Basic Docker commands

docker --help	Displays basic help options and commands
docker <command> --help	Display detailed help for a specific command
docker ps	List of "live" containers
docker ps -a/-all	List of all containers
docker version	Display docker versioning

Container commands

docker run <image>	Builds a docker image from the Docker file
docker run [options] <image:tag@digest> <command> <arguments>	Full syntax of docker run command
docker create <image>:<tag>	Creates a container using the image
docker start <container>	Starts a container
docker stop <container>	Stops a container in an orderly manner
docker kill <container>	Immediately stops a running container
docker restart <container>	Restarts a stopped container
docker rm <container>	Removes a stopped container
docker port <container>	Lists the port mapping of a "running" container

<container> can be replaced with the containers unique **ID** or unique **NAME**

<tag> is optional and will default to *latest*

Image Commands

docker images	List images
docker run <image>:<tag>	Builds a new container using the image
docker build <image>:<tag>	Builds a docker image from the Docker file
docker rmi <image>:<tag>	Remove an image (not attached to a container)
docker save <image>:<tag>	Saves an image to a *tar* archive
docker push <image>:<tag>	Pushes the image to Docker Hub

Image Commands (cont)

docker pull <image>:<tag>	Pulls the image from Docker Hub

can be replaced with the images unique **ID** or or unique **NAME**

<tag> is optional and will default to *latest*

Miscellaneous Commands

docker exec -it <container> <entrypoint>	Executes the command or terminal of a running container
docker inspect <image or container>	Returns low level information on an image or a container
docker attach <container>	Attach to a running container

Option Keywords

-i, --interactive	Keep STDIN open even if not attached
-t, --tty	Allocate a psuedo-TTY
-it	Combines the -i and the -t options (interactive response)
-a, --attach	attach
-d, --detach	Run in background
-e, --env	Set ENV variables
exec	Run a new command in a container (See Misc)
-p, -publish <host_port>>: <container_port>	Port mapping (Host to container)
-v, --volume <source>:<target>	Mount files or directories (terse)
-m, --mount	Mount files or directores (verbose)

Arguments

--name-=<name>	Assigns a name to a container: *docker run --name=<name> <image>*
-a, --all	Adds the option of "all" to the container list: *docker ps -a*
sh	Entrypoint command for a **shell** in a container: *docker run -it <image> **sh*** or *docker exec -it <container> **sh***

By **Cash** (CashM)
cheatography.com/cashm/

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Volume Commands

docker volume ls	List volumes
docker volume inspect	Inspect a volume
docker volume create <volume>	Create a volume
docker volume rm <volume>	Removes a volume

<volume> can be replaced with the volumes unique **ID** or unique **NAME**

Dockerfile (for creating images)

FROM <image> [AS <name>]	Sets the base image for this layered imaged
RUN <command>	(Shell form) Executes commands in a new layer
RUN ["executable", "param1", "param2"]	(Exec form) Executes commands in a new layer
CMD ["executable", "param1", "param2"]	(Exec form) Sets default executable as the ENTRYPOINT
CMD ["param1", "param2"]	(adds default parameters to non-specified ENTRYPOINT)
CMD command param1 param2	(shell form)
LABEL <key>=<value> <key>=<value> ...	Adds metadata to an image
EXPOSE <port> [<ports>/<protocol>]	Specifys the port(s) for the container to listen on
ENV <key>=<value	Sets an environment variable for all subsequent instructions
COPY [--chown=<usr>:<group>] <src>... <dest>	Copies files or directorys from <src> and adds them to the container at <dest>
VOLUME ["/data"]	(Can be an array) Creates a mount point for files or directories
USER <user>[:<group>]	Sets the user name and optionally the user group to use when running image
WORKDIR	Sets the working directory

Dockerfile (for creating images) (cont)

ARG <NAME>=<value>	ARG is the only command that may precede the FROM command. It sets support variables for the FROM

Basic Dockerfile Dev Structure

From <image>
WORKDIR <path>
[ENV <key>=<value>]
COPY <src> <target>
RUN command param1 param2 ...
CMD ["executable", "param1", "param2", ...]