How to Upstream Your Code to Rails

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Rails Triage Team

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How to Upstream Your Code to Rails

Why to Upstream Your Code to Rails

~~How~~ to Upstream Your Code to Rails

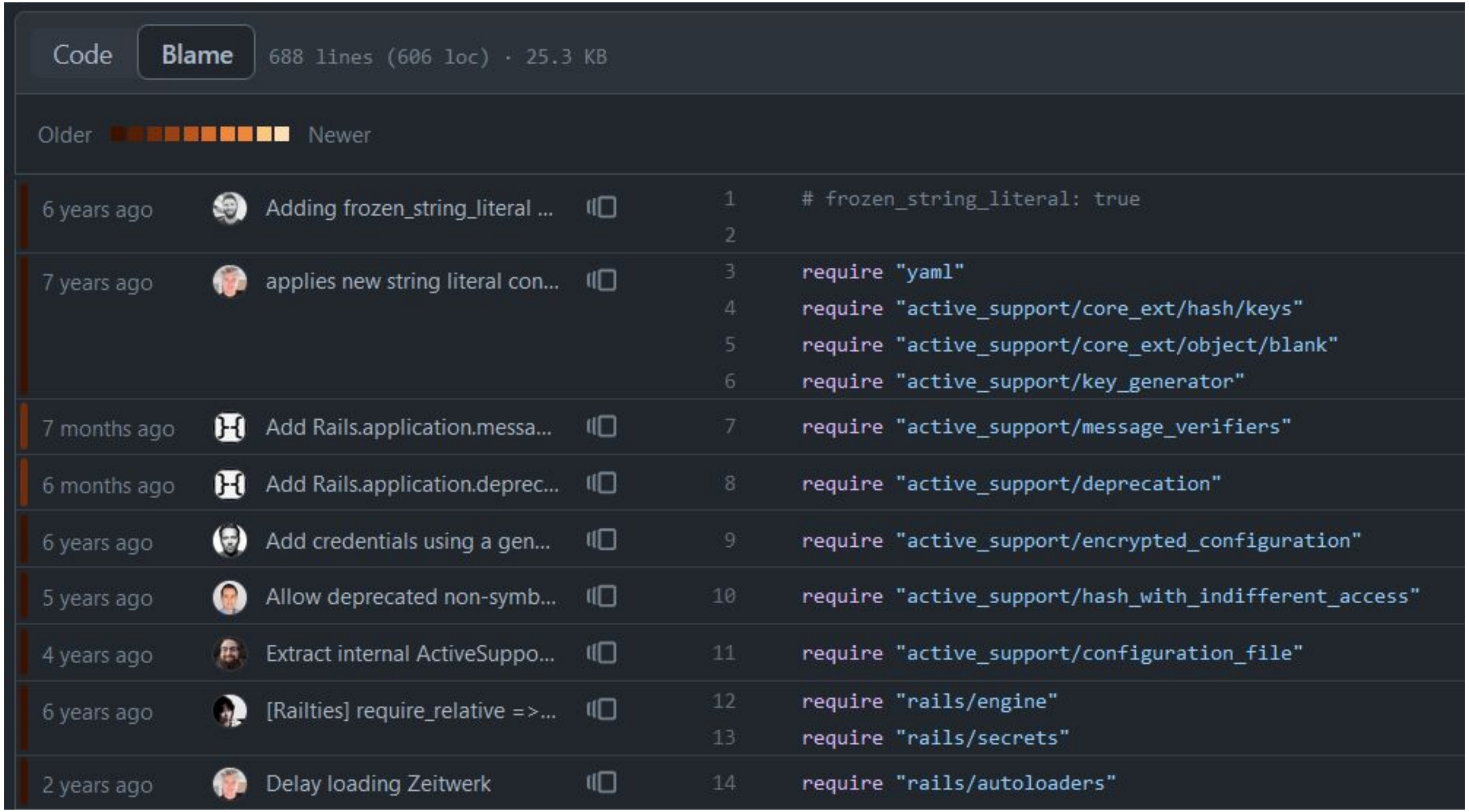
🛠️ Lower Maintenance Costs

🧠 Improve Rails Knowledge

```
$ git blame <file>
$ git blame <file>
```

```
# ~/.gitconfig
[alias]
  context = blame
```

```
$ git context <file>
```

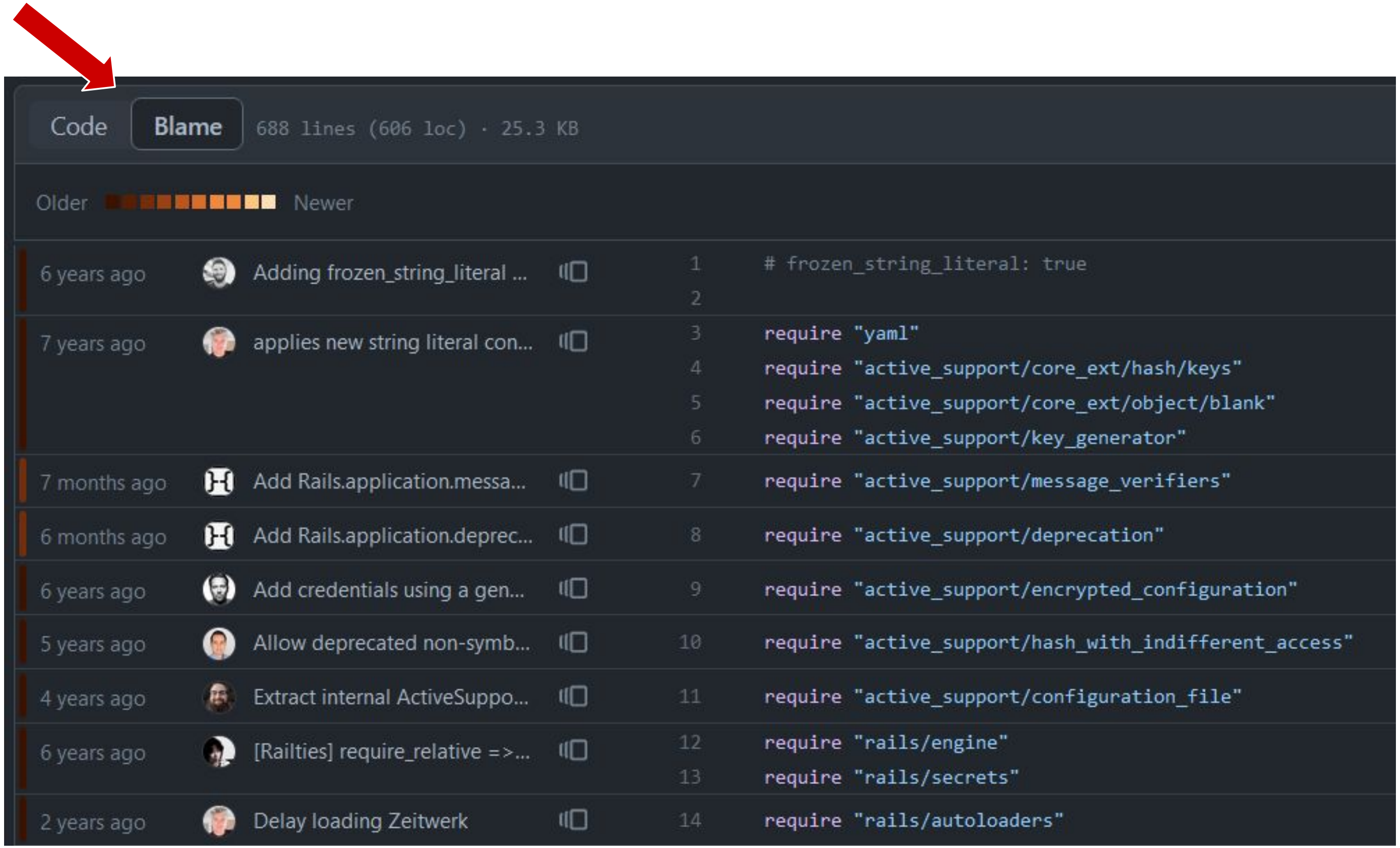


6 years ago	Adding frozen_string_literal ...	
7 years ago	applies new string literal con...	
7 months ago	Add Rails.application.messa...	
6 months ago	Add Rails.application.deprec...	
6 years ago	Add credentials using a gen...	
5 years ago	Allow deprecated non-symb...	
4 years ago	Extract internal ActiveSuppo...	
6 years ago	[Railties] require_relative =>...	
2 years ago	Delay loading Zeitwerk	

```ruby
# frozen_string_literal: true

require "yaml"
require "active_support/core_ext/hash/keys"
require "active_support/core_ext/object/blank"
require "active_support/key_generator"
require "active_support/message_verifiers"
require "active_support/deprecation"
require "active_support/encrypted_configuration"
require "active_support/hash_with_indifferent_access"
require "active_support/configuration_file"
require "rails/engine"
require "rails/secrets"
require "rails/autoloaders"
```

https://github.com/rails/rails/blame/main/railties/lib/rails/application.rb



6 years ago	Adding frozen_string_literal ...	1 2	`# frozen_string_literal: true`

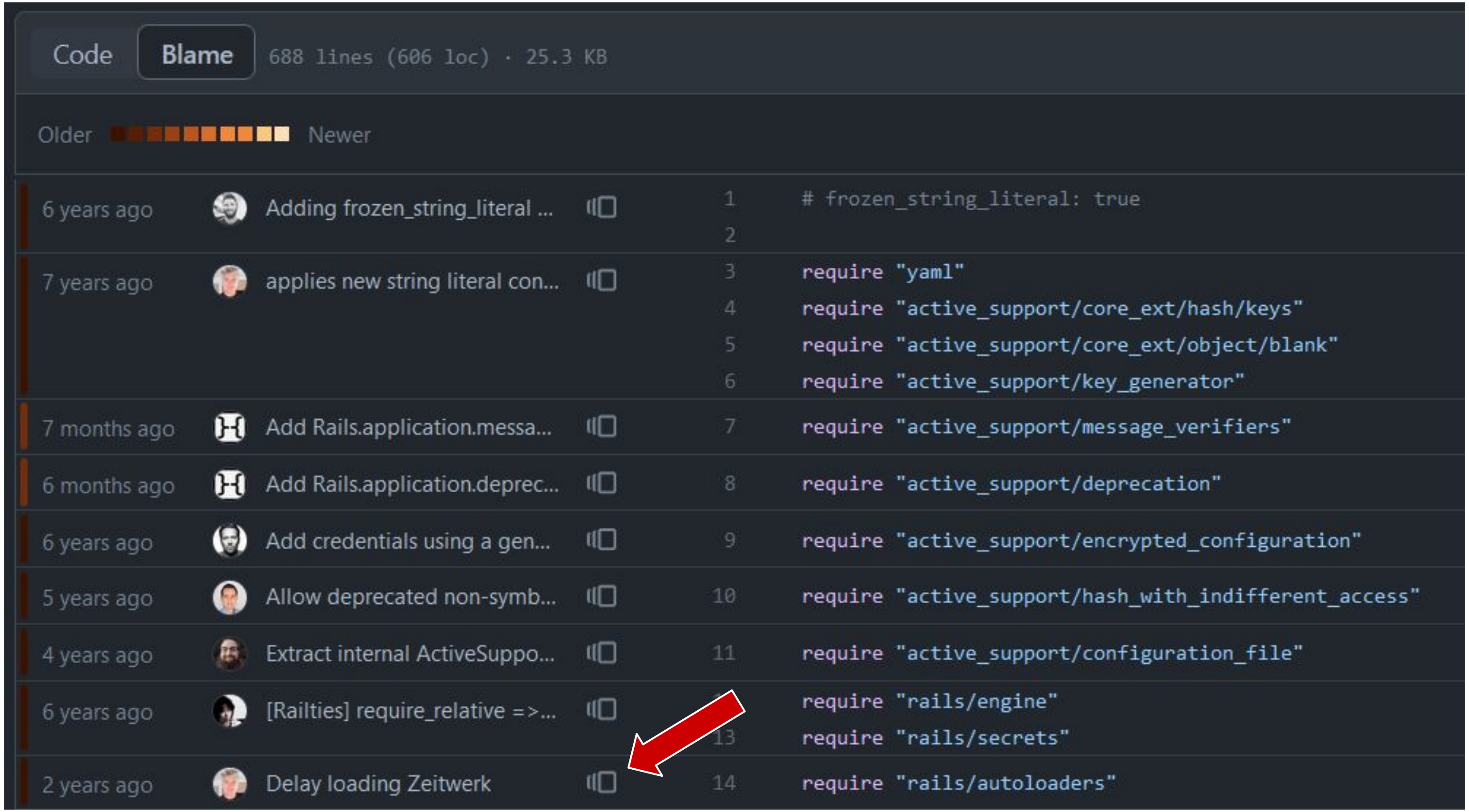
7 years ago	applies new string literal con...	3
		4
		5
		6
			`require "yaml"`
			`require "active_support/core_ext/hash/keys"`
			`require "active_support/core_ext/object/blank"`
			`require "active_support/key_generator"`

7 months ago	Add Rails.application.messa...	7	`require "active_support/message_verifiers"`
6 months ago	Add Rails.application.deprec...	8	`require "active_support/deprecation"`
6 years ago	Add credentials using a gen...	9	`require "active_support/encrypted_configuration"`
5 years ago	Allow deprecated non-symb...	10	`require "active_support/hash_with_indifferent_access"`
4 years ago	Extract internal ActiveSuppo...	11	`require "active_support/configuration_file"`

6 years ago	[Railties] require_relative =>...	12
		13
			`require "rails/engine"`
			`require "rails/secrets"`

