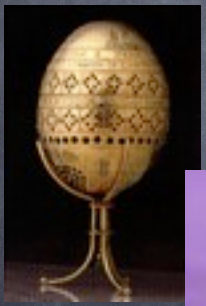
MerbAuth

Darwinian Authentication



In The Beginning

- Conditions for Authentication were ripe
- Merb
  - Plugins
  - Rubigen with scopes (6th Nov 2007)
- Restful Authentication was missing

merbful_authentication

merbful_authentication

- Released 4th January 2008
- Direct port of Restful Authentication
- Supported DataMapper & ActiveRecord
- Supported Rspec & Test::Unit

Pros

- First plugin with multi-ORM support in Merb
- A lot of applications used it

Cons

- Generated code
- Very complex
- Maintenance sucked

The Catalyst

- Slices were born

Original merb-auth

merb-auth

- Mostly direct port of merbful_authentication
- Used brand new slices plugin
- Moved to Library Code not Generated
- ORM support via mixins
- Forgotten Passwords
- 17 June 2008

merb-auth - Pros

- Live code. Not generated
- Minimal Application Configuration
- Implemented as a slice
- Easier to maintain (still sucked)

merb-auth - Cons

- User model hidden
- Hard to please all through configuration
- Unclear how to customize it
- Tied to one model type
- Dictates user model
- Extensions difficult (No OpenID)
- Difficult to change logic

Evolutionary Step Required

The Catalyst

- Adam French proposed:
  - Authenticating Sessions
  - Simple session based api
  - Using Exceptions to refuse entry
    - Provides correct status code

ExceptionalAuthentication

- Adam created a prototype
  - ExceptionalAuthentication
- Application including his proposals

Session API

- session.authenticated?
- session.authenticate!
- session.user
- session.user=
- session.abandon!

ExceptionalAuthentication

- Originally a DataMapper based system
- Decided to allow arbitrary "user" objects

Code Named - Mauth

MerbAuth - What is it?

- Authentication Framework
- Cascading Strategy Concept
- Only what's needed to support authentication
- Supports user objects such as
  - DM, AR, Sequel, Hash, String, File, IO, or just plain old Object

MerbAuth - What it's Not

- A user management system

Default Merb Stack

- Merb stack includes MerbAuth with:
  - Password Slice
    - Password based form authentication
    - Basic Authentication
  - Salted Users
  - Routes / Forms

Activating Merb Stack

- Comes with a Basic User model (Change it up)
- rake db:automigrate
- Make something to protect

Protect It

- Route Level

```
authenticate do
  resources :paychecks
end
```

- Controller Level

```
before :ensure_authenticated
```

Activating Merb Stack

- Add a user to the system
- Login "/login"

Protect - Router Based

```
  authenticate(BasicAuth) do
  resources :api

  authenticate do
    resources :posts do
      resources :comments
    end
  end

end
```

Controller Based

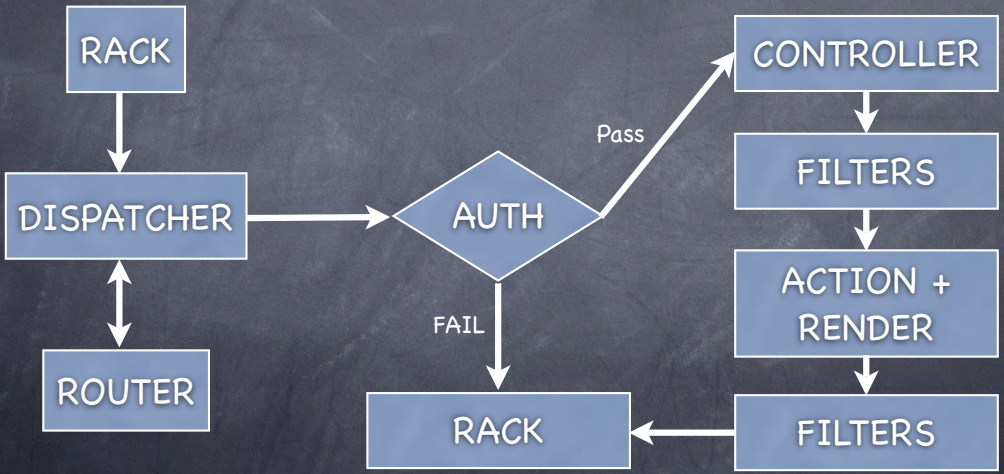
- :ensure_authenticated

```
before :ensure_authenticated

# OR

before :ensure_authenticated, :with => [OpenID, BasicAuth]
```

Why Protect Routes?



What is a Strategy?

- Strategy contains logic for "Authentication"
- Implements a #run! method

```
class PasswordStrategy < Merb::Authentication::Strategy
  def run!
    login     = request.params[:login]
    password  = request.params[:password]
    User.authenticate!(login, password) if login
  end
end
```

- Declare many. One for each login type

MerbAuth

- Cascading Strategies
- Each strategy is run in order
- Success == First Strategy to return object
- Failure == No Strategies return object
- Stops trying when authenticated
- Re-order strategies with
  - Merb::Authentication.default_strategy_order=

What Happens on Fail?

- Raises Unauthenticated exception
- Uses Merbs Exception Handling
  - Exceptions#unauthenticated
- Sets correct status code

Display Errors

```
<%= error_messages_for session.authentication %>
```

Customize Login Form

- Exceptions#unauthenticated (view)

How to Logout?

- session.abandon!

What Strategies Are There?

- Password based form login
- Open ID
- Basic Authentication
- Require a default strategy to load / define it
- Monkey patch parts of it you need to change

Mixins

- Use mixins to extend your User or MerbAuth
- Salted User mixin
- Redirect Mixin (redirect_back_or)

Advanced Strategies

- Loaded in order of declaration
- Implement a #run! method
- Use Inheritance to share code
- Arbitrary Object Session Serialization
- Return an object from #run! to authenticate

Advanced Strategies

- YourStrategy#redirect!
- YourStrategy.abstract!
- YourStrategy#user_class
- YourStrategy#headers
- YourStrategy#status
- request.params (request params)
- params (route params)

Failure Messages

- Inside a strategy
- `session.authentication.errors.add(:label, "message")`

Overview of Advanced Setup

- require 'merb-auth-core'
- Define <User> model (Maybe)
- Setup session storage
- Declare strategies
- Protect methods
- Setup login / logout actions

Where Next?

- Implement slices
- Implement Strategies & Mixins

Resources

- http://adam.speaksoutofturn.com/articles/entication_vs_orization.html
- http://github.com/wycats/merb-more/merb-auth
- http://github.com/ck/cookbook
- http://github.com/RichGuk/merb-auth-example

Thanks

- Adam French
- Ben Burket