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Ruby on Rails 5.1 Release Notes

Highlights in Rails 5.1:

- Yarn Support
- Optional Webpack support
- jQuery no longer a default dependency
- System tests
- Encrypted secrets
- Parameterized mailers
- Direct & resolved routes
- Unification of `form_for` and `form_tag` into `form_with`

These release notes cover only the major changes. To learn about various bug fixes and changes, please refer to the changelogs or check out the list of commits in the main Rails repository on GitHub.

Upgrading to Rails 5.1

If you're upgrading an existing application, it's a great idea to have good test coverage before going in. You should also first upgrade to Rails 5.0 in case you haven't and make sure your application still runs as expected before attempting an update to Rails 5.1. A list of things to watch out for when upgrading is available in the Upgrading Ruby on Rails guide.

Major Features

Yarn Support

Pull Request

Rails 5.1 allows managing JavaScript dependencies from npm via Yarn. This will make it easy to use libraries like React, VueJS or any other library from npm world. The Yarn support is integrated with the asset pipeline so that all dependencies will work seamlessly with the Rails 5.1 app.

Optional Webpack support

Pull Request

Rails apps can integrate with Webpack, a JavaScript asset bundler, more easily using the new Webpacker gem. Use the `--webpack` flag when generating new applications to enable Webpack integration.

This is fully compatible with the asset pipeline, which you can continue to use for images, fonts, sounds, and other assets. You can even have some JavaScript code managed by the asset pipeline, and other code processed via Webpack. All of this is managed by Yarn, which is enabled by default.

jQuery no longer a default dependency

Pull Request

jQuery was required by default in earlier versions of Rails to provide features like `data-remote`, `data-confirm` and other parts of Rails' Unobtrusive JavaScript offerings. It is no longer required, as the UJS has been rewritten to use plain, vanilla JavaScript. This code now ships inside of Action View as `rails-ujs`.

You can still use jQuery if needed, but it is no longer required by default.

System tests

Pull Request

Rails 5.1 has baked-in support for writing Capybara tests, in the form of System tests. You no longer need to worry about configuring Capybara and database cleaning strategies for such tests. Rails 5.1 provides a wrapper for running tests in Chrome with additional features such as failure screenshots.

Encrypted secrets

Pull Request

Rails now allows management of application secrets in a secure way, inspired by the `secrets` gem.

Run `bin/rails secrets:setup` to set up a new encrypted secrets file. This will also generate a master key, which must be stored outside of the repository. The secrets themselves can then be safely checked into the revision control system, in an encrypted form.

Secrets will be decrypted in production, using a key stored either in the `RAILS_MASTER_KEY` environment variable, or in a key file.

Parameterized mailers

Pull Request

Allows specifying common parameters used for all methods in a mailer class in order to share instance variables, headers, and other common setup.

```
class InvitationsMailer < ApplicationMailer
  before_action { @inviter, @invitee = params[:inviter], params[:invitee] }
  before_action { @account = params[:inviter].account }
```

```

    def account_invitation
      mail subject: "#{@inviter.name} invited you to their Basecamp #{@account.name}"
    end
  end

  InvitationsMailer.with(inviter: person_a, invitee: person_b)
    .account_invitation.deliver_later

```

Direct & resolved routes

Pull Request

Rails 5.1 adds two new methods, `resolve` and `direct`, to the routing DSL. The `resolve` method allows customizing polymorphic mapping of models.

```

resource :basket

resolve("Basket") { [:basket] }

<%= form_for @basket do |form| %>
  <!-- basket form -->
<% end %>

```

This will generate the singular URL `/basket` instead of the usual `/baskets/:id`.

