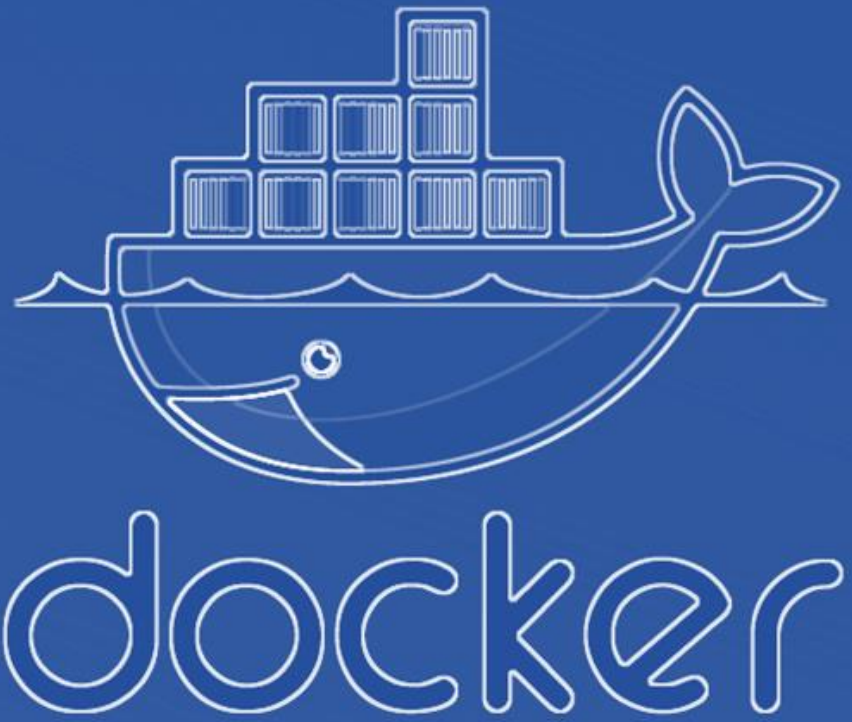

Introduction to Docker with R

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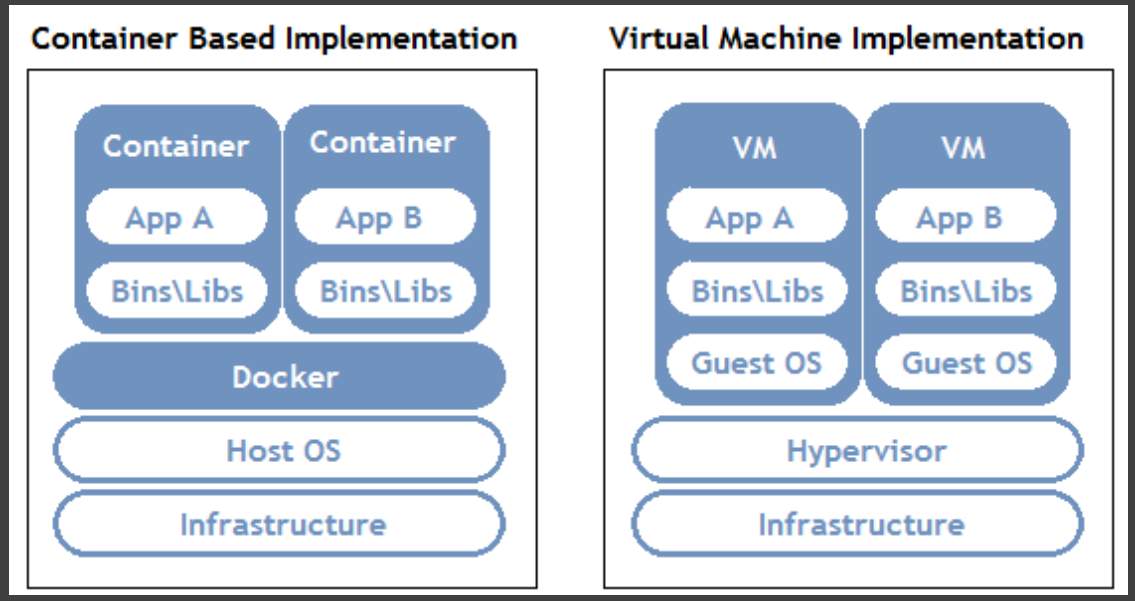
Aims of talk

- Quick overview of what is Docker
- Introduction to Docker desktop
- Taking a trained ML model, using Plumber to configure endpoints and consuming this via an API
- Creating a Dockerfile
- Deploying our Docker container using Windows command line
- Consuming our API
- Making predictions with the API

