FAICHI

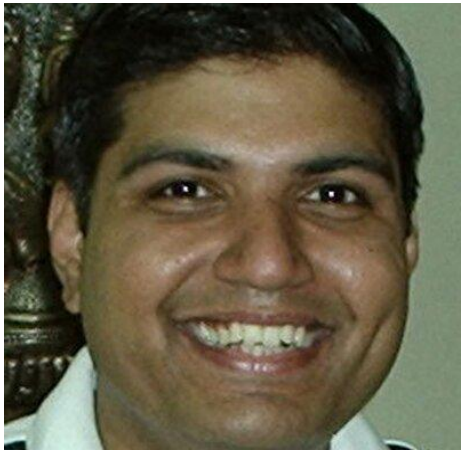
Makbul Khan

Acquia Certified Developer

Senior Software Engineer

makbul_khan8

makbul_khan08



Nikhil Sukul

Senior Drupal Architect

nikhilsukul

nikhilsukul

Topics

1. What is Isomorphic JavaScript
2. Why Isomorphic JavaScript
3. Isomorphic in a wild
4. How to Isomorph
5. Available libraries
6. Isomorphic JavaScript with Drupal
7. Stop talking. Show me the code!

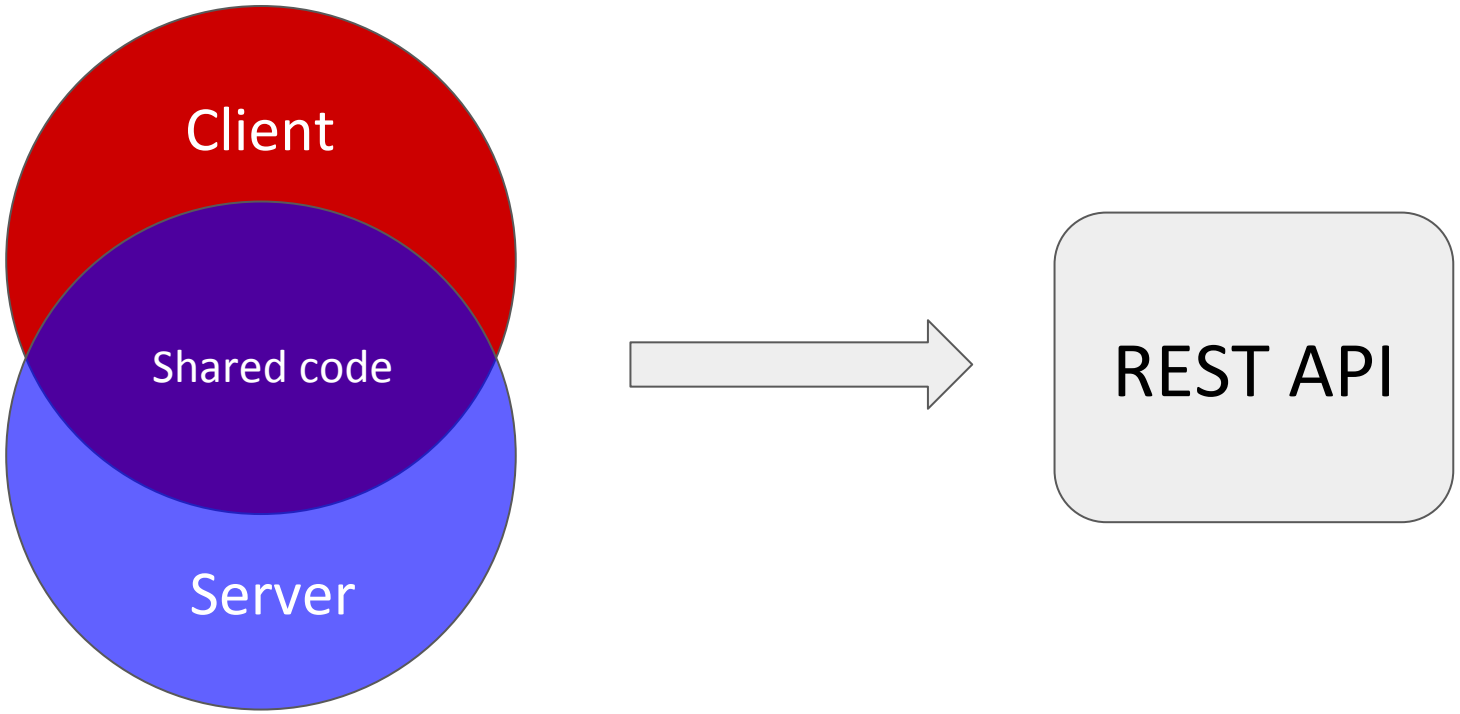
What is Isomorphic JavaScript?

