Introduction to Ruby on Rails

Welcome to the puzzle….it's a fun ride!

By Steve Keener

Terms you will hear

- Full stack
- Active Record
- Object Relational Model (ORM)
- MVC
- Gems
- RHTML
- Migration
- SVN

What is RoR?

- It's the next best thing to sliced bread?
- It's the silver bullet to fix our project?
- It's magic?

None of these things. It's a tool. But it was conceived as a highly productive tool where DRY is paramount. Don't Repeat Yourself.

Things you will need

- Ruby (Language)
- Rails (Framework in Ruby)
- Database

Start here: www.rubyonrails.org/down

You can download Instant Rails (Windows only). It contains Ruby, Rails, and MySQL for trying out the RoR world. You would use the command line and text editors to create applications.

Available Development IDEs

- RadRails – Eclipse-based, integrated generators & servers.

  http://www.radrails.org/

- TextMate – Mac oriented

  http://www.macromates.com/

I use RadRails. Downside is that code generators are still command line. But that's a minor drawback.

Source Code Repositories

- CVS – Doesn't seem to be the preferred repository. Haven't found an integrated delivery system. I used simple Ant scripts to build my delivery processes.
- SVN – Preferred repository and is integrated with Capistrano. (Rails version of application delivery systems.)

After that…

The first place to start the journey is by reading the article "Rolling with Ruby on Rails" by Curt Hibbs.

http://www.onlamp.com/pub/a/onlamp/2005/01/20/rails.html

Then what?

You should pick up two books:

Agile Web Development with Rails (Excellent)

Rails Recipes (Great for finding specific functional modules you might need and having them running in an hour.)

Other resources

Rails online API

http://api.rubyonrails.org/

Ruby Forums

http://www.ruby-forum.com/user/login

RubyForge

http://rubyforge.org/

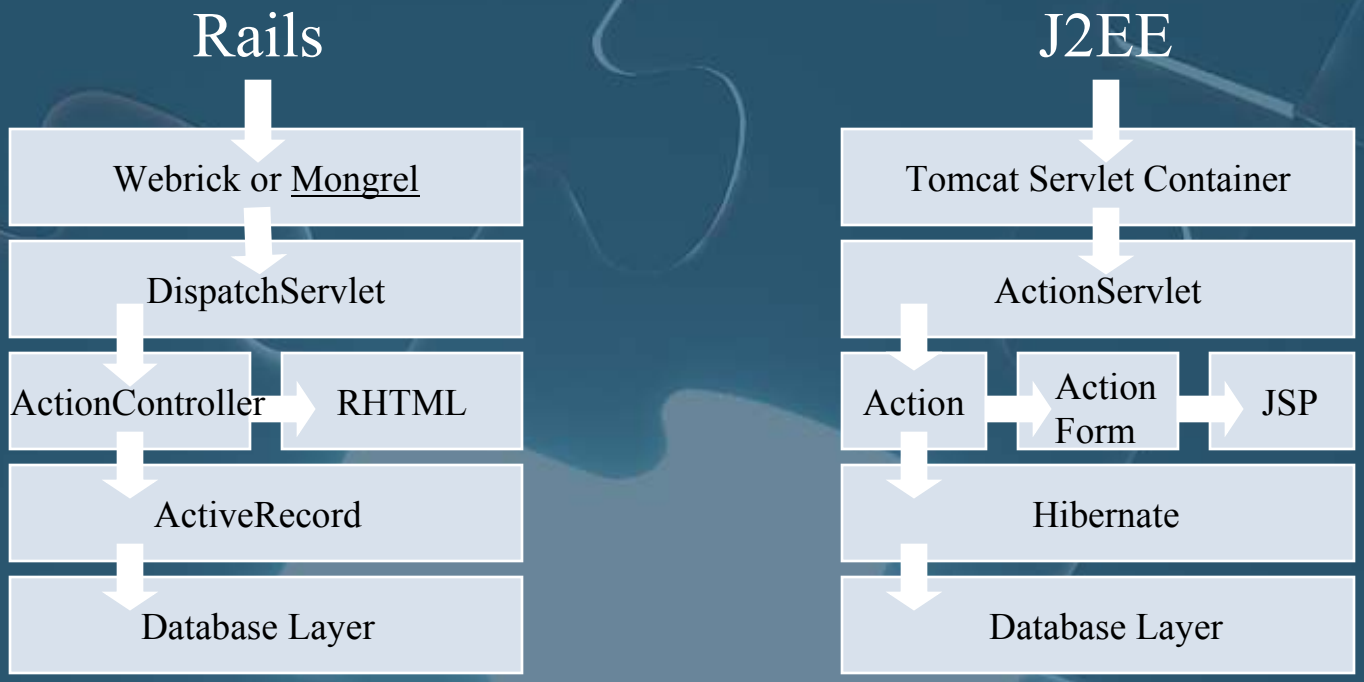
On to Rails...

