Data Serialization In Rails

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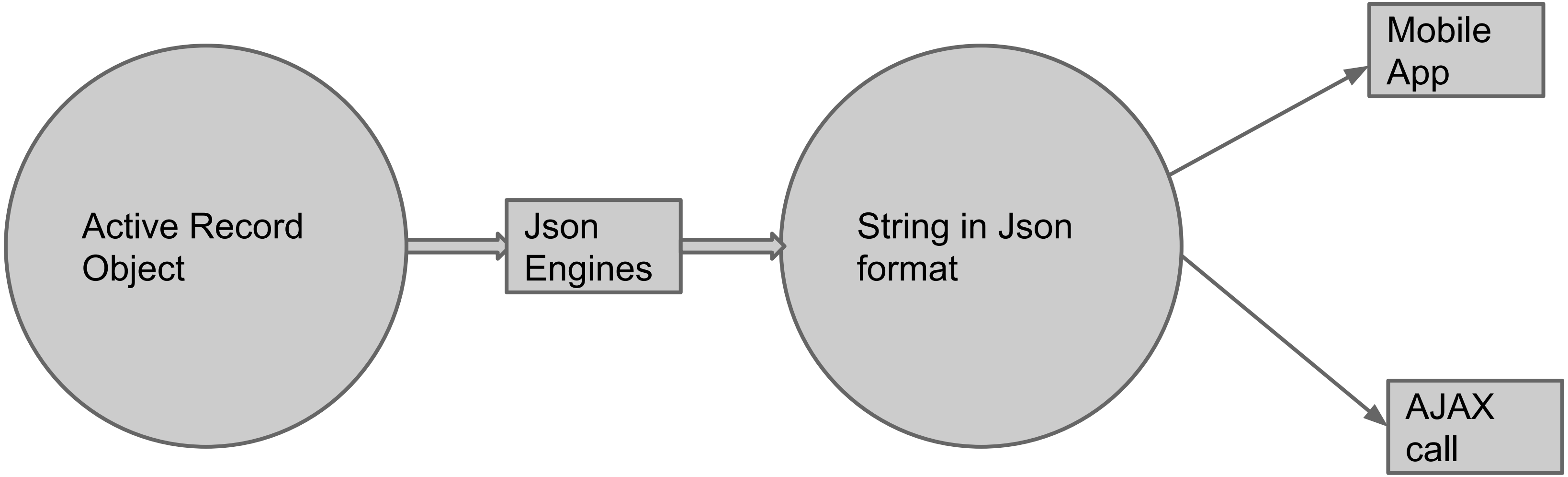
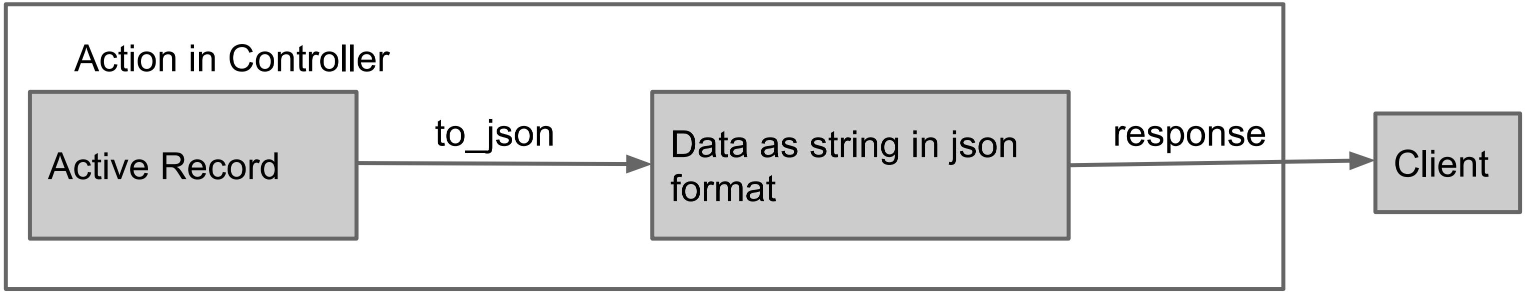
What is data serialization?

- A general term for transferring data across systems and application.
- Daily use: HTTP API response.



Popular Approaches In Rails



Action in Controller

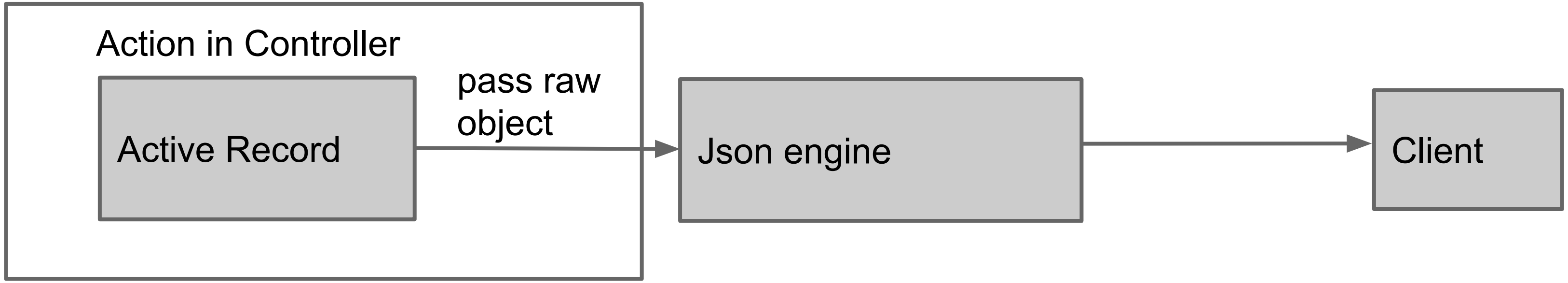
Active Record

to_json

Data as string in json format

response

Client



Action in Controller

Active Record

pass raw object

Json engine

Client

The first and simplest

- AR#to_json()
- Example: Book.all.to_json(only: [:id, :title], include: { comments: { only: [:content], include: { user: { only: [user_email, :id] }}}})
- Giant Hash syntax when you get more complex models.
- It is ok to use this method in when you do not need to render complex json.

Specified Json Engine

- View Template: Rabl and Jbuilder
- OOP: active_model_serializers.

Jbuilder and RABL - Let it be a view

- Using view template to hold the logic.
- Construction looks like json.
- Example.

Jbuilder and RABL - Let it be a view

- Utilizing partial view to keep code DRY but at cost of performance.
- Calling partial => repeatedly call partial view with loop.
- Example.
- Rabl syntax is quite strange and hard to start with.
- Rabl used to generate extra database call when render multiple complex objects. But it is fixed at lastest version: https://github.com/nesquena/rabl/issues/142#issuecomment-2969107
- Jbuilder is installed as default of Rails.
- Example.

AMS - The OO way

- When response for json, rails will look up for ARSerializers class, if found will use the class convention. If not use AR#to_json instead.
- Building serializer classes for each model.
- Replacing weird DSL by nice ruby code.
- Example.

Which one is better?

- BenchMarking for rendering json of 1000 Books, each book associates to 1000 comments and each comment has one user. Elapse time was recorded and each render method was run separately.
- Single run:
  - AMS: 0.770420856s
  - Rabl: 1.017680406s
  - Jbuilder: 0.61265221s
- Cached run:
  - Second Run AMS: 0.195335033s
  - Second Run Rabl: 0.446895216s
  - Second Run Jbuilder: 0.041971115s

How about you?

- The differences between gems are insignificant.
- I personally prefer OO way to avoid using different DSL in a project.
- How about you?
- Other approaches?
- Thank you for listening.