2 years ago	Delay loading Zeitwerk	14	`require "rails/autoloaders"`

https://github.com/rails/rails/blame/main/railties/lib/rails/application.rb



Code Blame 688 lines (606 loc) · 25.3 KB

Older ■■■■■■■■■■ Newer

6 years ago	Adding frozen_string_literal ...	`# frozen_string_literal: true`

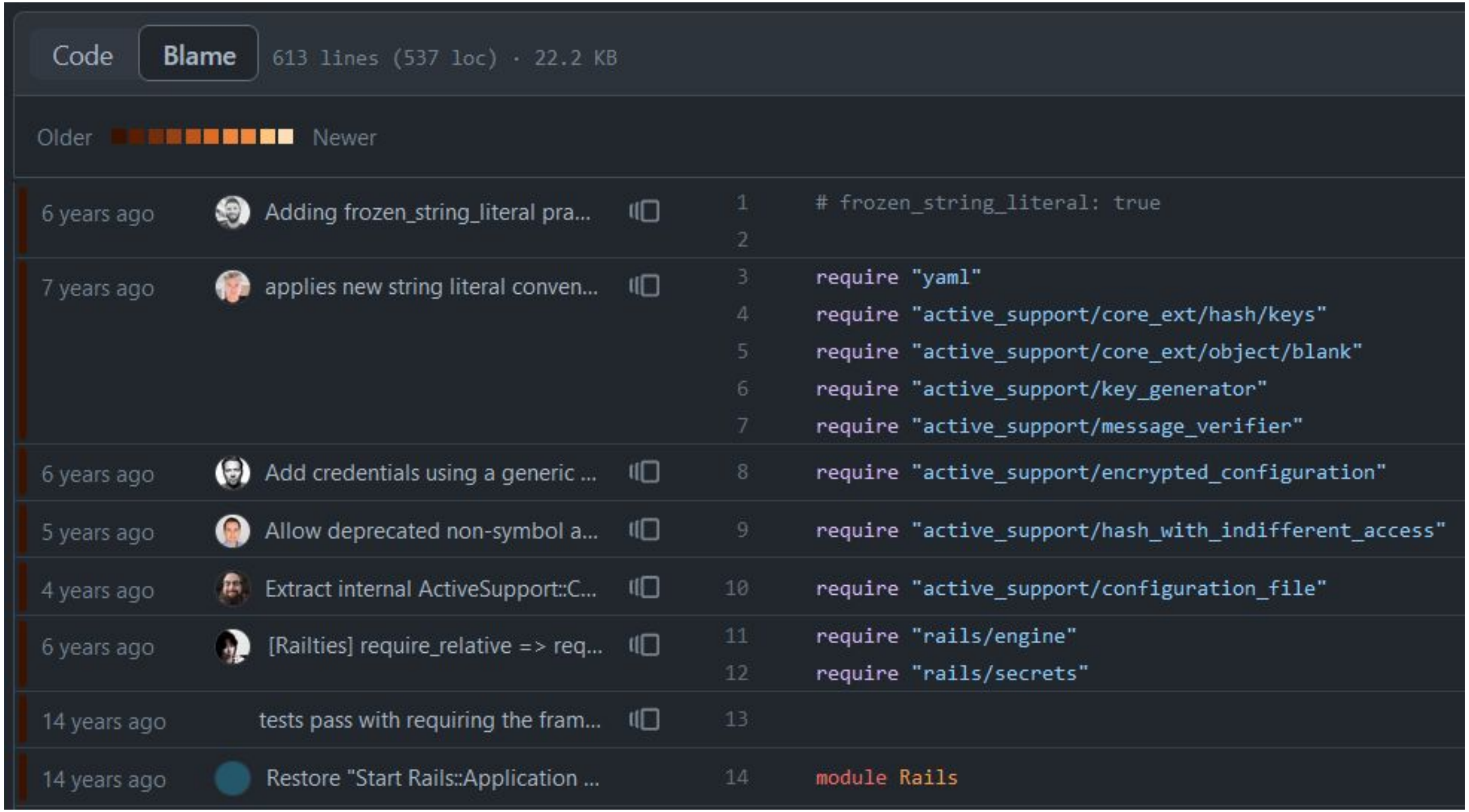
7 years ago	applies new string literal con...	`require "yaml"`
		`require "active_support/core_ext/hash/keys"`
		`require "active_support/core_ext/object/blank"`
		`require "active_support/key_generator"`

7 months ago	Add Rails.application.messa...	`require "active_support/message_verifiers"`
6 months ago	Add Rails.application.deprec...	`require "active_support/deprecation"`
6 years ago	Add credentials using a gen...	`require "active_support/encrypted_configuration"`
5 years ago	Allow deprecated non-symb...	`require "active_support/hash_with_indifferent_access"`
4 years ago	Extract internal ActiveSuppo...	`require "active_support/configuration_file"`

6 years ago	[Railties] require_relative =>...	`require "rails/engine"`
		`require "rails/secrets"`

2 years ago	Delay loading Zeitwerk	`require "rails/autoloaders"`

https://github.com/rails/rails/blame/main/railties/lib/rails/application.rb



Code Blame 613 lines (537 loc) · 22.2 KB

Older ■■■■■■■■■■ Newer

6 years ago	Adding frozen_string_literal pra...	`# frozen_string_literal: true`

7 years ago	applies new string literal conven...	`require "yaml"`
		`require "active_support/core_ext/hash/keys"`
		`require "active_support/core_ext/object/blank"`
		`require "active_support/key_generator"`
		`require "active_support/message_verifier"`

6 years ago	Add credentials using a generic ...	`require "active_support/encrypted_configuration"`
5 years ago	Allow deprecated non-symbol a...	`require "active_support/hash_with_indifferent_access"`
4 years ago	Extract internal ActiveSupport::C...	`require "active_support/configuration_file"`

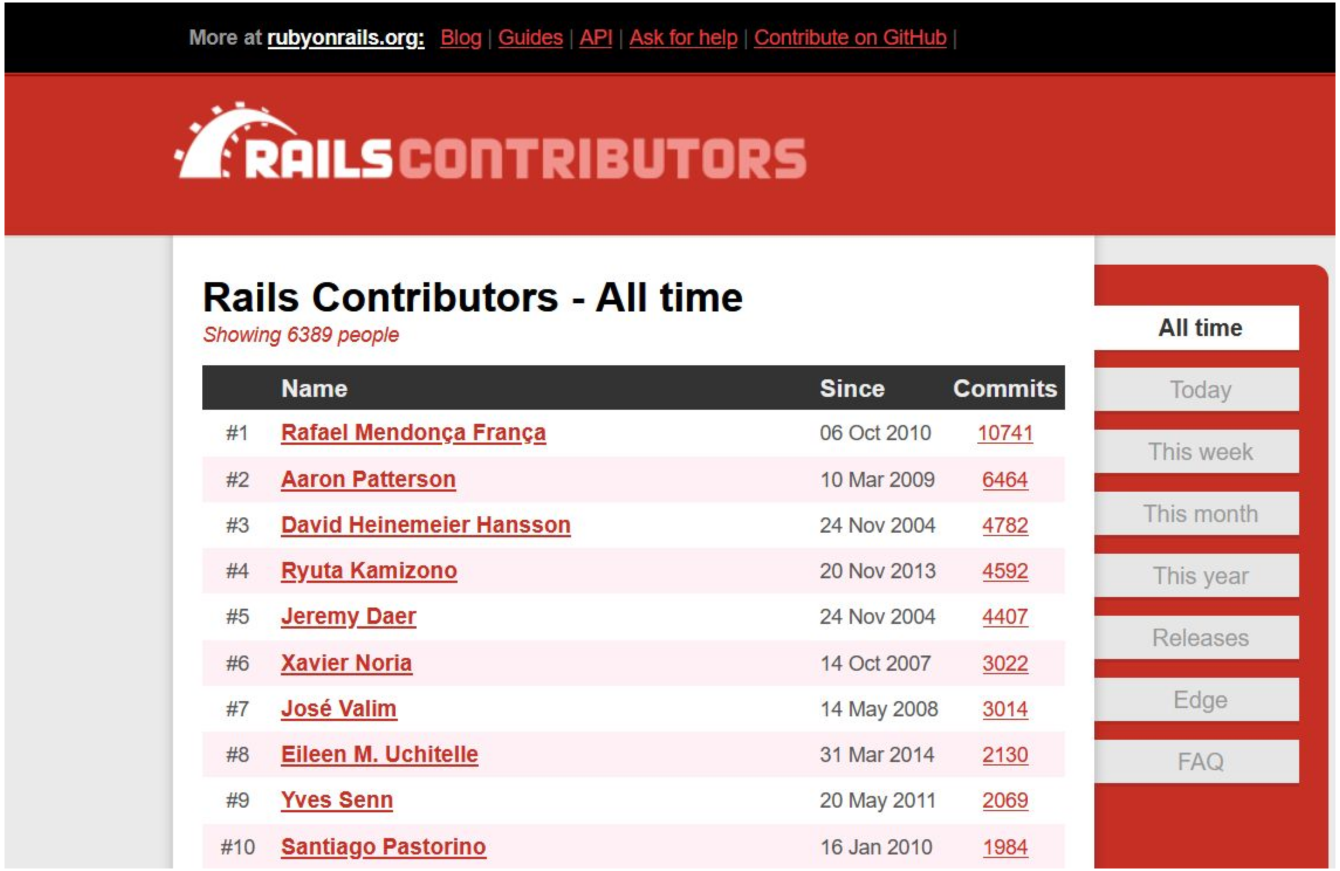
6 years ago	[Railties] require_relative => req...	`require "rails/engine"`
		`require "rails/secrets"`

14 years ago	tests pass with requiring the fram...	
14 years ago	Restore "Start Rails::Application ...	`module Rails`

https://github.com/rails/rails/blame/main/railties/lib/rails/application.rb

🤝 Open Source Citizenship

😎 Collect Internet Points!



More at rubyonrails.org: Blog | Guides | API | Ask for help | Contribute on GitHub |

RAILS CONTRIBUTORS

Rails Contributors - All time

Showing 6389 people

	Name	Since	Commits
#1	Rafael Mendonça França	06 Oct 2010	10741
#2	Aaron Patterson	10 Mar 2009	6464
#3	David Heinemeier Hansson	24 Nov 2004	4782
#4	Ryuta Kamizono	20 Nov 2013	4592
#5	Jeremy Daer	24 Nov 2004	4407
#6	Xavier Noria	14 Oct 2007	3022
#7	José Valim	14 May 2008	3014
#8	Eileen M. Uchitelle	31 Mar 2014	2130
#9	Yves Senn	20 May 2011	2069
#10	Santiago Pastorino	16 Jan 2010	1984

https://contributors.rubyonrails.org

Why to Upstream Your Code to Rails

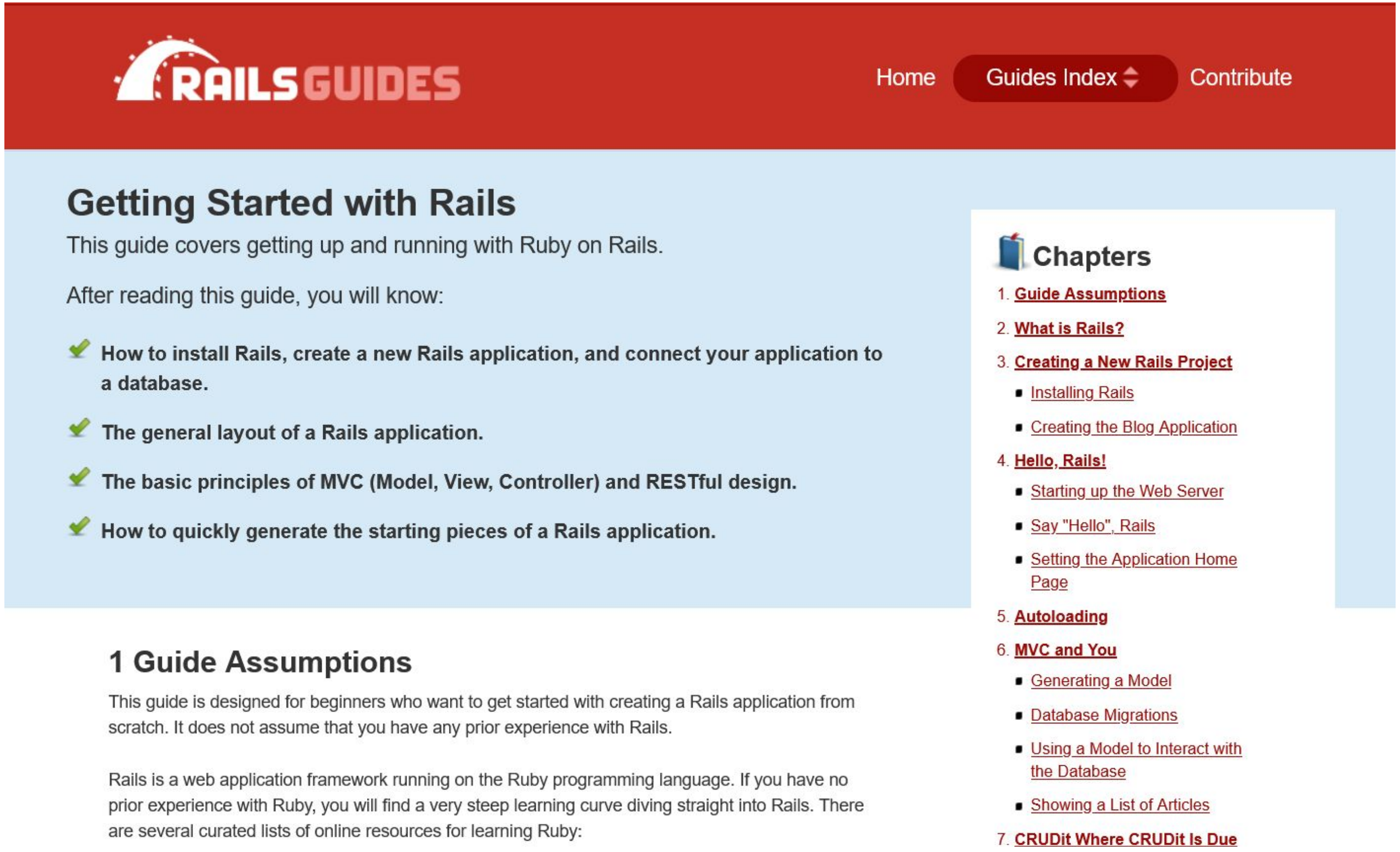
~~How~~ to Upstream Your Code to Rails

What to Upstream to Rails

~~Why~~ to Upstream ~~Your Code~~ to Rails

~~How~~ to Upstream Your Code to Rails

📖 Documentation


RAILS GUIDES

Home Guides Index Contribute

Getting Started with Rails

This guide covers getting up and running with Ruby on Rails.