- Object Relational Mapping: ActiveRecord

  Like Java's Hibernate (but simpler)

  Takes away a lot of the drudgery associated with web applications. (Create, Retrieve, Update, and Delete functions.)

Full Stack

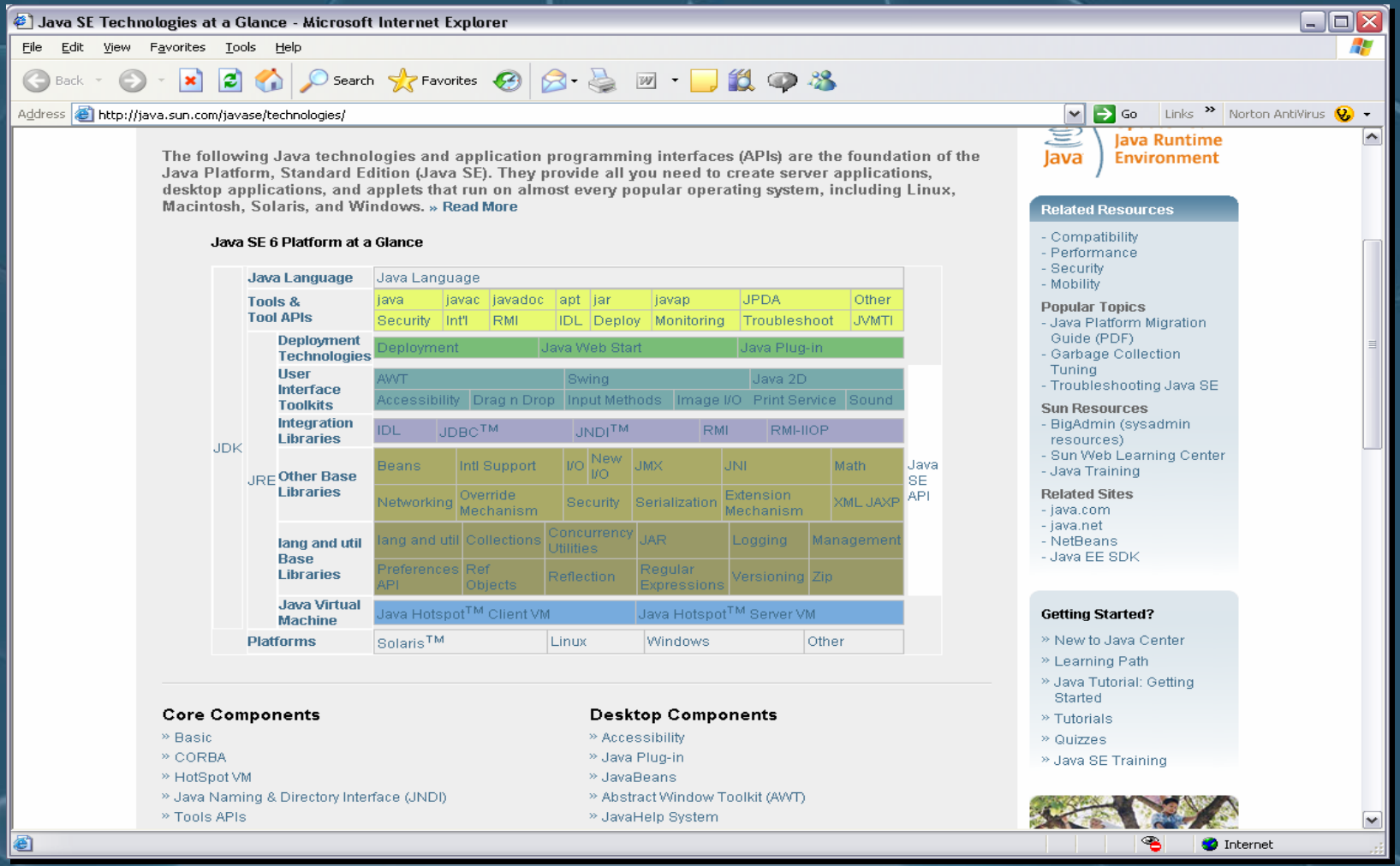


Yes…they are fairly comparable….

