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Docker — ENTRYPOINT vs CMD

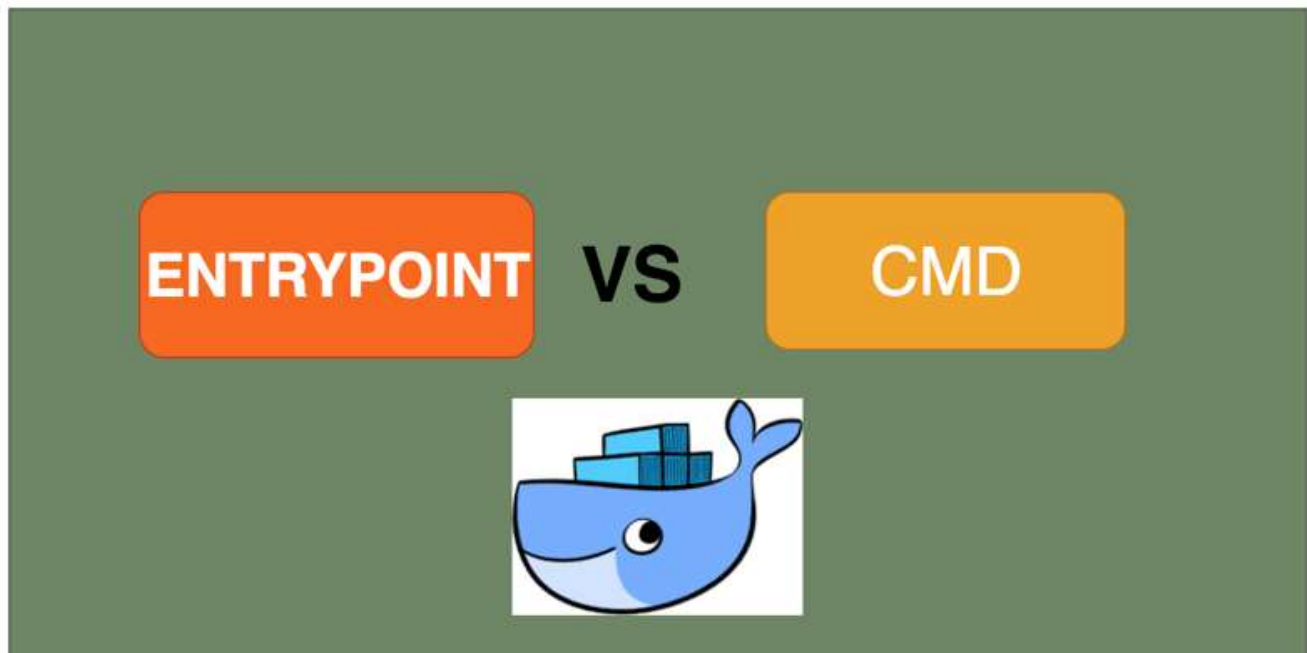


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entrypoint vs cmd

In this article, we will explore the difference between **ENTRYPOINT** and **CMD** directives. Both are used to run the executable when instantiating the image. But, there is a slight difference between these two. Let's have a look!

CMD can pass default parameters to ENTRYPOINT if both are defined.

