



Introduction to Docker

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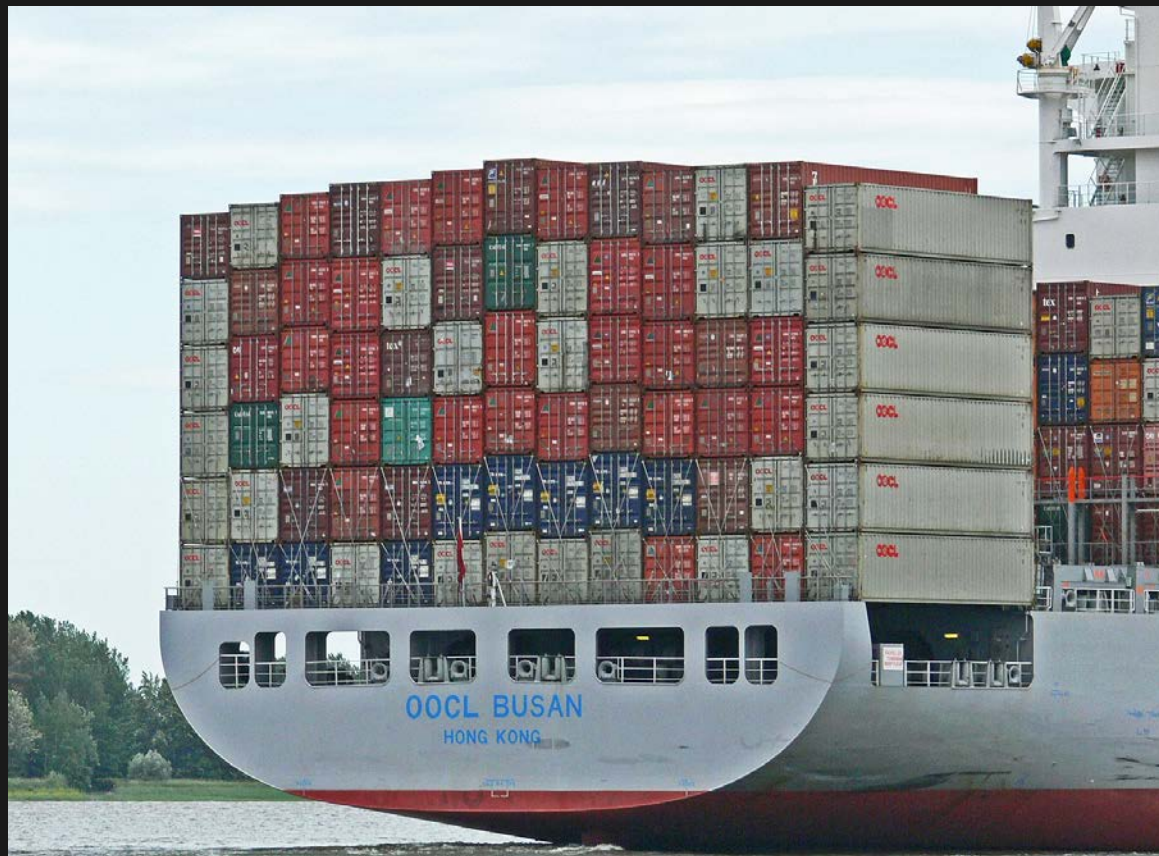
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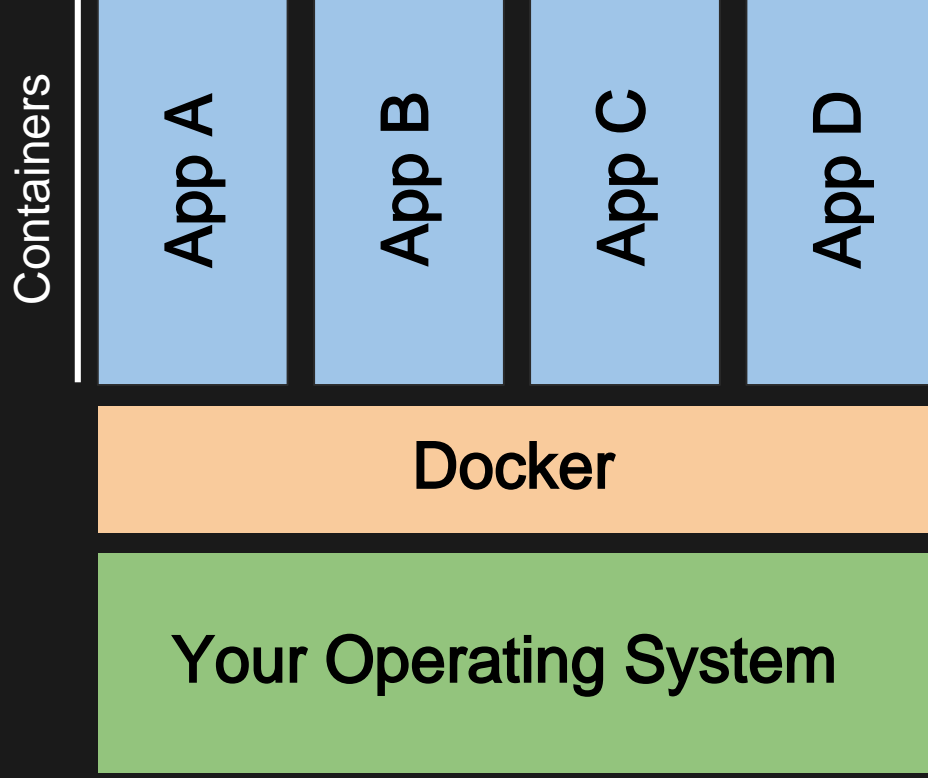
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What is Docker?