Iso . morphic

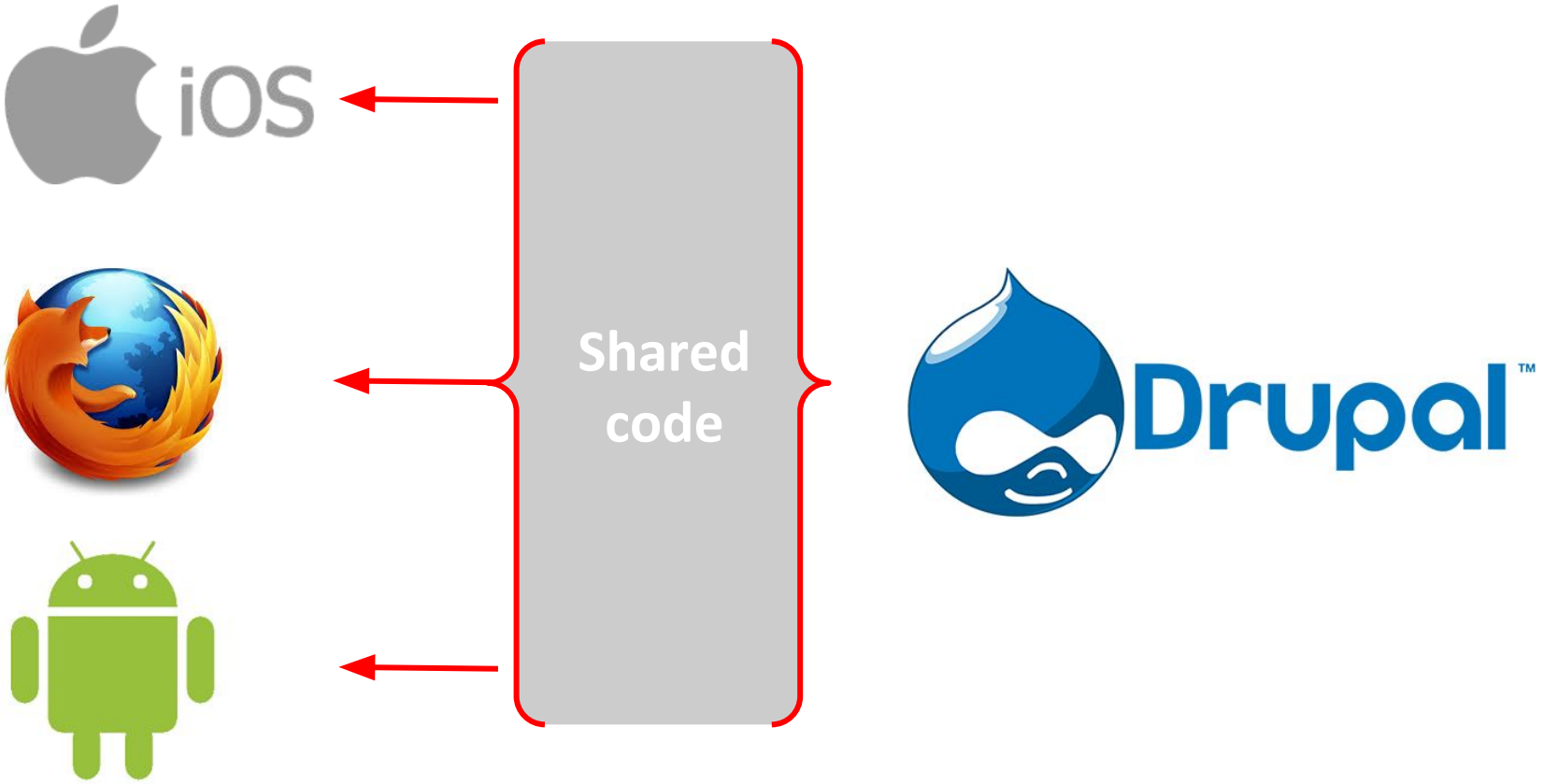
Same Form

Isomorphic Application

- Dynamic website
- Capable of generating its html
- Use same code in both server and client side



Javascript code that can be shared between Client and Server apps.



