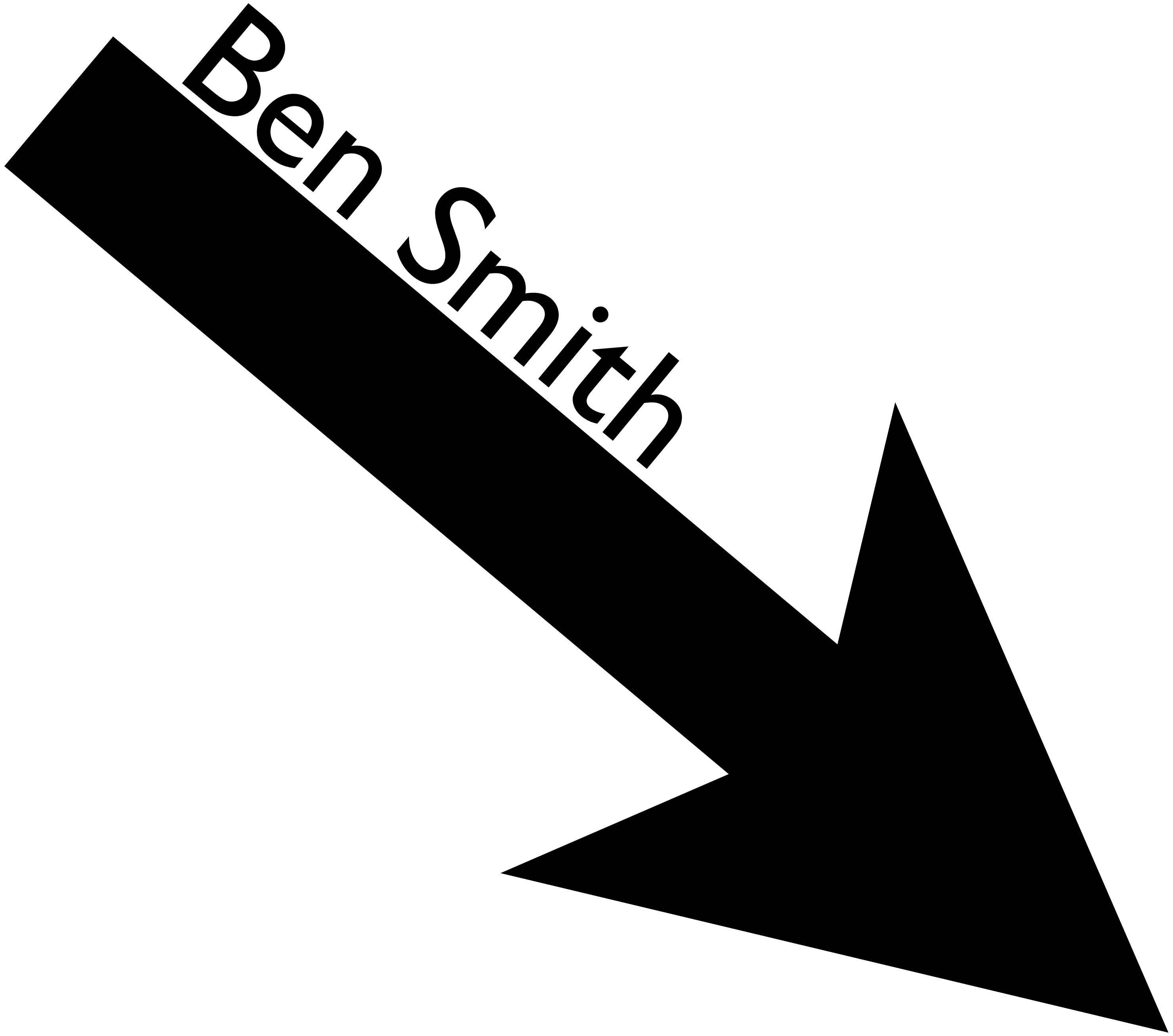
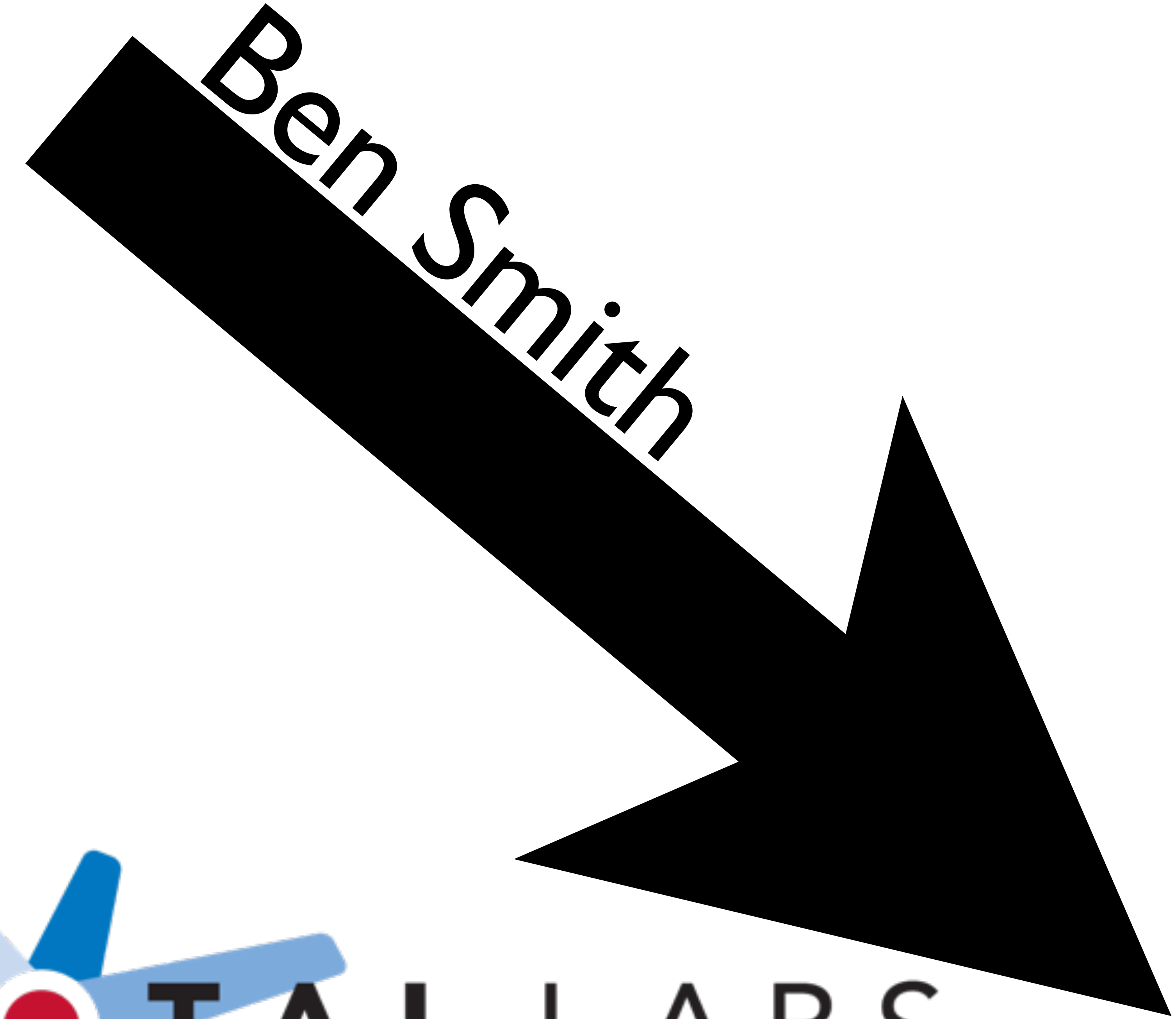
Architecting your Rails app for success!

Benjamin Smith



Ben Smith



Ben Smith

PIVOTAL LABS

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RAILS

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RAILS

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Architecting your Rails app for success!

Benjamin Smith

@benjamin_smith

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MVC

once upon a time

success

long project

NASA
MISSION CONTROL CENTER
esa
CAPCOM
PAYLOAD DEPLOY/
RETRIEVAL (PDRS)

big dev team

lots of codez

scalable

big bang release

success

- long project
- big dev team
- lots of code
- scalable
- big 1st release

a grain of salt

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success

- long project
- big dev team
- lots of code
- scalable
- big 1st release

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engines

a little background

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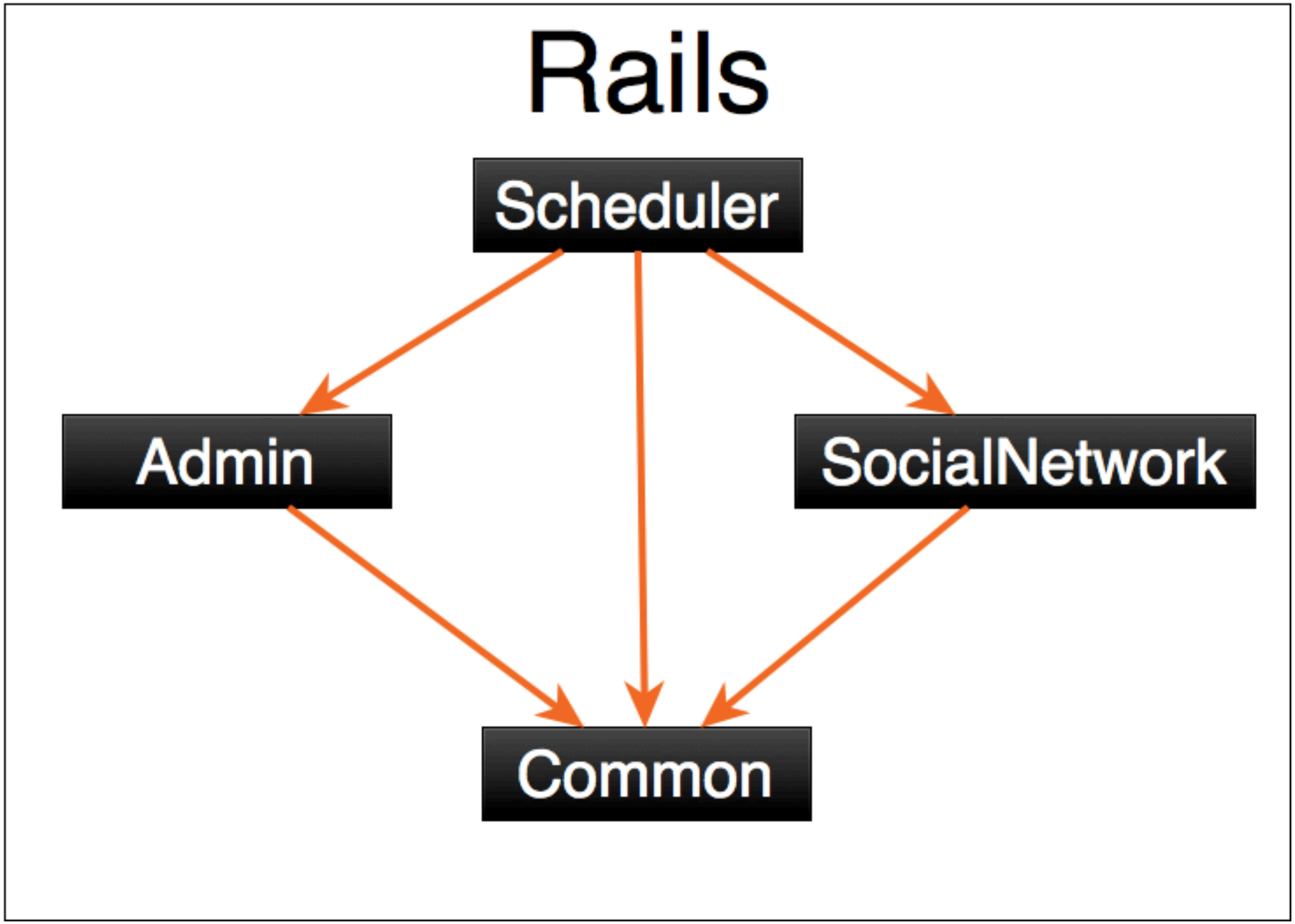
the product

- Multimedia content publishing
- A social network
- iOS app for consumers (using JSON API)
- CMS (Rails) for admins

