



Java. Cloud. Leadership.

## Edinburgh JBUG May 2013

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# Overview of a very busy period!

- JBoss Application Server rename
- Product binaries for all developers
- JBoss Way and JBoss.org changes
- EAP, JON, SOA-P/Fuse, OpenShift roadmaps
- Layering products and projects
- Mobile/embedded
- Polyglot



2



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# JBossAS needed a new name

- We wanted to remove confusion with the JBoss term
  - JBoss the group, division, etc.
  - JBoss the application server
  - JBoss the product (EAP)
  - JBoss the range of products
- We wanted to clarify the differentiation between upstream community and product
- More like RHEL and Fedora relationship



3



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# And the winner was ...

# WildFly



JBoss Application Server has a new name...  
and it's even #?!@ing faster.

The first Alpha of WildFly is coming soon



Unparalleled Speed

Even Faster



Lightweight

Small Memory Footprint



New Features

Targeting Java EE7



Questions?

Have your questions answered on our [FAQ](#).

# Improved access to products

- We wanted to give the community free access to our products
  - Evaluation versions simply not enough
  - Alphas, Betas, CRs, nightly builds and GA
- Started with EAP and JBoss Fuse but will roll out across all of our products
  - Alphas, nightly builds not supported
  - Betas etc. require \$0 subscription for developer use



6



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# Changes to JBoss.org

The screenshot shows the JBoss.org website interface. At the top, there is a navigation bar with links for 'GET STARTED', 'GET INVOLVED', 'PROJECTS', and 'PRODUCTS'. A user profile for 'Mark Little' and a 'Log Out' link are visible on the right, along with a search box. Below the navigation bar is a banner for 'JBoss Application Server 7' with a large '7' logo. A secondary navigation bar includes 'Overview', 'Downloads', 'Documentation', 'Community', 'Issue Tracker', 'Source Code', and 'Build'. The main content area is titled 'JBoss Application Server 7 > JBoss Application Server Downloads'. It features a green 'Download EAP 6.1.0 Alpha' button with a download icon and the text 'Our hardened Enterprise Application Platform'. To the right, it lists supported operating systems: RHEL 6, Windows Server 2008, and Solaris 10 & 11. Below this is a section titled 'All JBoss Application Server Downloads' containing a table with columns for Version, Description, Release Date, License, Support, Download, and OpenShift.

| Version     | Description                         | Release Date | License | Support                                    | Download   | OpenShift |
|-------------|-------------------------------------|--------------|---------|--|--|-----------|
| 6.1.0 Alpha | EAP alpha built from AS7            | 2013-03-07   | LGPL    | Alpha discussion boards watched by Red Hat | ZIP (123MB) SHA   MDS<br>Release Notes   Source (26MB) |           |
|             | EAP Maven Repository                | 2013-03-07   | LGPL    | Alpha discussion boards watched by Red Hat | ZIP (202MB) SHA   MDS                                  |           |
|             | Quick Starts                        | 2013-03-07   | LGPL    | Alpha discussion boards watched by Red Hat | ZIP (5MB) SHA   MDS                                    |           |
| 7.1.1.Final | AS Certified Java EE 6 Full Profile | 2012-03-09   | LGPL    | Community participation only               | ZIP (127MB)<br>Release Notes                           | ✔         |
|             | AS Certified Java EE 6 Full Profile | 2012-03-09   | LGPL    | Community participation only               | TAR.GZ (127MB)<br>Release Notes                        |           |
|             | Quickstarts                         | 2012-03-09   | AL 2    | Community participation only               | site<br>Release Notes                                  |           |
| 7.1.0.Final | AS Certified Java EE 6 Full Profile | 2012-02-16   | LGPL    | Community participation only               | ZIP (100MB)<br>Release Notes                           |           |



# The JBoss Way

*the* JBoss Way

*the* JBoss Way

Build modern and flexible apps more simply and productively, the JBoss Way.

[Watch The Video](#) [Download Tools Now](#) [Get Started!](#)

Tutorials Videos Quickstarts Features Subscribe

**Featured Today:**

**Introduction & Getting Started**  
Get started developing The JBoss Way by following this inclusive tutorial.

The target audience for this tutorial are those individuals who do not yet have a great deal of experience with Eclipse + JBoss Tools (JBoss Developer Studio), JBoss Enterprise Application 6 or JBoss AS 7, Java EE 6 features like JAX-RS or HTML5 & jQuery for building an mobile web front-end.