The `direct` method allows creation of custom URL helpers.

```

direct(:homepage) { "https://rubyonrails.org" }

homepage_url # => "https://rubyonrails.org"

```

The return value of the block must be a valid argument for the `url_for` method. So, you can pass a valid string URL, Hash, Array, an Active Model instance, or an Active Model class.

```

direct :commentable do |model|
  [ model, anchor: model.dom_id ]
end

direct :main do
  { controller: 'pages', action: 'index', subdomain: 'www' }
end

```

Unification of `form_for` and `form_tag` into `form_with`

Pull Request

Before Rails 5.1, there were two interfaces for handling HTML forms: `form_for` for model instances and `form_tag` for custom URLs.

Rails 5.1 combines both of these interfaces with `form_with`, and can generate form tags based on URLs, scopes, or models.

Using just a URL:

```
<%= form_with url: posts_path do |form| %>
  <%= form.text_field :title %>
<% end %>

<%# Will generate %>

<form action="/posts" method="post" data-remote="true">
  <input type="text" name="title">
</form>
```

Adding a scope prefixes the input field names:

```
<%= form_with scope: :post, url: posts_path do |form| %>
  <%= form.text_field :title %>
<% end %>

<%# Will generate %>

<form action="/posts" method="post" data-remote="true">
  <input type="text" name="post[title]">
</form>
```

Using a model infers both the URL and scope:

```
<%= form_with model: Post.new do |form| %>
  <%= form.text_field :title %>
<% end %>

<%# Will generate %>

<form action="/posts" method="post" data-remote="true">
  <input type="text" name="post[title]">
</form>
```

An existing model makes an update form and fills out field values:

```
<%= form_with model: Post.first do |form| %>
  <%= form.text_field :title %>
<% end %>

<%# Will generate %>

<form action="/posts/1" method="post" data-remote="true">
  <input type="hidden" name="_method" value="patch">
  <input type="text" name="post[title]" value="<the title of the post>">
</form>
```

Incompatibilities

The following changes may require immediate action upon upgrade.

Transactional tests with multiple connections

Transactional tests now wrap all Active Record connections in database transactions.

When a test spawns additional threads, and those threads obtain database connections, those connections are now handled specially:

The threads will share a single connection, which is inside the managed transaction. This ensures all threads see the database in the same state, ignoring the outermost transaction. Previously, such additional connections were unable to see the fixture rows, for example.

When a thread enters a nested transaction, it will temporarily obtain exclusive use of the connection, to maintain isolation.

If your tests currently rely on obtaining a separate, outside-of-transaction, connection in a spawned thread, you'll need to switch to more explicit connection management.

If your tests spawn threads and those threads interact while also using explicit database transactions, this change may introduce a deadlock.

The easy way to opt-out of this new behavior is to disable transactional tests on any test cases it affects.

Railties

Please refer to the Changelog for detailed changes.

Removals

- Remove deprecated `config.static_cache_control`. (commit)
- Remove deprecated `config.serve_static_files`. (commit)
- Remove deprecated file `rails/rack/debugger`. (commit)
- Remove deprecated tasks: `rails:update`, `rails:template`, `rails:template:copy`, `rails:update:configs` and `rails:update:bin`. (commit)
- Remove deprecated `CONTROLLER` environment variable for `routes` task. (commit)
- Remove `-j` (`-javascript`) option from `rails new` command. (Pull Request)

Notable changes

- Added a shared section to `config/secrets.yml` that will be loaded for all environments. (commit)
- The config file `config/secrets.yml` is now loaded in with all keys as symbols. (Pull Request)
- Removed jquery-rails from default stack. rails-ujs, which is shipped with Action View, is included as default UJS adapter. (Pull Request)
- Add Yarn support in new apps with a yarn binstub and package.json. (Pull Request)
- Add Webpack support in new apps via the `--webpack` option, which will delegate to the rails/webpacker gem. (Pull Request)
- Initialize Git repo when generating new app, if option `--skip-git` is not provided. (Pull Request)
- Add encrypted secrets in `config/secrets.yml.enc`. (Pull Request)
- Display railtie class name in `rails initializers`. (Pull Request)

Action Cable

Please refer to the Changelog for detailed changes.

