#### TRAINING

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ASTRONOMER

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### Docker

Docker is a tool to develop, ship and run containerized applications.

You can see a container as a box where your application is running inside of it in an isolated way

Why is Docker useful?

You can run your application in any environment (operating system), it will always work.

An application in Docker is described through a manifest called the **Dockerfile.** The container will be created based on the Dockerfile

A Dockerfile contains a set of instructions to install and run the application inside a Docker container

A tool like Apache Airflow needs multiple components to run:

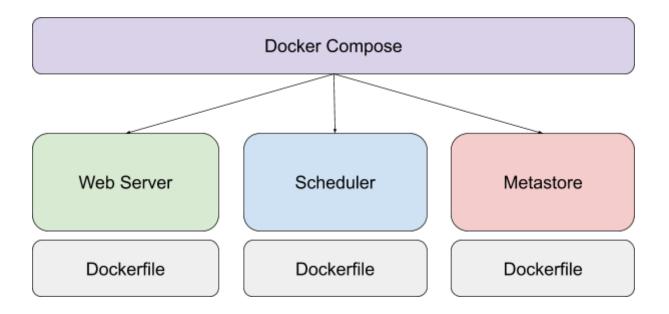
Web Server Scheduler Metastore

You can see each box above as a container in Docker. That means, for running Airflow with Docker, we will have 3 different containers.

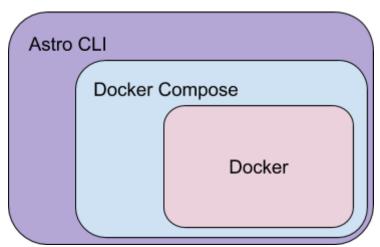
To manage tools/applications requiring multiple containers, there is a special tool called **Docker Compose** 

#### **Docker Compose**

**Docker Compose** is a tool for defining and running multi-container Docker applications.



You might be wondering, "Why am I learning about Docker?" Well, the **Astronomer CLI** is a <u>wrapper</u> around Docker:



## **Astro CLI**

The Astronomer CLI makes it **easy** to create, **test** and **deploy** Airflow DAGs to Astronomer.

#### Commands

Here is the list of commands that you will use pretty often:

```
# Initialize the local development environment astro d init
```

```
# Start Airflow
astro d start
```

```
# Check the docker containers of Airflow (scheduler, web
server, db)
astro d ps
```

```
# Check the web server's logs
astro d logs -w
```

```
# Check the scheduler's logs
astro d logs -s
```

```
# Check the logs continuously astro d logs -w -f
```

# Stop Airflow and so, the docker containers astro d stop

# Remove the containers, clean all metadata created when running Airflow with Docker. Use that command if you want to reset your install (without removing the files and folders) astro d kill

```
# Restart Airflow astro d start
```

```
# Open a bash session to a given container
docker exec -it <container_id> /bin/bash
```

Container\_id is the identifier of the Docker container. For example, you execute astro d ps to get the containers running Airflow, you copy the container id of the scheduler, and you can connect to it.

```
# Need some help?
astro --help
```

```
# The version of your Astro CLI astro version
```

# Thank You!

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