

In this lecture, we will discuss...

- ✧ Server Caching
- ✧ Page Caching

Server Caching

- ✧ Focus is on the server – how to make it efficient
- ✧ Various types of caching on the server side
- ✧ Can be turned **on** or **off** – globally

```
# config/environments/development.rb  
config.action_controller.perform_caching = true
```



Server Caching - Types

✧ Rails several levels of caching

- Page Caching
- Action Caching
- Fragment Caching
- Low Level Caching



Page Caching

✧ Page Cache

- writes static files to directory
- lazily updates files only when accessed
- invalidates/removes files on events like updates
- directory cleared of stale content using sweeper

Page Caching

✧ Web Server

- Serves a public single URI
- Looks for content first in static content directory
- Makes request to Rails server if static content is missing



Page Caching - Properties

- ✧ Fast - pre-rendered views being served
- ✧ Good for
 - dynamic content that stays stable for periods of time
 - content served without regard to caller



Page Caching - Properties

- ✧ Not appropriate for
 - content that varies per user (e.g., login, preferences)
 - content that is very dynamic
- ✧ Separate gem
 - Gemfile: `gem 'actionpack-page_caching'`



Caching Setup

✧ Turn on caching

```
# config/environments/development.rb
config.action_controller.perform_caching = true
config.action_controller.page_cache_directory = "#{Rails.root.to_s}/public/page_cache"
```

✧ Add `caches_page`

```
class MoviePagesController < ApplicationController
  before_action :set_movie, only: [:show, :edit, :update, :destroy]
  caches_page :index, :show
end
```



Caching Setup - expiration

✧ Page Expiration

```
def update
  respond_to do |format|
    if @movie.update(movie_params)
      expire_page action: "show", id:@movie, format: request.format.symbol
      expire_page action: "index", format: request.format.symbol
    ...
  end
end

def destroy
  @movie.movie_accesses.create(:action=>"destroy")
  @movie.destroy
  expire_page action: "show", id:@movie, format: request.format.symbol
  expire_page action: "index", format: request.format.symbol
  ...
end
```

cache folder

- ✧ The rendered content is written to files in the public directory based on the URI.
 - Result of calling `index` and `show` methods

```
public/page_cache/  
|-- movie_pages  
|   |-- 12345.json  
|-- movie_pages.json
```

Service side Caching

Demo



Summary

- ✧ Caching can be at both the client side or on the server side.

What's Next?

- ✧ Web Services Security

