

Docker Containers for DITA

Eliot Kimber
Contrext, LLC

DITA OT Day, Munich, November 2016



Docker Overview



What is Docker?

- “containerized software”
- Open-source project (docker.com)
- Puts software into “containers”
- Makes provisioning and deploying software (and data) easier



What Is A Container?

- A small virtual Linux machine
- Intended to contain a single program or just data
- Run by a “container manager” that runs multiple containers
- Can run on any platform



How Do Containers Help?

- Provide a consistent and controllable operation environment
 - Removes issues of local configuration details, OS, etc.
- Can be fetched automatically over the Web
 - Removes need for separate installation
- Containers share common parts
 - Minimizes network traffic and local storage

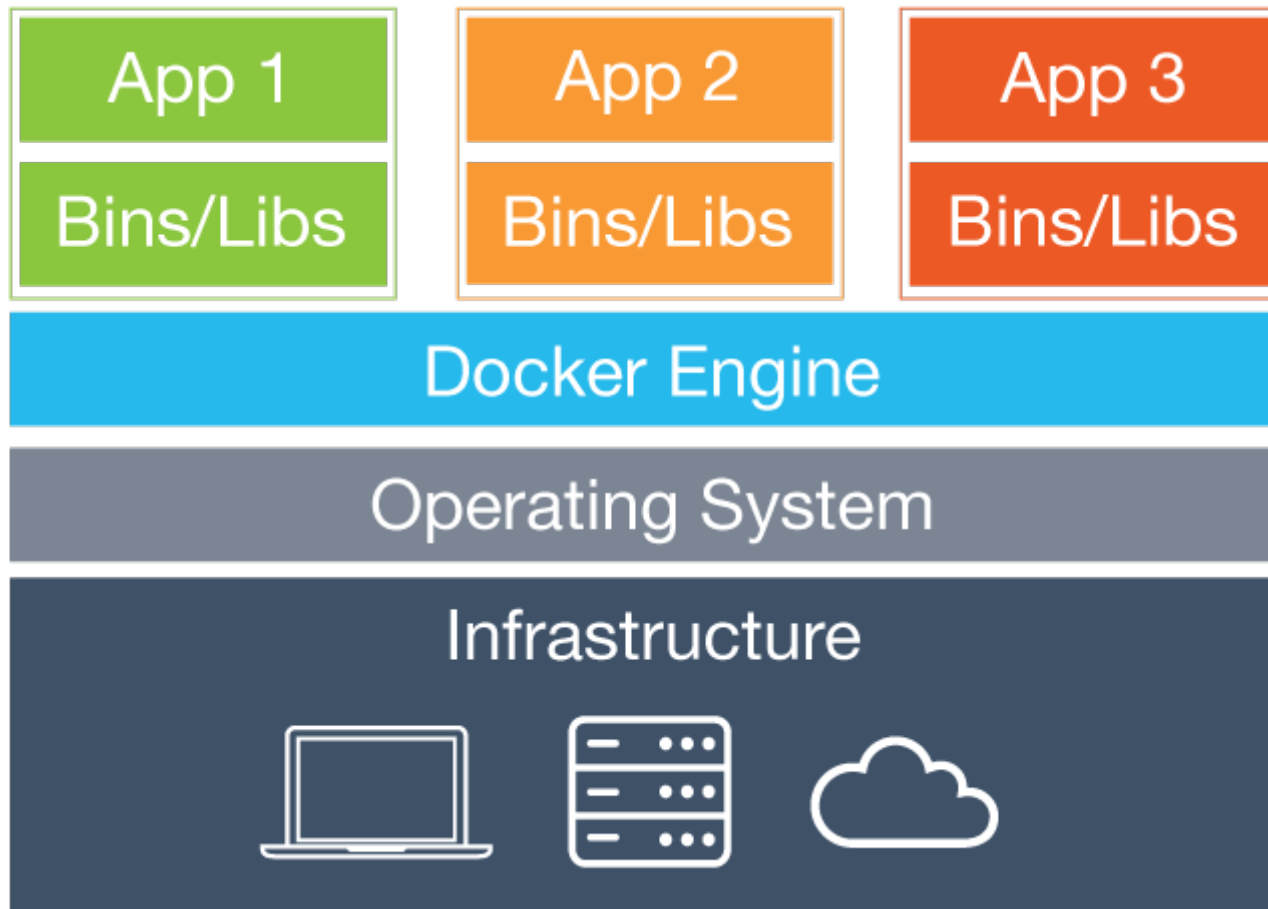


Simplifies Configuration Management

- Can configure and manage multiple containers as a coordinated set
- Makes deploying complex systems easier
- Can run same containers on any platform
- Can mix and match containers if system allows it
 - E.g., common remote APIs or shared data volumes



Docker Architecture



Using Docker

- Install Docker system on host computer
- Start the Docker machine
- Use Docker commands to manage containers



Getting Containers

- Get containers from:
 - Docker Hub (hub.docker.com)
 - Internal enterprise Docker hub
 - Shared as Zip files
 - Your local development environment
- Most well-known tools will have containers in Docker Hub



Things You Can Do

- Connect local file system to containers
 - Gives containers access to local files
 - E.g., run Open Toolkit against locally-stored files
- Make one container's data available to another container
 - Use OT-managed catalog from another container
- Create “data containers” that just have data
 - Useful for things like demo content, pre-configured databases, etc.



DITA-Related Containers

- DITA Open Toolkit
 - Containers available with different OT versions and plugin sets
 - Makes it easy to run OT without worrying about local environment
- DITA Demo Content Collection
 - Available as a data container
 - Easy to use directly or as a way to copy



Deployment



Docker Hub

- Public repository of container images
- Anyone can create their own organization and images in Docker Hub
- Docker automatically fetches images from the Hub when you try to run a container
- Connects to GitHub to get image configurations
- Can automate generation of new images when container configuration changes



Deployment

1. Make your container image locally
2. Commit your Docker configuration file (“docker file”) to GitHub
3. On Docker Hub, create repository for the container
 - a. Link to GitHub repo with docker file
 - b. Set up automated builds
4. Run the container locally—Docker will fetch from Docker Hub automatically



Docker Compose

- Can configure multiple containers to work as a unit
- Use a simple configuration file
- To deploy the container set, just run the configuration file with the docker-compose command



Docker for Windows and Mac

- Windows and Mac both have well-integrated Docker support
- Easy to install and manage
- Easy to mount local file systems
- Containers use localhost network addresses



Demo



Creating a New Container Version

- Update Docker file
- Push to GitHub
- New container created automatically
- Use container via Docker commands



Wrap Up



To Learn More

- Docker.com has good docs
- The Docker Book (dockerbook.com)
- Install Docker and try it out
- DITA-OT Docker project:
 - <https://github.com/dita-community/dita-ot-project-docker>
 - <http://www.dita-community.org/dita-ot-project-docker/>

