

# Docker using environment variables

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Due to the dynamic and stateless nature of containers, applications cannot rely on either fixed IP addresses or DNS hostnames while communicating with middleware and other application services. Docker lets you store data such as configuration settings, encryption keys, and external resource addresses in environment variables.

Environment variables are used to set specific application parameters, like IP addresses, for a server to connect the database server address with login credentials.

Some container startup scripts use environment variables to perform the initial configuration of an application.

Let's start container mariadb without passing environment variables

```
njain50@ubuntu:~/dockerdemo$ docker run mariadb
Unable to find image 'mariadb:latest' locally
latest: Pulling from library/mariadb
7413c47ba209: Pull complete
0fe7e7cbb2e8: Pull complete
1d425c982345: Pull complete
344da5c95cec: Pull complete
3b788f344b08: Pull complete
c1fe07a14569: Pull complete
a36200b63fb3: Pull complete
0f275278ebeb: Pull complete
aa862115a2d0: Pull complete
a7bf825d8827: Pull complete
787d5cf31088: Pull complete
c5d8ea934989: Pull complete
02d9369e557d: Pull complete
35cab336002f: Pull complete
Digest: sha256:fe7927343a9513944caf824e50659b72ad6ff22d61ddf886a41178c0a2b3cdcb
Status: Downloaded newer image for mariadb:latest
error: database is uninitialized and password option is not specified
You need to specify one of MYSQL_ROOT_PASSWORD, MYSQL_ALLOW_EMPTY_PASSWORD and MYSQL_RANDOM_ROOT_PASSWORD
njain50@ubuntu:~/dockerdemo$
```

Now we will start same container and pass environment variables alongwith:

```
njain50@ubuntu:~/dockerdemo$ docker run -d --name mariadb -e MYSQL_ROOT_PASSWORD=password -e MYSQL_DATABASE=example -e MYSQL_USER=example_user -e MYSQL_PASSWORD=password mariadb
94553df1c44189b9c8e181b6aa7aeb14dbc92e33dcd7f18c13bd424df48b1fe3
njain50@ubuntu:~/dockerdemo$ docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS              NAMES
94553df1c441        mariadb            "docker-entrypoint.s..." 8 seconds ago       Up 6 seconds       3306/tcp           mariadb
njain50@ubuntu:~/dockerdemo$
```

Now we can run simple db command to check if container was created successfully:

```
njain50@ubuntu:~/dockerdemo$ docker exec -it mariadb mysql -uexample_user -ppassword example -e "show databases;"
+-----+
| Database |
+-----+
| example |
| information_schema |
+-----+
njain50@ubuntu:~/dockerdemo$
```

The startup script created a user named example\_user with the password password as we specified in the environment variables. It also configured a password for the root user. The full list of MariaDB image variables you can specify is located at [https://hub.docker.com/\\_/mariadb/](https://hub.docker.com/_/mariadb/).