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From Rails 2.3 to 3.0

by J. Austin Hughey

In this, the first of two articles leading up to the release of Rails 3.1, expected on 30 August, web applications engineer J. Austin Hughey discusses the changes made and new features that were added to Rails between versions 2.3 and 3.0. In the second article he will discuss the new features and improvements coming in version 3.1.

Rails 2.3 - 3.0

[?]

Introduction
New Routing System
Cross-Site-Scripting Protection

The impending release of version 3.1 of the Ruby on Rails web application development framework has a lot of developers wondering, "should I upgrade?" With so many new features and performance improvements, the impulse can be rather strong, especially for those on applications built on version 2.3.x. While upgrading isn't recommended in all cases, this article should provide you with an overview of the changes to Rails since 2.3, starting with 3.0 and, in the next article, moving onto what's planned for version 3.1.

From 2.3.x to 3.0

Rails 3.0 saw the introduction of many features designed to make the framework more secure and improve its overall robustness.

ActiveRecord, ActiveModel and ActiveRelation

ActiveRecord has been refactored as a series of three different classes working together: ActiveRecord, ActiveModel, and ActiveRelation.

ActiveRecord is still the core ORM that we've been familiar with for years. It processes all queries as it did in previous versions of Rails, albeit with a different syntax which we'll return to later.

ActiveModel is an "extraction" of various modules that were once embedded into ActiveRecord. Validations, i18n translation, serialisation, and other "goodies" have been placed into a new class called ActiveModel. This separation of concerns allows you to make standard Ruby classes "feel like" ActiveRecord by including the appropriate ActiveModel modules, and then using their features, e.g. model validations.

For example, if you wanted to create a plain Ruby object, but use ActiveModel validations, you could do so like this:

```
require 'rubygems'
require 'active_model'

class Automobile
  # Make use of validations
  include ActiveModel::Validations

  attr_accessor :num_wheels, :transmission_type, :engine_type,
    :fuel_type, :mpg

  validates :num_wheels, :numericality => true
  validates :transmission_type, :presence => true
  validates :engine_type, :presence => true
  validates :fuel_type, :presence => true,
    :inclusion => { :in => ['Diesel', 'Gasoline', 'Hydrogen', 'Electric Battery'] }
  validates :mpg, :presence => true, :numericality => true,
    :if => :liquid_fuel?

private

  def liquid_fuel?
    return true if ["Gasoline", "Diesel"].include?(fuel_type)
    return false
  end
```

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Kernel Log: Coming in 3.10 (Part 4) - Drivers

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THE TROUBLE WITH "BUSINESS SOURCE"

The problem of creating funding in a new software business is a major one, and doubly so for open source based companies. Michael Widenius recently described his solution to the problem, "Business Source", claiming it delivers "most of the benefits of open source". The H took a look to see how that held up **more »**

Kernel Log: Coming in 3.10 (Part 3) - Infrastructure

COMING IN LINUX 3.10 3: Infrastructure

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Whatever happened to Google?

```
end
```

As you can see, even though this class doesn't inherit from ActiveRecord::Base, by including ActiveModel::Validations, we have access to all the functionality that previously required the whole of ActiveRecord to use. We even have access to conditional validations without any ActiveRecord dependence whatsoever.

More Information about ActiveModel can be found in Yehuda Katz' (@wycats) article, "Make Any Ruby Object Feel Like ActiveRecord", as well as in the various ActiveModel modules listed in the Rails API documentation, such as ActiveModel::Serialization, ActiveModel::Validations, and ActiveModel::Translation, to name a few.

ActiveRelation is a new system for handling database queries based on relational algebra, and allows for a much cleaner query syntax in addition to performance improvements through lazy loading. For an example of the differences between Rails 2.3 and 3.0's querying syntaxes, see the following examples:

The more compact syntax of Rails 3.0 queries

As you can see, the Rails 3 syntax is a bit shorter. One of the more notable differences in this situation, however, is that while the Rails 2.3 example above would return a Ruby array object, the Rails 3.0 example would return an ActiveRecord::Relation object. This allows us to perform method chaining on the AREL object, calling methods such as #first, #limit, and so on. Those that would normally be caught by Enumerable are overridden so that they operate on the query itself, and not on the results of that query. For example:

```
# Rails 2.3
Model.find(:all, :conditions => {:something => "value"}).first
        # (This is bad, don't do it! Only here as an example.)

# Rails 3
Model.where(:something => "value").first
```

In the Rails 2.3 example, all rows matching our query would be returned as an array, and then the first element of that array would be returned. Note that this is a bad practice, and shouldn't be used outside the scope of documentation and/or explanation (use Model#first for 2.3.x ActiveRecord instead).

By contrast, the Rails 3 example would return an ActiveRecord::Relation object, and it's on this object that we call #first. Because #first is defined in a module included in ActiveRecord::Relation, it uses that method instead of the standard Enumerable #first method. The #first method used will modify the query before its execution because AREL objects are now [u]lazy loaded[/u]. The Rails 3 example above would generate SQL similar to: "SELECT * FROM models WHERE something = 'value' LIMIT 1;". Note that you can also use methods such as #limit, #order, and others on a single ActiveRecord::Relation object.

```
# Rails 2.3
Model.all(:conditions => {:something => "value"}, :limit => 5)

# Rails 3
Model.where(:something => "value").limit(5).order("something ASC")
```

Next: New Routing System

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HITS OF **H**

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