After reading this guide, you will know:

- ✓ How to install Rails, create a new Rails application, and connect your application to a database.
- ✓ The general layout of a Rails application.
- ✓ The basic principles of MVC (Model, View, Controller) and RESTful design.
- ✓ How to quickly generate the starting pieces of a Rails application.

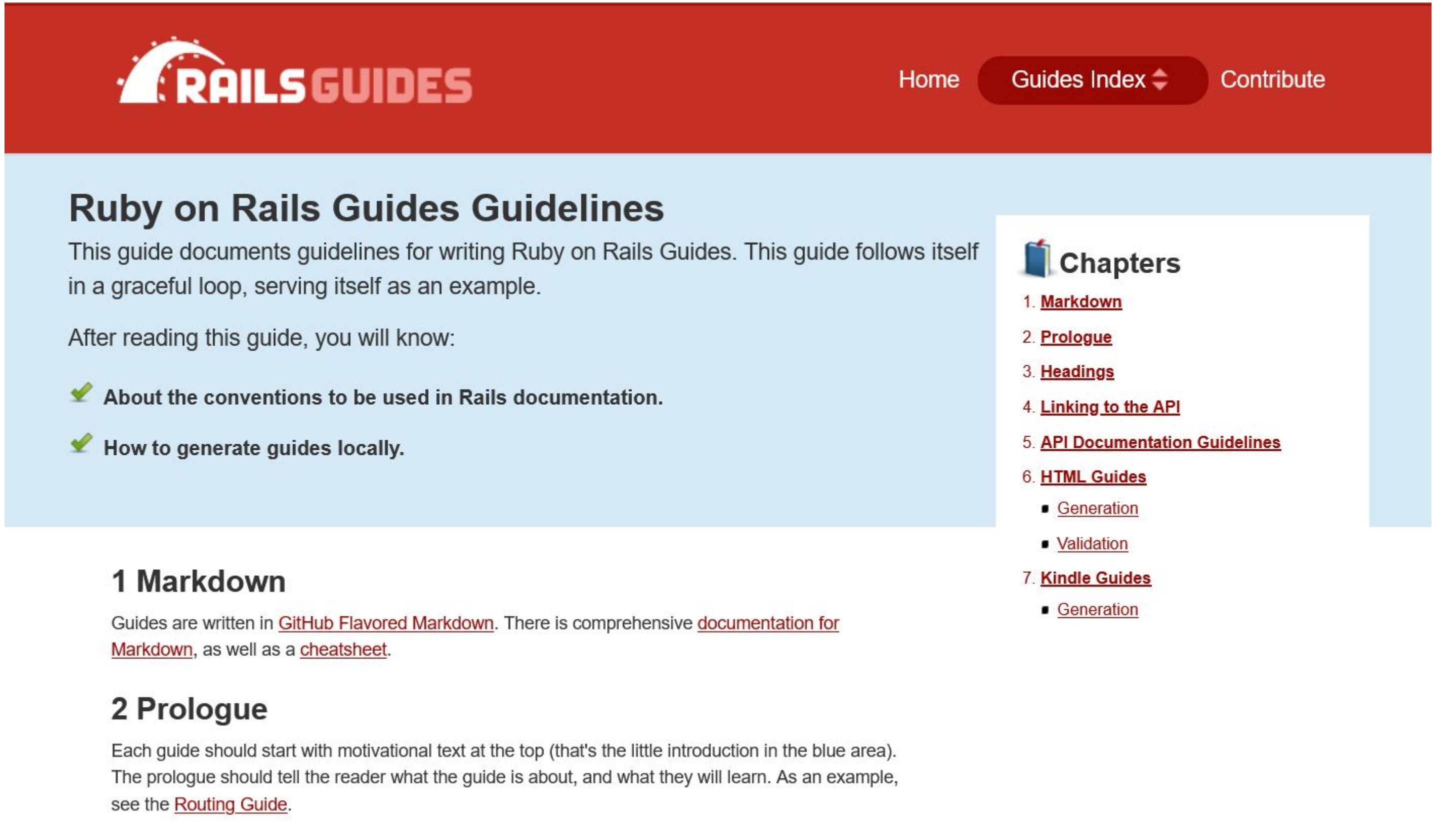
Chapters

1 Guide Assumptions

This guide is designed for beginners who want to get started with creating a Rails application from scratch. It does not assume that you have any prior experience with Rails.

Rails is a web application framework running on the Ruby programming language. If you have no prior experience with Ruby, you will find a very steep learning curve diving straight into Rails. There are several curated lists of online resources for learning Ruby:

https://guides.rubyonrails.org/getting_started.html



Ruby on Rails Guides Guidelines

This guide documents guidelines for writing Ruby on Rails Guides. This guide follows itself in a graceful loop, serving itself as an example.

After reading this guide, you will know:

- ✓ **About the conventions to be used in Rails documentation.**
- ✓ **How to generate guides locally.**

Chapters

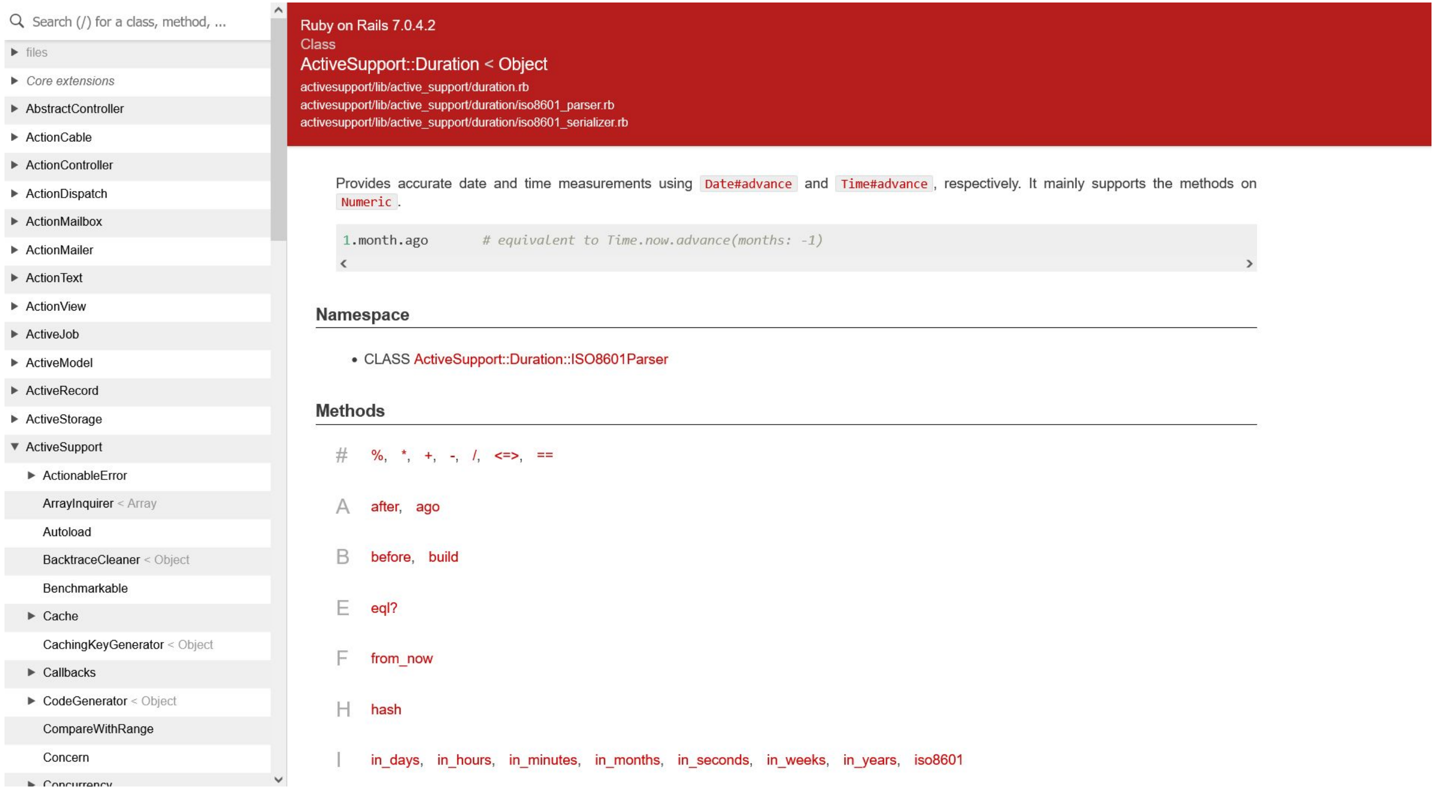
1 Markdown

Guides are written in GitHub Flavored Markdown. There is comprehensive documentation for Markdown, as well as a cheatsheet.

2 Prologue

Each guide should start with motivational text at the top (that's the little introduction in the blue area). The prologue should tell the reader what the guide is about, and what they will learn. As an example, see the Routing Guide.

https://guides.rubyonrails.org/ruby_on_rails_guides_guidelines.html



Search (/) for a class, method, ...

Ruby on Rails 7.0.4.2

Class

ActiveSupport::Duration < Object

activesupport/lib/active_support/duration.rb
activesupport/lib/active_support/duration/iso8601_parser.rb
activesupport/lib/active_support/duration/iso8601_serializer.rb

Provides accurate date and time measurements using `Date#advance` and `Time#advance`, respectively. It mainly supports the methods on `Numeric`.

```
1.month.ago       # equivalent to Time.now.advance(months: -1)
```

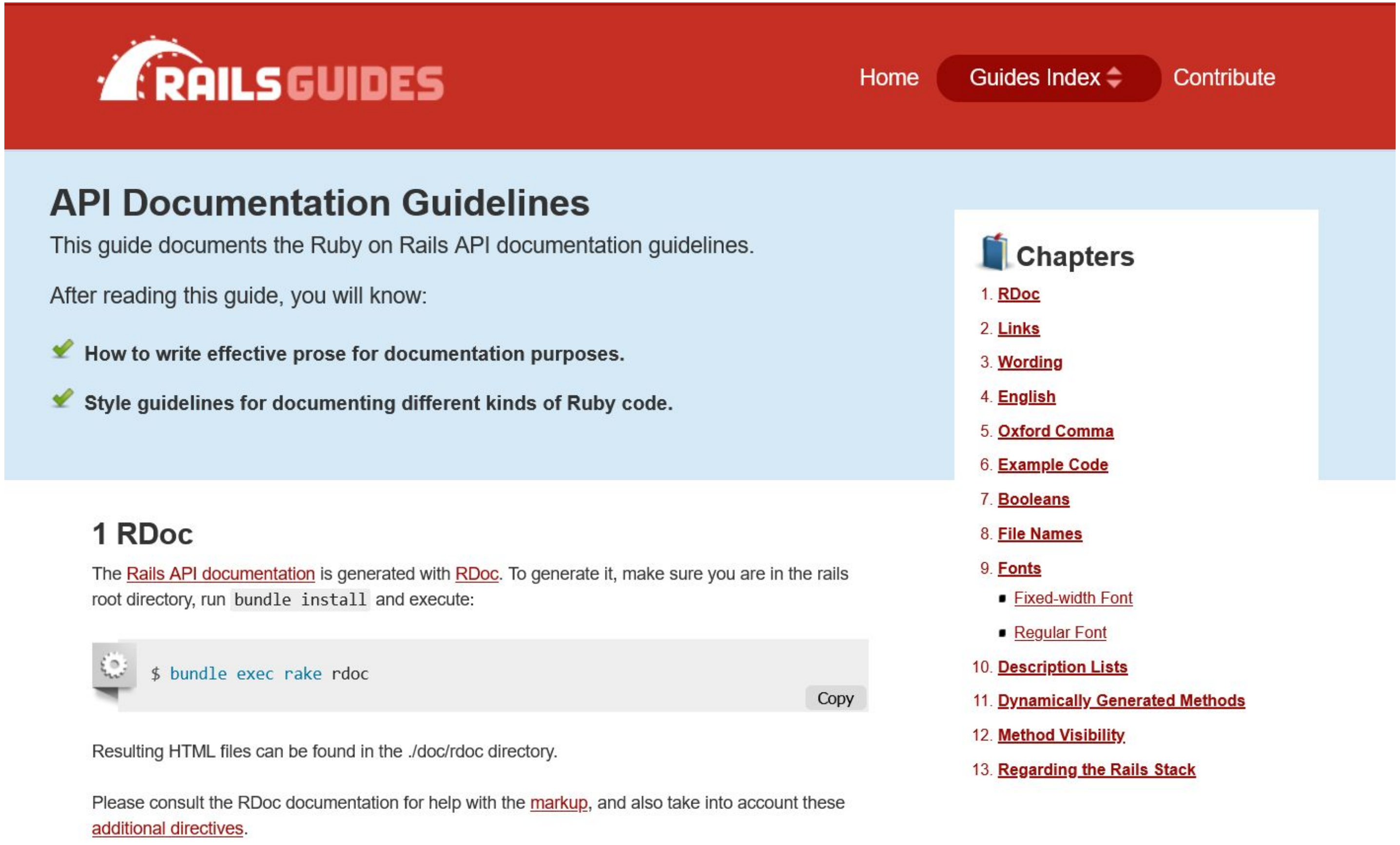
Namespace

- CLASS ActiveSupport::Duration::ISO8601Parser

Methods

#	%, *, +, -, /, <=>, ==
A	after, ago
B	before, build
E	eql?
F	from_now
H	hash
I	in_days, in_hours, in_minutes, in_months, in_seconds, in_weeks, in_years, iso8601

https://api.rubyonrails.org/classes/ActiveSupport/Duration.html



API Documentation Guidelines

This guide documents the Ruby on Rails API documentation guidelines.