Notable changes

- Added support for `channel_prefix` to Redis and evented Redis adapters in `cable.yml` to avoid name collisions when using the same Redis server with multiple applications. (Pull Request)
- Add `ActiveSupport::Notifications` hook for broadcasting data. (Pull Request)

Action Pack

Please refer to the Changelog for detailed changes.

Removals

- Removed support for non-keyword arguments in `#process`, `#get`, `#post`, `#patch`, `#put`, `#delete`, and `#head` for the `ActionDispatch::IntegrationTest` and `ActionController::TestCase` classes. (Commit, Commit)
- Removed deprecated `ActionDispatch::Callbacks.to_prepare` and `ActionDispatch::Callbacks.to_cleanup`. (Commit)
- Removed deprecated methods related to controller filters. (Commit)

- Removed deprecated support to `:text` and `:nothing` in `render`. (Commit, Commit)
- Removed deprecated support for calling `HashWithIndifferentAccess` methods on `ActionController::Parameters`. (Commit)

Deprecations

- Deprecated `config.action_controller.raise_on_unfiltered_parameters`. It doesn't have any effect in Rails 5.1. (Commit)

Notable changes

- Added the `direct` and `resolve` methods to the routing DSL. (Pull Request)
- Added a new `ActionDispatch::SystemTestCase` class to write system tests in your applications. (Pull Request)

Action View

Please refer to the Changelog for detailed changes.

Removals

- Removed deprecated `#original_exception` in `ActionView::Template::Error`. (commit)
- Remove the option `encode_special_chars` misnomer from `strip_tags`. (Pull Request)

Deprecations

- Deprecated Erubis ERB handler in favor of Erubi. (Pull Request)

Notable changes

- Raw template handler (the default template handler in Rails 5) now outputs HTML-safe strings. (commit)
- Change `datetime_field` and `datetime_field_tag` to generate `datetime-local` fields. (Pull Request)
- New Builder-style syntax for HTML tags (`tag.div`, `tag.br`, etc.) (Pull Request)
- Add `form_with` to unify `form_tag` and `form_for` usage. (Pull Request)
- Add `check_parameters` option to `current_page?`. (Pull Request)

Action Mailer

Please refer to the Changelog for detailed changes.

Notable changes

- Allowed setting custom content type when attachments are included and body is set inline. (Pull Request)
- Allowed passing lambdas as values to the `default` method. (Commit)
- Added support for parameterized invocation of mailers to share before filters and defaults between different mailer actions. (Commit)
- Passed the incoming arguments to the mailer action to `process.action_mailer` event under an `args` key. (Pull Request)

Active Record

Please refer to the Changelog for detailed changes.

Removals

- Removed support for passing arguments and block at the same time to `ActiveRecord::QueryMethods#select`. (Commit)
- Removed deprecated `activerecord.errors.messages.restrict_dependent_destroy.one` and `activerecord.errors.messages.restrict_dependent_destroy.many` i18n scopes. (Commit)
- Removed deprecated force-reload argument in singular and collection association readers. (Commit)
- Removed deprecated support for passing a column to `#quote`. (Commit)
- Removed deprecated `name` arguments from `#tables`. (Commit)
- Removed deprecated behavior of `#tables` and `#table_exists?` to return tables and views to return only tables and not views. (Commit)
- Removed deprecated `original_exception` argument in `ActiveRecord::StatementInvalid#initialize` and `ActiveRecord::StatementInvalid#original_exception`. (Commit)
- Removed deprecated support of passing a class as a value in a query. (Commit)
- Removed deprecated support to query using commas on LIMIT. (Commit)
- Removed deprecated `conditions` parameter from `#destroy_all`. (Commit)
- Removed deprecated `conditions` parameter from `#delete_all`. (Commit)

- Removed deprecated method `#load_schema_for` in favor of `#load_schema`. (Commit)
- Removed deprecated `#raise_in_transactional_callbacks` configuration. (Commit)
- Removed deprecated `#use_transactional_fixtures` configuration. (Commit)