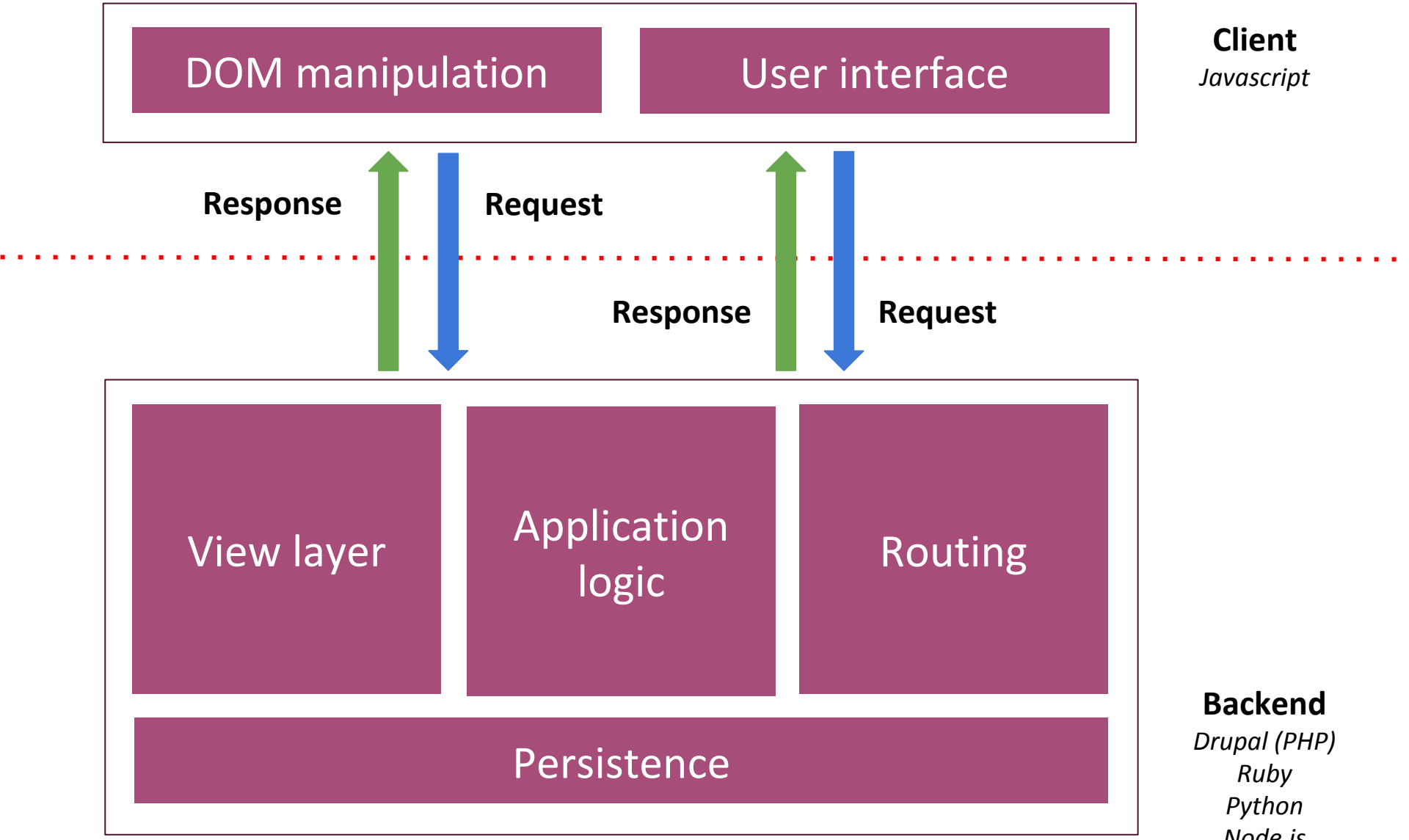
Why Isomorphic Javascript

Compiled Web applications

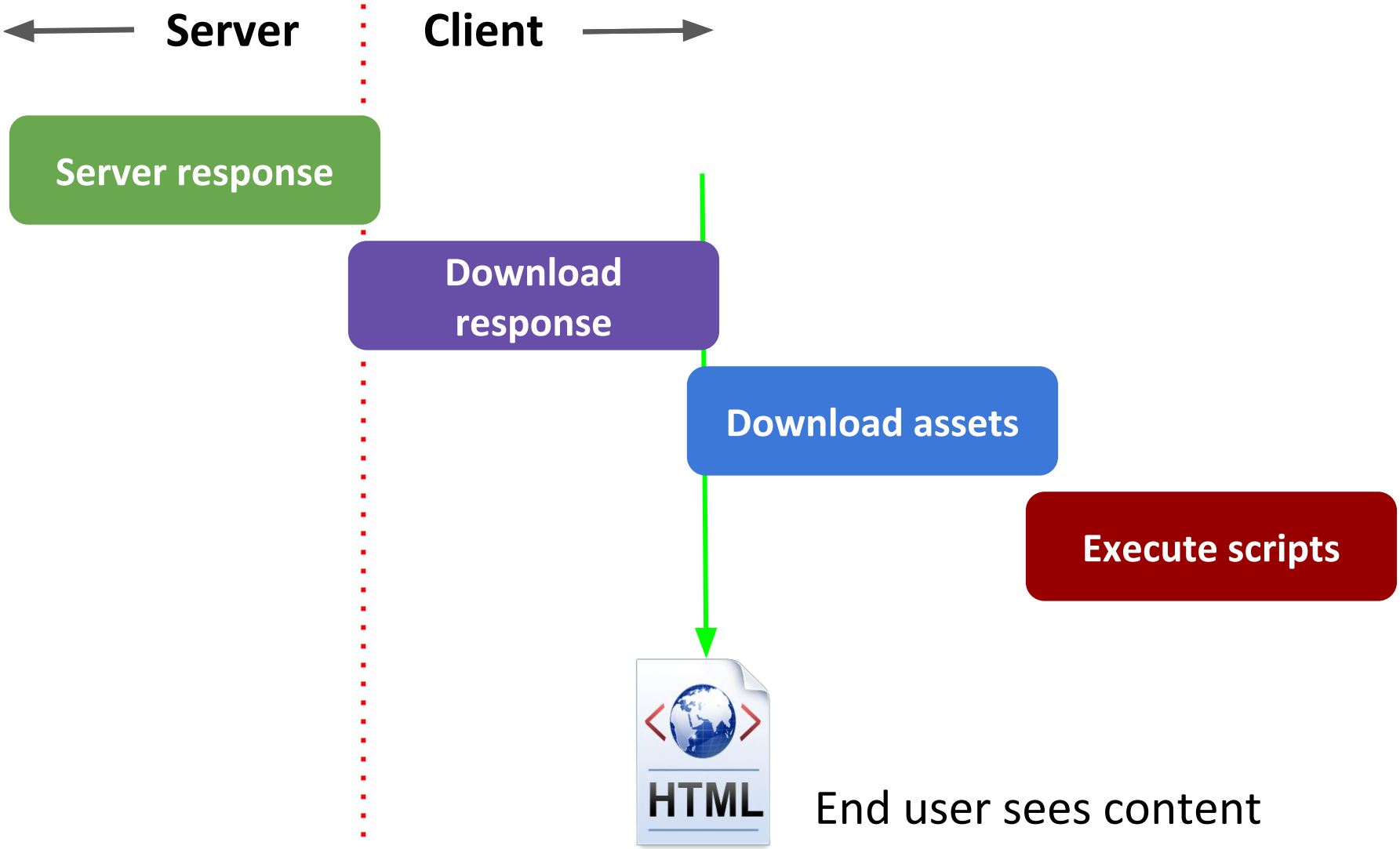
- Server-rendered application
- Client-rendered application
- Isomorphic web application

Server-rendered application

Server-rendered application



Server-rendered application



Server-rendered application

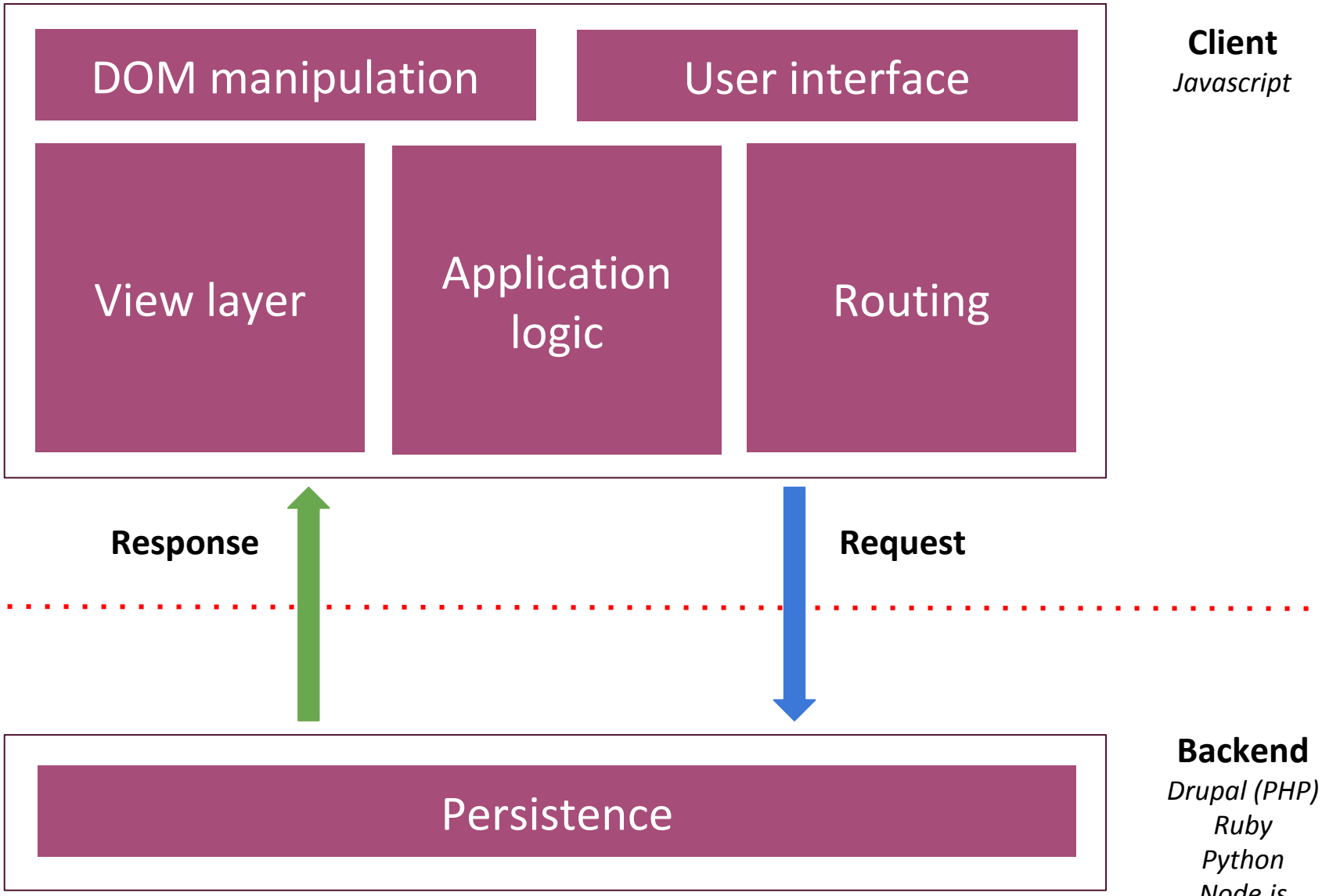
- Server render content
- Improved user experience by using AJAX, JQuery, ...
- Serving HTML on first-load is fast.
- Crawler, screen-readers are happy with HTML.