Note: Found diagram on web

Or another way to put it

Or maybe this way…



Rails vs J2EE

- Both have a learning curve
- RAILS has the edge in productivity by a significant margin.
- J2EE currently has an edge in scalability. If it's a client facing system for millions of concurrent users – use J2EE.
- If it's an internal web application, definitely take a look at this technology as a possible way of shortcutting the long development time for a J2EE web app.

Can’t afford the time to learn a new framework!!!

- I needed a few screens to manage some dev data. Was investigating several different technologies to see what would best serve the need and timeframe. (J2EE, Hibernate, JSF, Rails, etc)

- Day 1 - Picked up a Ruby On Rails book, read a few articles, started experimenting.
- Day 2 - Stated building a few screens, relying on dynamic scaffolding for basic CRUD functionality
- Day 3 - Began replacing scaffold screens with better looking ones by hand.
- Day 4 – Started adding layouts, CCS, and some AJAX functionality to make application a bit nicer.
- Day 5 – Began investigating Models, Migrations, and RJS templates to enhance productivity.

5 days from start, over 50 screens produced, far more functionality than I had been planning, demos to multiple managers, and more than a few headaches. It’s not perfect, but is certainly a useful tool. (NOT A SILVER BULLET!!!!!!)

Database

- New term – Migration: A powerful and flexible tool for managing database changes

  Allows table, index, and data creation scripts to be run in multiple environments with a very simple syntax.

  Need to revert back to a previous DB version to work on a bug? 1 command. Then refresh it back to the current dev version? 1 command.

Example Migration

```
class CreateMenuitems < ActiveRecord::Migration

    def self.up
        # Create the Menuitems table.  The ID field does not need to be specified – automagically created.
      create_table :menuitems do |t|
        t.column :href,       :string, :limit => 75
        t.column :title,      :string, :limit => 75
        t.column :desc,       :string, :limit => 75
        t.column :leadtag,    :string, :limit => 25
        t.column :endtag,     :string, :limit => 25
       end


      item = Menuitem.create(:href => "/menu/zero_dollars.html",
                             :title => "Zero dollar page1",
                             :desc => "Zero dollar ads1",
                             :leadtag => "<li>",
                             :endtag => "</li>")
      item.save
    end

      def self.down
        drop_table :menuitems
      end
end
```

MVC

- Model / View / Controller

Model – Used for persistence and relationships

View – Used for displaying the data

Controller – The logic of the application

Example Model

```
class Node < ActiveRecord::Base
end
```

Yes….that's it. Rails queries the database and determines the datatypes and fields for you.

You can add data relationships, data validations to the model later. This is enough to get the scaffold screens up and running.

Example View (With AJAX functionality thrown in)

```
<h1>Listing nodes</h1>
<table>
  <tr>
    <th>Desc</th>
    <th>Create date</th>
    <th>Status</th>
  </tr>

    <% @nodes.each do |n| %>
        <tr>
        <td>
                <%= @node = n; in_place_editor_field :node, :desc, {}, {:url => '/node/node_update_desc/' << @node.id.to_s,
                :rows => 1, :cancelLink => 'false'} %>
      </td>
        <td width="50%" align="center"><%= n.created_at %></td>
        <td width="50%" align="center"><%= n.status %></td>
        </tr>
    <% end %>
</table>
```

Example Controler

```
def list
    @nodes = Node.find(:all)
end
```

- Uses the ActiveRecord Object Relational Mapping capabilities to pull all of the nodes in the Nodes table. No SQL written here to cause problems.

Rails/Ruby conventions

- Ruby Gems – Like Java Jar files. Packages that can be installed. Taken one step further – simple installation methodologies.
- Convention over configuration. Use the "Rails Way". The framework is designed to make development fast and easy.
- RHTML - HTML files with embedded Ruby/Rails code. Preprocessed into HTML

Resources

Rails API

http://api.rubyonrails.org/

CSS Menus

http://www.cssplay.co.uk/menus/index.html

Live DataGrid

http://unspace.ca/discover/datagrid/

More...

Subversion

http://subversion.tigris.org/

Data Relationships diagram

http://mboffin.com/stuff/ruby-on-rails-data-relationships.png

Cheatsheets

http://www.rubyonrailsblog.com/files/RoRblog-CheatSheet.pdf

Cheatsheets

Migration
http://garrettsnider.backpackit.com/pub/367902

Rails
http://www.rubyonrailsblog.com/files/RoRblog-CheatSheet.pdf

Webservices on Rails
http://manuals.rubyonrails.com/read/book/10

WebCast How-To site
http://peepcode.com/

Summary

It's an evolving toolset.

DRY leads to fewer lines of code. Less code should mean less chances for bugs.

Still requires normal analysis to be done on a project. But you can react far quicker to changes in requirements.

A great tool for your toolbox.