

Atomic Developer Bundle

Containerized Development Made Easy

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Problem Statement

- Linux Container Development
- Group wants uniform stable development environment
- Developers want personalized environment
- Developers should “develop” not “configure”
- Developer machines may not even run the technology
- Current tools are not use case specific



Solution - The Atomic Developer Bundle (ADB)

- Platform independant development environment
 - Windows, OS X, Linux
- Preconfigured tools that are good mimics of production
 - Multiple orchestrators (Docker, Kubernetes, OpenShift, Mesos-Marathon, ...)
 - Extensible
 - No required stack
 - Nuclele Specification
- Developer environment independent (keep on truckin')
 - 3 distinct use cases
 - Command Line Carla
 - IDE Igor
 - My Environment Mike

Demo Time

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- **"IDE Igor"** has always used an IDE. He wants to do containers on his terms.
- **"My Environment Mike"** has his own box that he has tricked out to his liking. Mike wants to have his environment connect seamlessly with the dev tools and for them to stay out of the way.

How Do We Make the sausage?

- Vagrant Box
 - VirtualBox & libvirt
- Utility scripts and configurations for multiple orchestrators
- Vagrant Plugin
- CentOS 7
- CentOS Build System

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https://commons.wikimedia.org/wiki/File:Sausage.making_J.F.Lovelocks.JPG

LOVELOCK'S
IMPROVED
SAUSAGE MAKING, GENERAL MINCING MACHINES,
and **COFFEE MILLS,**
For Domestic and other Use,
Are Unrivalled
for Simplicity,
Efficiency, and
Superior Finish.
*For Promoting
Domestic Economy
they are invaluable
in every household.*
TO BE HAD OF
ALL IRONMONGERS.
PURCHASERS ARE CAUTIONED AGAINST IMITATIONS.
J. F. LOVELOCK,
BROADWAY WORKS,
201, MARE STREET, HACKNEY, LONDON, N.E.



What's the Sausage Made Of?

- TLS protected docker daemon
- Kubernetes
- OpenShift
- Mesos-Marathon
- Atomic CLI

By FotoosVanRobin from Netherlands (My New Porkert #5 Meat Mincer) [CC BY-SA 2.0 (<http://creativecommons.org/licenses/by-sa/2.0/>)], via Wikimedia Commons
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Why We Chose CentOS

- Stability
- Community of Users
- Special Interest Group (SIGs) for users and specific software versions
- Build System
- CI/CD System
- Release cadence



Sausage, It's What's For Dinner!

- `cloud.centos.org` or via `vagrant`

```
$ vagrant init projectatomic/adb
```

```
$ vagrant up
```

```
$ vagrant plugin install vagrant-adbinfo
```

```
$ vagrant adbinfo
```

- Client CLIs Available Upstream

- `docker`
- `kubernetes`
- `OpenShift`

Note: Under VirtualBox you need to enable a public network interface - see the Usage Docs @ GitHub

Photo: <http://www.darkroastedblend.com/2008/07/russian-vintage-advertising-posters.html>



ADB Development & Contribution

- Project repositories under projectatomic organization
 - <https://github.com/projectatomic/>
- Mailing lists
 - <https://www.redhat.com/mailman/listinfo/container-tools>
- IRC:
 - #nulecule and #atomic on Freenode
- Public Meetings
 - Every Wed at 1230 UTC in a Bluejeans [Video Conference](#)
 - IRC meeting on #nulecule every Monday 1500 UTC



“The Future’s So Bright, I Gotta Wear Shades”

- Future Ideas
 - more hypervisors
 - more orchestrators
 - service architecture and improved management via vagrant plugin
- Today’s Challenges
 - TLS certificates generation for docker daemon
 - new vagrant plugin architecture
 - docker image caching
 - folder sync, sshfs?
 - DNS under Windows - ruby forks :(- patch pending ...



Thank you!

- Demos at: https://github.com/navidshaikh/adb_devconf_2016
- References:
 - <http://www.projectatomic.io/>
 - <https://github.com/projectatomic/adb-atomic-developer-bundle/>
 - <https://github.com/projectatomic/vagrant-adbinfo>
 - <https://www.centos.org/>

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