

JBoss, Rails and the cloud

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Red Hat Middleware, aka JBoss

wtf, mate?

- I love Ruby and Rails
- I work for a Java company (JBoss)
- Deployment of rails apps *is* sucky

“Rails can’t scale”

- The Twitter “incident”
- Packs of mongrels (~100mb core apiece)
- Not easy to deploy, scalability of admin procedures (DRb, memcached, cron)

Do Rails on Java!

- JRuby is Rails-happy
(jruby.codehaus.org)
- Apparently Glassfish does it
- Any Java appserver can do it with Warbler, if you feel like producing a .war before deploying

But why?

Because the Java appserver environment provides what you need.

- Don't have to worry about deploying memcached
- Never worry about deploying crontabs
- Enterprisey features like clustering, failover, and such
- Works just as well on Windows as Unix

JBoss scales!

- It's enterprisey
- Plenty of prior art with clustering
- Top-shelf caching (JBossCache)

Do Rails on JBoss

- Deploy mostly “native” Rails app easily
- Doesn't require bundling of .war files
- Deploys from RAILS_ROOT, changes to views & controllers are reflected immediately

JBossAS is modular environment

JBossAS provides all sorts of useful services

- Web
- Remoting
- Scheduling
- Caching

J2EE is just one way of doing it

- All apps boil down to controllers, views, and other components
- Ruby/Rails is just yet-another-programming model for describing components
- Map them to enterprisey Java infrastructure

but...

don't make me think too much about java!

Start with JRuby-Rack

<http://github.com/nicksieger/jruby-rack/tree/master>

- Speaks Java Servlet API on one side
- And Ruby Rack on the other
- Works with Rails, Merb, and anything Rack-happy

jboss-rails.deployer

- Wires it up to a Tomcat context
- Looks at the RAILS_ROOT
- Provides jruby.jar
- Integrates app with JRuby-Rack, magically

jboss-rails-plugin

- Just some Rake tasks, that's all
 - start up JBossAS
 - deploy/undeploy your app
- You don't even *really* need it

rake jboss:as:*

Once you've set `$JBOSS_HOME...`

rake jboss:as:run

rake jboss:as:run:cluster

rake jboss:rails:jdbc:*

- rake jboss:rails:jdbc:install

:derby

:h2

:hsqldb

:mysql

:postgresql

sqlite3

**Installs the appropriate JDBC drivers
into your vendor/plugins/**

rake jboss:rails:*

rake jboss:rails:deploy

rake jboss:rails:undeploy

What's it mean to deploy?

Drop a *deployment-descriptor* into the server's `deploy/` directory.

myapp-rails.yml

```
application:  
  RAILS_ENV: development  
  RAILS_ROOT: /home/bob/myapp  
web:  
  context: /
```

Deployment Descriptor

- It's like a symlink pointing to the application's codebase (RAILS_ROOT)
- It embodies the RAILS_ENV for the deployment
- It describes the context to bind the app, since appservers can deploy many sometimes-overlapping apps

What about capistrano?

- Same capistrano deployment process
- “create-symlink” actually should create deployment descriptor
- Instead of bouncing mongrel, should do **nothing at all** (JBoss auto-hot-deploys)

And then the cloud...

“Cloud” is just virtualization

- Xen instances
- VMWare instances
- Amazon EC2

Basic Premise

- Enough Linux to run JBoss
- JBoss baked in
- Clustering configured & ready

Red Hat Thincrust

<http://thincrust.net/>

- Mixture of Kickstart, RPMs, and Yum
- Produces machine images with “just enough” OS
- Bakes in any other packages needed
- Wires up auto-updating and reconfiguration using Puppet and magic

JBoxx

- A “Fedora Remix” (trademark pending) based on a minimal Fedora 9
- Includes JBossAS 5 (the latest & greatest)
- Includes jboss-rails.deployer

JBoss on EC2

- One-click(tm) spinning of new nodes in a cluster
- Nodes auto-merge into existing cluster through JGroups

Issues

- EC2 uses runlevel 4, wtf?
- EC2 disabled multicast, need to wire up JGroup Gossip rendezvous
- Need appliances for DBs, load-balancers
- Need scripts for cluster management

Resources

- My Blog

<http://fnokd.com/>

- Code on GitHub

<http://github.com/bobmcwhirter/jboss-rails>

<http://github.com/bobmcwhirter/jboss-rails-plugin>

and several others...