After reading this guide, you will know:

- ✓ **How to write effective prose for documentation purposes.**
- ✓ **Style guidelines for documenting different kinds of Ruby code.**

Chapters

1 RDoc

The Rails API documentation is generated with RDoc. To generate it, make sure you are in the rails root directory, run `bundle install` and execute:

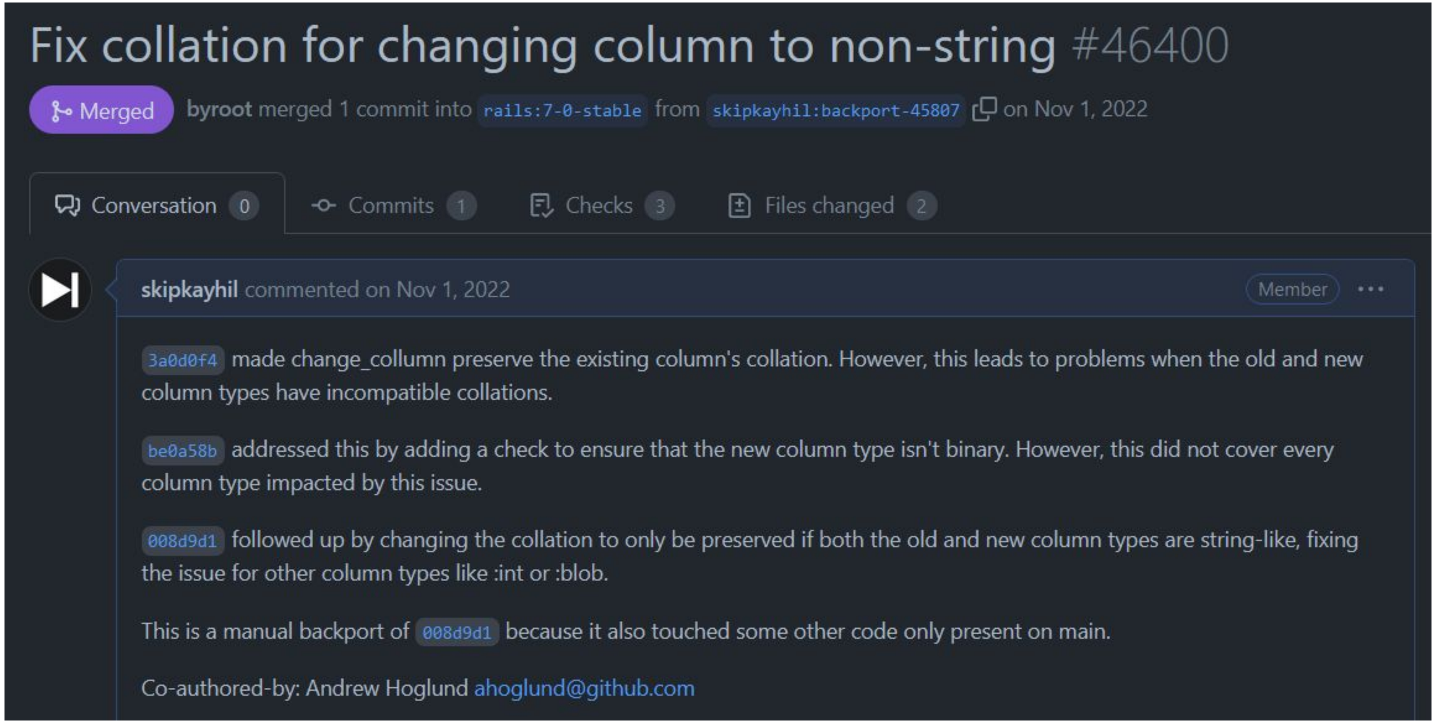
```
$ bundle exec rake rdoc
```

Resulting HTML files can be found in the ./doc/rdoc directory.

Please consult the RDoc documentation for help with the markup, and also take into account these additional directives.

https://guides.rubyonrails.org/api_documentation_guidelines.html

🐛 Bug Fixes


Fix collation for changing column to non-string #46400

Merged byroot merged 1 commit into `rails:7-0-stable` from `skipkayhil:backport-45807` on Nov 1, 2022

Conversation 0 Commits 1 Checks 3 Files changed 2

skipkayhil commented on Nov 1, 2022 Member

`3a0d0f4` made change_collumn preserve the existing column's collation. However, this leads to problems when the old and new column types have incompatible collations.

`be0a58b` addressed this by adding a check to ensure that the new column type isn't binary. However, this did not cover every column type impacted by this issue.

`008d9d1` followed up by changing the collation to only be preserved if both the old and new column types are string-like, fixing the issue for other column types like :int or :blob.

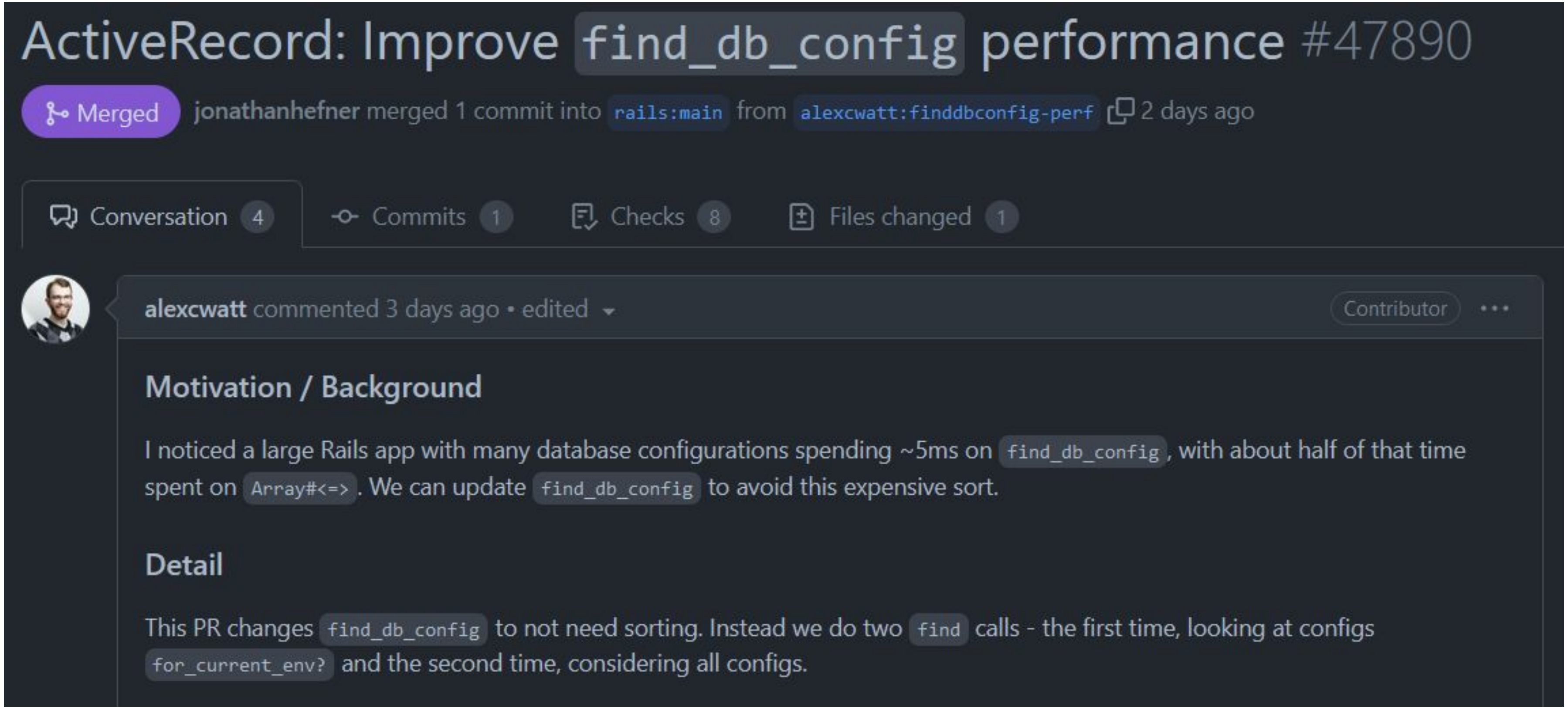
This is a manual backport of `008d9d1` because it also touched some other code only present on main.

Co-authored-by: Andrew Hoglund ahoglund@github.com

https://github.com/rails/rails/pull/46400

```diff
diff --git a/Gemfile b/Gemfile
index 45ae107e9..a92efe270 100644
--- a/Gemfile
+++ b/Gemfile
@@ -9,9 +9,9 @@
# Bundle edge Rails instead: gem 'rails', github: 'rails/rails'
-gem "rails", "7.0.4"
+gem "rails", github: "rails/rails", branch: "7-0-stable"
```

🏎️ Performance Improvements


ActiveRecord: Improve `find_db_config` performance #47890

jonathanhefner merged 1 commit into `rails:main` from `alexcwatt:finddbconfig-perf` 2 days ago

alexcwatt commented 3 days ago • edited

Motivation / Background

I noticed a large Rails app with many database configurations spending ~5ms on `find_db_config`, with about half of that time spent on `Array#<=>`. We can update `find_db_config` to avoid this expensive sort.

Detail

This PR changes `find_db_config` to not need sorting. Instead we do two `find` calls - the first time, looking at configs `for_current_env?` and the second time, considering all configs.

https://github.com/rails/rails/pull/47890

```ruby
require "bundler/inline"

gemfile(true) do
  source "https://rubygems.org/"

  gem "rails"
  gem "benchmark-ips"
end
```

```ruby
require "bundler/inline"

gemfile(true) do
  source "https://rubygems.org/"

  gem "rails"
  gem "benchmark-ips"
end
```

https://github.com/rails/rails/blob/main/guides/bug_report_templates/benchmark.rb

```ruby
module ActiveRecord
  class DatabaseConfigurations
    def fast_find_db_config(env)
      # find_db_config but FASTER!
    end
  end
end
```

```ruby
Benchmark.ips do |x|
  x.report("find_db_config") { find_db_config("primary") }
  x.report("fast_find_db_config") { fast_find_db_config("primary") }
  x.compare!
end
```

```
Comparison:
 fast_find_db_config:  24073.0 i/s
      find_db_config:   3621.5 i/s - 6.65x  slower
```

🎉 New features!

What to Upstream to Rails

~~Why~~ to Upstream ~~Your Code~~ to Rails

~~How~~ to Upstream Your Code to Rails

~~What~~ to Upstream to Rails

~~Why~~ to Upstream ~~Your Code~~ to Rails

How to Upstream Your Code to Rails

```ruby
class ImmutableValidator < ActiveModel::EachValidator







end
```

```
class ImmutableValidator < ActiveModel::EachValidator





  def validate_each(record, attribute, _value)



  end
end
```

```
class ImmutableValidator < ActiveModel::EachValidator







  def validate_each(record, attribute, _value)
    #               #<Post ...>, :content, “Hello, world!”



  end
end

class Post < ActiveRecord::Base
  validates :content, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator







  def validate_each(record, attribute, _value)
    if record.persisted?

    end
  end
end

class Post < ActiveRecord::Base
  validates :content, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator






  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute)

    end
  end
end

class Post < ActiveRecord::Base
  validates :content, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator






  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute)
      record.errors.add(attribute, "is immutable")
    end
  end
end

class Post < ActiveRecord::Base
  validates :content, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator







  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute)
      record.errors.add(attribute, "is immutable")
    end
  end
end

class Post < ActiveRecord::Base
  belongs_to :author
  validates :author, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator
  def attribute_name(record, attribute)




  end

  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute_name(record, attribute))
      record.errors.add(attribute, "is immutable")
    end
  end
end

class Post < ActiveRecord::Base
  belongs_to :author
  validates :author, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator
  def attribute_name(record, attribute)
    return attribute if record.attributes.include?(attribute.to_s)



  end

  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute_name(record, attribute))
      record.errors.add(attribute, "is immutable")
    end
  end
end

class Post < ActiveRecord::Base
  belongs_to :author
  validates :author, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator
  def attribute_name(record, attribute)
    return attribute if record.attributes.include?(attribute.to_s)

    record.association(attribute.to_s).reflection.foreign_key
  end

  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute_name(record, attribute))
      record.errors.add(attribute, "is immutable")
    end
  end
end

class Post < ActiveRecord::Base
  belongs_to :author
  validates :author, immutable: true
end
```

```ruby
class ImmutableValidator < ActiveModel::EachValidator
  def attribute_name(record, attribute)
    return attribute if record.attributes.include?(attribute.to_s)

    record.association(attribute.to_s).reflection.foreign_key
  end

  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute_name(record, attribute))
      record.errors.add(attribute, "is immutable")
    end
  end
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```