started simple



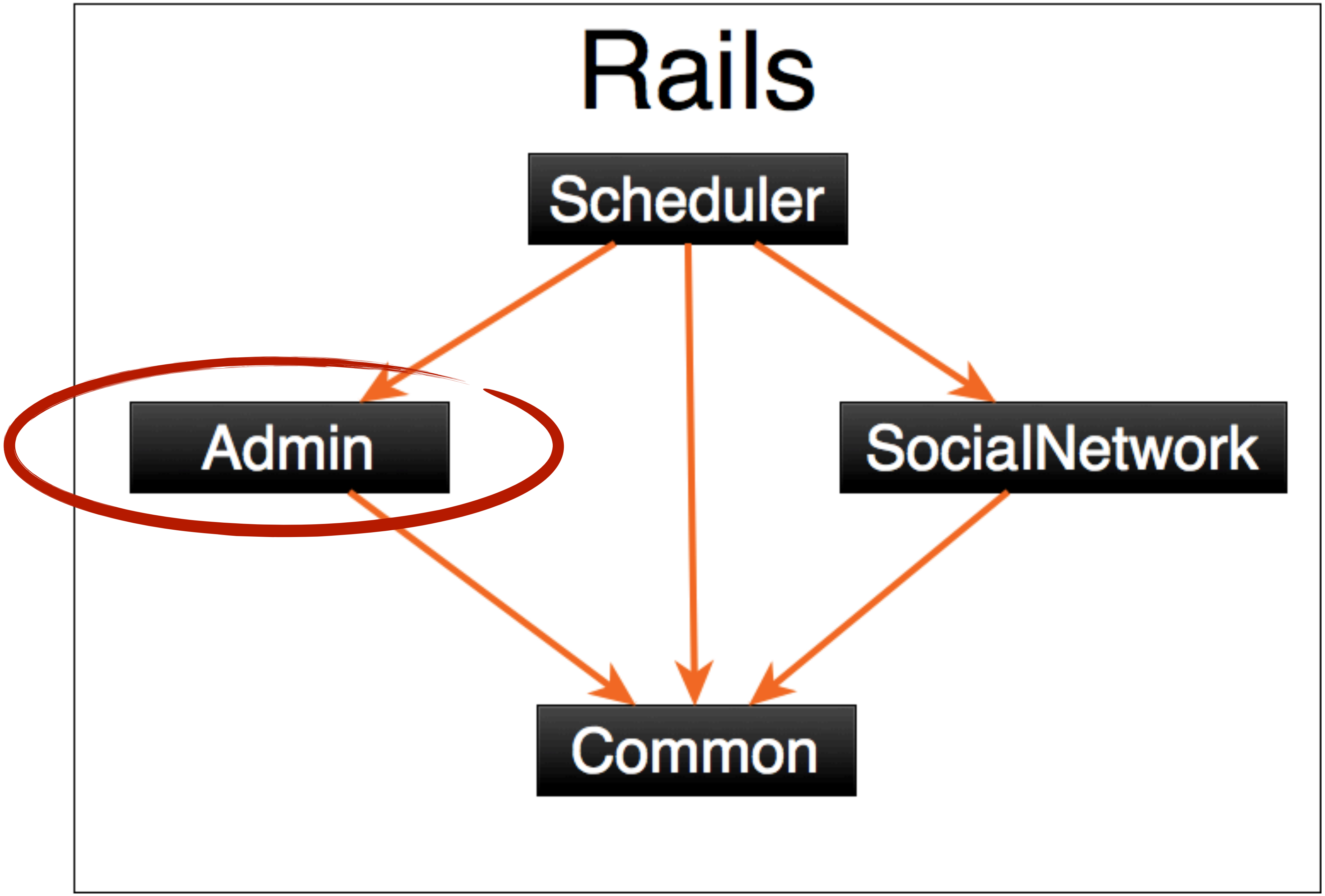
Rails

Scheduler

Admin

SocialNetwork

Common



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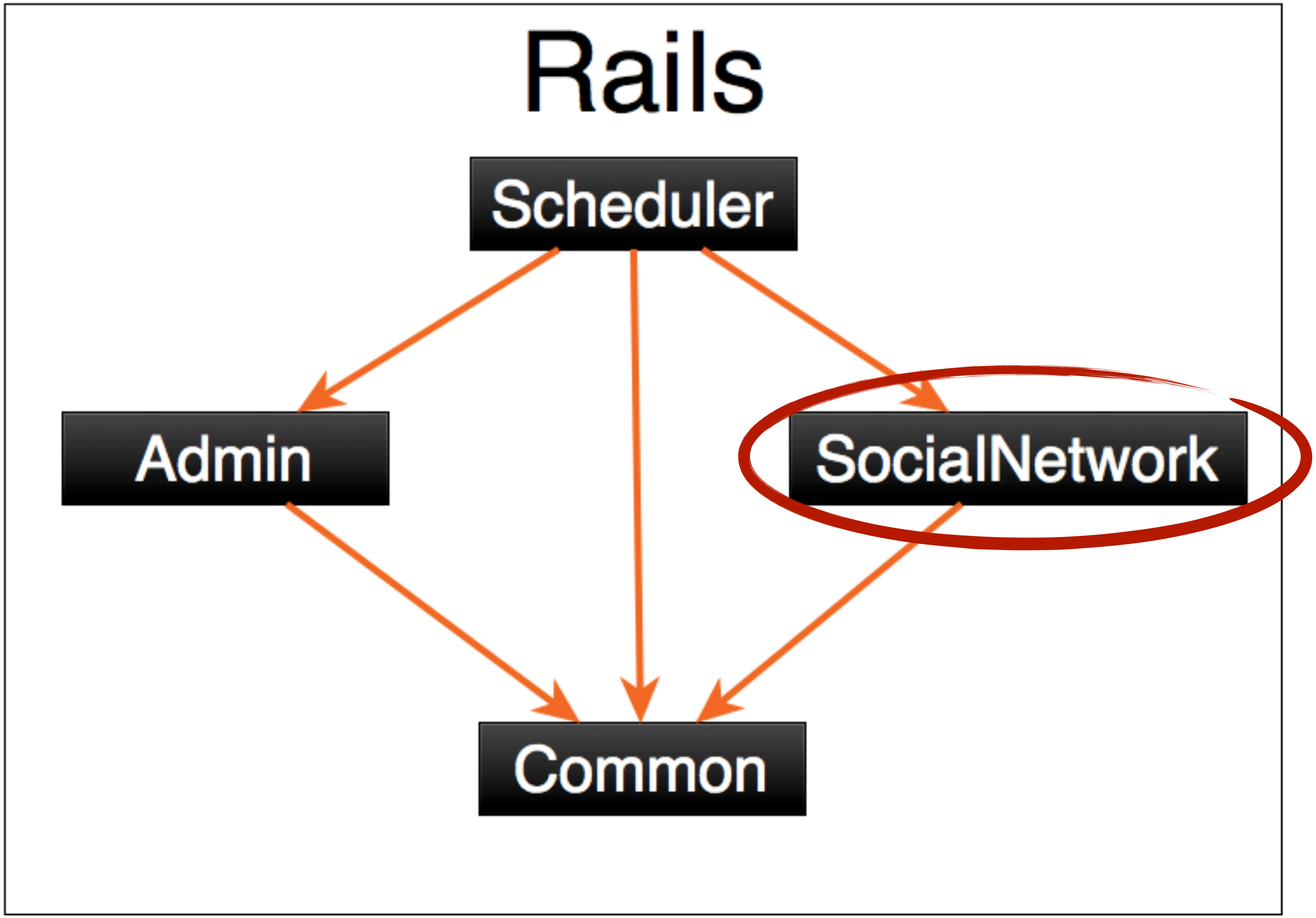
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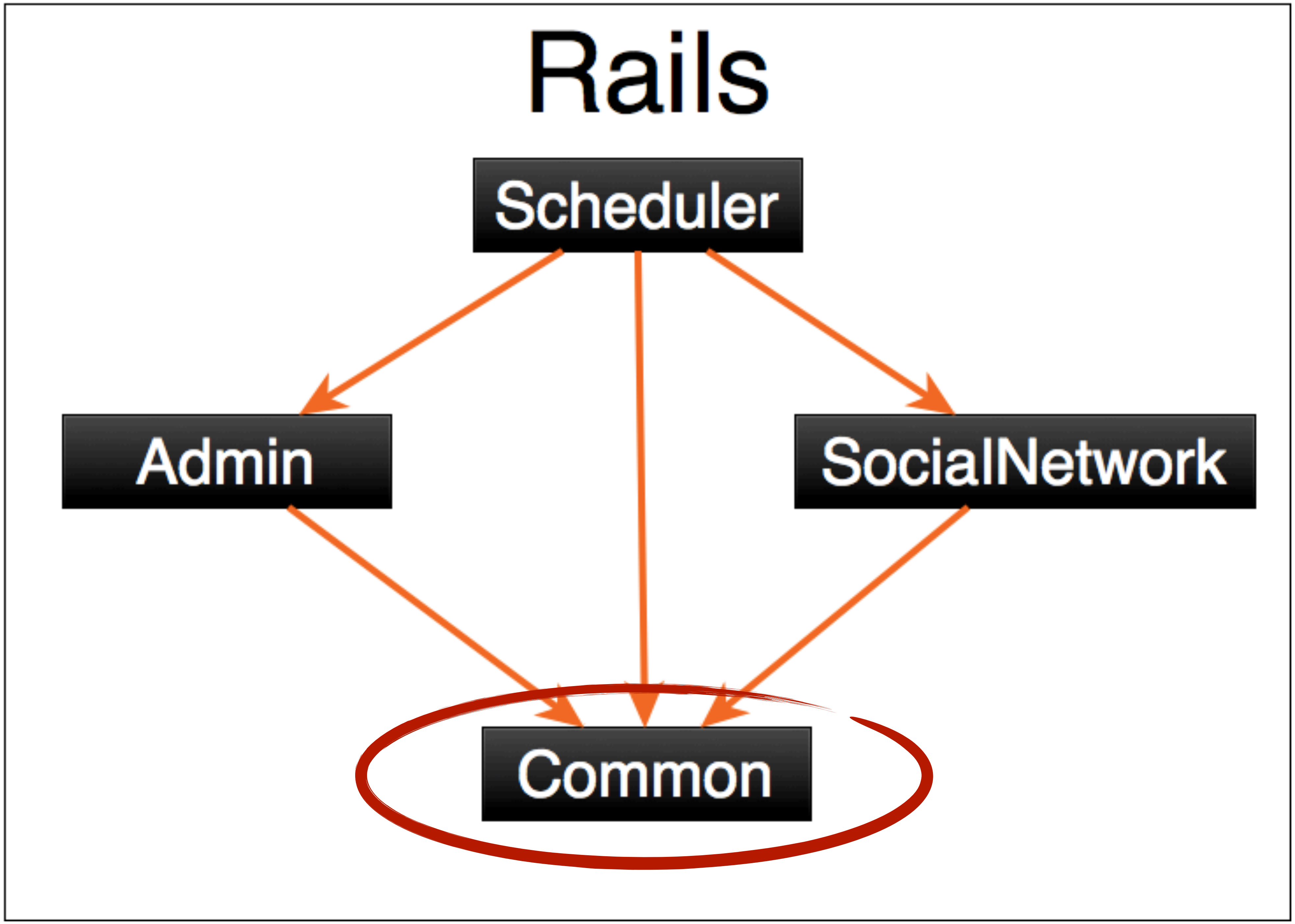

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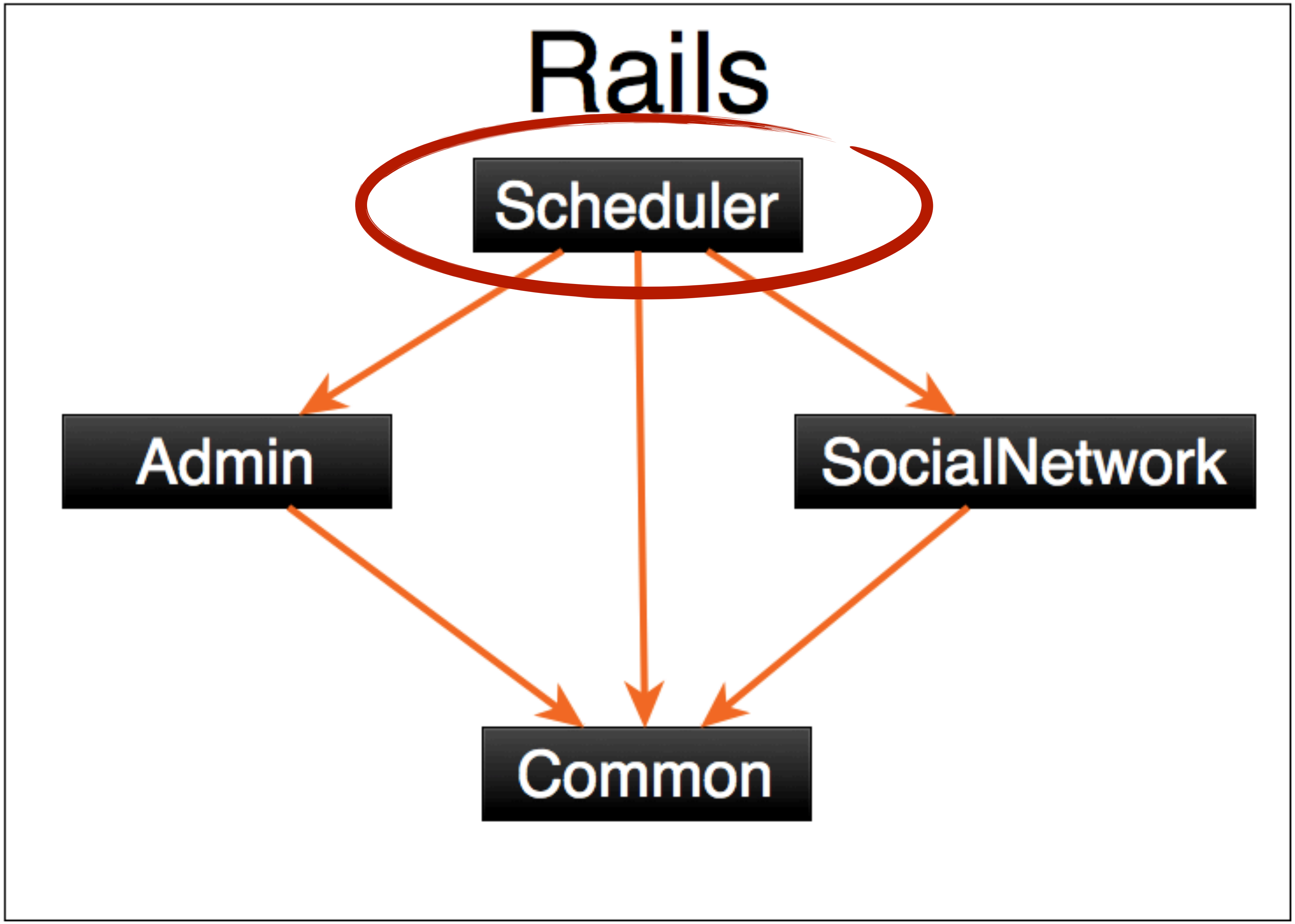

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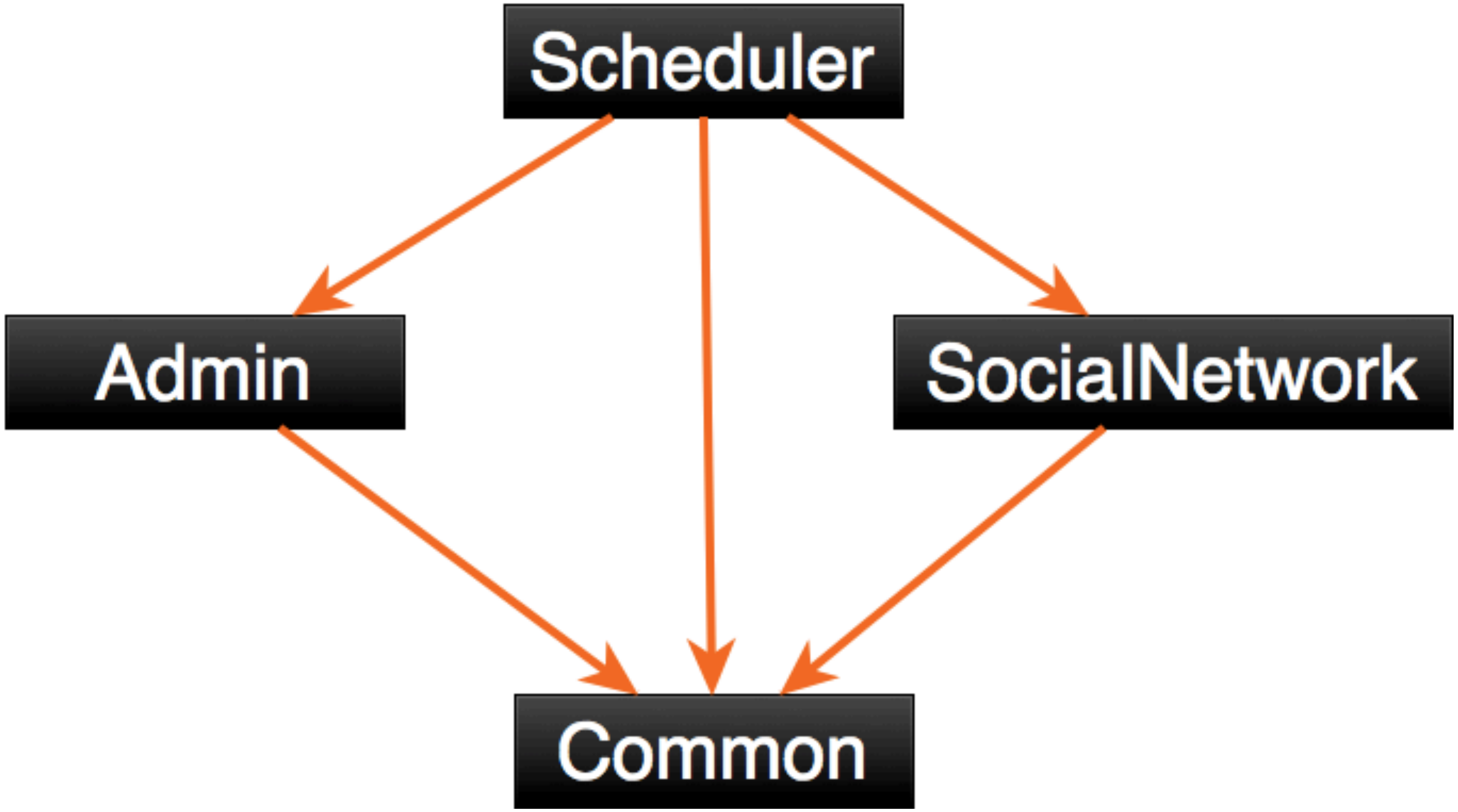
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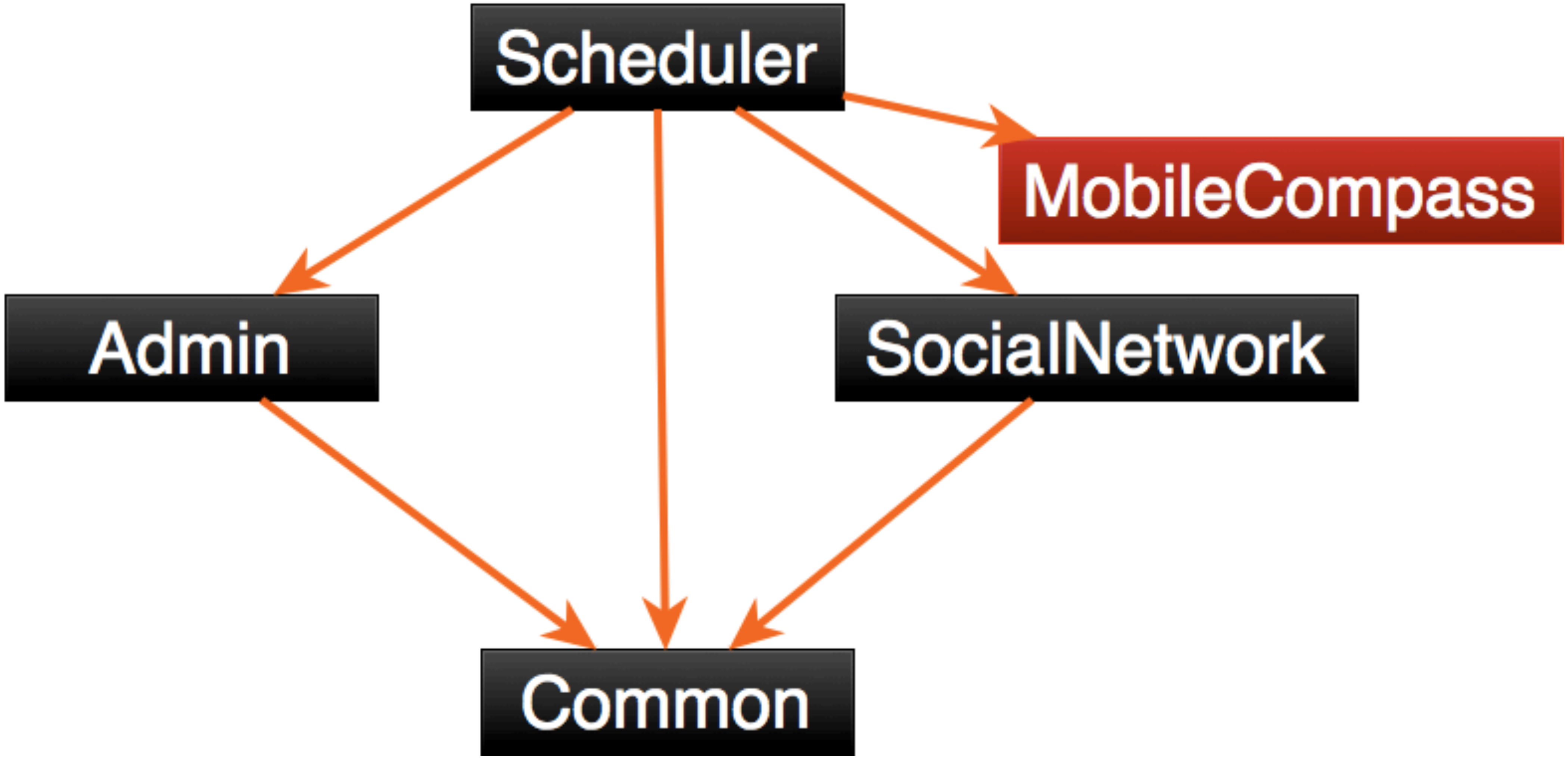
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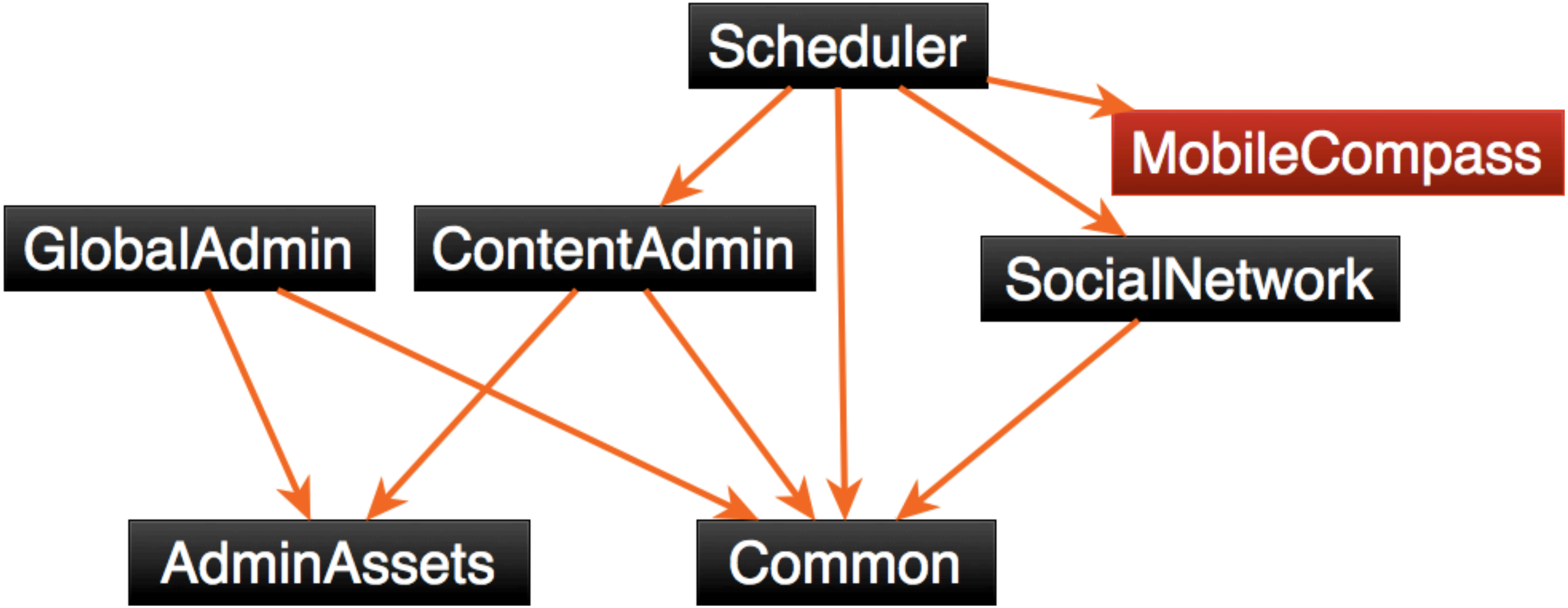
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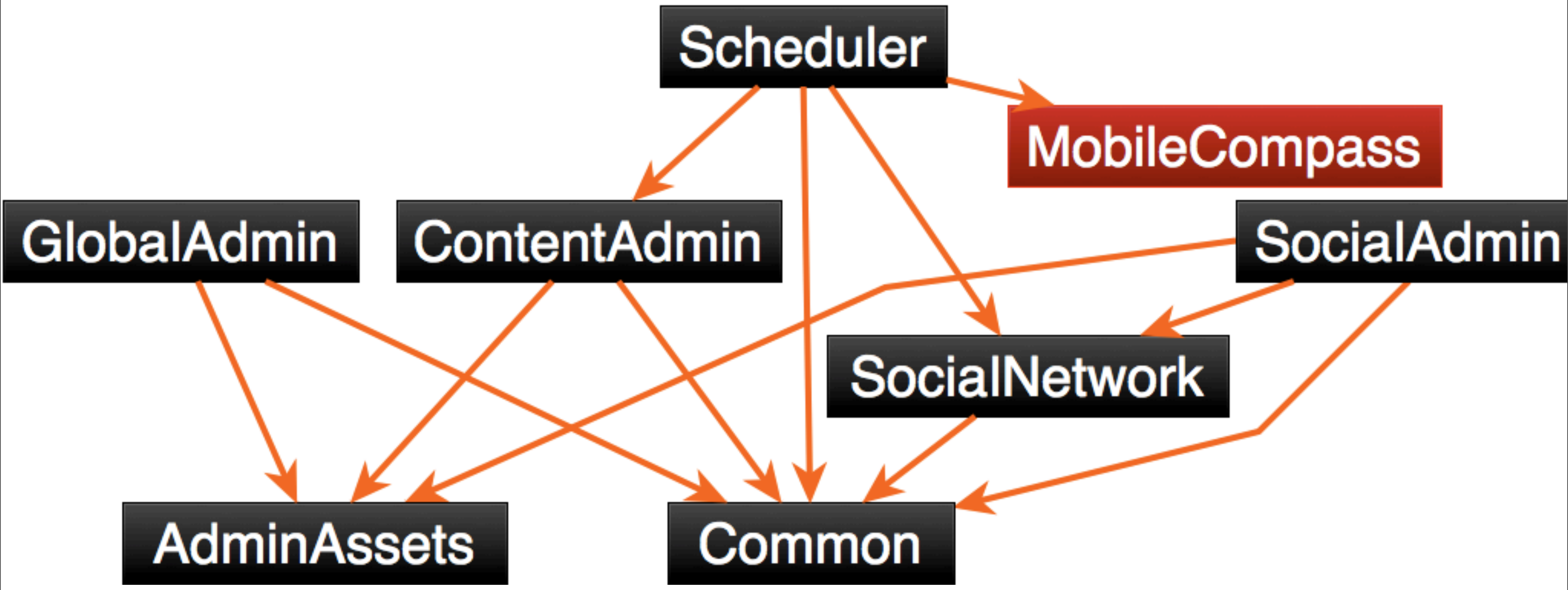
SocialNetwork
AdminAssets
Common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AdminAssets
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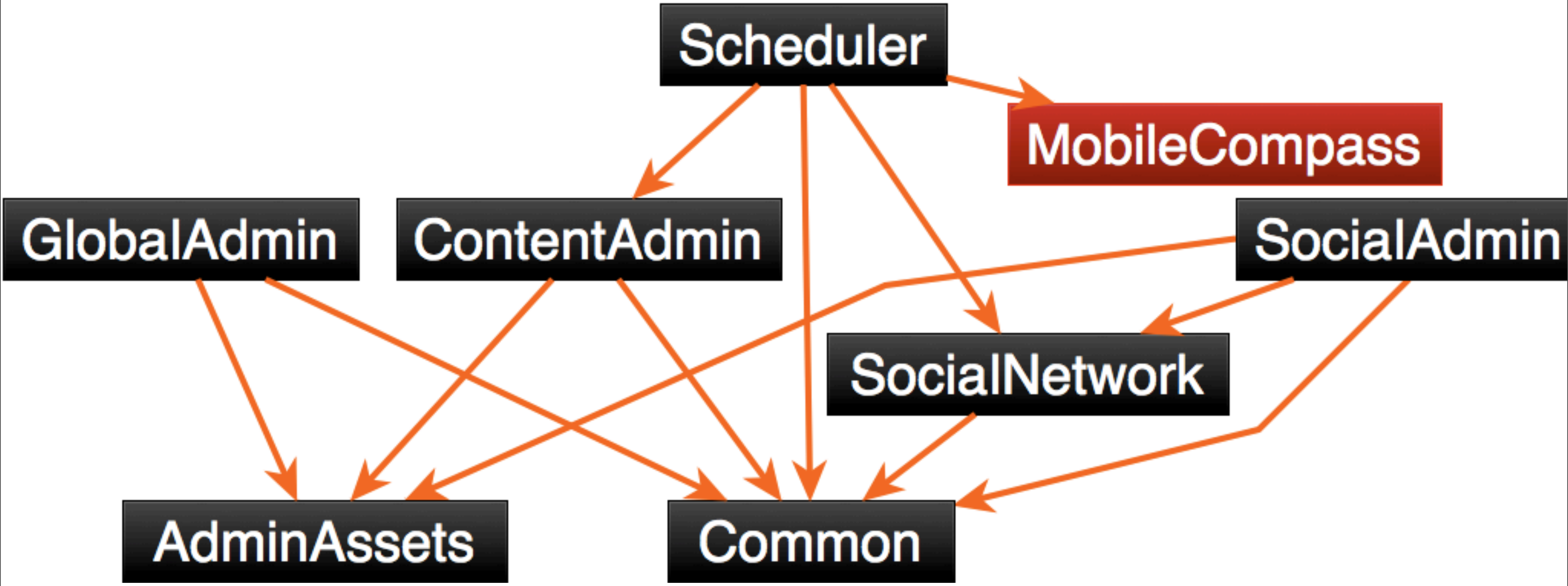
not too bad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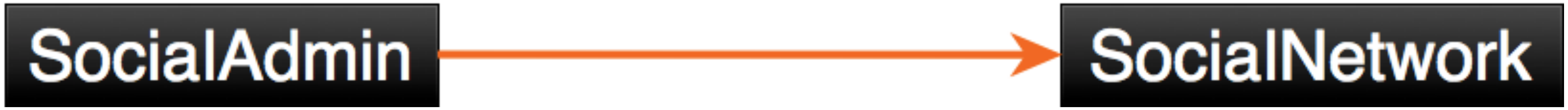
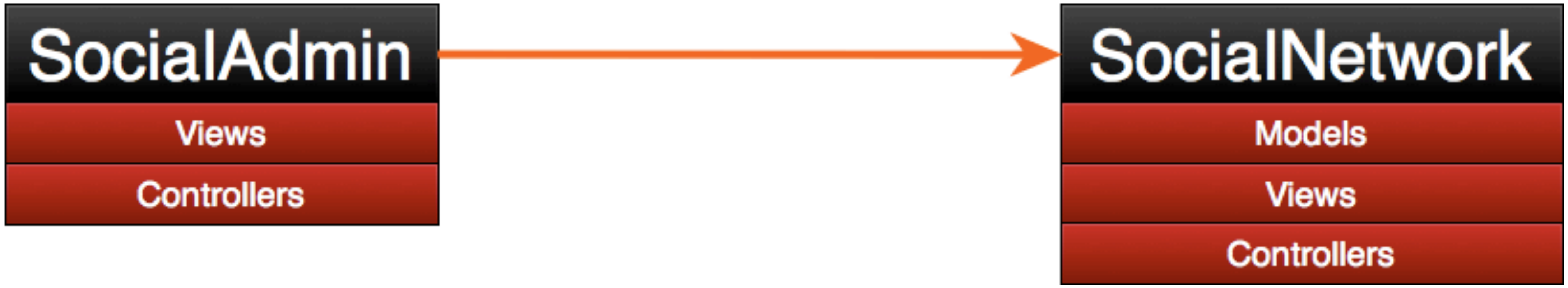


