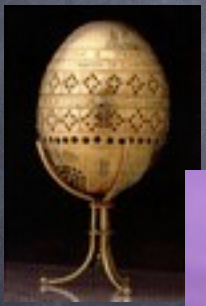
MerbAuth

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

Mauth - What is it?

- Authentication Framework
- Cascading authentication "Strategies"
- Authenticates user objects
- Now MerbAuth (in merb-plugins)
- 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
- Tell MerbAuth how to store and retrieve the User object from the session

```
class Authentication
  def fetch_user(session_info)
    User.get(session_info)
  end

  def store_user(user)
    user.nil? user : user.id
  end
end
```

MerbAuth

- Uses cascading Strategies
- Strategy is a class that implements run!
- Each strategy is run in order
- Success == First Strategy to return object
- Failure == No Strategies return object
- Only run strategies if !session.authenticated?

What is a Strategy?

- Sub-class of Authentication::Strategy

```
class PasswordStrategy < Authentication::Strategy

  def run!
    if params[:password] && params[:login]
      User.authenticate!(params[:login], params[:password])
    end
  end

end
```

- Re-order Authentication.default_strategy_order
- Declare many. One for each login type

Protect Actions

- Controller helper :ensure_authenticated

```
class MyController < Application
  before :ensure_authenticated
  #...
end
```

- Control Which Strategies are used

```
class MyController < Application
  before :ensure_authenticated, :with => [OpenId,Password]

  #...
end
```

What Happens on Fail?

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

Failure Messages

- Authentication#error_message (Overwrite)
- `before :ensure_authenticated, :with => {:message => "Fail"}`
- `session.authentication.errors.add(:label, "message")`
  - `error_messages_for session.authentication`

How To Login?

- Setup login form at Exceptions#unauthenticated
- Protect a method and try to access it

How to Logout?

- session.abandon!

Sessions Controller Example

```
class Sessions < Application
  before :ensure_authenticated

  def create
    redirect_back_or url(:home)
  end

  def destroy
    session.abandon!
    redirect url(:home)
  end
end
```

Routes

```
   to(:controller => "exceptions")
  match("/login", :method => :get).
    to(:action => "unauthenticated").
    name(:login)
end

to(:controller => "sessions") do
  match("/login",  :method => :post  ).to(:action => "create")
  match("/logout", :method => :delete).to(:action => "destroy").
    name(:logout)
end
```

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

Advanced Strategies

- YourStrategy#redirect!
- YourStrategy.abstract!
- Overwrite YourStrategy#user_class for different types of users

Mixins

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

What About Users

- You should make your own user class
  - Default password based login requires <User>.authenticate(login, password)
- Salted Password Mixin (DM, AR & Sequel)

Make it Easy

- Slices are being written to make it easy for people who want a drop in user / authentication solution
- So Far
  - Password Slice
  - Activation Slice

Overview of Setup

- require 'merb_auth-core'
- Define <User> model
- Setup session storage
- Declare strategies
- Protect methods
- Setup login / logout actions

Where next?

- Implement slices
- Implement meta gem to include sensible defaults

Resources

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