If you prefer to watch instead of read, a large portion of this content is also covered in video form at [link](#).

In this tutorial, we will touch on the following: - Working with JBoss Developer Studio (Eclipse + JBoss Tools) - Creating of a Java EE 6 project via a Maven archetype - Leveraging m2e and m2e-wtp - Using Forge to create a JPA entity - Using Hibernate Tools - Database Schema Generation - Deployment to a local JBoss Server - Adding a JAX-RS endpoint - Adding a jQuery Mobile client - Using the Mobile BrowserSim

**Travel along the JBoss Way...**

Learn [About The JBoss Way](#)      Get Going [Get JBoss Developer Studio](#)      Get Involved [Issue Tracker](#)

**JBoss**  
by Red Hat

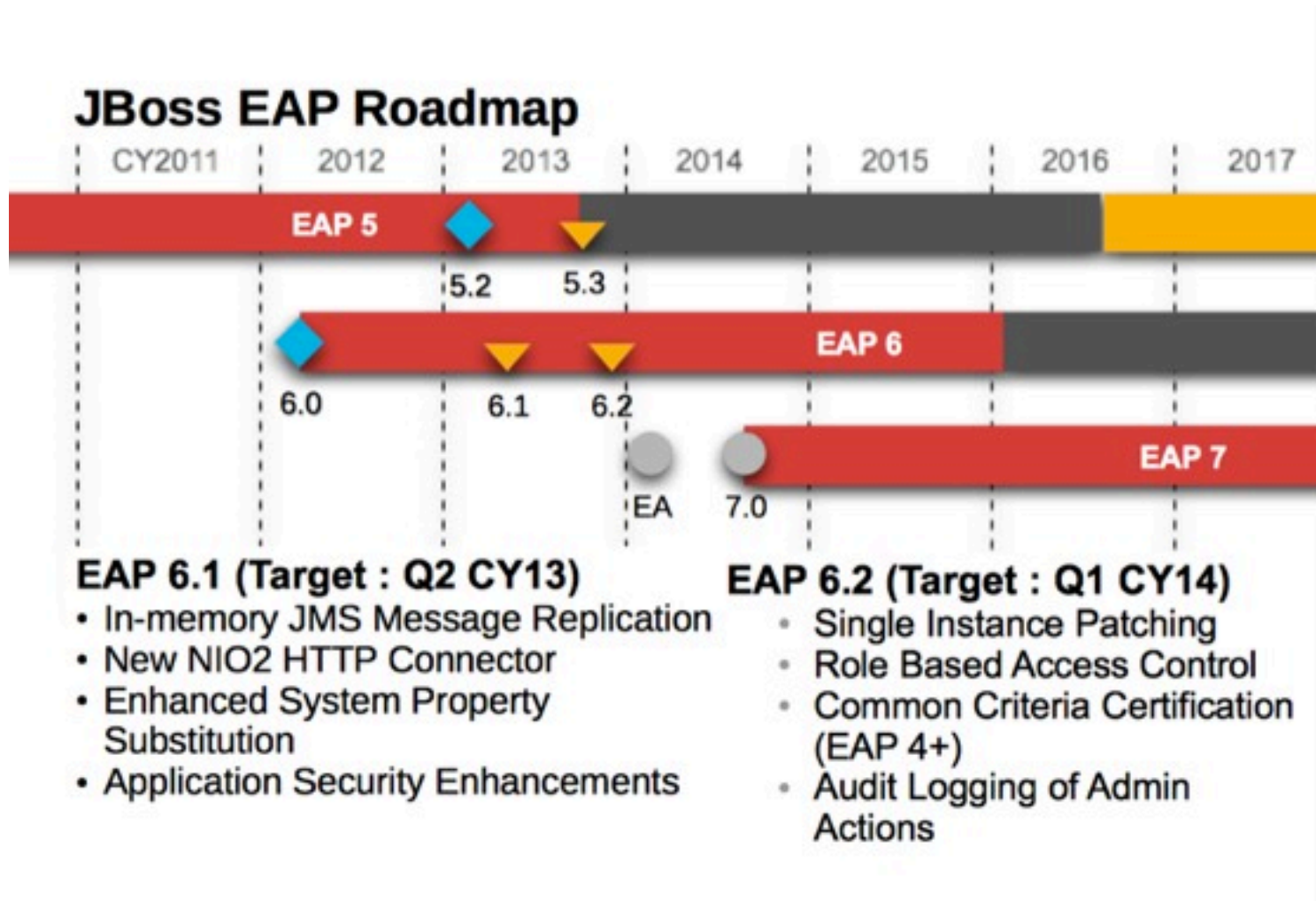
**Leadership.**





Thursday, 9 May 13

# EAP 6.1, 6.2, ...



# Beyond EAP 6

- EE7 ratified