```ruby
class ImmutableValidator < ActiveModel::EachValidator
  def attribute_name(record, attribute)
    return attribute if record.attributes.include?(attribute.to_s)

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  end

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  end
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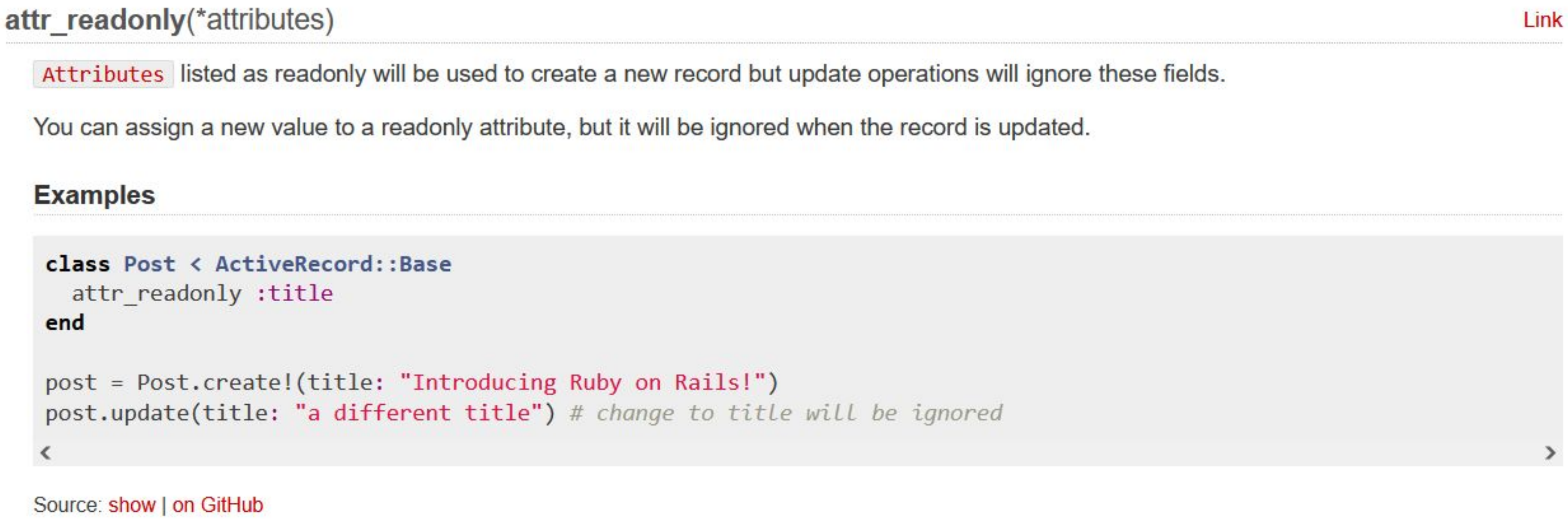
```ruby
class ImmutableValidator < ActiveModel::EachValidator
  def attribute_name(record, attribute)
    return attribute if record.attributes.include?(attribute.to_s)

    record.association(attribute.to_s).reflection.foreign_key
  end

  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute_name(record, attribute))
      record.errors.add(attribute, "is immutable")
    end
  end
end
```



attr_readonly(*attributes)

Link

`Attributes` listed as readonly will be used to create a new record but update operations will ignore these fields.

You can assign a new value to a readonly attribute, but it will be ignored when the record is updated.

Examples

```
class Post < ActiveRecord::Base
  attr_readonly :title
end

post = Post.create!(title: "Introducing Ruby on Rails!")
post.update(title: "a different title") # change to title will be ignored
```

Source: show | on GitHub

https://api.rubyonrails.org/classes/ActiveRecord/ReadonlyAttributes/ClassMethods.html#method-i-attr_readonly

```ruby
class ImmutableValidator < ActiveModel::EachValidator
  def attribute_name(record, attribute)
    return attribute if record.attributes.include?(attribute.to_s)

    record.association(attribute.to_s).reflection.foreign_key
  end

  def validate_each(record, attribute, _value)
    if record.persisted? && record.attribute_changed?(attribute_name(record, attribute))
      record.errors.add(attribute, "is immutable")
    end
  end
end
```

```ruby
module ActiveRecord
  module Validations
    class ReadonlyValidator < ActiveModel::EachValidator
      def validate_each(record, attribute, _value)
        if record.persisted? && record.attribute_changed?(attribute_name(record, attribute))
          record.errors.add(attribute, "is immutable")
        end
      end

      private
        def attribute_name(record, attribute)
          return attribute if record.attributes.include?(attribute.to_s)

          record.association(attribute.to_s).reflection.foreign_key
        end
    end
  end
end
```

```
$ git add . && git commit -m “Introduce ReadonlyValidator”
```

```
<!--
Thanks for contributing to Rails!

Please do not make *Draft* pull requests, as they still send
notifications to everyone watching the Rails repo.

Create a pull request when it is ready for review and feedback
from the Rails team :).

If your pull request affects documentation or any non-code
changes, guidelines for those changes are [available
here](https://edgeguides.rubyonrails.org/contributing_to_ruby_on_rails.html#contributing-to
-the-rails-documentation)

About this template

The following template aims to help contributors write a good description for their pull
requests.
We'd like you to provide a description of the changes in your pull request (i.e. bugs fixed
or features added), motivation behind the changes, and complete the checklist below before
opening a pull request.

Feel free to discard it if you need to (e.g. when you just fix a typo). -->
```

```
### Motivation / Background

<!--
Describe why this Pull Request needs to be merged. What bug have you fixed? What feature
have you added? Why is it important?
If you are fixing a specific issue, include "Fixes #ISSUE" (replace with the issue number,
remove the quotes) and the issue will be linked to this PR.
-->

This Pull Request has been created because [REPLACE ME]
```

```
### Motivation / Background

<!--
Describe why this Pull Request needs to be merged. What bug have you fixed? What feature
have you added? Why is it important?
If you are fixing a specific issue, include "Fixes #ISSUE" (replace with the issue number,
remove the quotes) and the issue will be linked to this PR.
-->

This Pull Request has been created because [REPLACE ME]
```

Motivation / Background

attr_readonly prevents attribute changes from being persisted to the database, however it has a downside that this happens silently.

Motivation / Background

attr_readonly prevents attribute changes from being persisted to the database, however it has a downside that this happens silently.

Detail

This Pull Request changes [REPLACE ME]

~~~
### Motivation / Background

attr_readonly prevents attribute changes from being persisted to the database, however it
has a downside that this happens silently.

### Detail

ReadonlyValidator is an alternative to attr_readonly, which uses ActiveModel::Validations
to throw a validation error when something tries to update a readonly attribute

```
class Reply
  belongs_to :topic

  validates :topic, readonly: true
end
```

Co-authored-by: Jeremy Cole <jeremy.cole@shopify.com>
~~~

~~~
$ git commit --amend

Introduce ReadonlyValidator

attr_readonly prevents attribute changes from being persisted to the
database, however it has a downside that this happens silently.

ReadonlyValidator is an alternative to attr_readonly, which uses
ActiveModel::Validations to throw a validation error when something
tries to update a readonly attribute

```
class Reply
  belongs_to :topic

  validates :topic, readonly: true
end
```

Co-authored-by: Jeremy Cole <jeremy.cole@shopify.com>
~~~

```
### Additional information

<!-- Provide additional information such as benchmarks, reference to other repositories or
alternative solutions. -->
```

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:
```

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:

* [ ] This Pull Request is related to one change.
```

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:

* [X] This Pull Request is related to one change.
```

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:

* [X] This Pull Request is related to one change.
* [ ] Commit message has a detailed description of what changed and why.
```

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:

* [X] This Pull Request is related to one change.
* [X] Commit message has a detailed description of what changed and why.
```

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:

* [X] This Pull Request is related to one change.
* [X] Commit message has a detailed description of what changed and why.
* [ ] Tests are added or updated if you fix a bug or add a feature.
```

$ git commit --amend

```ruby
class ReadonlyValidationTest < ActiveRecord::TestCase
  fixtures :topics

  repair_validations(Topic)

  test "readonly attributes can be set on creation" do
    Topic.validates :title, readonly: true
    t = Topic.new(title: "Ruby")
    assert_predicate t, :valid?
  end

  test "readonly attributes can be updated before persisting" do
    Topic.validates :title, readonly: true
    t = Topic.new(title: "Ruby")
    t.update(title: "Ruby is great!")
    assert_predicate t, :valid?
  end

  test "validates persisted attribute can not be changed" do
    Topic.validates :title, readonly: true
    t = Topic.create!(title: "Ruby")

    error = assert_raises(ActiveRecord::RecordInvalid) do
      t.update!(title: "Ruby is great!")
    end

    assert_equal("Validation failed: Title is readonly", error.message)
  end

  test "validates persisted association can not be changed" do
    Reply.validates :topic, readonly: true

    r = Reply.create!(title: "Yes it is!")

    Topic.create!(title: "Ruby is great!", replies: [r])

    error = assert_raises(ActiveRecord::RecordInvalid) do
      r.update!(topic: Topic.create!(title: "Rails is great!"))
    end
    assert_equal("Validation failed: Topic is readonly", error.message)
  end
end
```

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:

* [X] This Pull Request is related to one change.
* [X] Commit message has a detailed description of what changed and why.
* [X] Tests are added or updated if you fix a bug or add a feature.
```

```
### Additional information



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```

~~~
$ git commit --amend

*   Introduce ReadonlyValidator

    An alternative to attr_readonly, which uses ActiveModel::Validations to
    throw a validation error when something tries to update a readonly
    attribute.

    ```
    class Reply
      belongs_to :topic
      validates :topic, readonly: true
    end
    ```

    *Hartley McGuire*, *Jeremy Cole*
~~~

```
### Additional information



### Checklist

Before submitting the PR make sure the following are checked:

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```
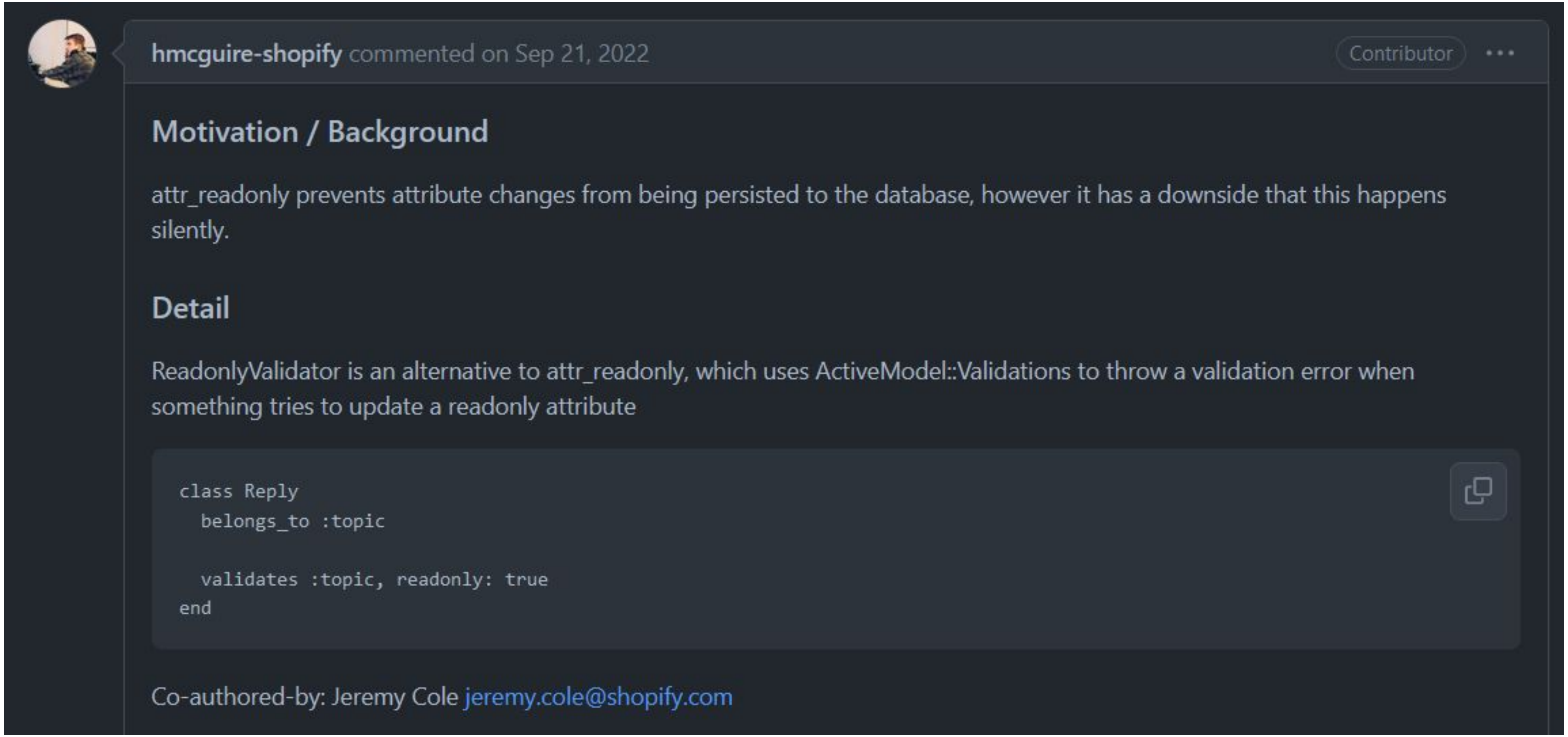


hmcguire-shopify commented on Sep 21, 2022

Motivation / Background

attr_readonly prevents attribute changes from being persisted to the database, however it has a downside that this happens silently.

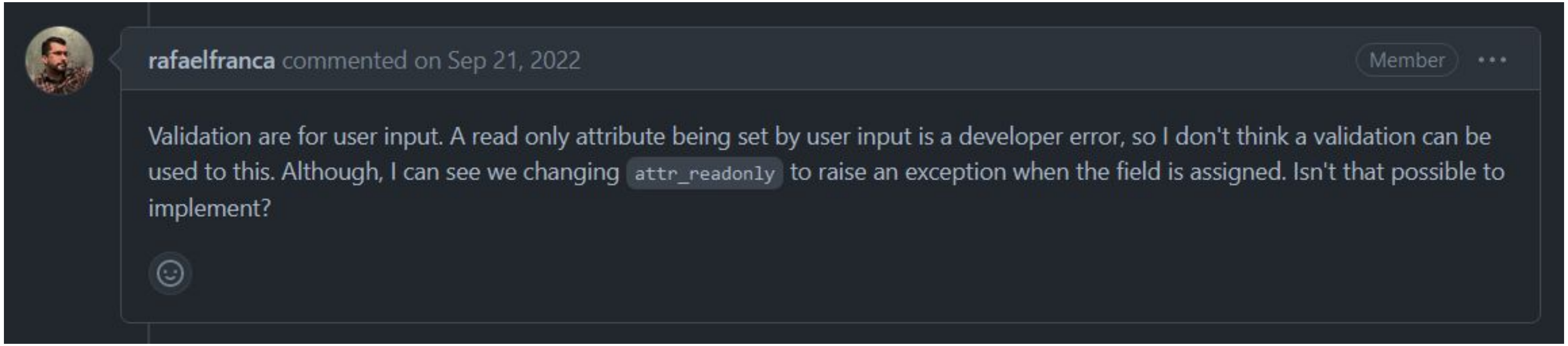
Detail

ReadonlyValidator is an alternative to attr_readonly, which uses ActiveModel::Validations to throw a validation error when something tries to update a readonly attribute