SocialAdmin

SocialNetwork



SocialAdmin

Views

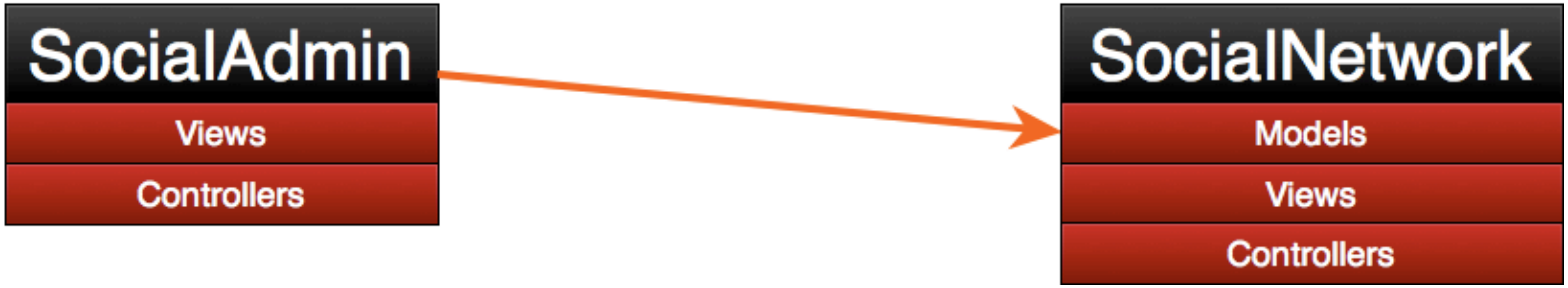
Controllers

SocialNetwork

Models

Views

Controllers



SocialAdmin

Views

Controllers

SocialNetwork

Models

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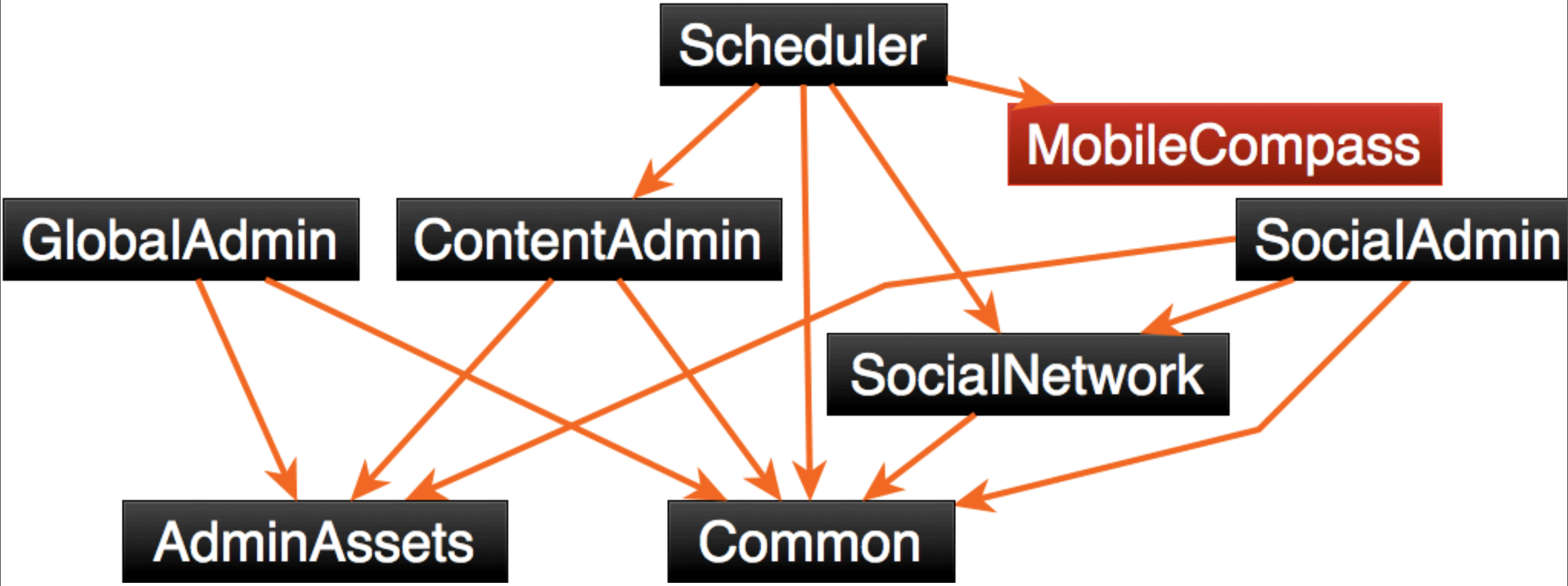
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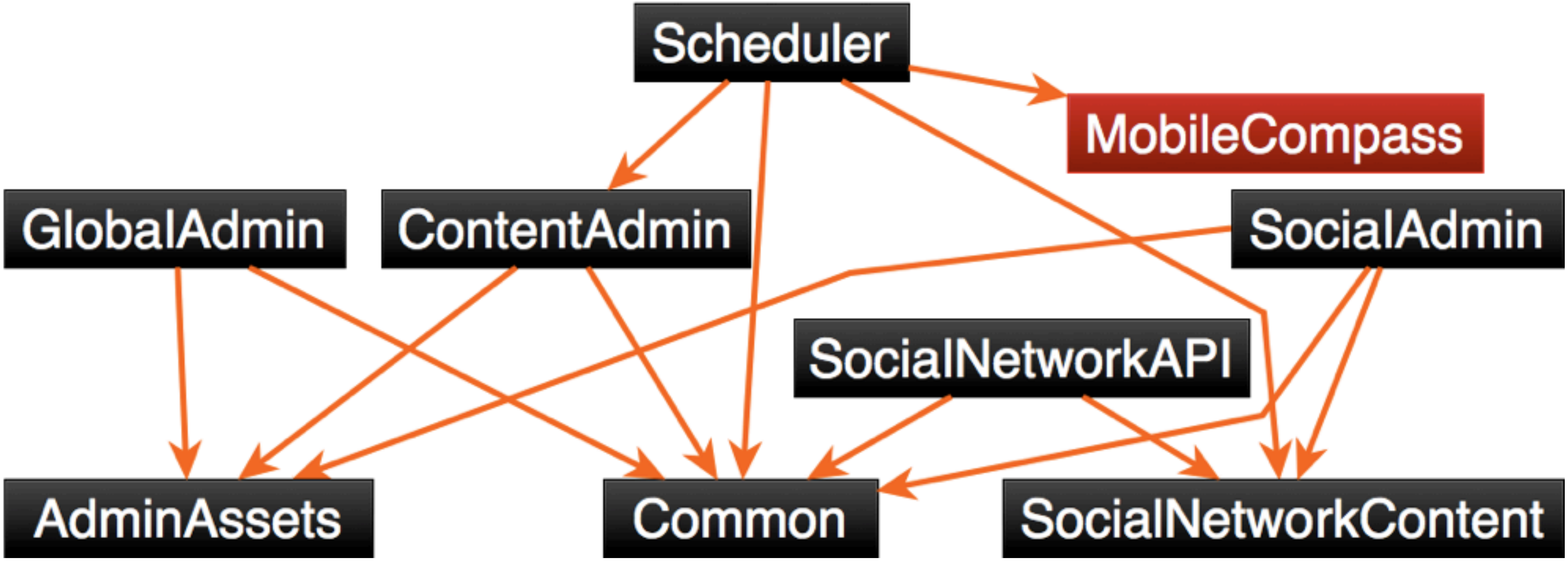
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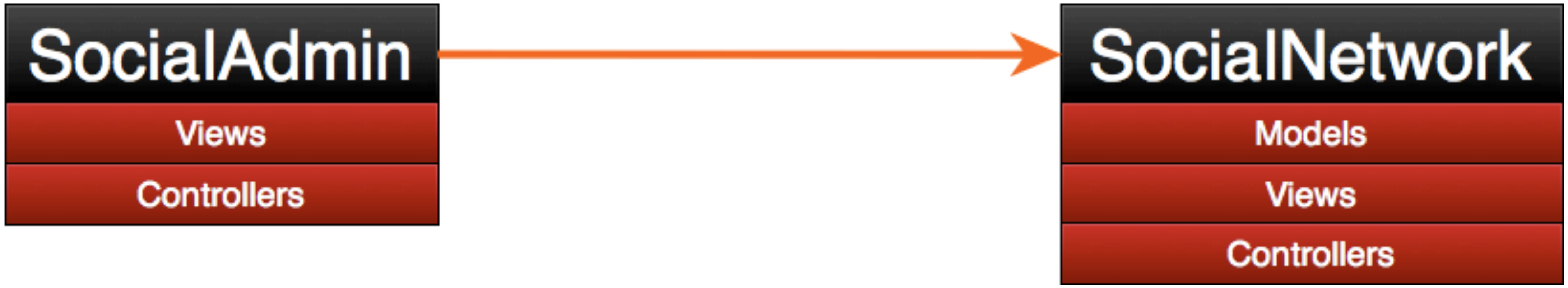
SocialNetworkContent