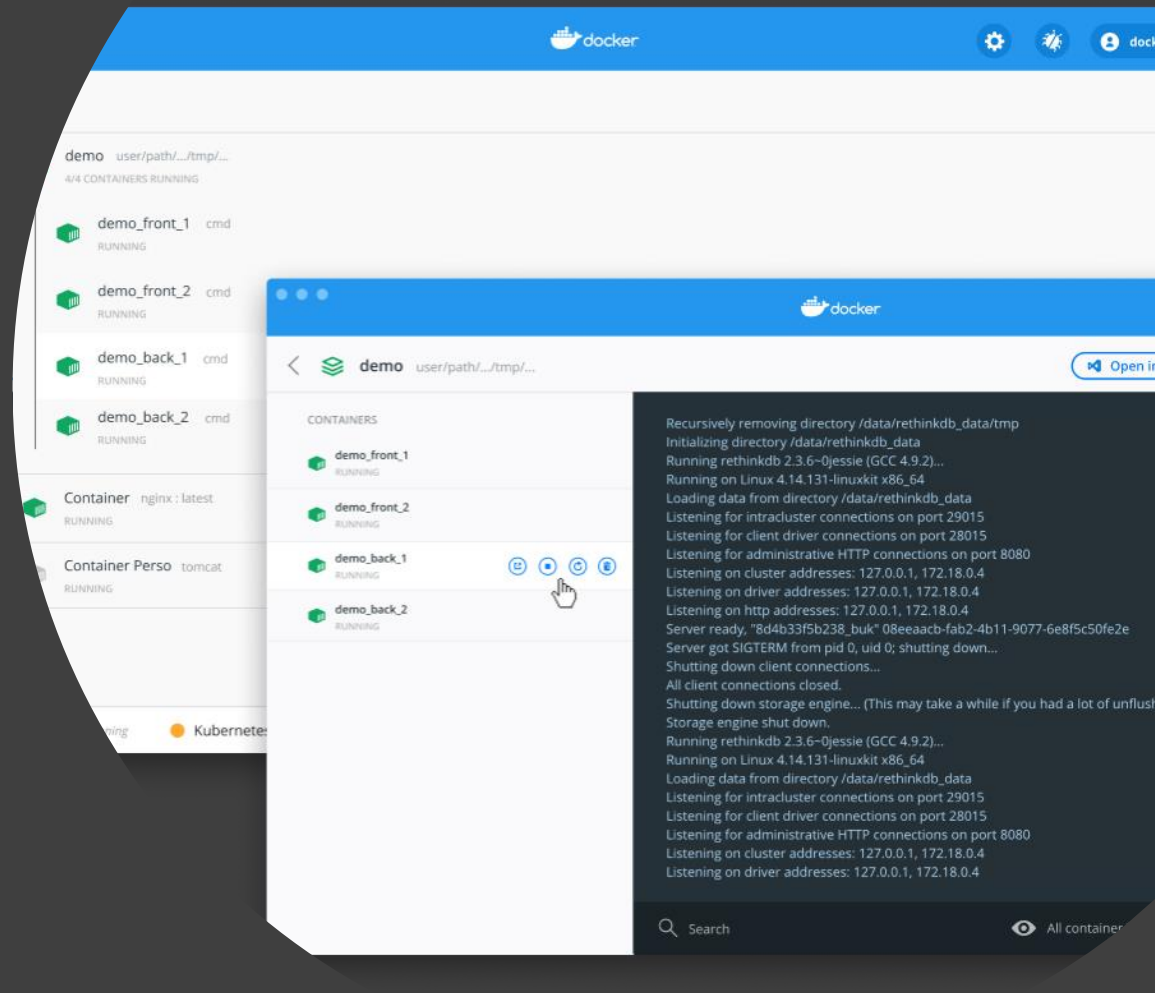
What is Docker?

- Containerised orchestration and application deployment solution
- Allows loads balancing compared to traditional VMs
- Served on a Linux kernel, but accessible for Windows using Docker Destkop
- Accessed normally via an API call for ML, web application for websites, databases can be hosted and queried on docker as well.
- Makes orchestration and deployment much more scalable and easy to use



Docker desktop

- Application built for Windows and Mac users, as Docker backend is Linux
- Allow for the management and orchestration of your apps
- Easy UI for managing docker containers
- Allows for auditing and running of docker containers / apps



LIVE DEMO - Deploying Trained ML model as an API and Docker container

- The next steps we will use a model that has been trained by the CARET machine learning library and expose this as a Plumber endpoint and deploy to a Docker container
- Create a Dockerfile – this will create our Docker Image
- Use command line to copy the file into Docker Desktop
- Expose API and use R to connect to it to make predictions on deployed and trained ML model
- Interface with our API using httr and jsonlite

Questions