But:

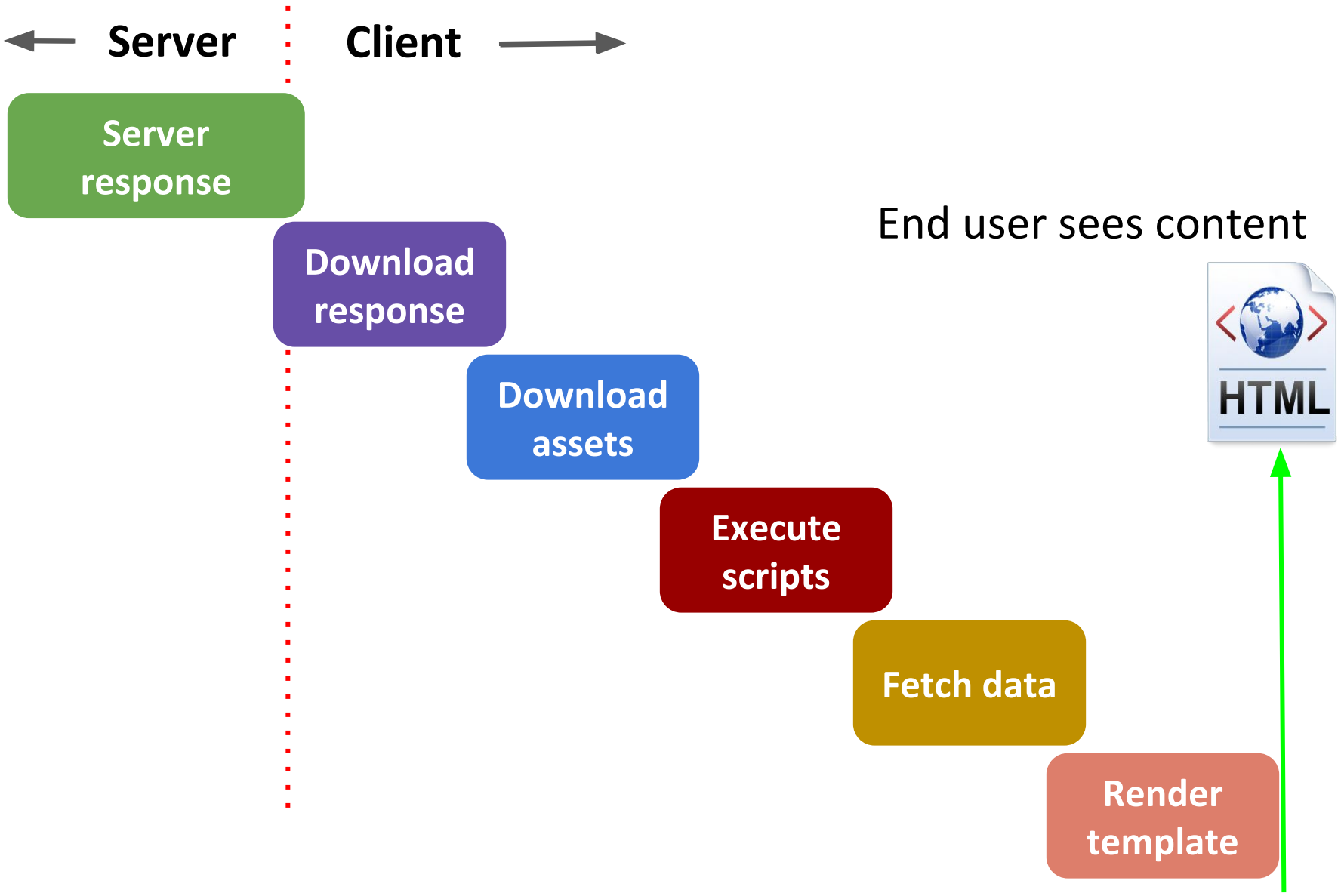
- Maintain UI render and logic in both Client & Server
- Duplication application logic in (usually) two languages, two frameworks, two development stack, two templates, ...

Client-rendered application

Client-rendered application



Client-rendered application



Client-rendered application

- Client side render content
- Separate application logic and data retrieval
- More interactivity, optimistic UI, offline, mobile
- Eg. Gmail and StackEdit Editor

But:

- Not SEO friendly
- Users have to wait a few seconds of blank page or loading spinner before seeing the content
- Expensive maintenance