SocialAdmin
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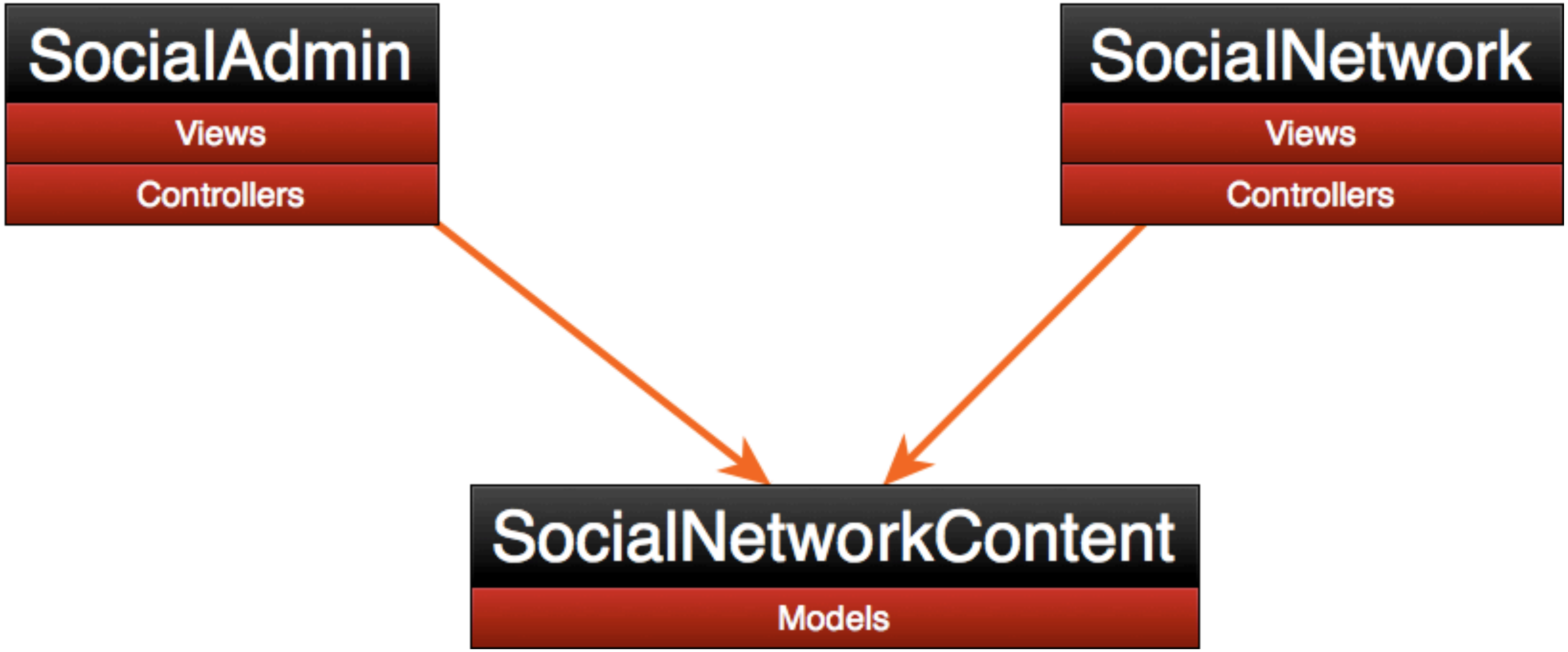
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Views
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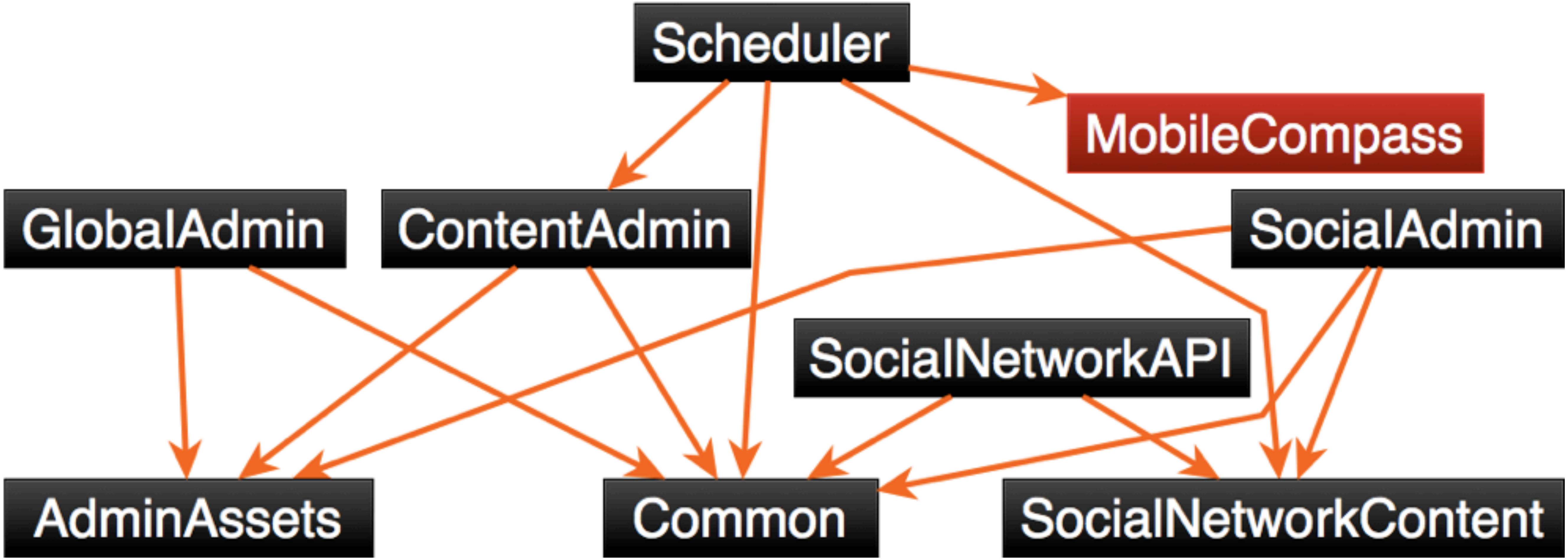
SocialNetworkContent
Models

but why stop there?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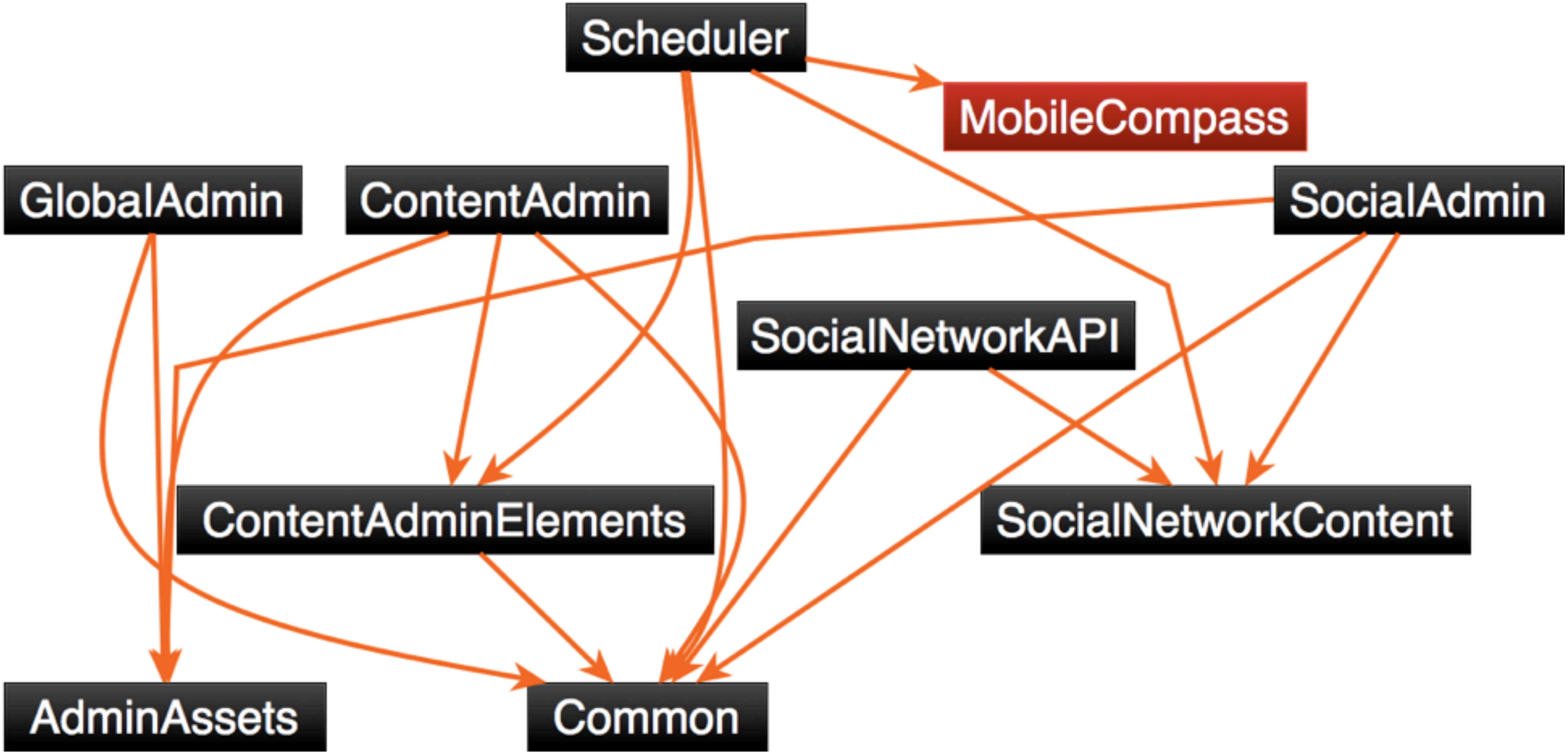
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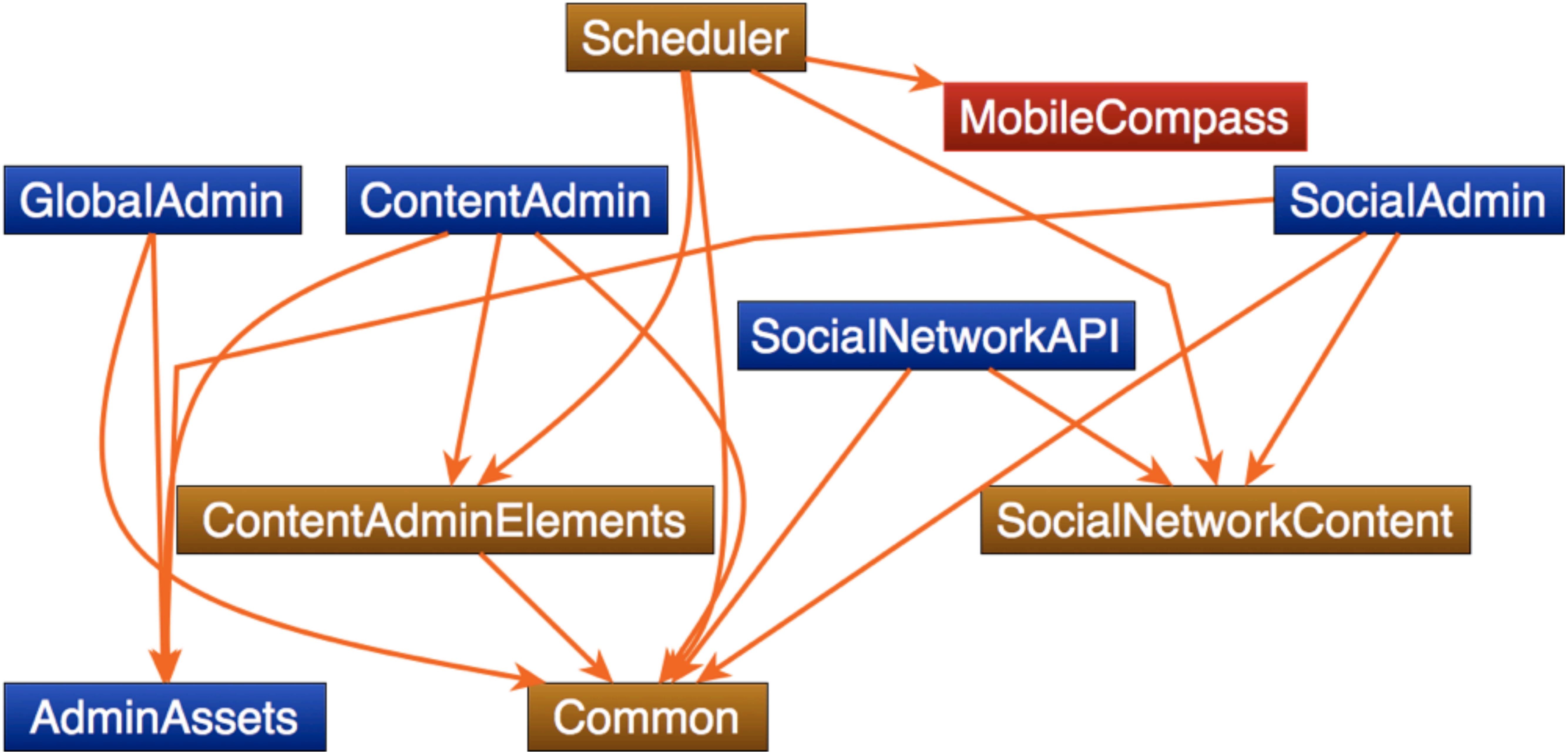