  - Updates to CDI, BeanValidation, JAX-RS, JMS, JTA, JCA, ...
- SE8
  - OpenJDK and modularity work
- EE8 by end of 2014
  - Cloud, NoSQL and BigData
  - Modularity (maybe)
- OASIS, OMG, W3C
  - Cloud Identity, BPMN2, WS-\*, REST



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# JON

- The next 18 months
  - 3.2 - Oct/Nov 2013
    - Replacing RDBMS with Cassandra for metrics
    - New Charts/visualization
  - 3.3 - May/June 2014
    - Refactor UI presentation - re-organize information layout, user interactions
    - Replace RDBMS with S-RAMP for content management
  - 3.4 - Oct/Nov 2014
    - Agent-less monitoring
    - Replace custom event engine with Drools



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# JBoss+Fuse+Polymita



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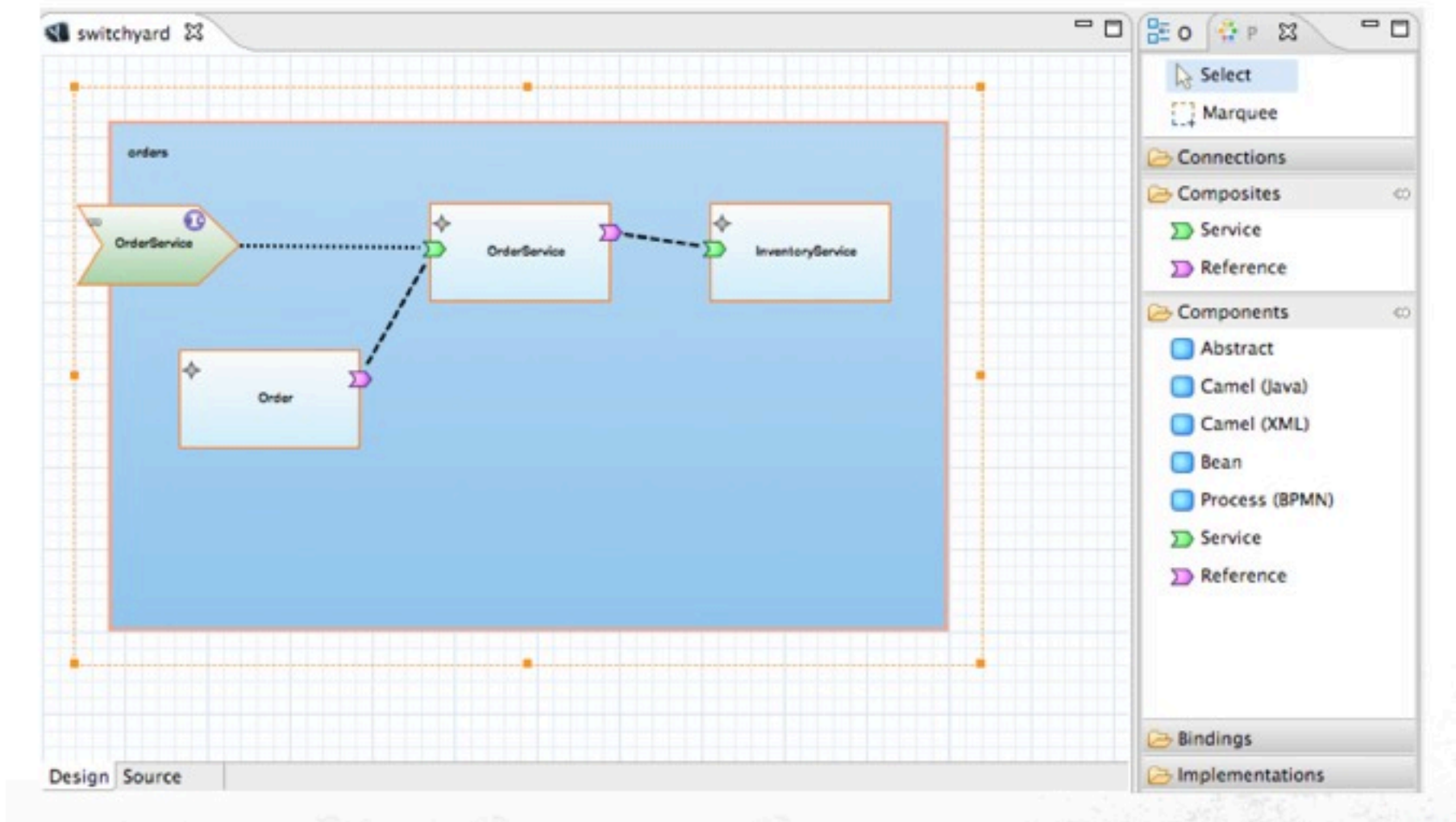
# SOA-P 6 and Beyond

