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Docker — ENTRYPOINT vs CMD

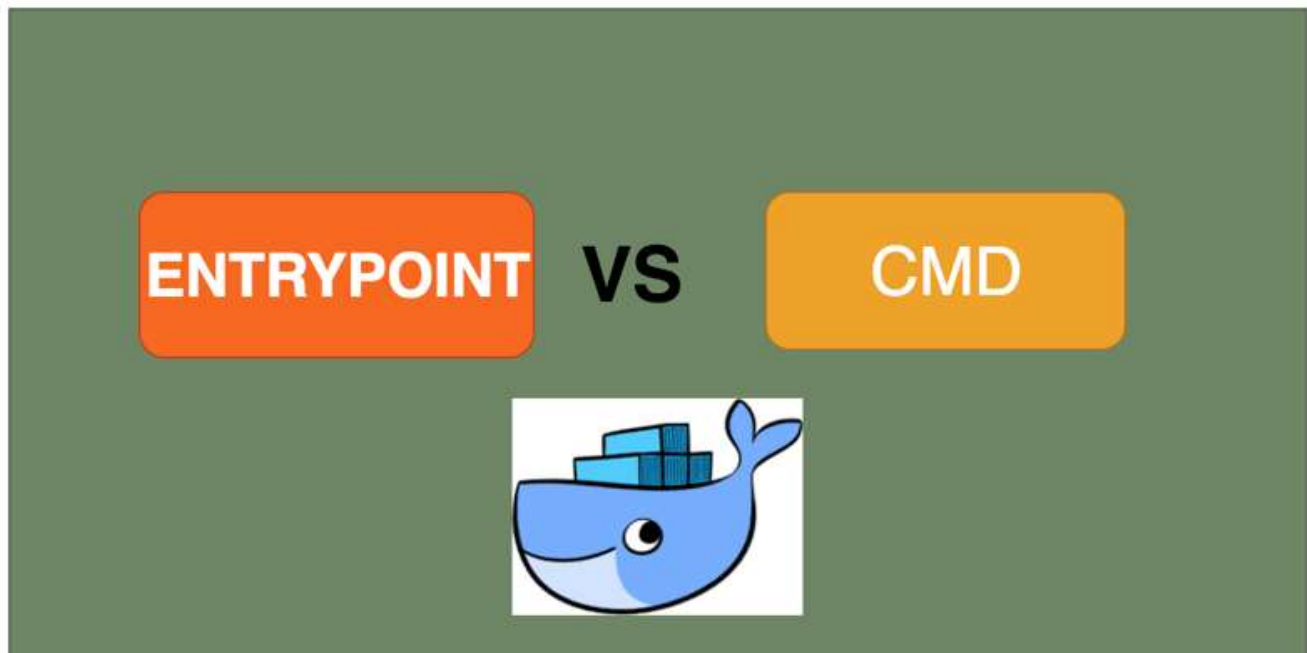Bhargav Bachina   Follow

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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!

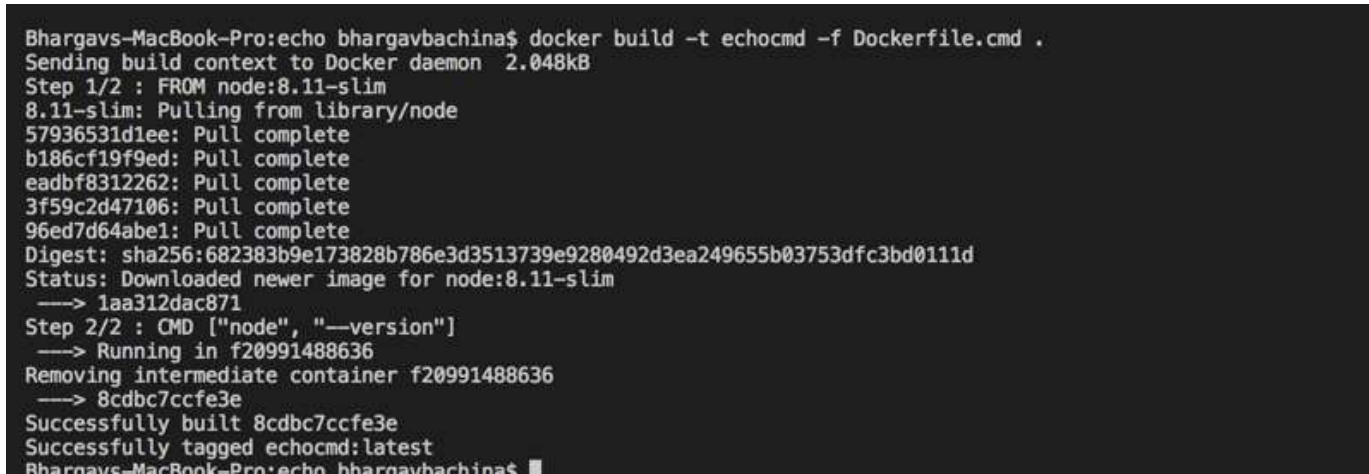CMD can pass default parameters to ENTRYPOINT if both are defined.

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 .
```


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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