```
class Reply
  belongs_to :topic

  validates :topic, readonly: true
end
```

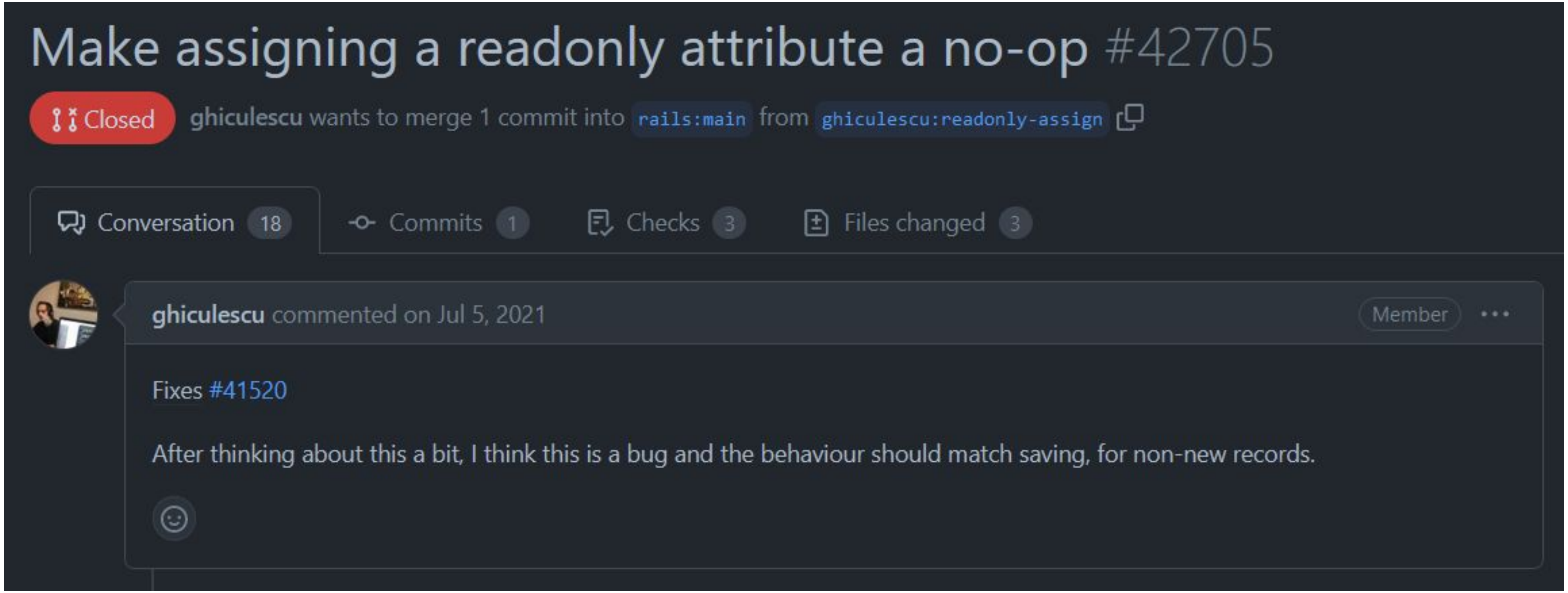
Co-authored-by: Jeremy Cole jeremy.cole@shopify.com

https://github.com/rails/rails/pull/46092


rafaelfranca commented on Sep 21, 2022

Validation are for user input. A read only attribute being set by user input is a developer error, so I don't think a validation can be used to this. Although, I can see we changing `attr_readonly` to raise an exception when the field is assigned. Isn't that possible to implement?

https://github.com/rails/rails/pull/46092


Make assigning a readonly attribute a no-op #42705

Closed ghiculescu wants to merge 1 commit into `rails:main` from `ghiculescu:readonly-assign`

ghiculescu commented on Jul 5, 2021

Fixes #41520

After thinking about this a bit, I think this is a bug and the behaviour should match saving, for non-new records.

https://github.com/rails/rails/pull/42705

```diff
diff --git a/activerecord/lib/active_record/readonly_attributes.rb
b/activerecord/lib/active_record/readonly_attributes.rb
index c98d1528c698..0083e5fffc24 100644
--- a/activerecord/lib/active_record/readonly_attributes.rb
+++ b/activerecord/lib/active_record/readonly_attributes.rb
@@ -23,7 +23,15 @@ module ClassMethods
       #   post = Post.create!(title: "Introducing Ruby on Rails!")
       #   post.update(title: "a different title") # change to title will be ignored
       def attr_readonly(*attributes)
-        self._attr_readonly = Set.new(attributes.map(&:to_s)) + (_attr_readonly || [])
+        new_attributes = attributes.map(&:to_s).reject { |a| _attr_readonly.include?(a) }
+
+        new_attributes.each do |attribute|
+          define_method("#{attribute}=") do |value|
+            super(value) if new_record?
+          end
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end

       # Returns an array of all the attributes that have been specified as readonly.
```

```
diff --git a/activerecord/lib/active_record/readonly_attributes.rb
b/activerecord/lib/active_record/readonly_attributes.rb
index c98d1528c698..0083e5fffc24 100644
--- a/activerecord/lib/active_record/readonly_attributes.rb
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+        new_attributes = attributes.map(&:to_s).reject { |a| _attr_readonly.include?(a) }
+
+        new_attributes.each do |attribute|
+          define_method("#{attribute}=") do |value|
+            super(value) if new_record?
+          end
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end

       # Returns an array of all the attributes that have been specified as readonly.
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+
+        new_attributes.each do |attribute|
+          define_method("#{attribute}=") do |value|
+            super(value) if new_record?
+          end
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end

       # Returns an array of all the attributes that have been specified as readonly.
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```diff
@@ -23,7 +26,21 @@ module ClassMethods
       #   post = Post.create!(title: "Introducing Ruby on Rails!")
       #   post.update(title: "a different title") # change to title will be ignored
       def attr_readonly(*attributes)
-        self._attr_readonly = Set.new(attributes.map(&:to_s)) + (_attr_readonly || [])
+        new_attributes = attributes.map(&:to_s).reject { |a| _attr_readonly.include?(a) }
+
+        if ActiveRecord.raise_on_assign_to_attr_readonly
+          new_attributes.each do |attribute|
+            define_method("#{attribute}=") do |value|
+              raise ReadonlyAttributeError.new(attribute) unless new_record?
+
+              super(value)
+            end
+          end
+
+          include(HasReadonlyAttributes)
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end
```

```
@@ -23,7 +26,21 @@ module ClassMethods
       #   post = Post.create!(title: "Introducing Ruby on Rails!")
       #   post.update(title: "a different title") # change to title will be ignored
       def attr_readonly(*attributes)
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+        if ActiveRecord.raise_on_assign_to_attr_readonly
+          new_attributes.each do |attribute|
+            define_method("#{attribute}=") do |value|
+              raise ReadonlyAttributeError.new(attribute) unless new_record?
+
+              super(value)
+            end
+          end
+
+          include(HasReadonlyAttributes)
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end
```

```
@@ -23,7 +26,21 @@ module ClassMethods
       #   post = Post.create!(title: "Introducing Ruby on Rails!")
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       def attr_readonly(*attributes)
-        self._attr_readonly = Set.new(attributes.map(&:to_s)) + (_attr_readonly || [])
+        new_attributes = attributes.map(&:to_s).reject { |a| _attr_readonly.include?(a) }
+
+        if ActiveRecord.raise_on_assign_to_attr_readonly
+          new_attributes.each do |attribute|
+            define_method("#{attribute}=") do |value|
+              raise ReadonlyAttributeError.new(attribute) unless new_record?
+
+              super(value)
+            end
+          end
+
+          include(HasReadonlyAttributes)
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end
```

```
@@ -23,7 +26,21 @@ module ClassMethods
       #   post = Post.create!(title: "Introducing Ruby on Rails!")
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       def attr_readonly(*attributes)
-        self._attr_readonly = Set.new(attributes.map(&:to_s)) + (_attr_readonly || [])
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+
+        if ActiveRecord.raise_on_assign_to_attr_readonly
+          new_attributes.each do |attribute|
+            define_method("#{attribute}=") do |value|
+              raise ReadonlyAttributeError.new(attribute) unless new_record?
+
+              super(value)
+            end
+          end
+
+          include(HasReadonlyAttributes)
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end
```

```diff
@@ -35,5 +52,15 @@ def readonly_attribute?(name) # :nodoc:
         _attr_readonly.include?(name)
       end
     end
+
+    module HasReadonlyAttributes # :nodoc:
+      def write_attribute(attr_name, value)
+        if !new_record? && self.class.readonly_attribute?(attr_name.to_s)
+          raise ReadonlyAttributeError.new(attr_name)
+        end
+
+        super
+      end
+    end
   end
 end
```

```
@@ -35,5 +52,15 @@ def readonly_attribute?(name) # :nodoc:
         _attr_readonly.include?(name)
       end
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+    module HasReadonlyAttributes # :nodoc:
+      def write_attribute(attr_name, value)
+        if !new_record? && self.class.readonly_attribute?(attr_name.to_s)
+          raise ReadonlyAttributeError.new(attr_name)
+        end
+
+        super
+      end
+    end
   end
 end
```

```
post.content = "New content"

post[:content] = "New content"
post.assign_attributes(content: "New content")
post.update(content: "New content")
post.write_attribute(:content, "New content")
```

```
@@ -35,5 +52,15 @@ def readonly_attribute?(name) # :nodoc:
         _attr_readonly.include?(name)
       end
     end
+
+    module HasReadonlyAttributes # :nodoc:
+      def write_attribute(attr_name, value)
+        if !new_record? && self.class.readonly_attribute?(attr_name.to_s)
+          raise ReadonlyAttributeError.new(attr_name)
+        end
+
+        super
+      end
+    end
   end
 end
```

```
post.content = "New content"

post[:content] = "New content"
post.assign_attributes(content: "New content")
post.update(content: "New content")
post.write_attribute(:content, "New content")
```

```diff
@@ -691,16 +699,132 @@ def test_comparison_with_different_objects_in_array
   end

   def test_readonly_attributes
-    assert_equal Set.new([ "title", "comments_count" ]), ReadonlyTitlePost.readonly_attributes
+    assert_equal Set.new([ "title" ]), ReadonlyTitlePost.readonly_attributes

     post = ReadonlyTitlePost.create(title: "cannot change this", body: "changeable")
+    assert_equal "cannot change this", post.title
+    assert_equal "changeable", post.body
+
+    post = Post.find(post.id)
+    assert_equal "cannot change this", post.title
+    assert_equal "changeable", post.body
+
+    assert_raises(ActiveRecord::ReadonlyAttributeError) do
+      post.title = "changed via assignment"
+    end
+    post.body = "changed via assignment"
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via assignment", post.body
+
+    assert_raises(ActiveRecord::ReadonlyAttributeError) do
+      post.write_attribute(:title, "changed via write_attribute")
+    end
+    post.write_attribute(:body, "changed via write_attribute")
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via write_attribute", post.body
+
+    assert_raises(ActiveRecord::ReadonlyAttributeError) do
+      post.assign_attributes(body: "changed via assign_attributes", title: "changed via assign_attributes")
+    end
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via assign_attributes", post.body
+
+    assert_raises(ActiveRecord::ReadonlyAttributeError) do
+      post.update(title: "changed via update", body: "changed via update")
+    end
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via assign_attributes", post.body
+
+    assert_raises(ActiveRecord::ReadonlyAttributeError) do
+      post[:title] = "changed via []="
+    end
+    post[:body] = "changed via []="
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via []=", post.body
+
+    post.save!
+
+    post = Post.find(post.id)
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via []=", post.body
+  end
+
+  def test_readonly_attributes_on_a_new_record
+    assert_equal Set.new([ "title" ]), ReadonlyTitlePost.readonly_attributes
+
+    post = ReadonlyTitlePost.new(title: "can change this until you save", body: "changeable")
+    assert_equal "can change this until you save", post.title
+    assert_equal "changeable", post.body
+
+    post.title = "changed via assignment"
+    post.body = "changed via assignment"
+    assert_equal "changed via assignment", post.title
+    assert_equal "changed via assignment", post.body
+
+    post.write_attribute(:title, "changed via write_attribute")
+    post.write_attribute(:body, "changed via write_attribute")
+    assert_equal "changed via write_attribute", post.title
+    assert_equal "changed via write_attribute", post.body
```