Platform for
packaging code as
well as its necessary
environment in
containers.

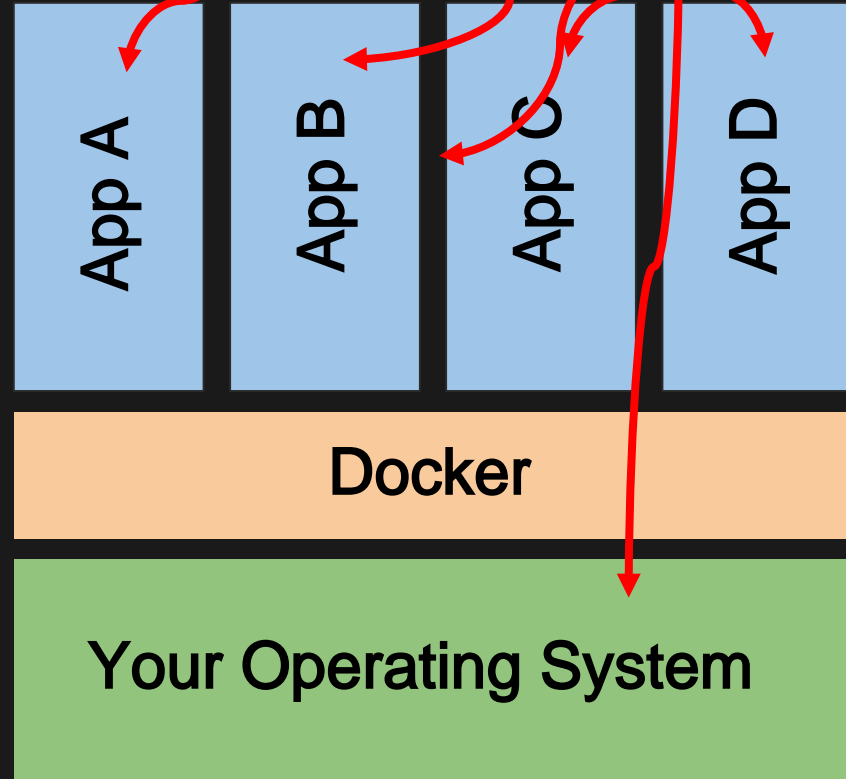






Code run in **here** can't change anything **here**.

Containers





How can Docker help with data curation?

- Consistent
- Portable
- Small
- Explicit
- Fast
- Secure

```
1  import sys
2
3  assert sys.version_info >= (3,6)
4  print("My wonderful code is running!")
```



Application 1

- 1A. start with debian linux image
- 1B. install Python
- 1C. add Application 1 to the container
- 1D. run Application 1 on start

Application 2

- 2A. start with debian linux image
- 2B. install Python
- 2C. add Application 1 to the container
- 2D. run Application 1 on start



Application 1	Application 2
1A. start with debian linux image 1B. install Python	
1C. add Application 1 to the container 1D. run Application 1 on start	2C. add Application 2 to the container 2D. run Application 2 on start

Application 1

- 1A. start with debian linux image
- 1B. install Python
- 1C. add Application 1 to the container
- 1D. run Application 1 on start

Modified Application 1

- 3A. start with debian linux image
- 3B. install Python
- 3C. add Application 1 to the container
- 3D. edit a file in Application 1*
- 3E. run Application 1 on start



Application 1	Modified Application 1
1A. start with debian linux image 1B. install Python 1C. add Application 1 to the container	
1D. run Application 1 on start	<i>3D. edit a file in Application 1</i> 3E. run Application 1 on start

```
docker run -p 8888:8888 -e GEN_CERT=yes jupyter/datascience-notebook:latest
```

```
e3c68aea9a5f: Pull complete
484c6d5fc38a: Pull complete
0448c1360cb9: Pull complete
61d7e6dc705d: Pull complete
4220f6699adb: Pull complete
42646a2d845b: Pull complete
689dca58215b: Pull complete
408031a94ea3: Pull complete
38f4c07194d6: Pull complete
04393f8a225b: Pull complete
3c3204bbdfa5: Pull complete
057546de4f19: Pull complete
1b0aa2e4e0c8: Pull complete
0cbd2ca311ac: Pull complete
3d5fc02377ea: Pull complete
c0b663a6314d: Pull complete
69ec86ab3eae: Pull complete
efb4b201c735: Pull complete
47211337a970: Pull complete
0800d12dbd6e: Extracting [=====>] 357MB/357MB
```

You can use other people's containers to simplify your own work.



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Docker Documentation

<https://docs.docker.com/get-started/>

Code

<https://github.com/organisciak/docker-example>

Slides

<https://goo.gl/rHrFZF>