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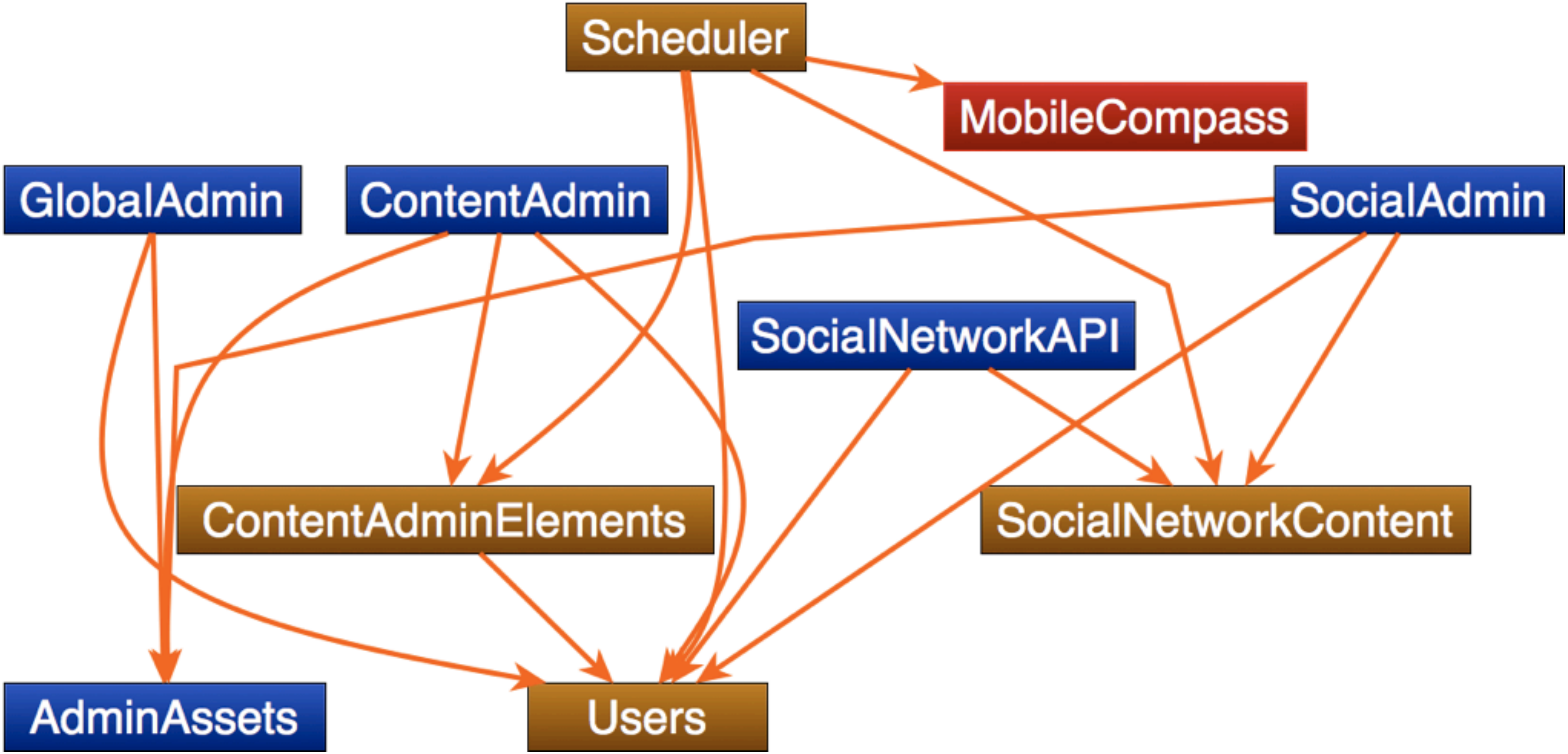
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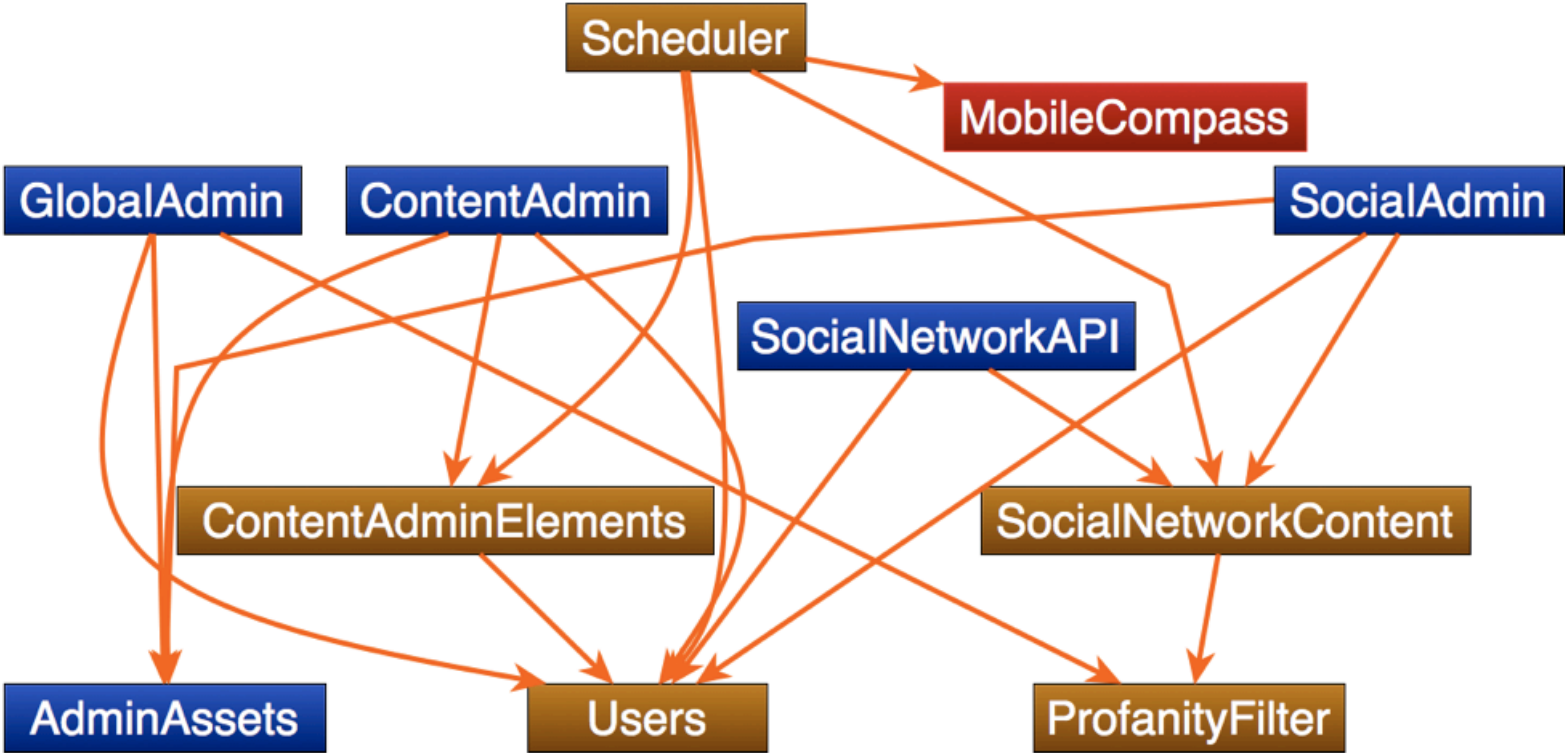
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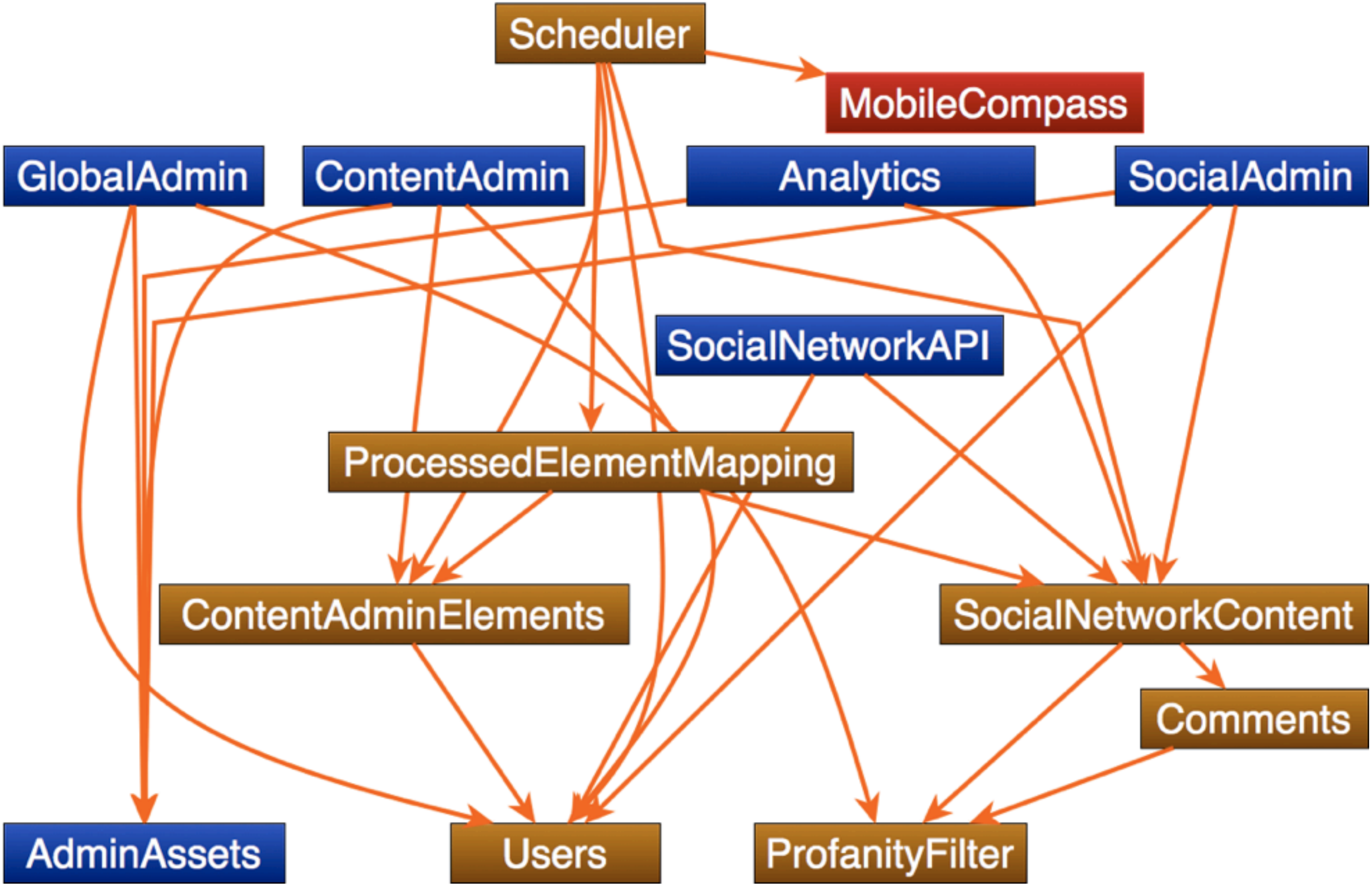
ProfanityFilter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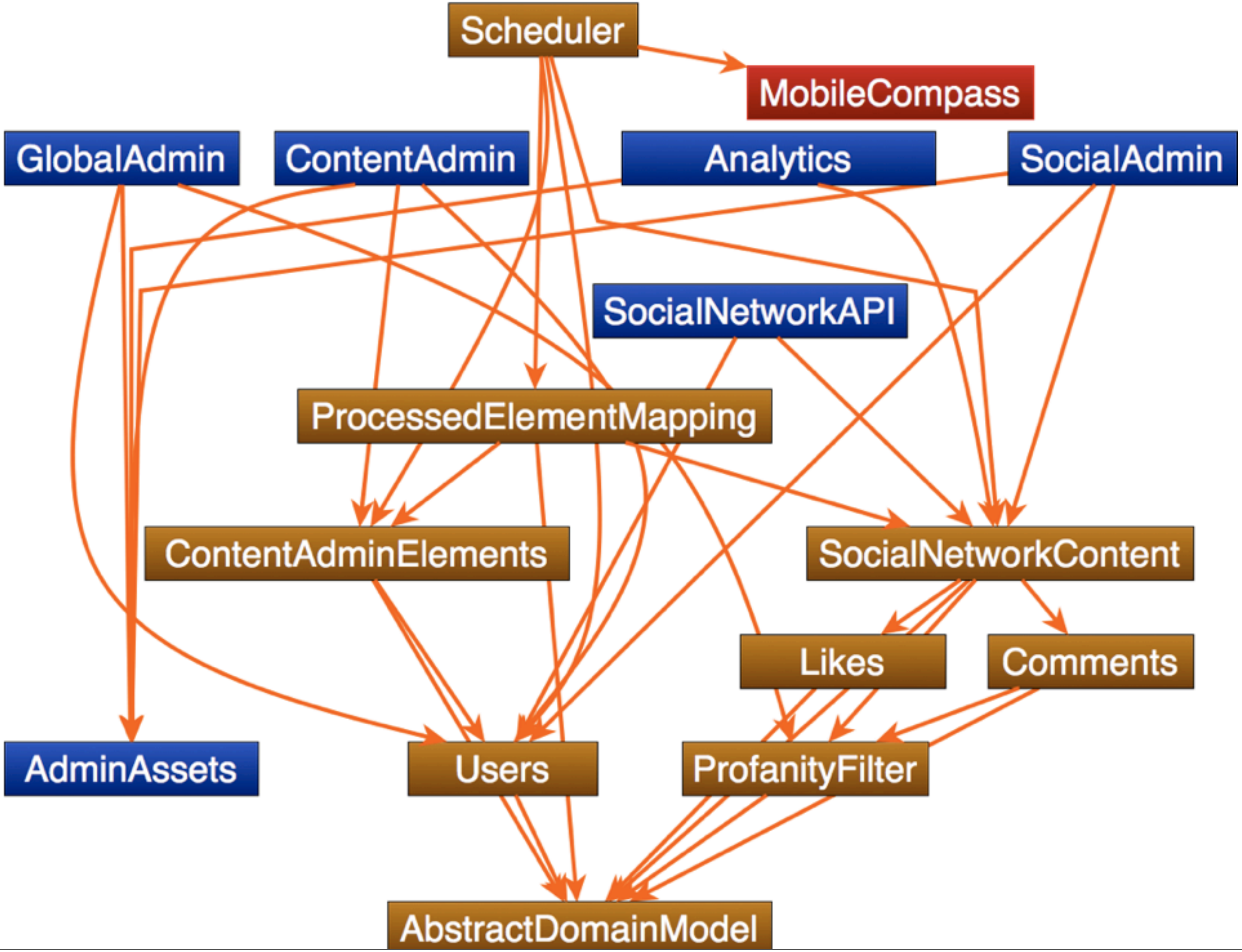
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ProfanityFilter
AbstractDomainModel

how to get started

```
rails plugin new engine_name --mountable
```

```
gem "engine_name",
    path: "path/to/engine_name"
```

```
mount EngineName::Engine => "/engine_name",
:as => "engine_name"
```

```
rails plugin new engine_name --mountable
rails plugin new engine_template --mountable
```

```
s/engine_template/new_engine_name/g
s/EngineTemplate/NewEngineName/g

for file in $(find . -name "*engine_template*")
do
  mv $file `echo $file | sed s/engine_template/$1/`
done
```

```
bundle gem gem_name
```

```
gem "gem_name",
    path: "path/to/gem_name"
```

```
bundle gem gem_template

s/gem_template/new_gem_name/g
s/GemTemplate/NewGemName/g

for file in $(find . -name "*gem_template*")
do
  mv $file `echo $file | sed s/gem_template/$1/`
done
```

got it?

engines the right way

fully contained engines

- all tables namespaced
- migrations
- tests

table namespacing

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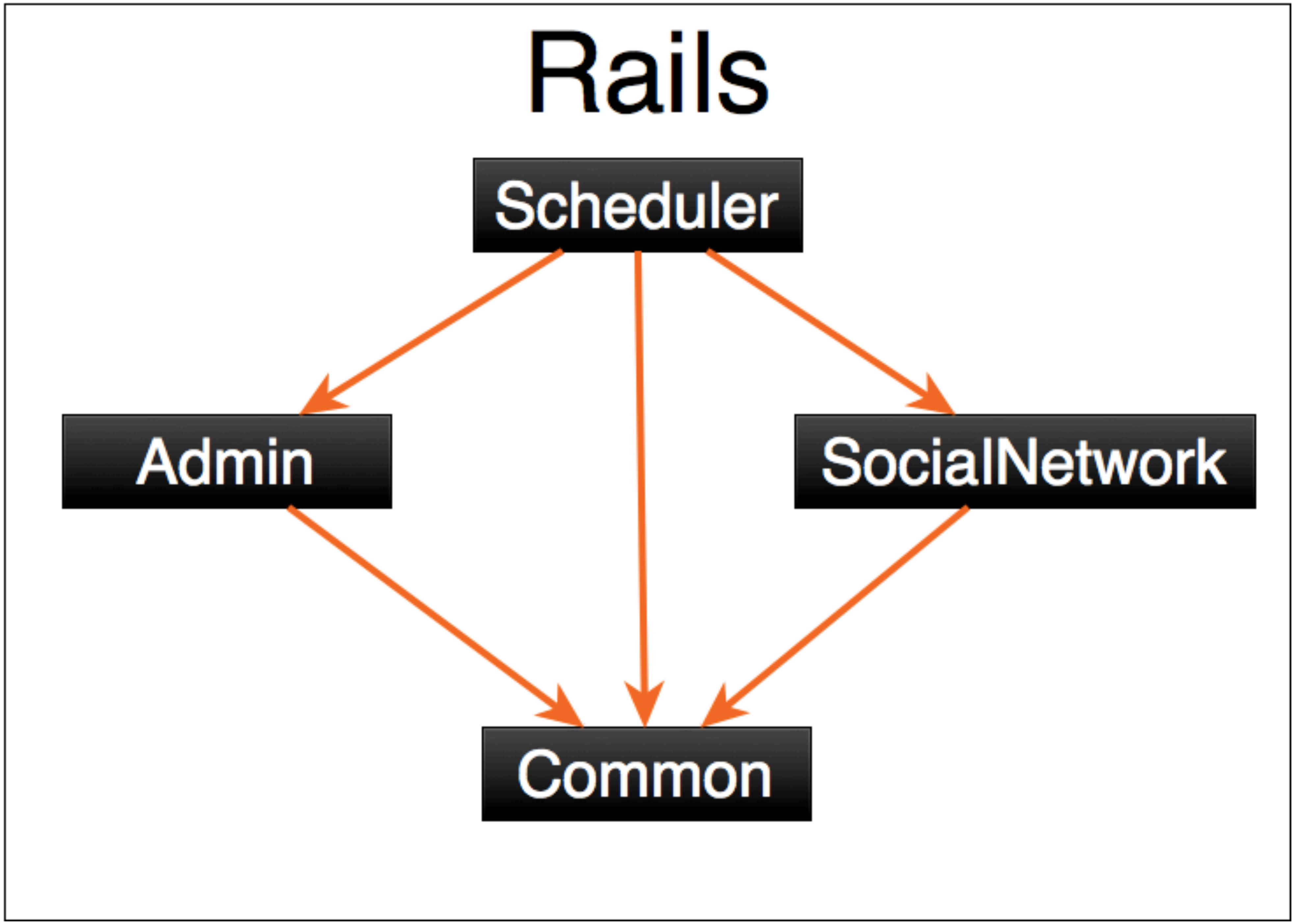
PIVOTAL LABS