```diff
+    post.assign_attributes(body: "changed via assign_attributes", title: "changed via assign_attributes")
+    assert_equal "changed via assign_attributes", post.title
+    assert_equal "changed via assign_attributes", post.body
+
+    post[:title] = "changed via []="
+    post[:body] = "changed via []="
+    assert_equal "changed via []=", post.title
+    assert_equal "changed via []=", post.body
+
+    post.save!
+
+    post = Post.find(post.id)
+    assert_equal "changed via []=", post.title
+    assert_equal "changed via []=", post.body
+  end
+
+  def test_readonly_attributes_when_configured_to_not_raise
+    assert_equal Set.new([ "title" ]), NonRaisingPost.readonly_attributes
+
+    post = NonRaisingPost.create(title: "cannot change this", body: "changeable")
+    assert_equal "cannot change this", post.title
+    assert_equal "changeable", post.body
+
+    post = Post.find(post.id)
+    assert_equal "cannot change this", post.title
+    assert_equal "changeable", post.body
+
+    post.title = "changed via assignment"
+    post.body = "changed via assignment"
+    post.save!
+    post.reload
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via assignment", post.body
+
+    post.write_attribute(:title, "changed via write_attribute")
+    post.write_attribute(:body, "changed via write_attribute")
+    post.save!
+    post.reload
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via write_attribute", post.body
+
+    post.assign_attributes(body: "changed via assign_attributes", title: "changed via assign_attributes")
+    post.save!
+    post.reload
+    assert_equal "cannot change this", post.title
+    assert_equal "changed via assign_attributes", post.body
+
+    post.update(title: "changed via update", body: "changed via update")
     post.reload
     assert_equal "cannot change this", post.title
+    assert_equal "changed via update", post.body

-    post.update(title: "try to change", body: "changed")
+    post[:title] = "changed via []="
+    post[:body] = "changed via []="
+    post.save!
     post.reload
     assert_equal "cannot change this", post.title
-    assert_equal "changed", post.body
+    assert_equal "changed via []=", post.body
   end

   def test_unicode_column_name
```

*   Raise on assignment to readonly attributes

    ```ruby
    class Post < ActiveRecord::Base
      attr_readonly :content
    end
    Post.create!(content: "cannot be updated")
    post.content # "cannot be updated"
    post.content = "something else" # => ActiveRecord::ReadonlyAttributeError
    ```

    Previously, assignment would succeed but silently not write to the database.

    This behavior can be controlled by configuration:

    ```ruby
    config.active_record.raise_on_assign_to_attr_readonly = true
    ```

    and will be enabled by default with `load_defaults 7.1`

    Alex Ghiculescu, *Hartley McGuire*

```
$ git add . && git commit

Raise on assignment to readonly attributes

Previously, assignment would succeed but silently not write to the
database.

The changes to counter_cache are necessary because incrementing the
counter cache for a column calls []=. I investigated an approach to use
_write_attribute instead, however counter caches are expected to resolve
attribute aliases so write_attribute/[]= seems more correct.

Similarly, []= was replaced with _write_attribute in merge_target_lists
to skip the overriden []= and the primary key check. attribute_names
will already return custom primary keys so the primary_key check in
write_attribute is not needed.

Co-authored-by: Alex Ghiculescu <alex@tanda.co>
```

```markdown
### Additional information

<!-- Provide additional information such as benchmarks, reference to other repositories or
alternative solutions. -->
```

Additional information

Based on #42705
Closes #46092

```
### Additional information

Based on #42705
Closes #46092

### Checklist

Before submitting the PR make sure the following are checked:

* [ ] This Pull Request is related to one change.
* [ ] Commit message has a detailed description of what changed and why.
* [ ] Tests are added or updated if you fix a bug or add a feature.
* [ ] CHANGELOG files are updated for the changed libraries.
```

Additional information

Based on #42705
Closes #46092

Checklist

Before submitting the PR make sure the following are checked:

* [X] This Pull Request is related to one change.
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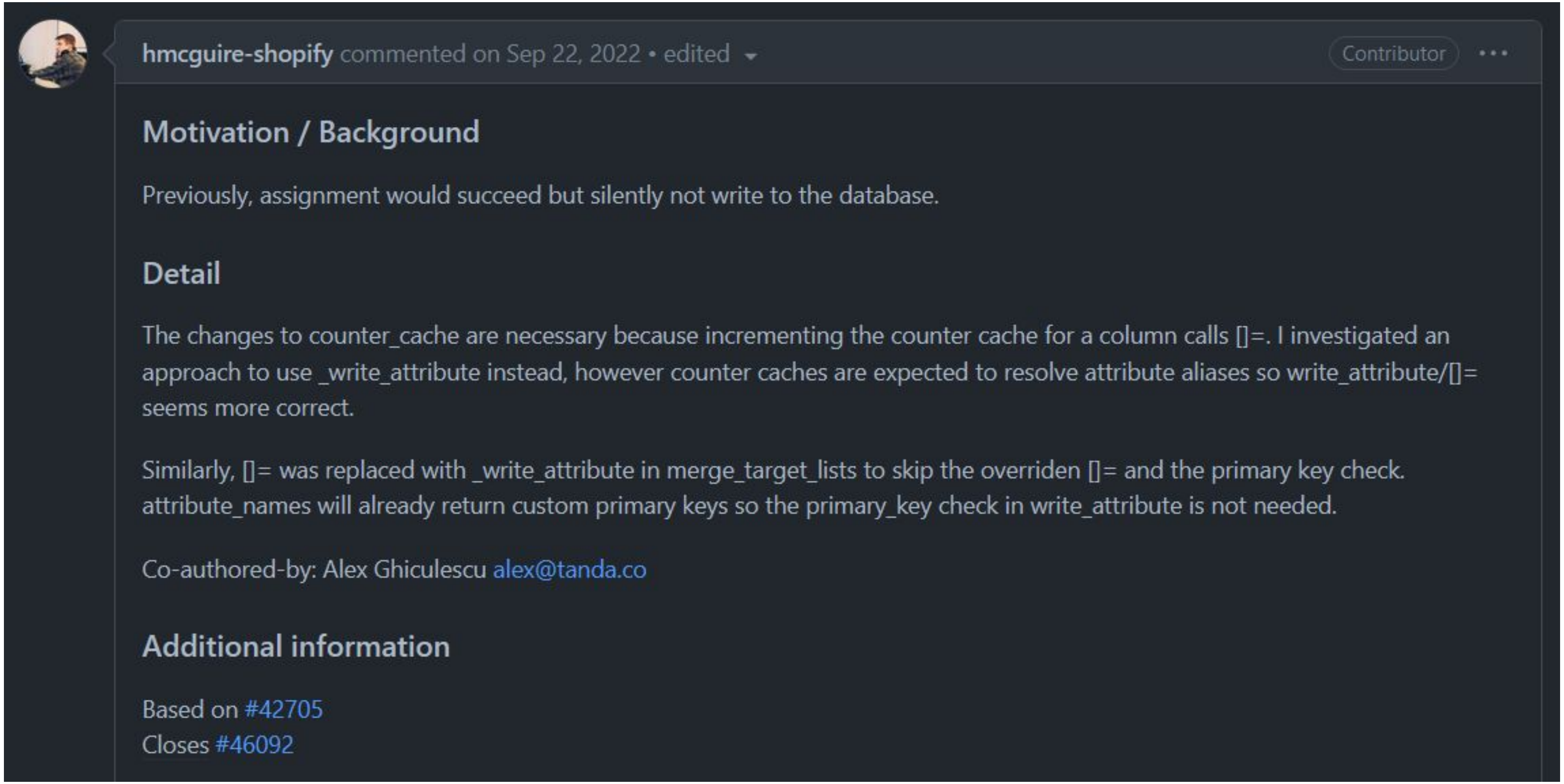


hmcguire-shopify commented on Sep 22, 2022 • edited Contributor

Motivation / Background

Previously, assignment would succeed but silently not write to the database.

Detail

The changes to counter_cache are necessary because incrementing the counter cache for a column calls []=. I investigated an approach to use _write_attribute instead, however counter caches are expected to resolve attribute aliases so write_attribute/[]= seems more correct.

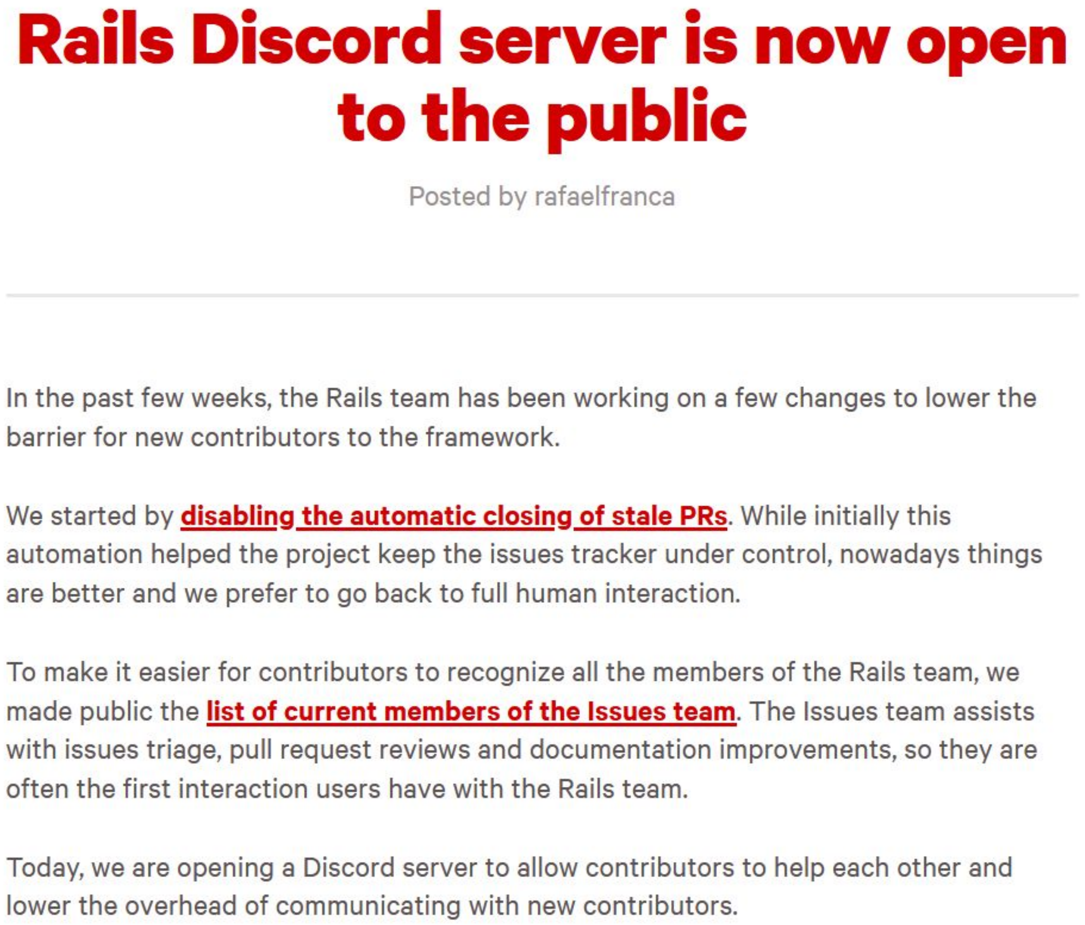
Similarly, []= was replaced with _write_attribute in merge_target_lists to skip the overriden []= and the primary key check. attribute_names will already return custom primary keys so the primary_key check in write_attribute is not needed.

Co-authored-by: Alex Ghiculescu alex@tanda.co

Additional information

Based on #42705
Closes #46092

https://github.com/rails/rails/pull/46105



Rails Discord server is now open to the public

Posted by rafaelfranca

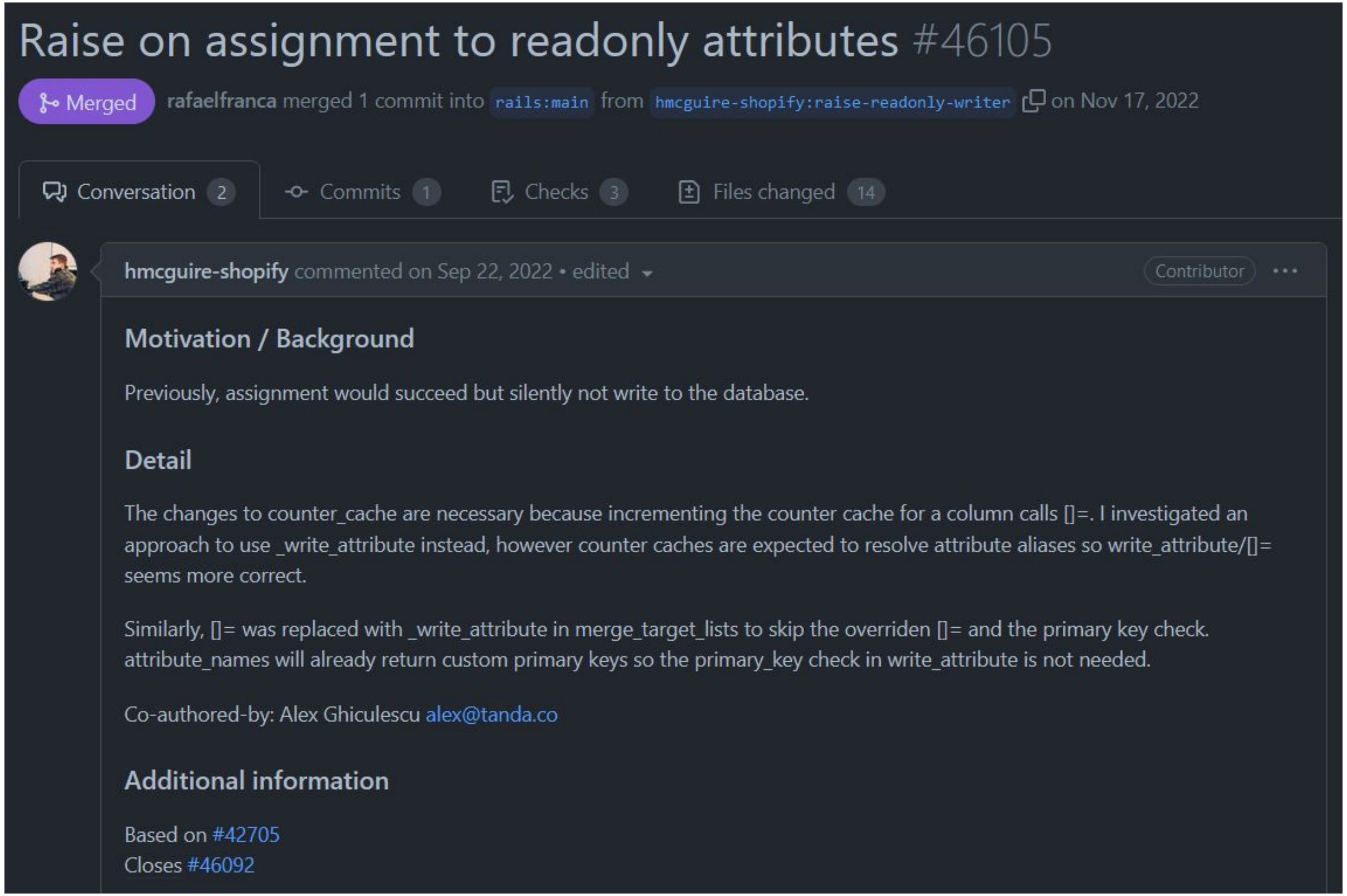
In the past few weeks, the Rails team has been working on a few changes to lower the barrier for new contributors to the framework.

We started by **disabling the automatic closing of stale PRs**. While initially this automation helped the project keep the issues tracker under control, nowadays things are better and we prefer to go back to full human interaction.

To make it easier for contributors to recognize all the members of the Rails team, we made public the **list of current members of the Issues team**. The Issues team assists with issues triage, pull request reviews and documentation improvements, so they are often the first interaction users have with the Rails team.

Today, we are opening a Discord server to allow contributors to help each other and lower the overhead of communicating with new contributors.

https://rubyonrails.org/2022/6/13/rails-discord-server-is-now-open-to-the-public



Raise on assignment to readonly attributes #46105

Merged rafaelfranca merged 1 commit into `rails:main` from `hmcguire-shopify:raise-readonly-writer` on Nov 17, 2022

Conversation 2 Commits 1 Checks 3 Files changed 14

hmcguire-shopify commented on Sep 22, 2022 • edited Contributor

Motivation / Background

Previously, assignment would succeed but silently not write to the database.

Detail

The changes to counter_cache are necessary because incrementing the counter cache for a column calls []=. I investigated an approach to use _write_attribute instead, however counter caches are expected to resolve attribute aliases so write_attribute/[]= seems more correct.

Similarly, []= was replaced with _write_attribute in merge_target_lists to skip the overriden []= and the primary key check. attribute_names will already return custom primary keys so the primary_key check in write_attribute is not needed.

Co-authored-by: Alex Ghiculescu alex@tanda.co

Additional information

Based on #42705
Closes #46092

https://github.com/rails/rails/pull/46105