- SOA 6 “Integration Framework”
  - Moving beyond the SOA-P 5.x
  - Stack of platforms for lowering barrier to entry
- Flexible base platform
  - Camel, EAP 6 support
- Service model definition platform
  - Cloud-aware (Integration as a Service)
  - Governance
- Data integration



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# Switchyard and SCA



# BRMS, BPMS

- Drools team working on GUT for 6 years
- Same core engine simplifies and is more efficient
  - Drools
  - jBPM5
  - CEP
- Rules (tasks, processes)
  - But they grow with your business and SOA
  - Governance is critical
- Polymita-based front-end



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# OpenShift

- World's first EE6 PaaS (AS7 and EAP6)
  - Tomcat and others available too
- Polyglot programming is the default
  - Java, Ruby, Scala, Clojure, Node.js, Python ...
- Support for GAE on OpenShift!
  - CapeDwarf, now at Google I/O
- Storage support
  - MySQL, MongoDB, PostgreSQL
- OpenShift Origins and OpenShift Enterprise



A green highway sign with white text and an arrow pointing up and right. The sign is mounted on a metal structure against a blue sky and a yellowish ground.

The Future

NEXT EXIT 

# Embeddable

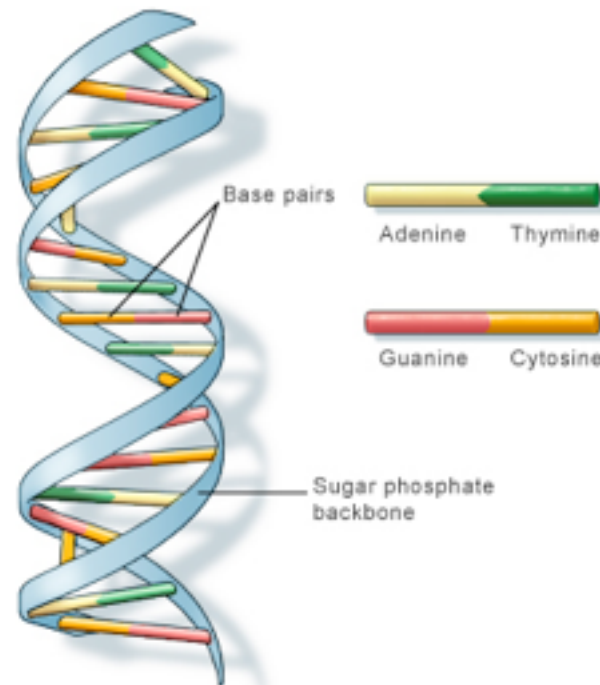
- Being embeddable isn't just for the PR
- Having an application server that can run on a “constrained device” can help scalability and reliability
  - Cloud
  - Mobile
- We shouldn't just target “super computers”
- Intelligent devices need middleware capabilities



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# EAP, SOA-P, common layering

- Core architecture gives us uniformity across products and projects
- Pluggable architecture forms basis for other product combinations
- OSGi and MSC