Deprecations

- Deprecated `error_on_ignored_order_or_limit` flag in favor of `error_on_ignored_order`. (Commit)
- Deprecated `sanitize_conditions` in favor of `sanitize_sql`. (Pull Request)
- Deprecated `supports_migrations?` on connection adapters. (Pull Request)
- Deprecated `Migrator.schema_migrations_table_name`, use `SchemaMigration.table_name` instead. (Pull Request)
- Deprecated using `#quoted_id` in quoting and type casting. (Pull Request)
- Deprecated passing default argument to `#index_name_exists?`. (Pull Request)

Notable changes

- Change Default Primary Keys to BIGINT. (Pull Request)
- Virtual/generated column support for MySQL 5.7.5+ and MariaDB 5.2.0+. (Commit)
- Added support for limits in batch processing. (Commit)
- Transactional tests now wrap all Active Record connections in database transactions. (Pull Request)
- Skipped comments in the output of `mysqldump` command by default. (Pull Request)
- Fixed `ActiveRecord::Relation#count` to use Ruby's `Enumerable#count` for counting records when a block is passed as argument instead of silently ignoring the passed block. (Pull Request)
- Pass `"-v ON_ERROR_STOP=1"` flag with `psql` command to not suppress SQL errors. (Pull Request)
- Add `ActiveRecord::Base.connection_pool.stat`. (Pull Request)
- Inheriting directly from `ActiveRecord::Migration` raises an error. Specify the Rails version for which the migration was written for. (Commit)

- An error is raised when `through` association has ambiguous reflection name. (Commit)

Active Model

Please refer to the Changelog for detailed changes.

Removals

- Removed deprecated methods in `ActiveModel::Errors`. (commit)
- Removed deprecated `:tokenizer` option in the length validator. (commit)
- Remove deprecated behavior that halts callbacks when the return value is false. (commit)

Notable changes

- The original string assigned to a model attribute is no longer incorrectly frozen. (Pull Request)

Active Job

Please refer to the Changelog for detailed changes.

Removals

- Removed deprecated support to passing the adapter class to `.queue_adapter`. (commit)
- Removed deprecated `#original_exception` in `ActiveJob::DeserializationError`. (commit)

Notable changes

- Added declarative exception handling via `ActiveJob::Base.retry_on` and `ActiveJob::Base.discard_on`. (Pull Request)
- Yield the job instance so you have access to things like `job.arguments` on the custom logic after retries fail. (commit)

Active Support

Please refer to the Changelog for detailed changes.

Removals

- Removed the `ActiveSupport::Concurrency::Latch` class. (Commit)
- Removed `halt_callback_chains_on_return_false`. (Commit)

- Removed deprecated behavior that halts callbacks when the return is false. (Commit)

Deprecations

- The top level `HashWithIndifferentAccess` class has been softly deprecated in favor of the `ActiveSupport::HashWithIndifferentAccess` one. (Pull Request)
- Deprecated passing string to `:if` and `:unless` conditional options on `set_callback` and `skip_callback`. (Commit)

Notable changes

- Fixed duration parsing and traveling to make it consistent across DST changes. (Commit, Pull Request)
- Updated Unicode to version 9.0.0. (Pull Request)
- Add `Duration#before` and `#after` as aliases for `#ago` and `#since`. (Pull Request)
- Added `Module#delegate_missing_to` to delegate method calls not defined for the current object to a proxy object. (Pull Request)
- Added `Date#all_day` which returns a range representing the whole day of the current date & time. (Pull Request)
- Introduced the `assert_changes` and `assert_no_changes` methods for tests. (Pull Request)
- The `travel` and `travel_to` methods now raise on nested calls. (Pull Request)
- Update `DateTime#change` to support usec and nsec. (Pull Request)

Credits

See the full list of contributors to Rails for the many people who spent many hours making Rails, the stable and robust framework it is. Kudos to all of them.