Server *v/s* Client

Server	Client
Initial load	Initial load
SEO	SEO
User experience	User experience

Server-rendered Application

OR

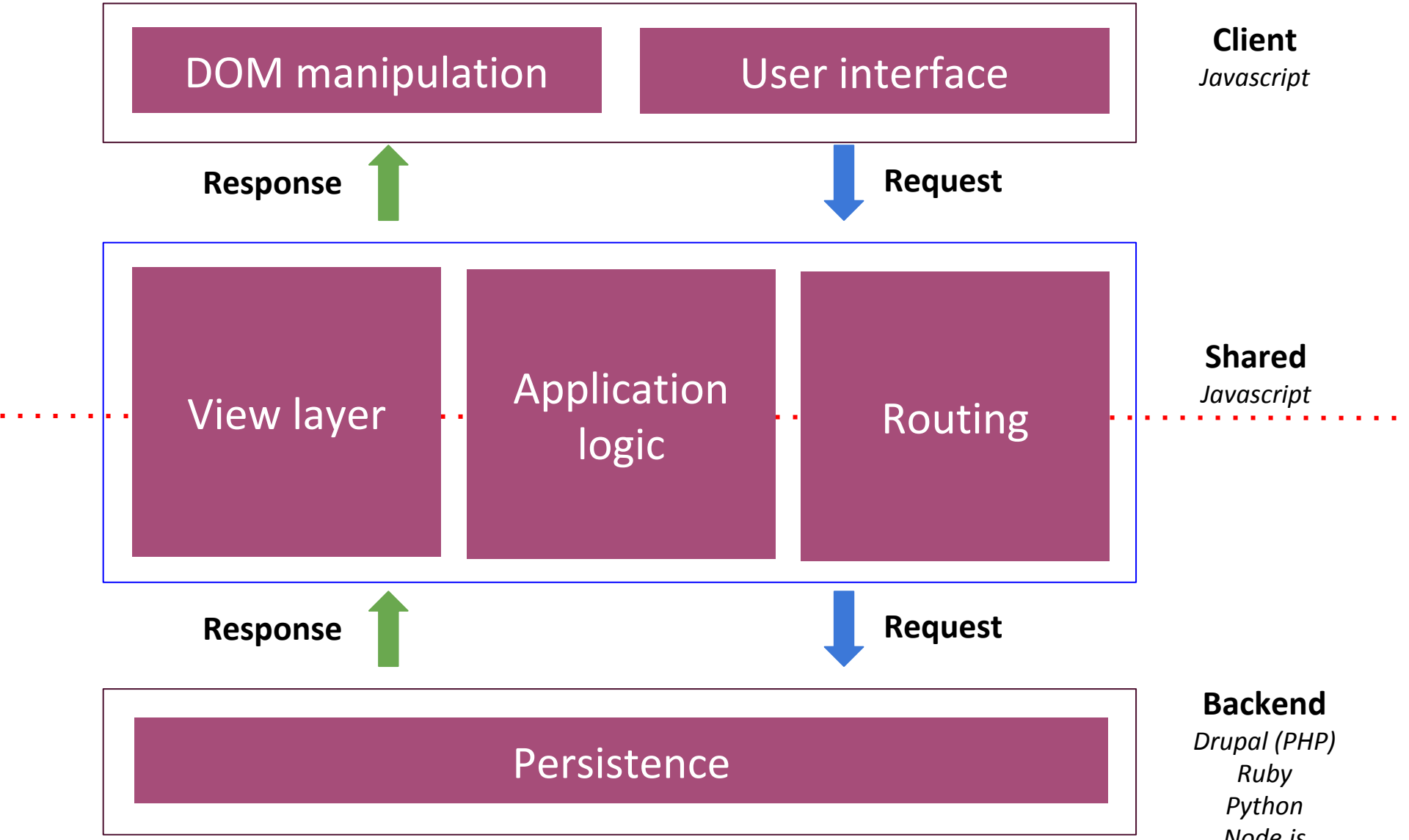
Client-rendered Application

We have another option:

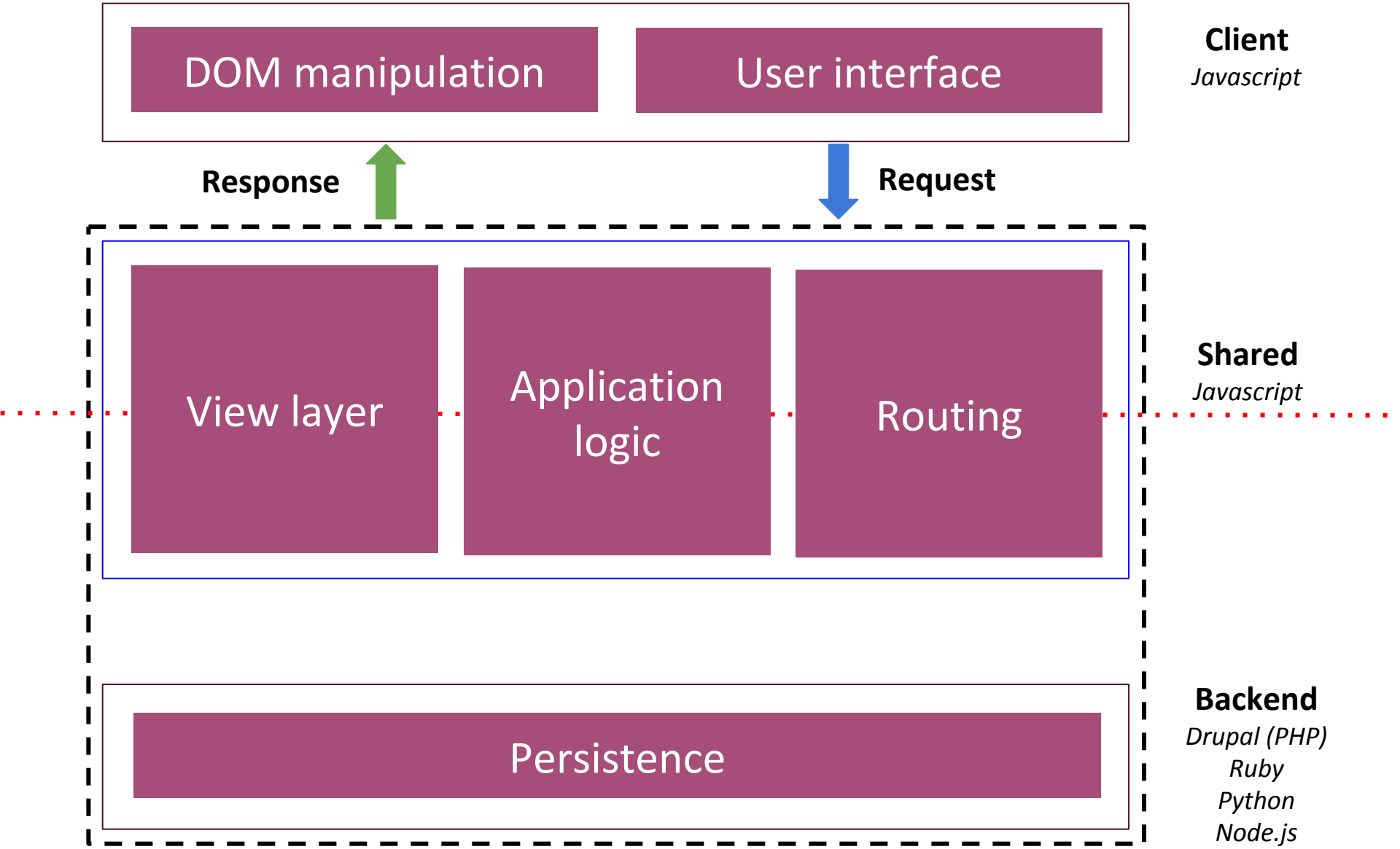
Isomorphic Web Application

The best of both worlds

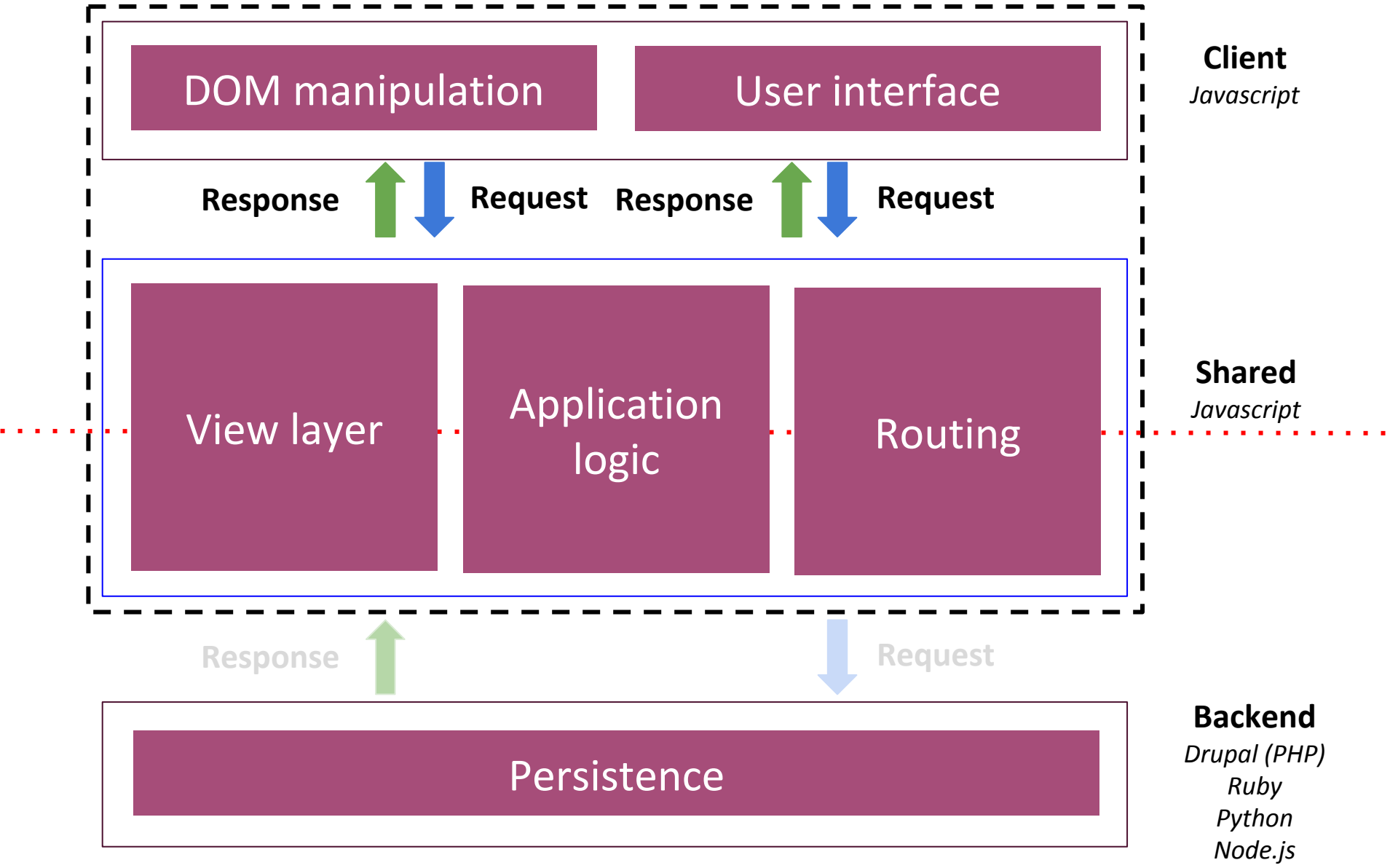
Isomorphic application



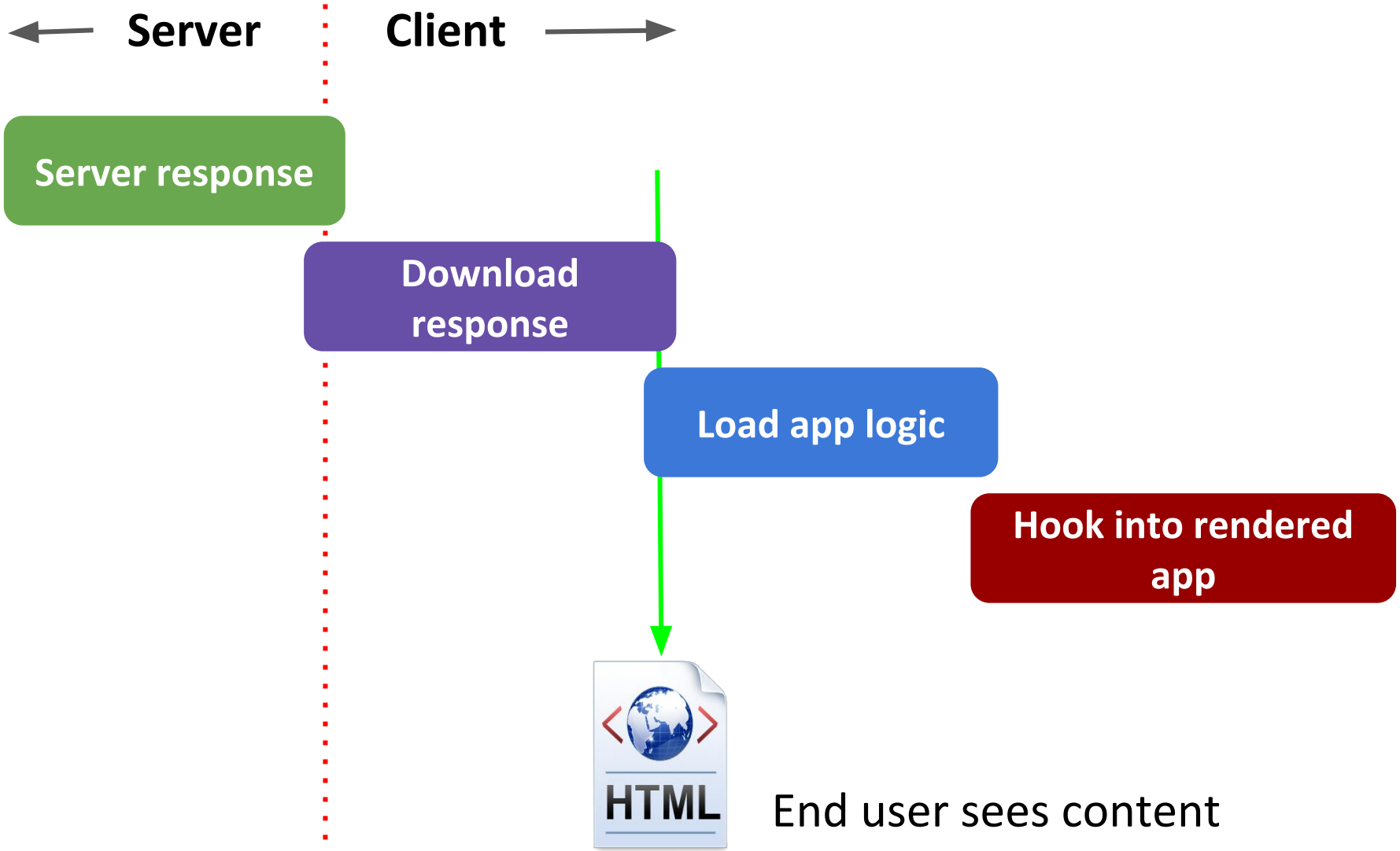
Isomorphic application



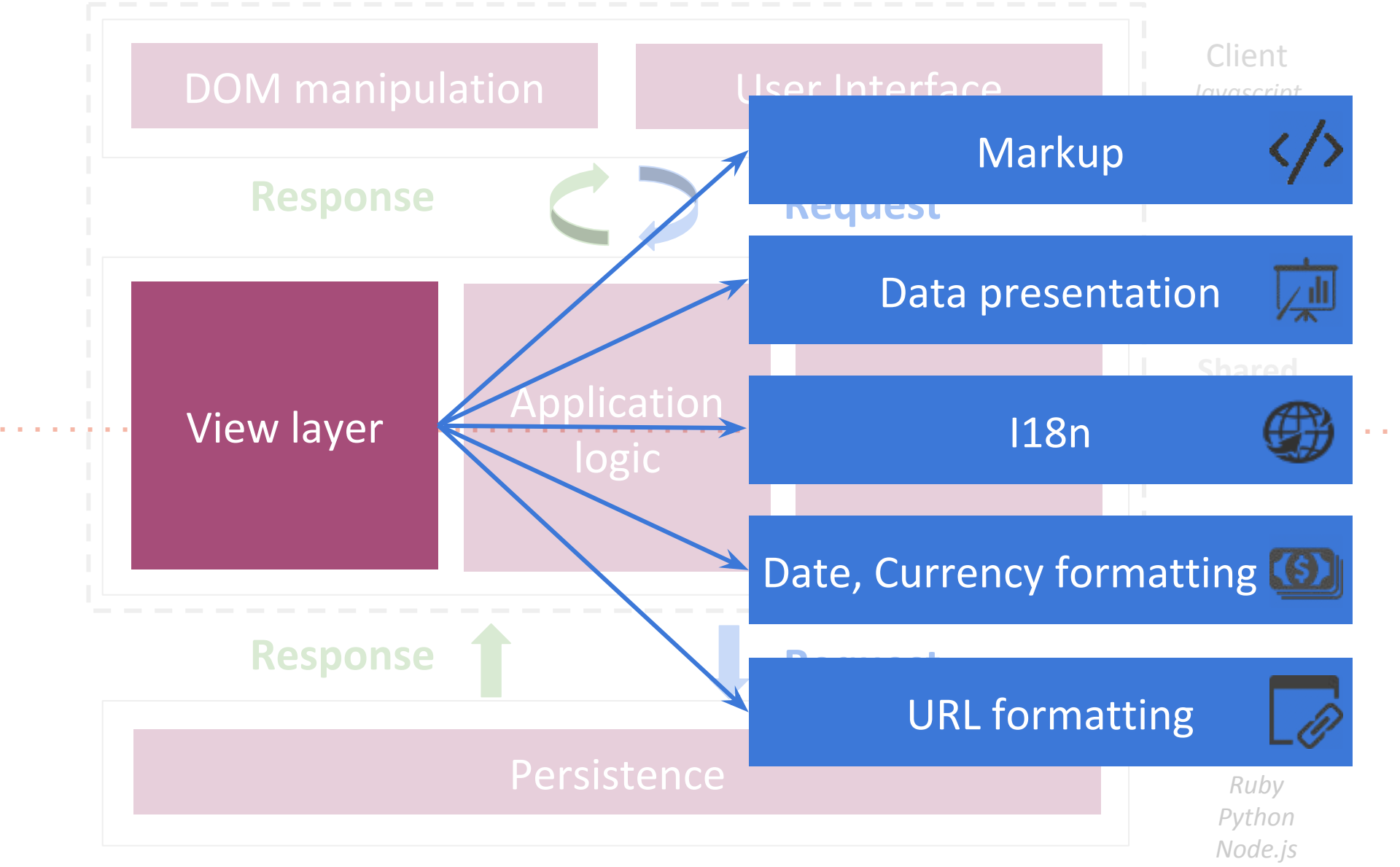
Isomorphic application



Isomorphic application



Isomorphic application



Why go to the trouble?

Performance

Initial page load speed.

SEO

Crawlable single-page apps.

Flexibility

Run code anywhere.

Maintainability

Reduce code duplication.