U.S. National Library of Medicine



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# Pi meets mobile



- Raspberry Pi

- Narayana, Switchyard, Infinispan, AS7, Arquillian
- Fuse Fabric, vert.x

- Mobile

- AeroGear

- Hybrid and native
    - EAP and OpenShift backends



- Embedded

- AS7
    - Narayana
    - jBPM 5



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```
JBOSS_HOME: /home/jboss/jboss-as-7.1.0.CR1b
Java: java
JAVA_OPTS: -server -Xms64m -Xmx512m -XX:MaxPermSize=256m -Djava.net.preferIPv4Stack=true -Dorg.jboss.resolver.warning=true -Dsun.rmi.dgc.client.gcInterval=360000 -Dsun.rmi.dgc.server.gcInterval=3600000 -Djboss.modules.system.pkgs=org.jboss.byteman -Djava.awt.headless=true
-----
10:45:31,254 INFO [org.jboss.modules] JBoss Modules version 1.1.0.CR6
10:45:33,065 INFO [org.jboss.msc] JBoss MSC version 1.0.1.GA
10:45:33,567 INFO [org.jboss.as] JBoss AS 7.1.0.CR1b "Flux Capacitor" starting
10:45:40,621 INFO [org.jboss.as] Creating http management service using socket-binding (management-http)
10:45:40,632 INFO [org.xnio] XNIO Version 3.0.0.CR7
10:45:40,709 INFO [org.xnio.nio] XNIO NIO Implementation Version 3.0.0.CR7
10:45:40,753 INFO [org.jboss.remoting] JBoss Remoting version 3.2.0.CR8
10:45:41,460 INFO [org.jboss.as.logging] JBAS011502: Removing bootstrap log handlers
10:45:41,703 INFO [org.jboss.as.naming] (ServerService Thread Pool -- 38) JBAS011800: Activating Naming Subsystem
10:45:41,739 INFO [org.jboss.as.clustering] (ServerService Thread Pool -- 30) JBAS010300: Activating Infinispan subsystem.
10:45:41,753 INFO [org.jboss.as.security] (ServerService Thread Pool -- 44) Activating Security Subsystem
10:45:41,912 INFO [org.jboss.as.osgi] (ServerService Thread Pool -- 39) JBAS011910: Activating OSGi Subsystem
10:45:41,942 INFO [org.jboss.as.security] (MSC service thread 1-1) Picketbox version=4.0.6.Beta2
10:45:41,967 INFO [org.jboss.as.webservices] (ServerService Thread Pool -- 48) JBAS015537: Activating WebServices Extension
10:45:42,236 INFO [org.jboss.as.connector] (MSC service thread 1-4) JBAS010408: Starting JCA Subsystem (JBoss IronJacamar 1.0.6.Final)
10:45:42,759 INFO [org.jboss.as.naming] (MSC service thread 1-4) JBAS011802: Starting Naming Service
10:45:42,865 INFO [org.jboss.as.jaxr] (MSC service thread 1-4) Binding JAXR ConnectionFactory: java:jboss/jaxr/ConnectionFactory
10:45:43,066 INFO [org.jboss.as.mail.extension] (MSC service thread 1-2) JBAS015400: Bound mail session [java:jboss/mail/Default]
10:45:44,035 INFO [org.jboss.as.connector.subsystems.datasources] (ServerService Thread Pool -- 26) JBAS010403: Deploying JDBC-compliant driver class org.h2.Driver (version 1.3)
10:45:44,116 INFO [org.jboss.as.remoting] (MSC service thread 1-1) Listening on /127.0.0.1:4447
10:45:44,378 INFO [org.apache.catalina.core.AprLifecycleListener] (MSC service thread 1-3) The Apache Tomcat Native library which allows optimal performance in production environments was not found on the java.library.path: /usr/lib/jvm/java-6-openjdk/jre/lib/arm/server:/usr/lib/jvm/java-6-openjdk/jre/lib/arm:/usr/lib/jvm/java-6-openjdk/jre/../lib/arm:/usr/java/packages/lib/arm:/usr/lib/jni/lib:/usr/lib
10:45:45,549 INFO [org.apache.coyote.http11.Http11Protocol] (MSC service thread 1-1) Starting Coyote HTTP/1.1 on http--127.0.0.1:8080
10:45:47,228 INFO [org.jboss.ws.common.management.AbstractServerConfig] (MSC service thread 1-2) JBoss Web Services - Stack CXF Server 4.0.0.GA
10:45:48,434 INFO [org.jboss.as.connector.subsystems.datasources] (MSC service thread 1-1) JBAS010400: Bound data source [java:jboss/datasources/ExampleDS]
10:45:49,275 INFO [org.jboss.as.remoting] (MSC service thread 1-2) Listening on /127.0.0.1:9999
10:45:49,359 INFO [org.jboss.as.server.deployment.scanner] (MSC service thread 1-1) JBAS015012: Started FileSystemDeploymentService for directory /home/jboss/jboss-as-7.1.0.CR1b/standalone/deployments
10:45:49,955 INFO [org.jboss.as] (Controller Boot Thread) JBoss AS 7.1.0.CR1b "Flux Capacitor" started in 20090ms - Started 130 of 200 services (68 services are passive or on-demand)
```



<https://community.jboss.org/wiki/How-toRunJBossAS7OnAnAndroid>

