Basics

Docker-Compose: is a tool for defining and running multi-container Docker applications. With Compose, you use a YAML file to configure your application's services. Then, with a single command, you create and start all the services from your configuration.

Need to good to yml file directory to successfully run the docker-compose commands.
docker-compose start wordpress_db :it will only start 1 service
but docker-compose start : will start all the services
similar is the case with other commands.

docker-compose start

Starts an existing service container.

docker-compose stop

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

Stops running containers without removing them. They can be started again with `docker -co mpose start.`

docker-compose pause

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

docker-compose unpause

Unpauses paused containers of a service.

docker-compose restart

Restarts all stopped and running services.

docker-compose ps

-q, --quiet   Only display IDs

Shows list of containers for a service.

docker-compose logs

-f, --follow   Follow log output.

Displays log output from services.

docker-compose top

View the processes running within each service container.

Network

```
# creates a custom network called  frontend
networks:
    fro ntend:
```

Dependencies

```
# makes the db service available as the hostname database
# (implies depends_on)
links:
- db:database
- redis
# make sure db is alive before starting
depends_on:
- db
```

docker-compose.yml

```
version: "3.7"
services:
    wor dpr ess_db:
        con tai ner _name: " wor dpr ess _db "
        image: " mys ql: 5.7 "
        vol umes:
            - ~/dock ers /wo rdp res s/.d at a/w -
ord pre ss_ db: /va r/l ib/ mysql
        env iro nment:
            MYS QL_ USER: gaurav
            MYS QL_ PAS SWORD: victory
            MYS QL_ DAT ABASE: db
            MYS QL_ RAN DOM _RO OT_ PAS SWORD: '1'
        net works:
            - wordpr ess _ne twork
        ports:
            - 3307:3306
    wor dpr ess _web:
        con tai ner _name: " wor dpr ess _we b"
        image: " wor dpr ess "
        vol umes:
            - ~/dock ers /wo rdp res s/.d at a/w -
ord pre ss_ web :/v ar/ www /html
```

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Page 1 of 3.

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docker-compose.yml (cont)

```
>    environment:
      WORDPRESS_DB_HOST: wordpress_db
      WORDPRESS_DB_USER: gaurav
      WORDPRESS_DB_PASSWORD: victory
      WORDPRESS_DB_NAME: db
    networks:
      - wordpress_network
    ports:
      - 8080:80
    depends_on:
      - wordpress_db
networks:
  wordpress_network:
```

docker-compose rm

Removes stopped service containers.By default, anonymous volumes attached to containers are not removed. You can override this with -v. To list all volumes, use docker volume ls.

-f, --force – Don't ask to confirm the removal

-s, --stop – Stop the containers, if required, before removing

-v – Remove any anonymous volumes attached to containers

docker-compose pull

Pulls an image associated with a service defined in a docker-compose.yml file, but does not start containers based on those images.

docker compose up

docker-compose up	use docker-compose.yml
docker-compose -f <filename.yml> -f <filenamelocal.yml> up	use custom yml files
-d, --detach	background detached mode
--build	forcefully Build images before starting containers.
--no-build	skips the image build process

docker compose up (cont)

--force-r-ecreate	Recreate containers even if their configuration and image haven't changed.
--no-color	Produce monochrome output.
--scale SERVIC-E=NUM	Scale SERVICE to NUM instances. Overrides the `scale` setting in the Compose file if present.

docker-compose up is used to start a project. It tries to automate a series of operations including building a mirror, (re)creating a service, starting a service, and associating a service-related container.
It also builds the images if the images do not exist and starts the containers:

docker-compose down

Stops containers and removes containers, networks, volumes, and images
By default, the only things removed are:
- Containers for services defined in the Compose file
- Networks defined in the `networks` section of the Compose file
- The default network, if one is used
created by `up`.Networks and volumes defined as `external` are never removed.
use -v to remove volumes also along with other things

docker-compose version

Prints the version of docker-compose.

docker-compose push

Pushes images for services to their respective registry/repository

docker-compose run

Runs a one-time command against a service. For example, the following command starts the web service and runs bash as its command :
docker-compose run wordpress_db bash

---

docker-compose config

Validate and view the Compose file.

docker-compose kill

Forces running containers to stop by sending a SIGKILL signal.

docker-compose bundle

A Dockerfile can be built into an image, and containers can be created from that image. Similarly, a docker-compose.yml can be built into a distributed application bundle

docker-compose build

only builds the images, does not start the containers:

Building

```
web:
   # build from Dockerfile
   build: .
   # build from custom Dockerfile
   build:
       con text: ./dir
       doc ker file: Docker fil e.dev
   # build from image
   image: ubuntu
   image: ubuntu :14.04
   image: tutum/ inf luxdb
   image: exampl e-r egi str y:4 000 /po stg resql
   image: a4bc65fd
```

Ports

```
ports:
     - " 300 0"
     - " 800 0:8 0" # guest:host
   # expose ports to linked services (not to host)
   expose: ["30 00"]
```

Commands

```
# command to execute
   com mand: bundle exec thin -p 3000
   com mand: [bundle, exec, thin, -p, 3000]
  # override the entrypoint
  ent ryp oint: /app/s tart.sh
  ent ryp oint: [php, -d, vendor /bi n/p hpunit]
```

Environment variables

```
# environment vars
   env iro nment:
       RAC K_ENV: develo pment
   env iro nment:
     - RACK_E NV= dev elo pment
  # enviro nment vars from file
  env _file: .env
  env _file: [.env, .devel opm ent.env]
```