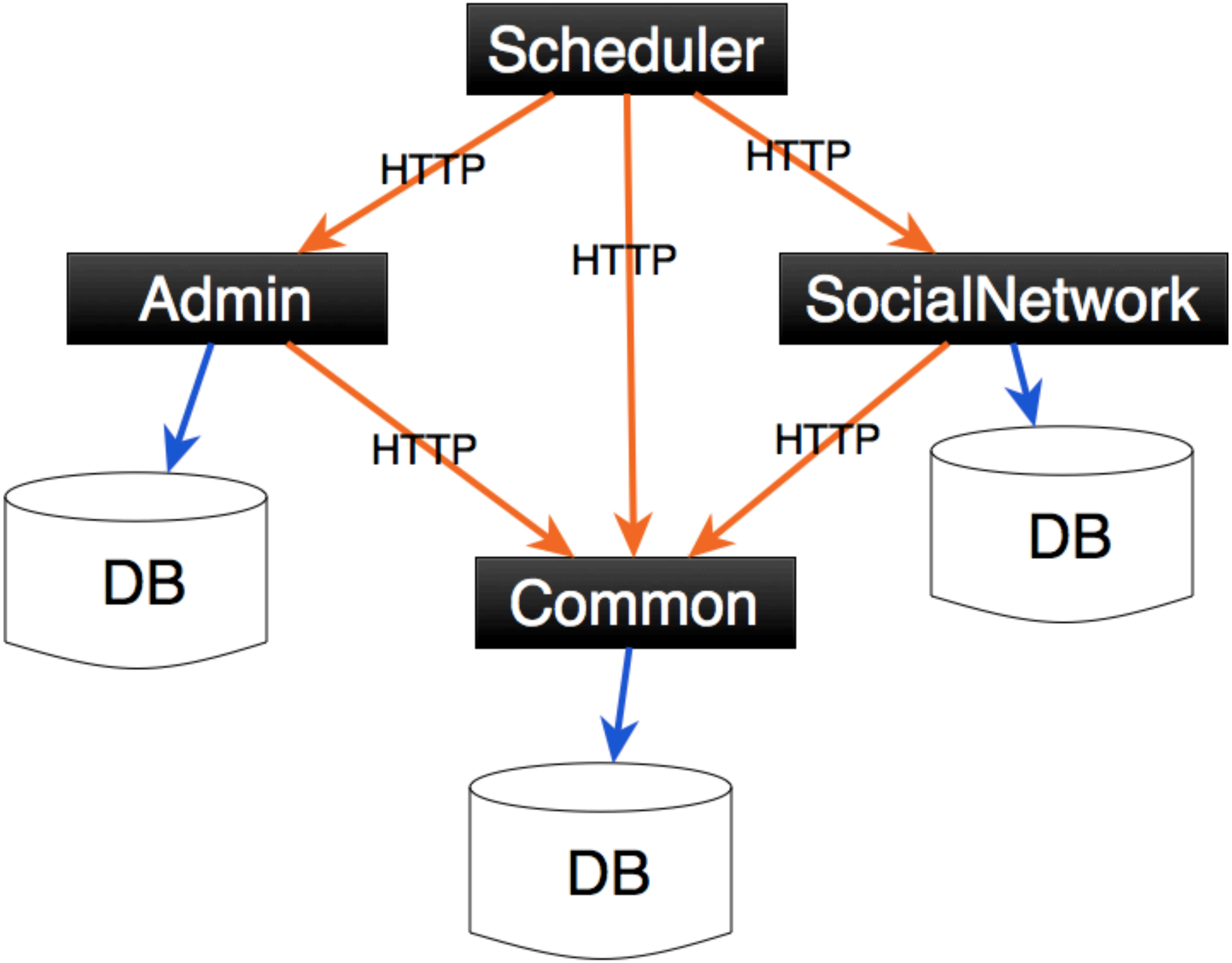
Rails

Scheduler

Admin

SocialNetwork

Common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DB
DB
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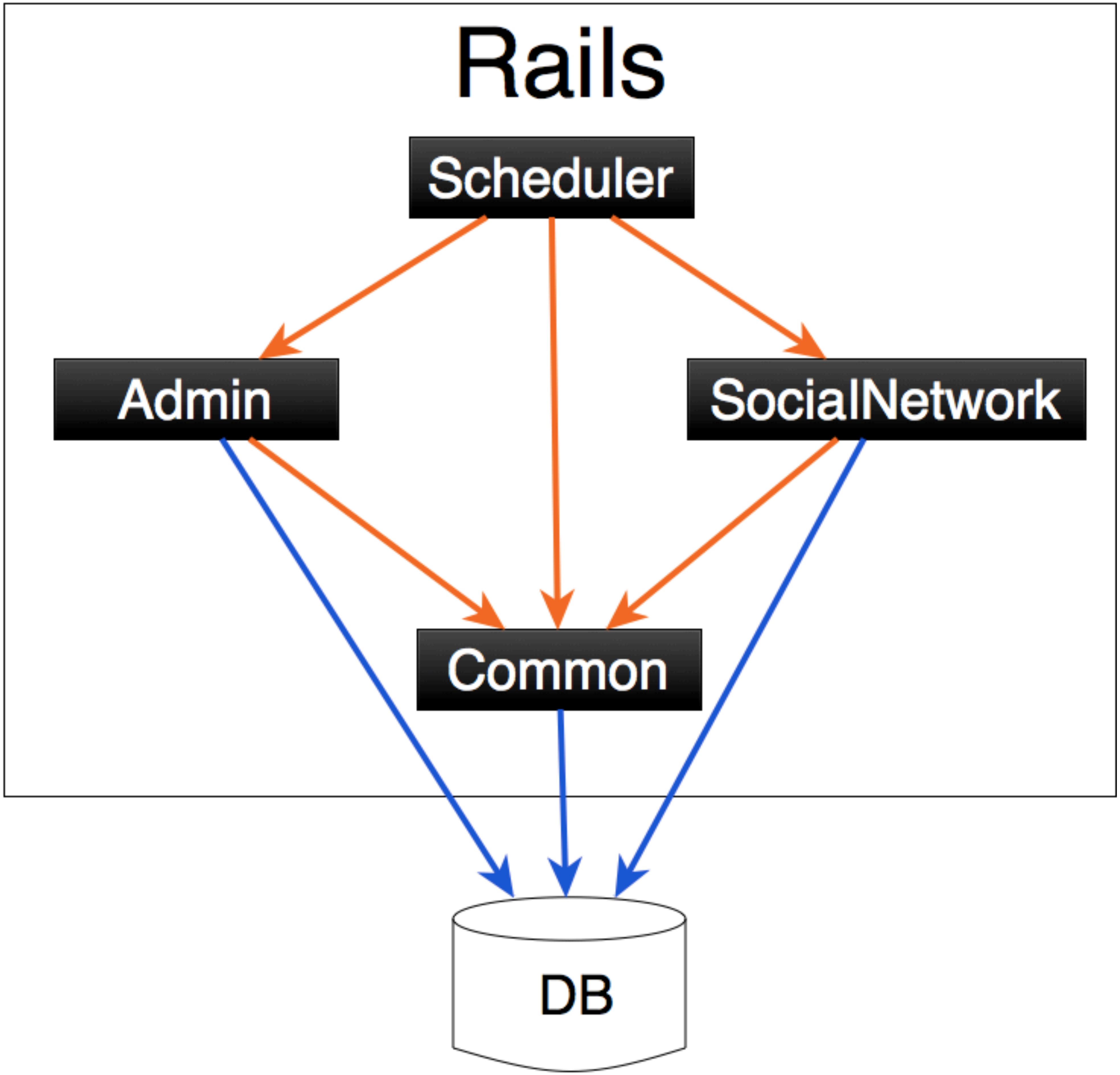
DB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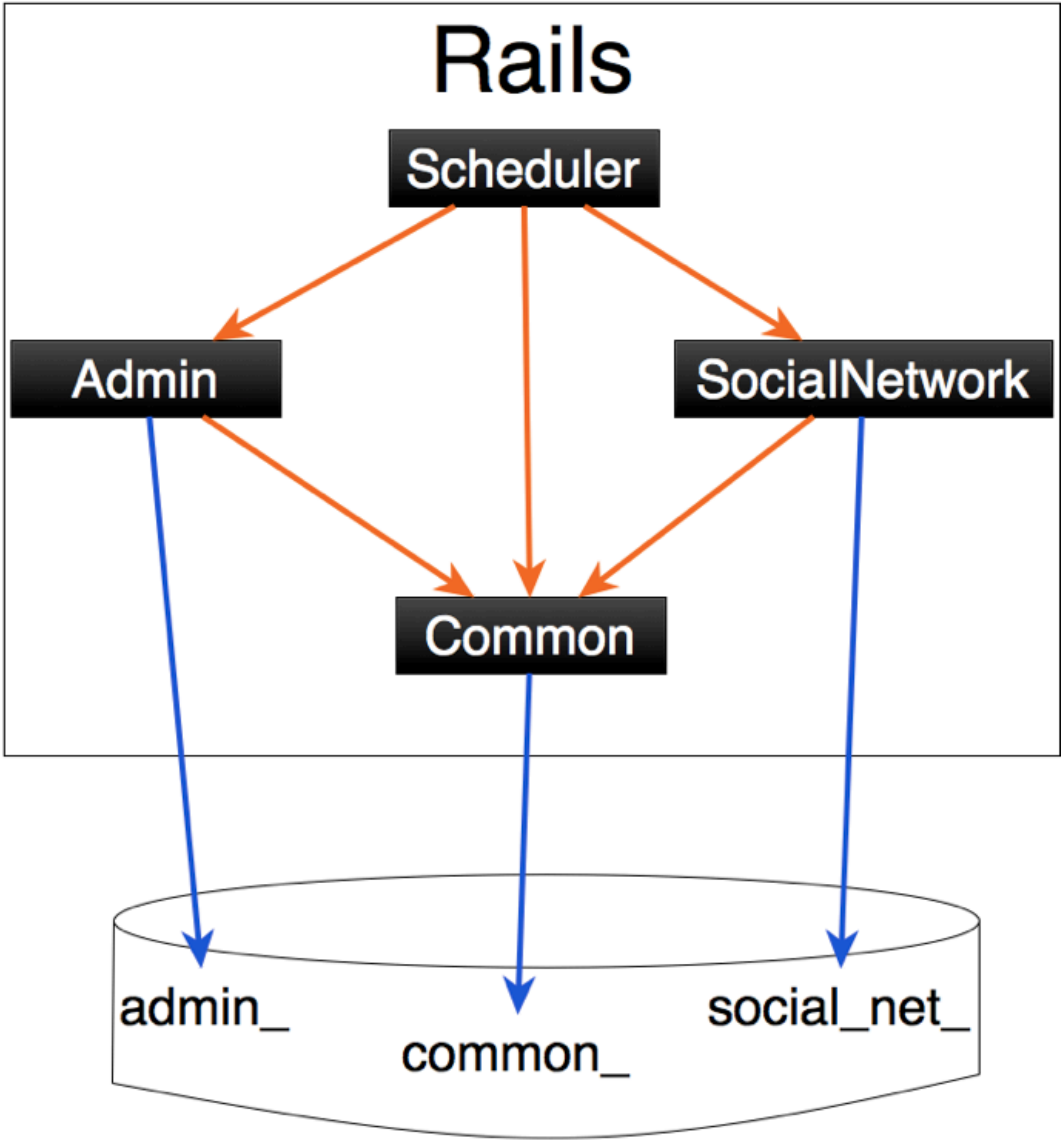
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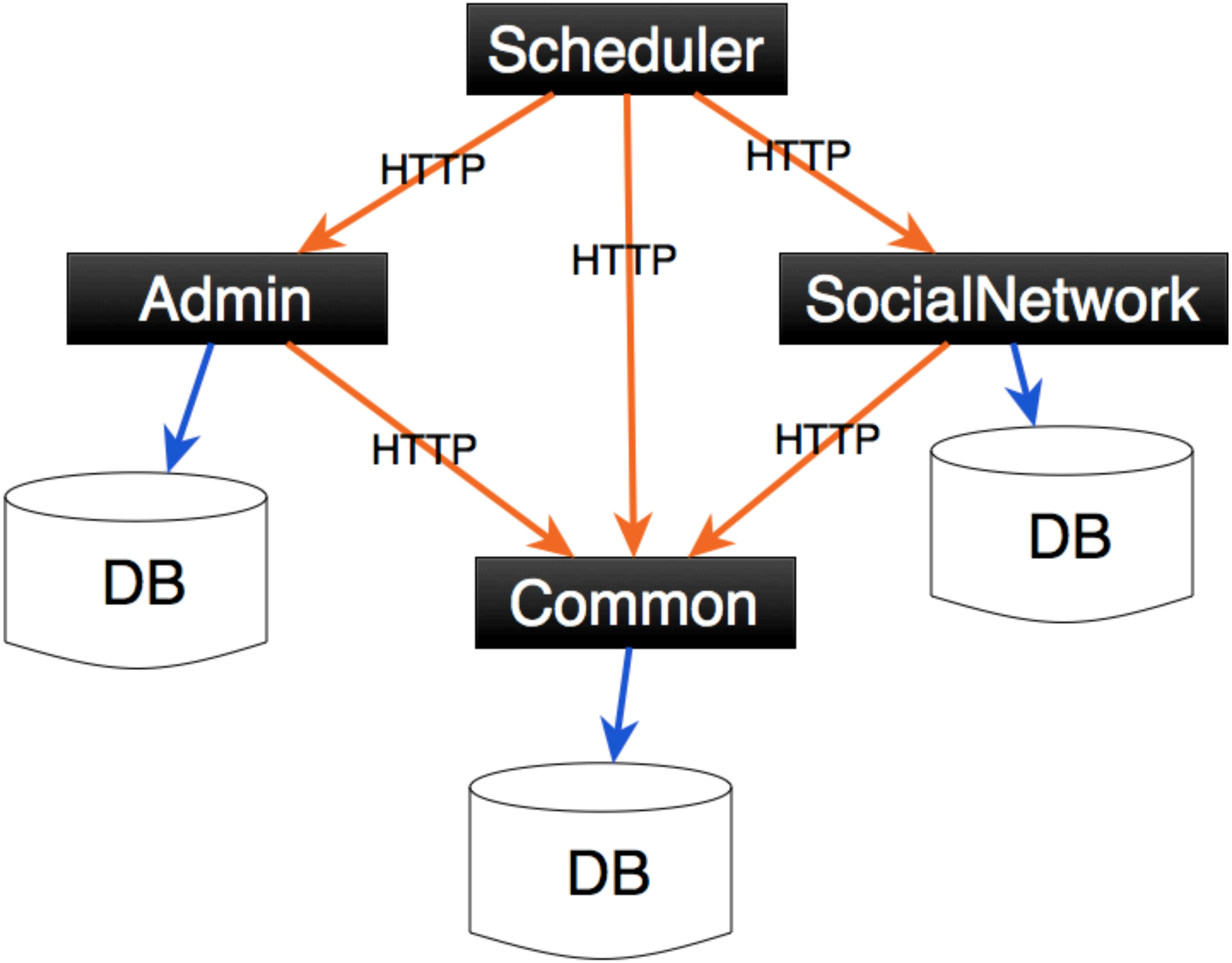
Scheduler
HTTP
HTTP
HTTP
Admin
SocialNetwork
HTTP
HTTP
DB
DB
Common
DB

migrations inside engines

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```
rake your_engine_name:install:migrations
```

```
module EngineWithMigrations
  class Engine < ::Rails::Engine
    isolate_namespace EngineWithMigrations

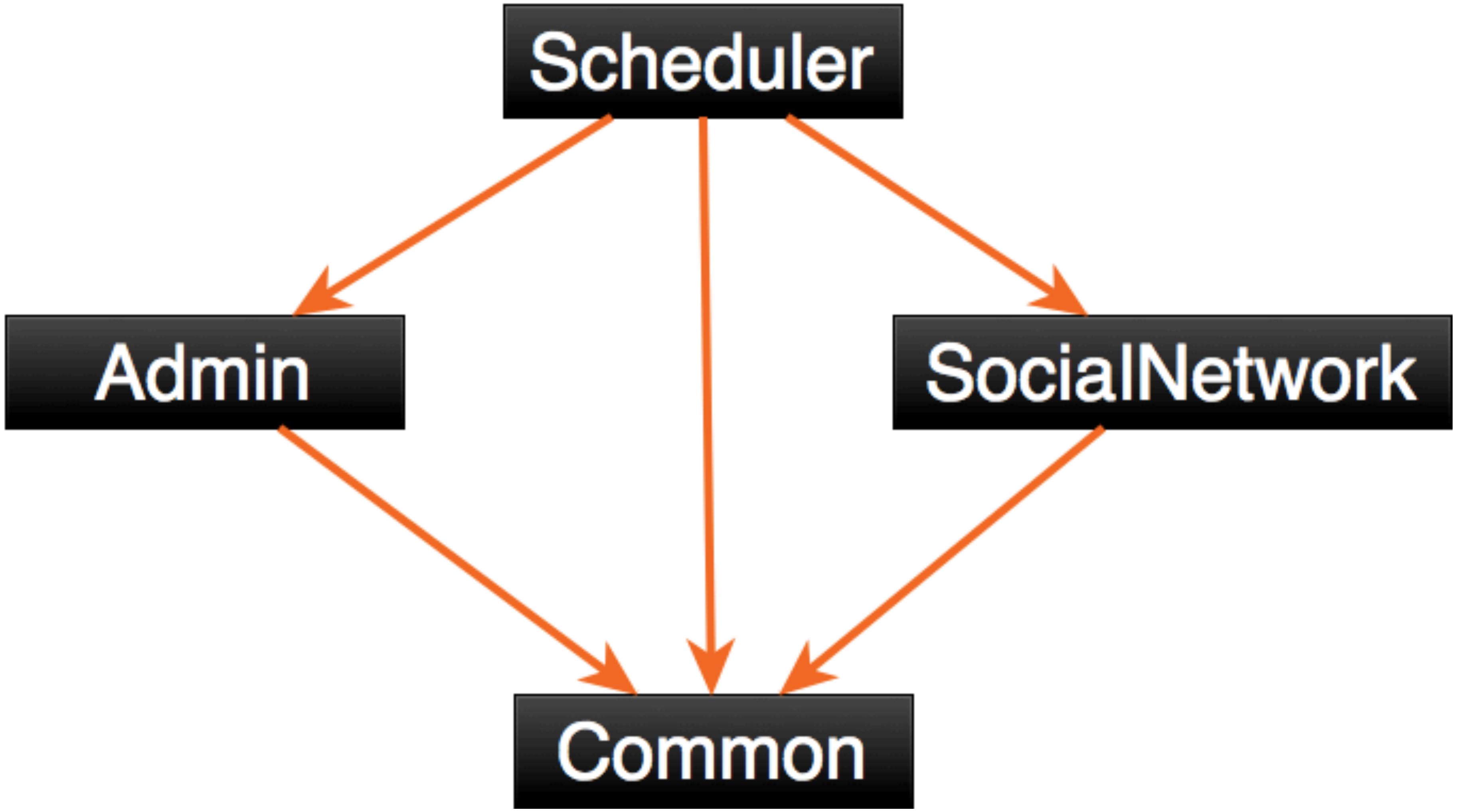
    initializer :append_migrations do |app|
      unless app.root.to_s.match root.to_s
        app.config.paths["db/migrate"] +=
                  config.paths["db/migrate"].expanded
      end
    end
  end
end
```

http://pivotallabs.com/leave-your-migrations-in-your-rails-engines/

one table per migration

http://pivotallabs.com/moving-db-tables-between-rails-engines/

testing the engines in isolation



Scheduler

Admin

SocialNetwork

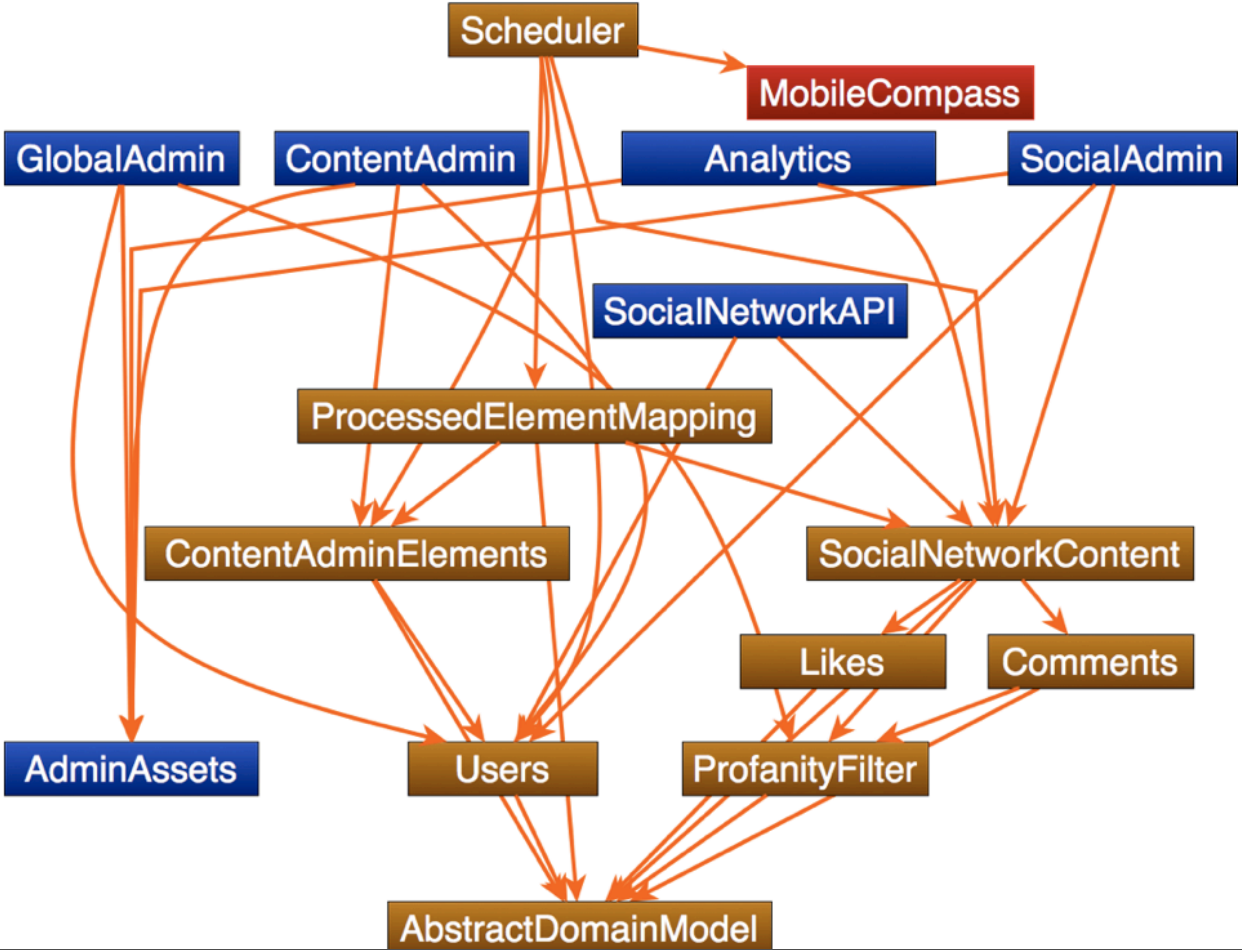
Common

engines the right way

fully contained engines

- all tables namespaced
- migrations
- tests

no circular dependencies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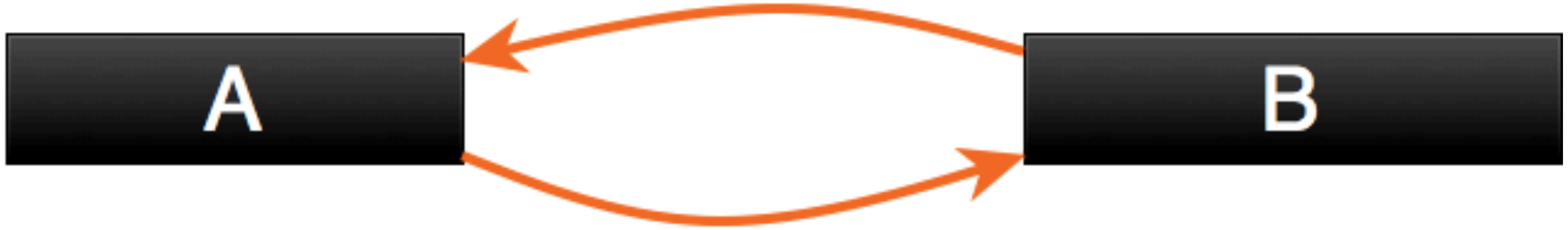
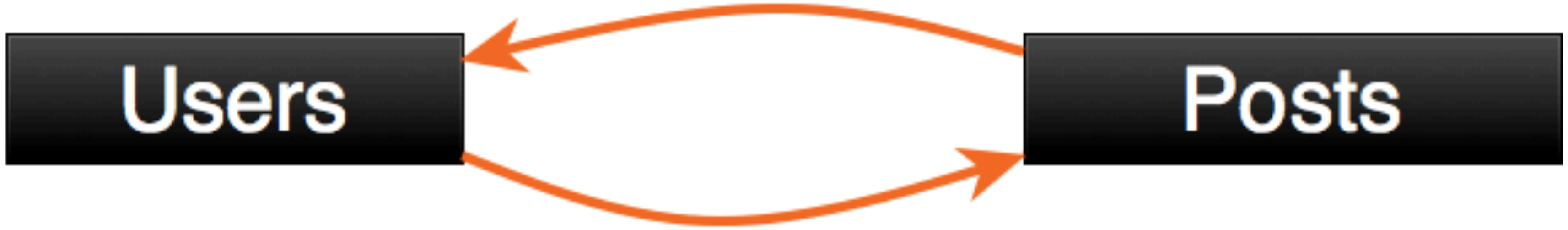

A
B

A&B

