command docker\_compose run web bash.

```
docker-compose run [options] [-v VOLUME...] [-p PORT...] [-e KEY=VAL...] [-l KEY=VALUE...] SERVICE [COMMAND] [ARGS...]
```

Option	Description
-d, --detach	Detached mode: Run container in the background, print new container name.
--name NAME	Assign a name to the container
--entrypoint CMD	Override the entrypoint of the image.
-e KEY=VAL	Set an environment variable (can be used multiple times)
-l, --label KEY=VAL	Add or override a label (can be used multiple times)
-u, --user=""	Run as specified username or uid
--no-deps	Don't start linked services.
--rm	Remove container after run. Ignored in detached mode.
-p, --publish=[]	Publish a container's port(s) to the host
--service-ports	Run command with the service's ports enabled and mapped to the host.
--use-aliases	Use the service's network aliases in the network(s) the container connects to.
-v, --volume=[]	Bind mount a volume (default [])
-T	Disable pseudo-tty allocation. By default docker-compose run allocates a TTY.
-w, --workdir=""	Working directory inside the container

# docker-compose ps

Shows list of containers for a service.

```
docker-compose ps [options] [SERVICE...]
```

Option	Description
-q, -quiet	Only display IDs
-services	Display services
-filter - KEY=VAL	Filter services by a property
-a, -all	Show all stopped containers (including those created by the run command)

## docker-compose config

Verify that the Compose format is correct. The configuration will be displayed if it is correct. If the format is not correct, the cause of the error is displayed.

```
docker-compose config [options]
```

Option	Description
-resolve-image-digests	Pin image tags to digests.
-q, -quiet	Only validate the configuration, don't print anything.
-services	Print the service names, one per line.
-volumes	Print the volume names, one per line.
-hash=""	Print the service config hash, one per line. Set "service1,service2" for a list of specified services or use the wildcard symbol to display all services

## docker-compose logs

Displays log output from services.

```
docker-compose logs [options] [SERVICE...]
```

Option	Description
-no-color	Produce monochrome output.
-f, -follow	Follow log output.
-t, -timestamps	Show timestamps.

Option	Description
-tail="all"	Number of lines to show from the end of the logs for each container.

## docker-compose port

Prints the public port to which a container port is mapped.

```
docker-compose port [options] SERVICE PRIVATE_PORT
```

Option	Description
-protocol=xxx	proto – tcp or udp [default: tcp]
-index=index	index of the container if there are multiple instances of a service [default: 1]

## docker-compose pull

Pulls an image associated with a service defined in a docker-compose.yml

```
docker-compose pull [options] [SERVICE...]
```

Option	Description
-ignore-pull-failures	Pull what it can and ignores images with pull failures.
-parallel	Deprecated, pull multiple images in parallel (enabled by default).
-no-parallel	Disable parallel pulling.
-q, -quiet	Pull without printing progress information
-include-deps	Also pull services declared as dependencies

## docker-compose push

Pushes images for services to their respective registry/repository

```
docker-compose push [options] [SERVICE...]
```

Command options:

- -ignore-push-failures – Push what it can and ignores images with push failures.

## docker-compose build

Under the project directory, run docker-compose build to build (rebuild) the service.

```
docker-compose build [options] [SERVICE...]
```

Option	Description
-compress	Compress the build context using gzip.
-force-rm	Always remove intermediate containers.
-no-cache	Do not use cache when building the image.
-pull	Always attempt to pull a newer version of the image.
-m, -memory	MEM Sets memory limit for the build container.
-build-arg key=val	Set build-time variables for services.
-parallel	Build images in parallel.