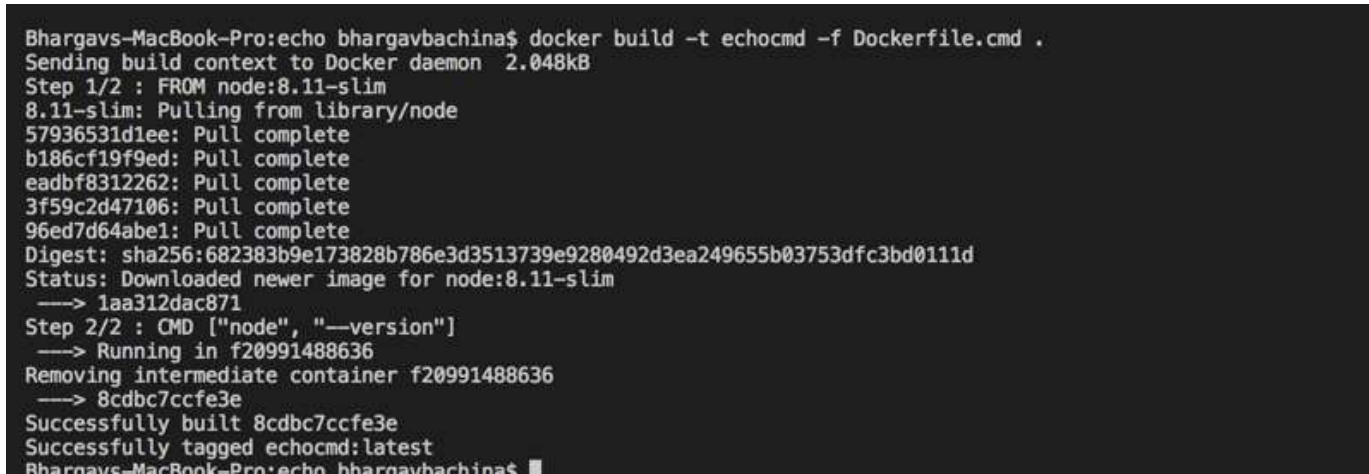
clone the below repo for this article.

```
git clone https://github.com/bbachi/dockerfiles-cmdvsentry.git
```

CMD

Let's build the image from **Dockerfile.cmd** with the below command

```
docker build -t echocmd -f echo/Dockerfile.cmd .
```



```
Bhargavs-MacBook-Pro:echo bhargavbachina$ docker build -t echocmd -f Dockerfile.cmd .
Sending build context to Docker daemon 2.048kB
Step 1/2 : FROM node:8.11-slim
8.11-slim: Pulling from library/node
57936531d1ee: Pull complete
b186cf19f9ed: Pull complete
eadbf8312262: Pull complete
3f59c2d47106: Pull complete
96ed7d64abe1: Pull complete
Digest: sha256:682383b9e173828b786e3d3513739e9280492d3ea249655b03753dfc3bd0111d
Status: Downloaded newer image for node:8.11-slim
--> 1aa312dac871
Step 2/2 : CMD ["node", "--version"]
--> Running in f20991488636
Removing intermediate container f20991488636
--> 8cdbc7ccfe3e
Successfully built 8cdbc7ccfe3e
Successfully tagged echocmd:latest
Bhargavs-MacBook-Pro:echo bhargavbachina$
```

Let's instantiate the container with the following commands. For the first command output would be version of node which is the executable command from **CMD** directive in the dockerfile. What if we want to execute the npm version instead of node version while instantiating. We can easily do it with the second command. It overrides the executable mentioned in the dockerfile.

```
docker run -it echocmd
```

```
//output
v8.11.4
```

```
docker run -it echocmd npm --version
```

```
//output
5.6.0
```

ENTRYPOINT

Let's build the image from **Dockerfile.entry** with the below command

```
docker build -t echoentry -f echo/Dockerfile.entry .
```

Let's instantiate the container with the following commands. For the first command output would be a version of the node which is the executable command from **ENTRYPOINT** directive in the dockerfile.

Try to pass override command like above and see the result. with **ENTRYPOINT**, you can't override the executable.

```
docker run -it echoentry
```

```
//output  
v8.11.4
```

```
docker run -it echoentry npm --version
```

```
//output  
v8.11.4
```

you can override with the following command. as you can see we need to pass —
entrypoint flag and can't use “npm — version”, we can only pass one argument which is
npm

```
docker run -it --entrypoint npm echoentry
```

Conclusion

whenever there is a chance of overriding executable while running the container use
CMD otherwise use **ENTRYPOINT**. Sometimes we don't have to override the executable
all we want to run the container, in that case, **ENTRYPOINT** is the best use case. If
ENTRYPOINT is used for the executable, we can use **CMD** to pass default parameters. In
that case, we use both together.

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