```
class User < ActiveRecord::Base
  has_many :posts
end


class Post < ActiveRecord::Base
  belongs_to :user
end
```



Users

Posts

domain api

domain api

- simple classes to wrap ActiveRecord calls
  - take as input: params or ids
  - output PORO

```
class UserManager
  def find_by_id(id)
    User.new(UserRecord.find(id))
  end

  private
  class UserRecord < ActiveRecord::Base
    validates :email, presence: true
  end
end
```

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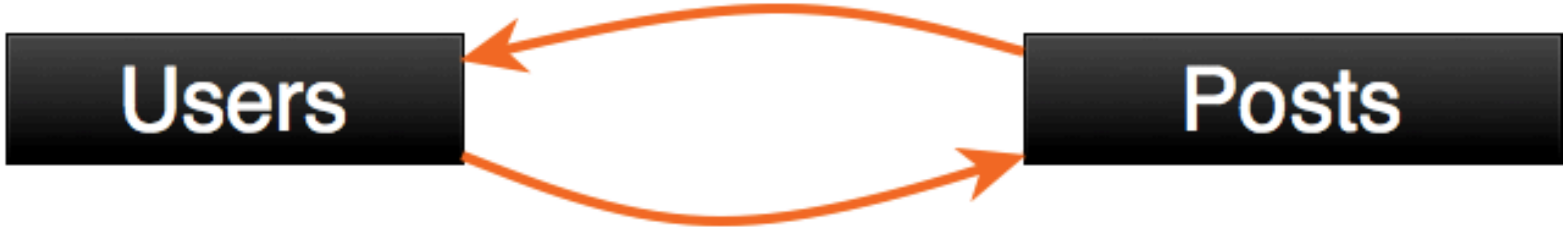
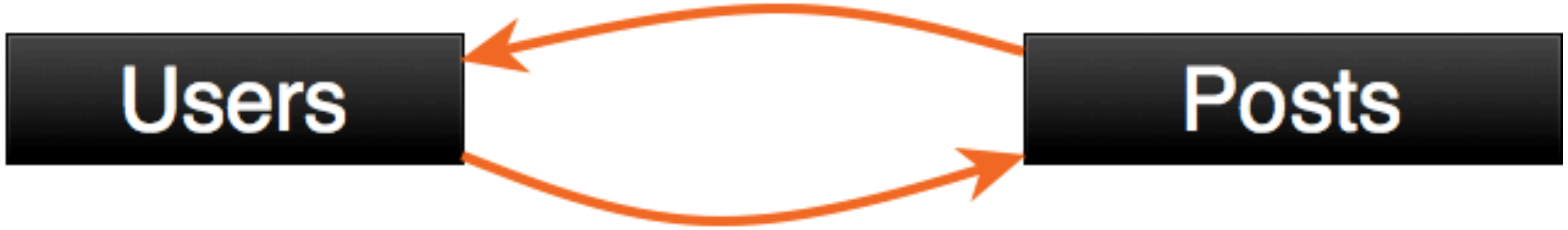
  end

  private
  class UserRecord < ActiveRecord::Base
    validates :email, presence: true
  end
end
```

```
class User
  def initialize(user_record)
    self.email = user_record.email
  end
end
```



Users
Posts



Users

Posts

@user.posts

@post.user

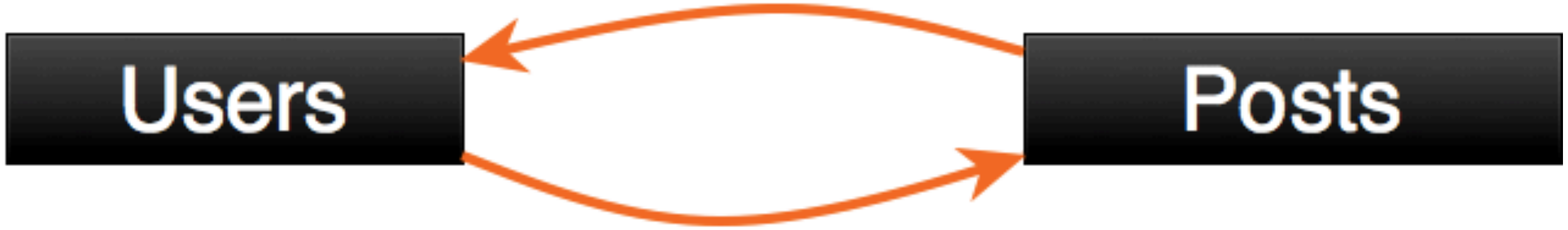
```
class PostManager
  def find_all_by_user_id(user_id)
    PostRecord.where(user_id: user_id)

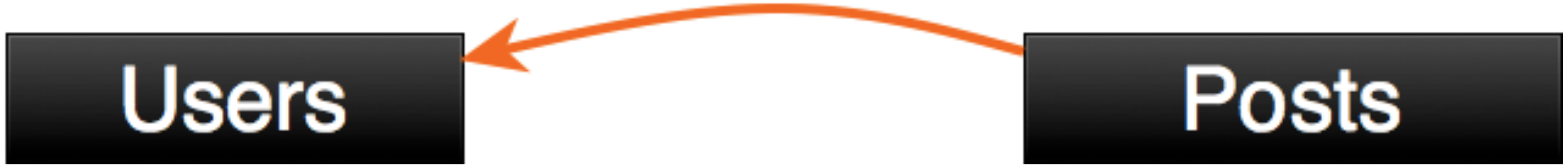
    # ... convert to PORO ...
  end
end
```

```
class PostManager
  def find_all_by_user_id(user_id)
    PostRecord.where(user_id: user_id)

    # ... convert to PORO ...
  end
end
```

```
post_manager = PostManager.new
@posts = post_manager.find_all_by_user_id(@user.id)
```


Users
Posts



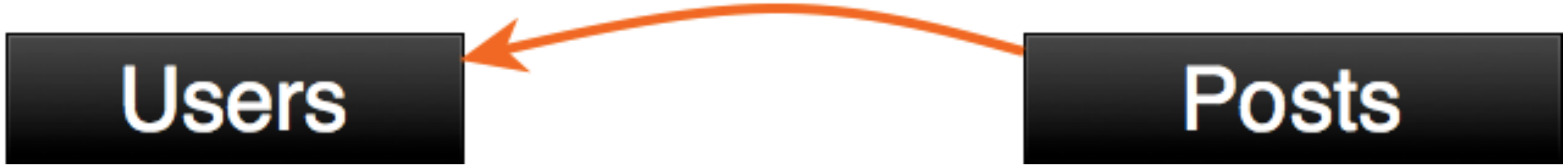
Users

Posts

```
class UserManager
  def find_by_id(id)
    User.new(UserRecord.find(id))
  end
end
```

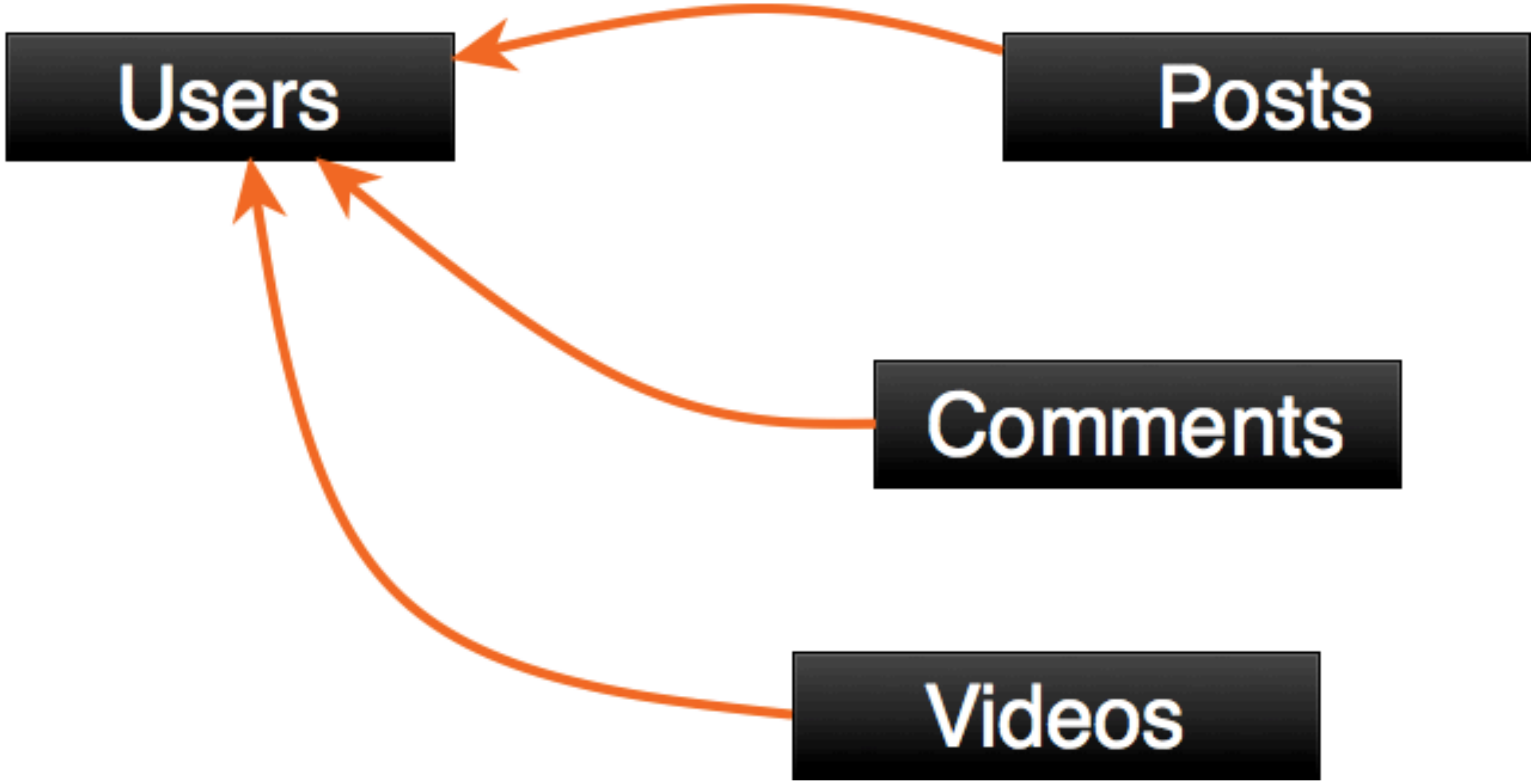
```
class UserManager
  def find_by_id(id)
    User.new(UserRecord.find(id))
  end
end
```

```
user_manager = UserManager.new
author = user_manager.find_by_id(@post.user_id)
```