```

top - 22:32:05 up 29 min, 2 users, load average: 8.22, 5.50, 2.95
Tasks: 63 total, 1 running, 62 sleeping, 0 stopped, 0 zombie
%Cpu(s): 83.0 us, 4.8 sy, 0.0 ni, 0.0 id, 11.5 wa, 0.0 hi, 0.6 si, 0.0 st
KiB Mem: 188112 total, 176588 used, 11524 free, 384 buffers
KiB Swap: 262140 total, 52288 used, 209852 free, 9312 cached

```

| PID         | USER      | PR        | NI       | VIRT        | RES         | SHR        | S        | %CPU       | %MEM       | TIME+          | COMMAND     |
|-------------|-----------|-----------|----------|-------------|-------------|------------|----------|------------|------------|----------------|-------------|
| 2223        | pi        | 20        | 0        | 727m        | 67m         | 2588       | S        | 78.0       | 36.6       | 5:01.99        | java        |
| 1793        | pi        | 20        | 0        | 816m        | 55m         | 1140       | S        | 6.8        | 30.1       | 5:05.71        | java        |
| <b>2487</b> | <b>pi</b> | <b>20</b> | <b>0</b> | <b>4664</b> | <b>1296</b> | <b>928</b> | <b>R</b> | <b>1.3</b> | <b>0.7</b> | <b>0:00.30</b> | <b>top</b>  |
| 33          | root      | 20        | 0        | 0           | 0           | 0          | S        | 1.0        | 0.0        | 0:24.35        | mmcqd/0     |
| 1643        | pi        | 20        | 0        | 10624       | 308         | 192        | S        | 0.6        | 0.2        | 0:00.43        | sshd        |
| 17          | root      | 20        | 0        | 0           | 0           | 0          | S        | 0.3        | 0.0        | 0:08.95        | kswapd0     |
| 1492        | ntp       | 20        | 0        | 5832        | 452         | 272        | S        | 0.3        | 0.2        | 0:01.14        | ntpd        |
| 2473        | root      | 20        | 0        | 0           | 0           | 0          | S        | 0.3        | 0.0        | 0:00.08        | kworker/0:0 |
| 1           | root      | 20        | 0        | 2128        | 56          | 36         | S        | 0.0        | 0.0        | 0:01.93        | init        |
| 2           | root      | 20        | 0        | 0           | 0           | 0          | S        | 0.0        | 0.0        | 0:00.00        | kthreadd    |
| -           | .         | --        | -        | -           | -           | -          | -        | -          | -          | -              | ...         |

```

FuseFabric:karaf@root> container-connect broker1
Connecting to host 192.168.0.28 on port 8102
Connected

```



Fuse Fabric Container (7.0.1.fuse-004)  
<http://fabric.fusesource.org/>

Type **'help'** to get started  
and **'help [cmd]'** for help on a specific command.  
Hit **<ctrl-d>** or **'osgi:shutdown'** to shutdown this Fuse Fabric Container.

Create a new Fabric via **'fabric:create'**  
or join an existing Fabric via **'fabric:join [someURLs]'**

```

FuseFabric:admin@broker1> activemq:list
BrokerName = broker1

```



# We're not just Java



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# Enterprise capabilities

- Java in 1996 did not possess enterprise features
  - J2EE took several years to evolve
    - Some implementations layered on existing services
- Popular JVM languages experiencing similar problem
  - Lack of enterprise capabilities
- Two ways to resolve
  - Build from scratch in language
  - Leverage existing implementations in other languages



25



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# The JVM ...

# The best VM for **\$LANGUAGE**



26



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# EAP ...

# The best app-server for **\$LANGUAGE**



27



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# Richard Hamming, 1968 Turing speech

- Whereas Newton could say, "If I have seen a little farther than others, it is because I have stood on the shoulders of giants," I am forced to say, "Today we stand on each other's feet." Perhaps the central problem we face in all of computer science is how we are to get to the situation where we build on top of the work of others rather than redoing so much of it in a trivially different way.



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