```
NoMethodError: super: no superclass method `content=' for #<PostSubclass ...>
Did you mean?  content
               content?
```

```
@@ -23,7 +26,21 @@ module ClassMethods
       #   post = Post.create!(title: "Introducing Ruby on Rails!")
       #   post.update(title: "a different title") # change to title will be ignored
       def attr_readonly(*attributes)
-        self._attr_readonly = Set.new(attributes.map(&:to_s)) + (_attr_readonly || [])
+        new_attributes = attributes.map(&:to_s).reject { |a| _attr_readonly.include?(a) }
+
+        if ActiveRecord.raise_on_assign_to_attr_readonly
+          new_attributes.each do |attribute|
+            define_method("#{attribute}=") do |value|
+              raise ReadonlyAttributeError.new(attribute) unless new_record?
+
+              super(value)
+            end
+          end
+
+          include(HasReadonlyAttributes)
+        end
+
+        self._attr_readonly = Set.new(new_attributes) + _attr_readonly
       end
```

```diff
diff --git a/activerecord/lib/active_record/readonly_attributes.rb b/activerecord/lib/active_record/readonly_attributes.rb
index d38d2fe0023bf..310d105a765ab 100644
--- a/activerecord/lib/active_record/readonly_attributes.rb
+++ b/activerecord/lib/active_record/readonly_attributes.rb
@@ -46,14 +46,20 @@ def readonly_attribute?(name) # :nodoc:
     end

     module HasReadonlyAttributes # :nodoc:
       def write_attribute(attr_name, value)
         if !new_record? && self.class.readonly_attribute?(attr_name.to_s)
           raise ReadonlyAttributeError.new(attr_name)
         end

         super
       end

+      def _write_attribute(attr_name, value)
+        if !new_record? && self.class.readonly_attribute?(attr_name.to_s)
+          raise ReadonlyAttributeError.new(attr_name)
+        end
+
+        super
+      end
     end
   end
```

```ruby
class ReadonlyTitlePostSubclass < ReadonlyTitlePost
end

def test_classes_with_attr_readonly_can_be_subclassed
  post = ReadonlyTitlePostSubclass.create!

  assert_raises(ReadonlyAttributeError) do
    post.title = "Set via Create"
  end
end
```

```ruby
class ReadonlyTitleAbstractPost < ActiveRecord::Base
  self.abstract_class = true

  attr_readonly :title
end

class ReadonlyTitlePostWithAbstractParent < ReadonlyTitleAbstractPost
  self.table_name = "posts"
end

def test_readonly_attributes_in_abstract_class_descendant
  assert_equal [ "title" ], ReadonlyTitlePostWithAbstractParent.readonly_attributes
  assert_nothing_raised do
    ReadonlyTitlePostWithAbstractParent.new(title: "can change this until you save")
  end
end
```

```ruby
class ReadonlyTitleAbstractPost < ActiveRecord::Base
  self.abstract_class = true

  attr_readonly :title
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class ReadonlyTitlePostWithAbstractParent < ReadonlyTitleAbstractPost
  self.table_name = "posts"
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def test_readonly_attributes_in_abstract_class_descendant
  assert_equal [ "title" ], ReadonlyTitlePostWithAbstractParent.readonly_attributes
  assert_nothing_raised do
    ReadonlyTitlePostWithAbstractParent.new(title: "can change this until you save")
  end
end
```

```
$ git add . && git commit

Fix undefined attribute method with attr_readonly

The problem is where an abstract class defines a readonly attribute.
When another class subclasses that parent with
`raise_on_assign_to_attr_readonly`, it will define the readonly method
before the abstract parent has defined its attributes. As a result, when
those methods are defined, they will not define the readonly attribute
writer, so that `super` called from the readonly accessor will fail with
a `NoMethodError`.

Instead of trying to make the overriden attribute method lazier by
defining it after the real attribute method has been defined, this
commit changes the method override to be one layer down on
_write_attribute. This avoids the issue of the attribute method being
undefined because the real _write_attribute will always be defined.

Co-authored-by: Adrianna Chang <adrianna.chang@shopify.com>
Co-authored-by: Chris Salzberg <chris.salzberg@shopify.com>
```

Additional information

Closes #46598

```
### Additional information

Closes #46598

### Checklist

Before submitting the PR make sure the following are checked:

* [ ] This Pull Request is related to one change.
* [ ] Commit message has a detailed description of what changed and why.
* [ ] Tests are added or updated if you fix a bug or add a feature.
* [ ] CHANGELOG files are updated for the changed libraries.
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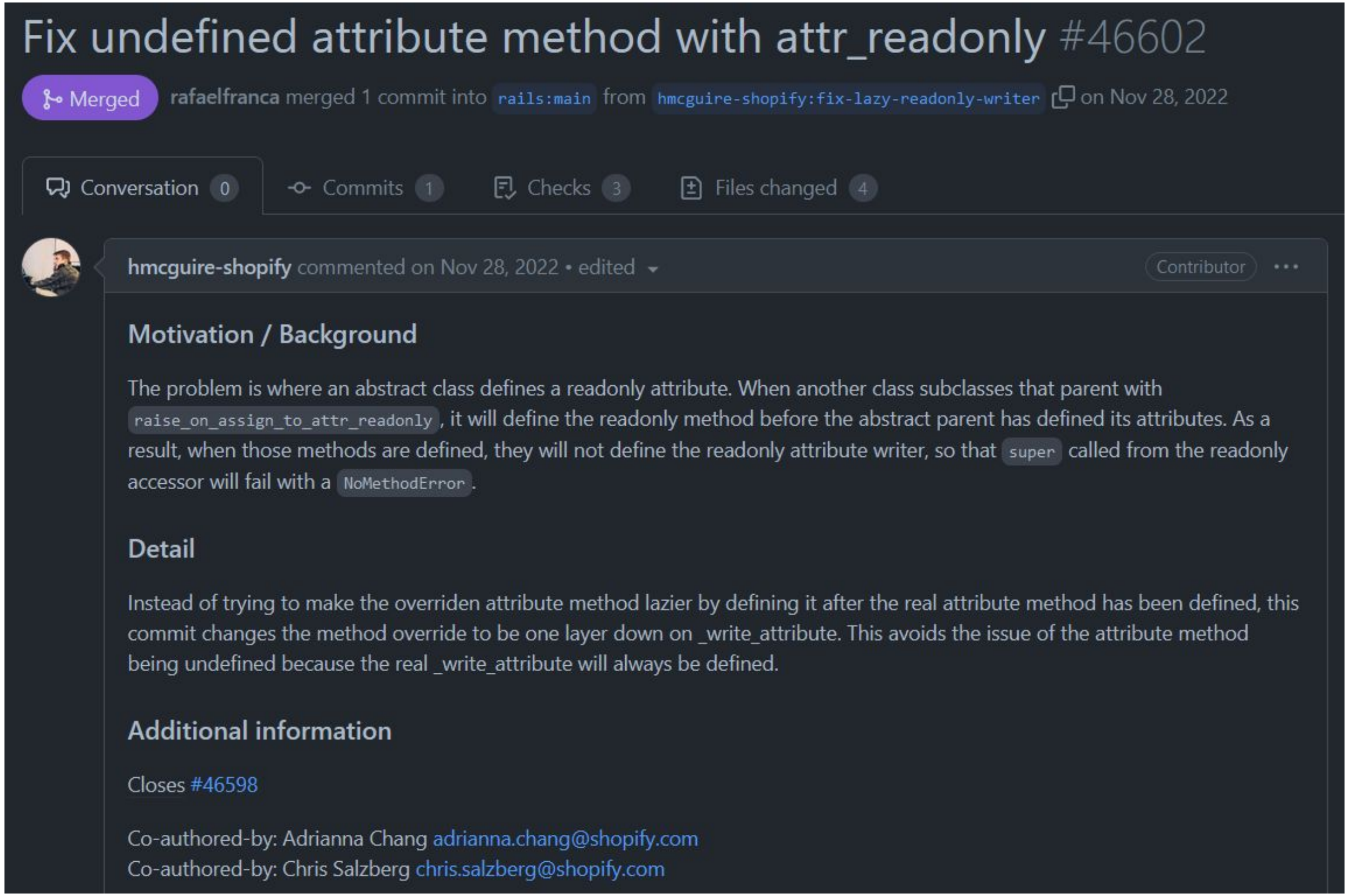

Fix undefined attribute method with attr_readonly #46602

rafaelfranca merged 1 commit into `rails:main` from `hmcguire-shopify:fix-lazy-readonly-writer` on Nov 28, 2022

hmcguire-shopify commented on Nov 28, 2022 • edited

Motivation / Background

The problem is where an abstract class defines a readonly attribute. When another class subclasses that parent with `raise_on_assign_to_attr_readonly`, it will define the readonly method before the abstract parent has defined its attributes. As a result, when those methods are defined, they will not define the readonly attribute writer, so that `super` called from the readonly accessor will fail with a `NoMethodError`.

Detail

Instead of trying to make the overriden attribute method lazier by defining it after the real attribute method has been defined, this commit changes the method override to be one layer down on _write_attribute. This avoids the issue of the attribute method being undefined because the real _write_attribute will always be defined.

Additional information

Closes #46598

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Co-authored-by: Chris Salzberg chris.salzberg@shopify.com

https://github.com/rails/rails/pull/46602

skipkayhil.github.io/slides/2023-railsconf.pdf

Thank you!