Users

Posts

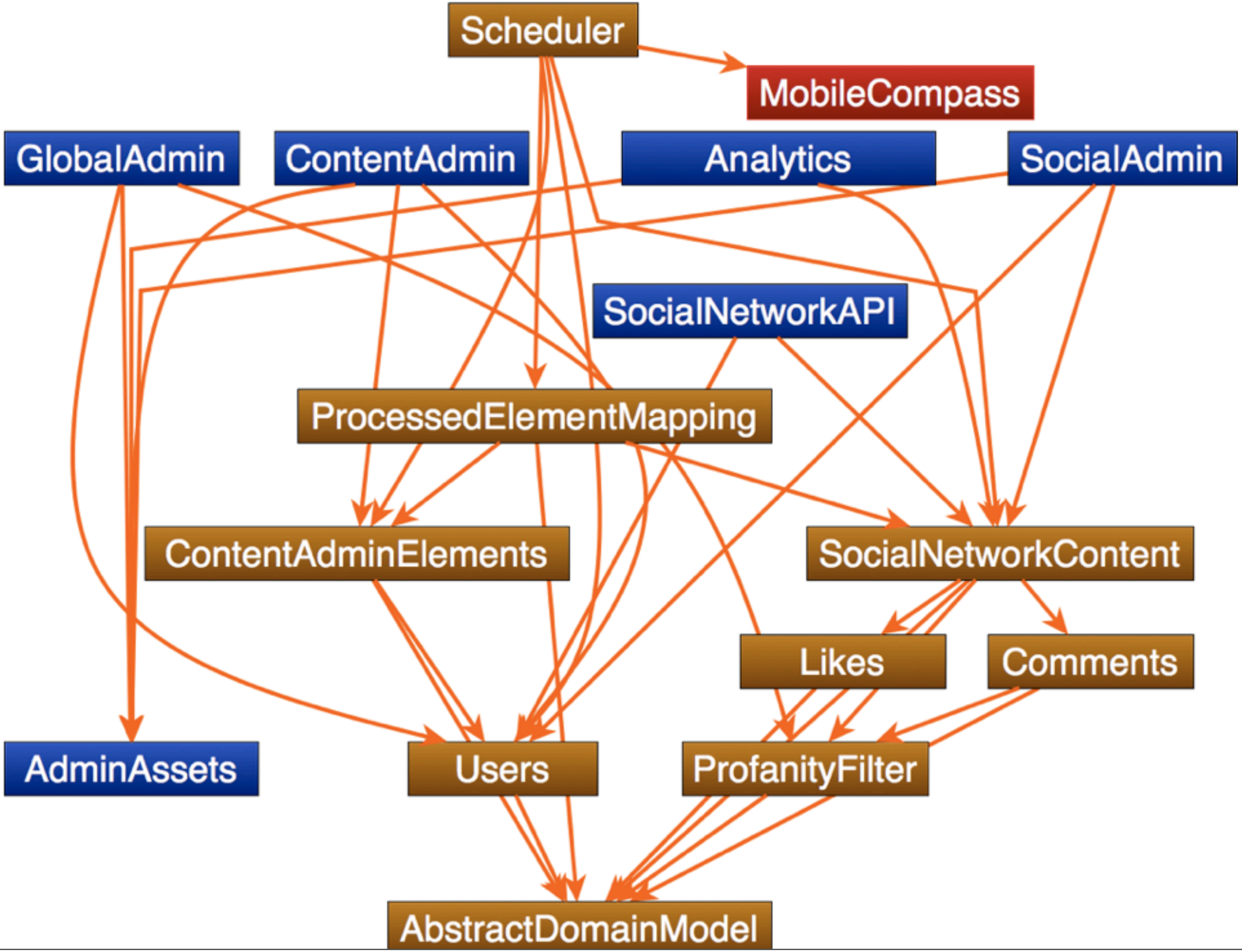


Users
Posts
Comments
Videos

engines the right way

no circular dependencies

started simple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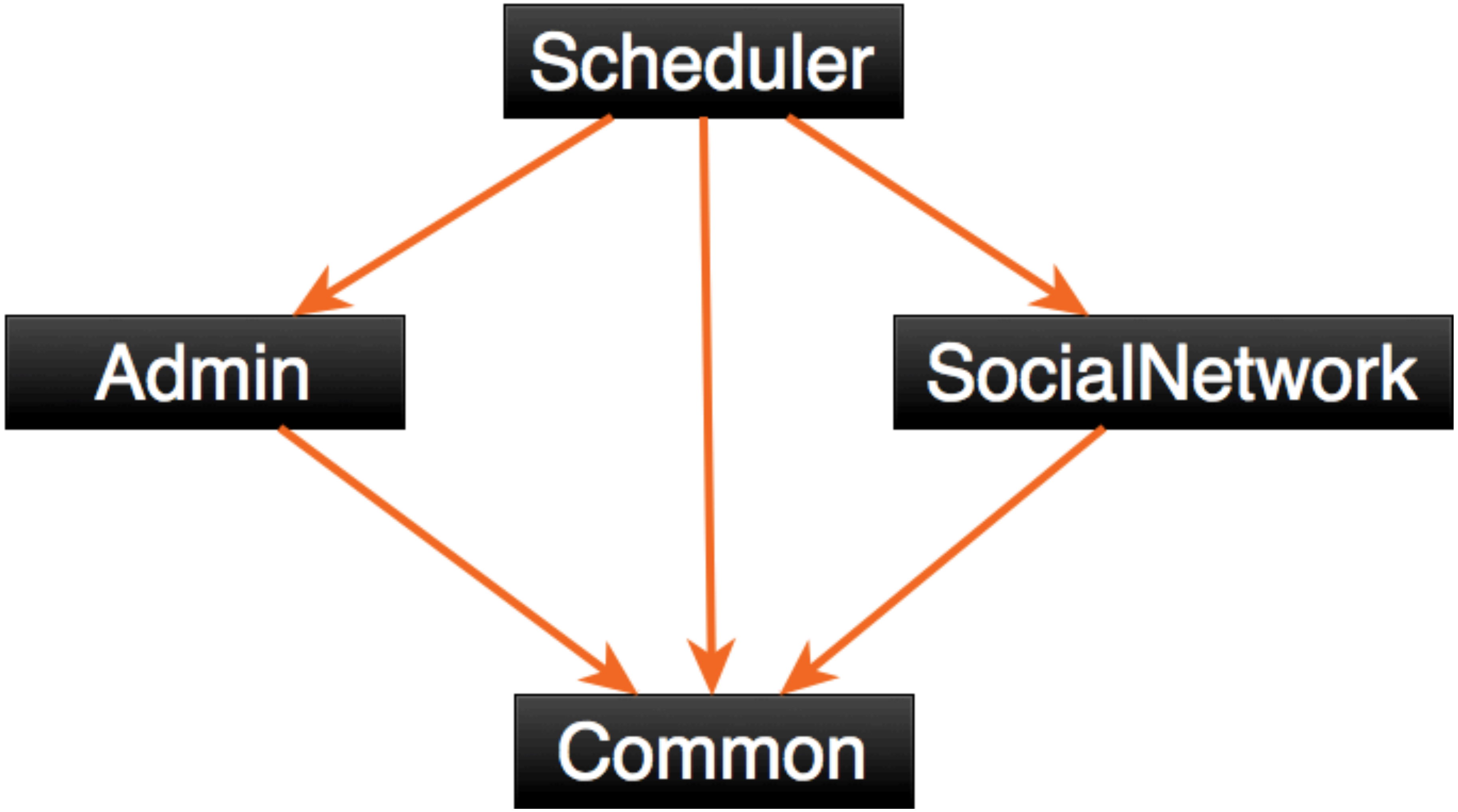
I live my life one green build at a time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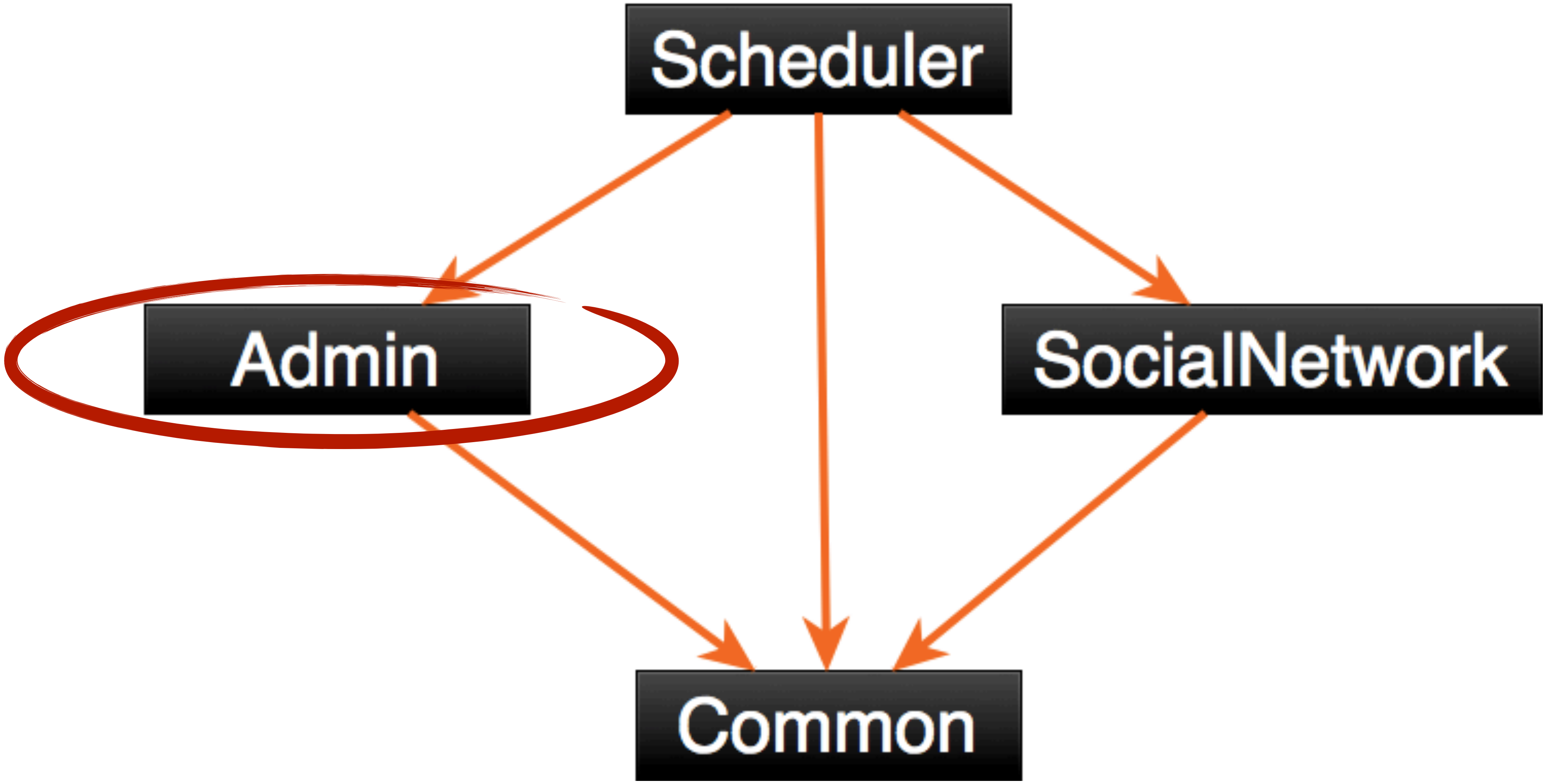
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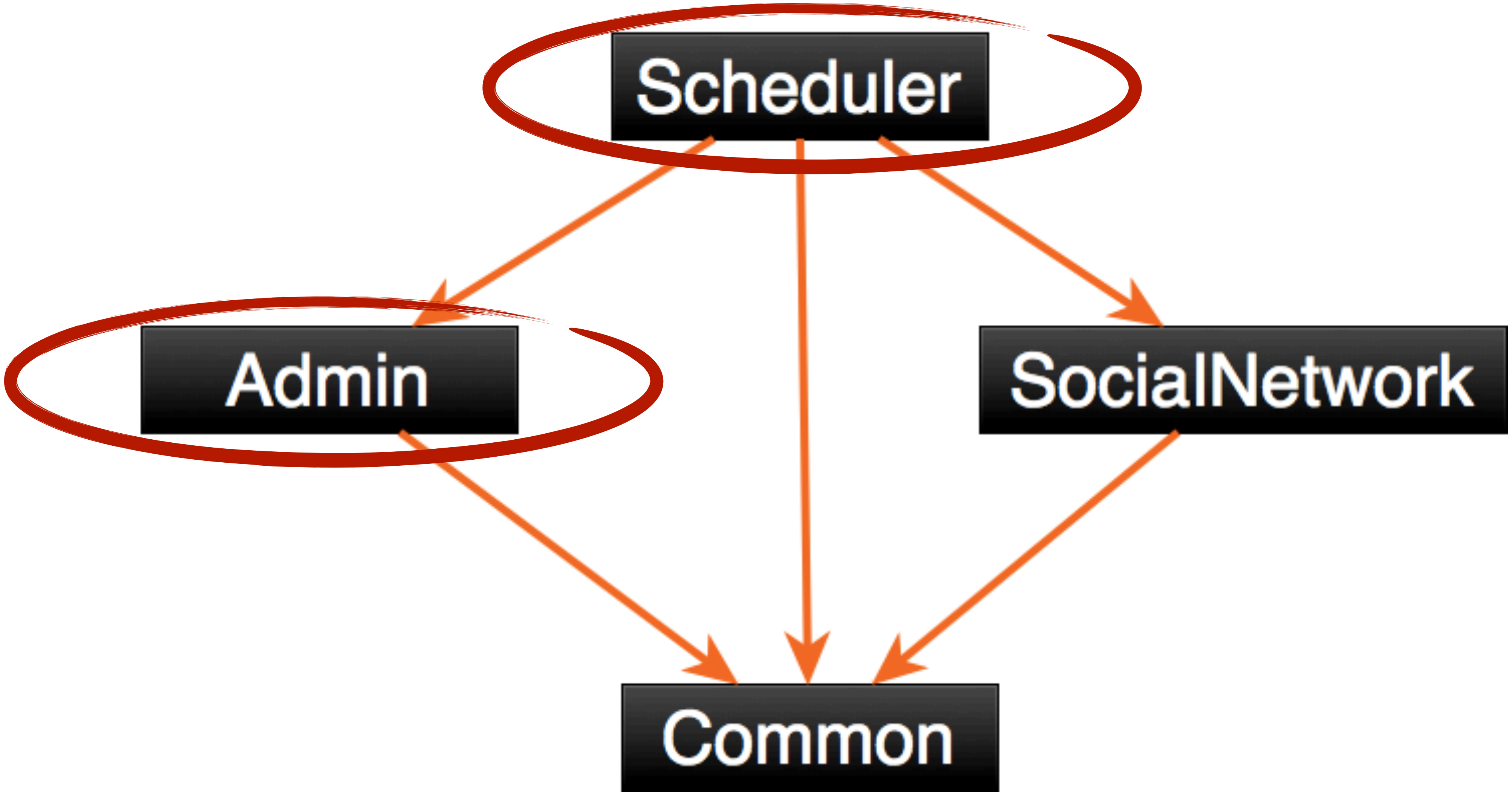
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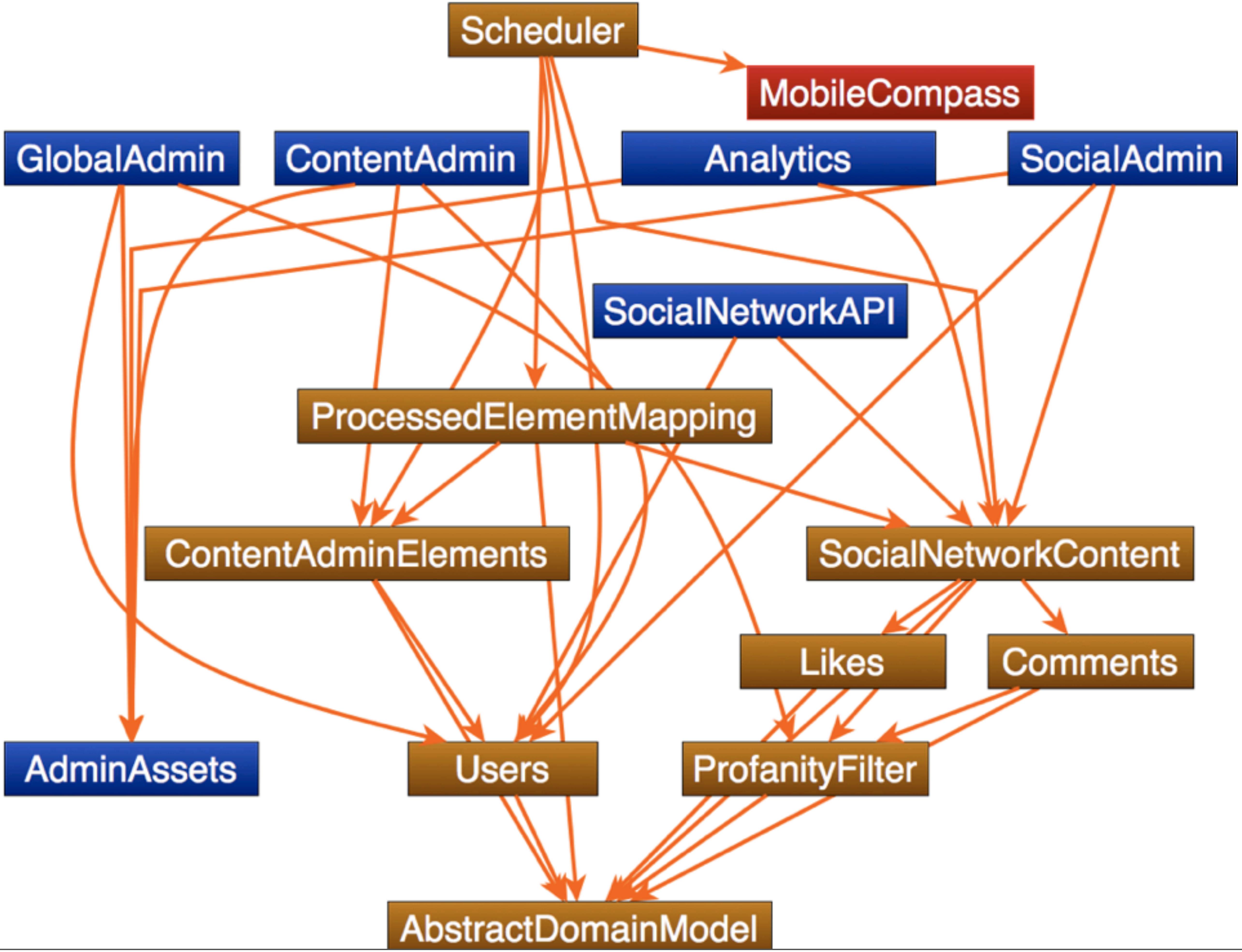
git whatchanged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how did it work out?

engines are a pain...

- LOW velocity for weeks (4-6)
    - client worries
    - opposite of Rails
    - one pair to start is a MUST
- some technical hurtles
- monkey patching Rails

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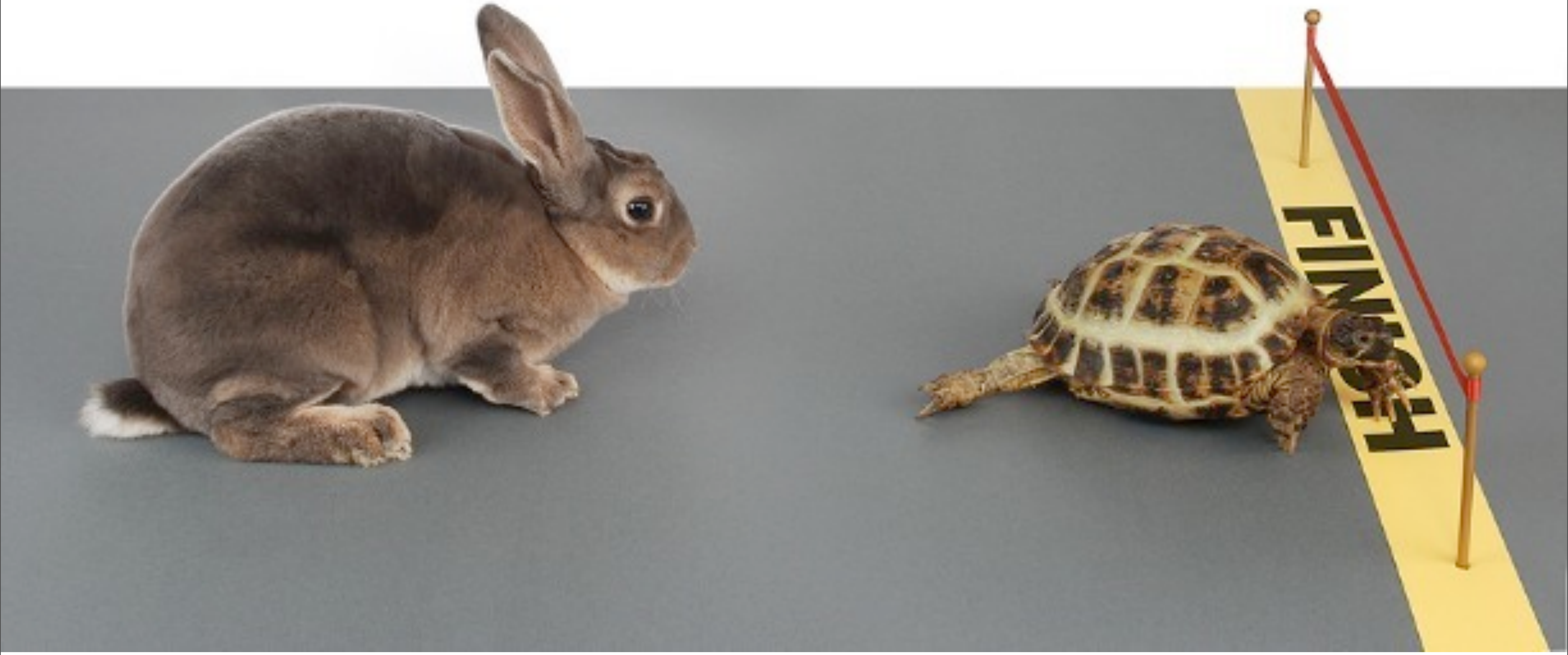
PIVOTAL LABS


FINISH

... but they get better

- no slow down in development time
- they age well
- easier parallel development
- potential for scaling
- smart and fast build scripts

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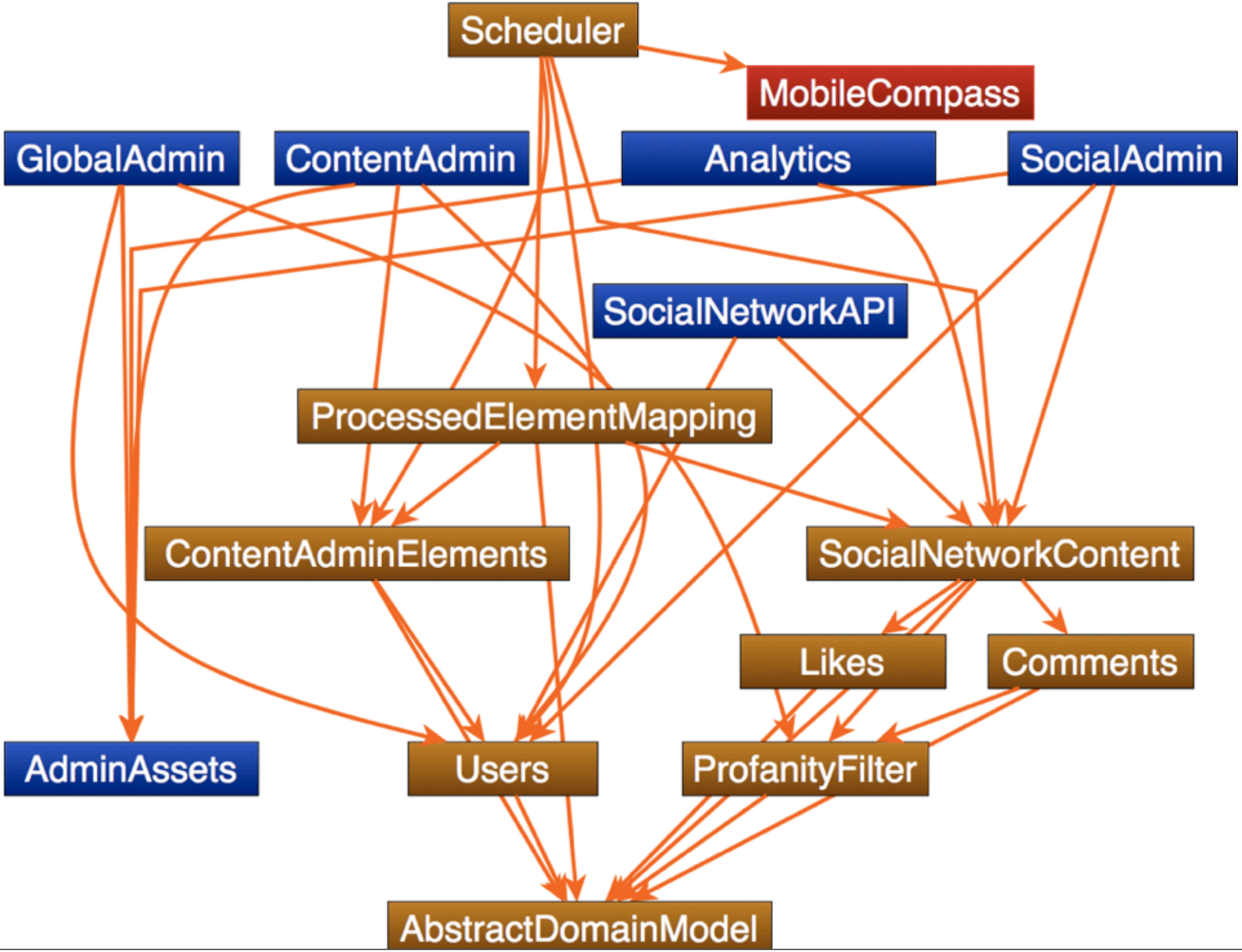
thumbs up



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AdminAssets
Users
ProfanityFilter
AbstractDomainModel

```ruby
class UserManager
  def find_by_id(id)
    User.new(UserRecord.find(id))
  end

  private
  class UserRecord < ActiveRecord::Base
    validates :email, presence: true
  end
end
```

thanks

questions?

http://pivotallabs.com/tag/rails-application-suites/

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