Isomorphic in a wild

flickr Explore Create taj mahal Sign In Sign Up

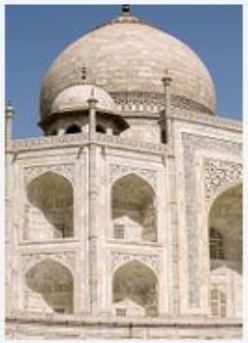
Photos People Groups

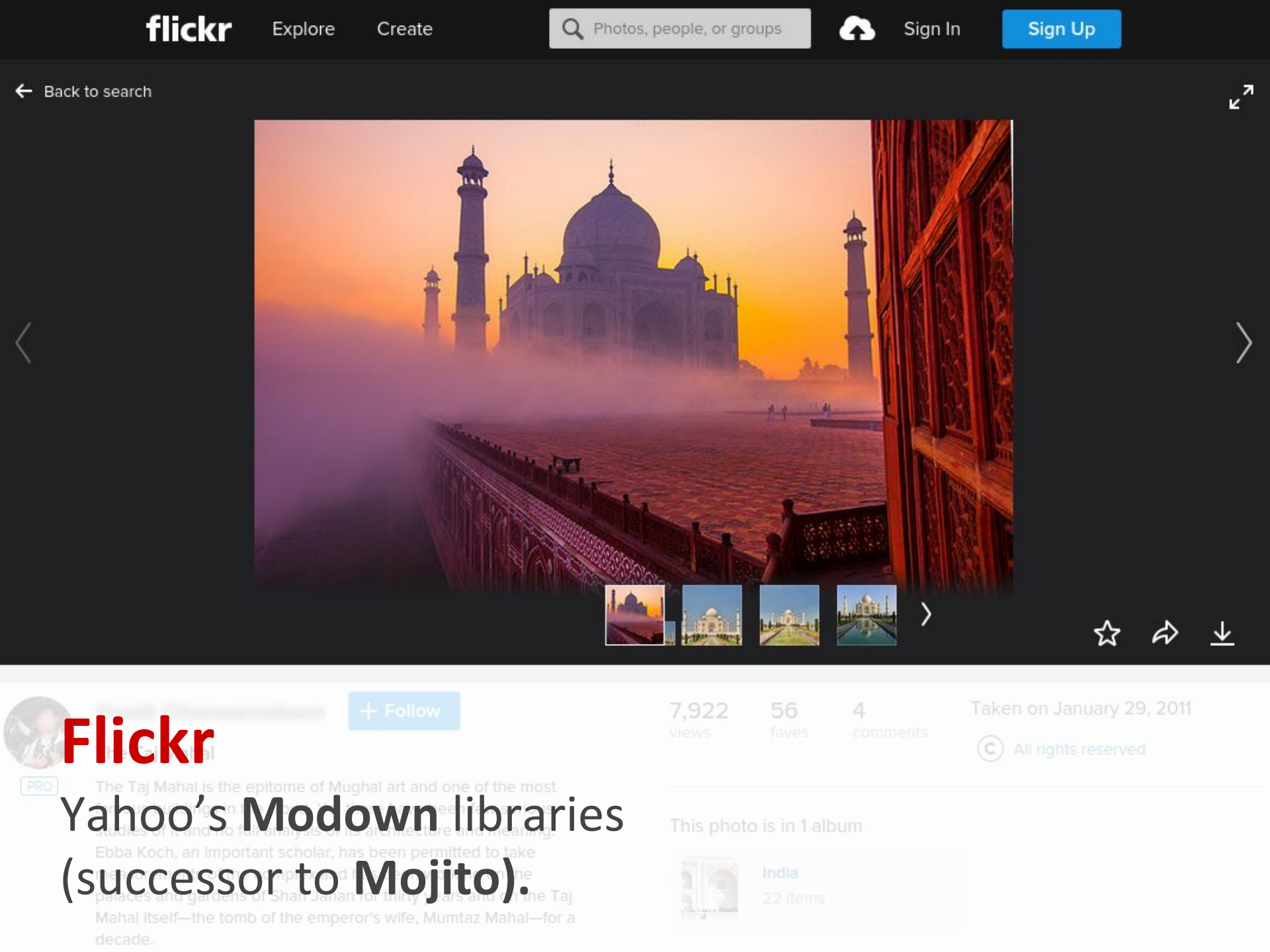
Advanced

Any license SafeSearch on Relevant

Everyone's photos

View all 328,677





Flickr

Yahoo's **Modown** libraries (successor to **Mojito**).

tajhotels

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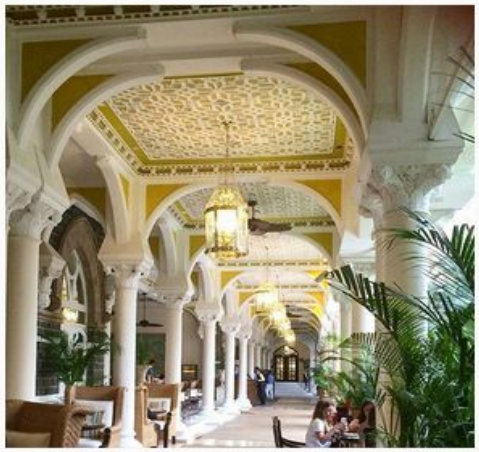
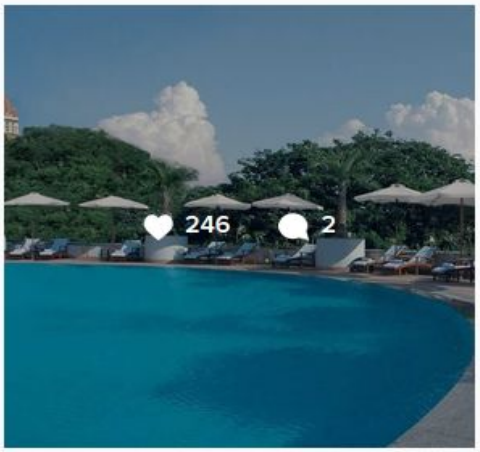
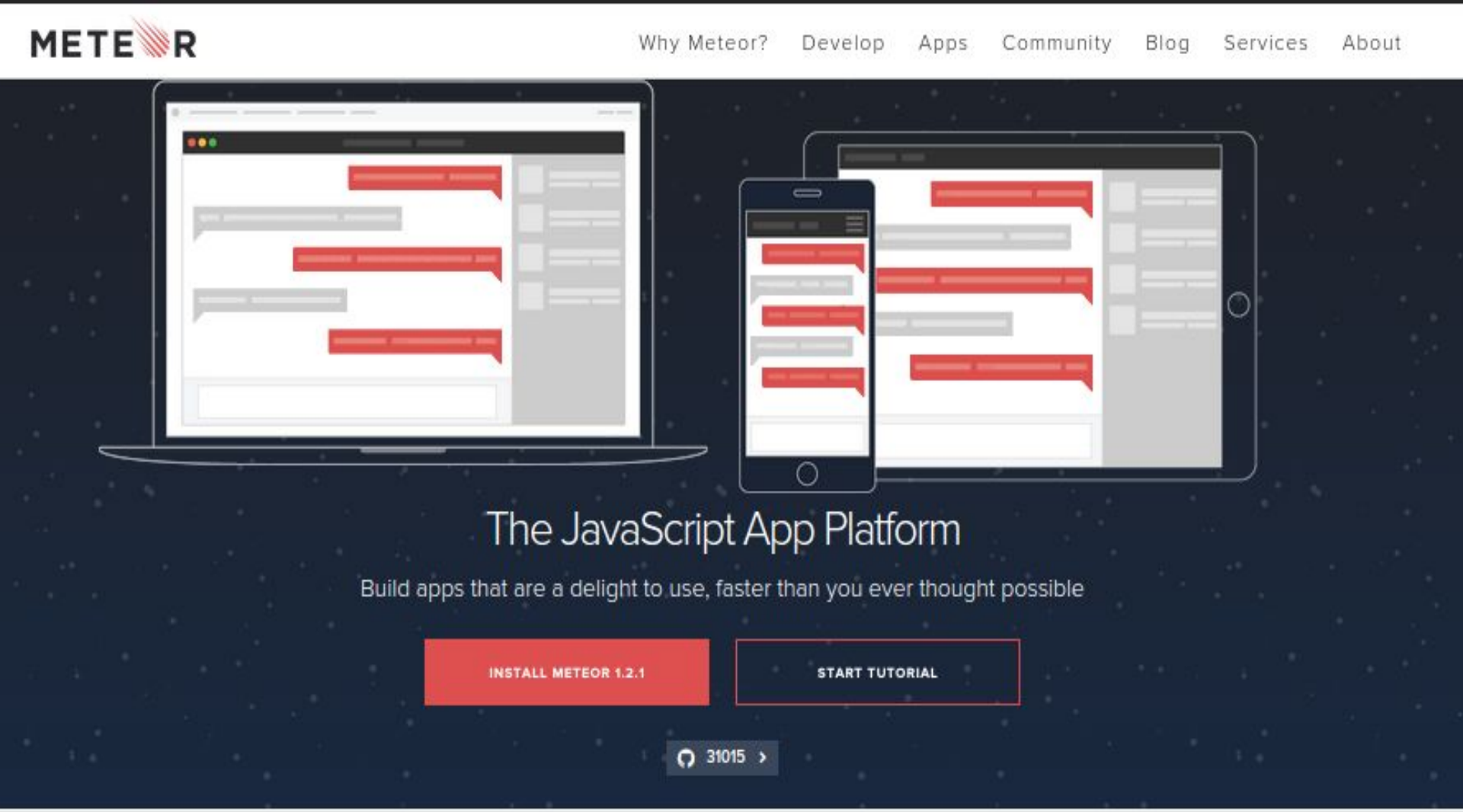




Instagram

Facebook's **React** library
in a **Django** app.



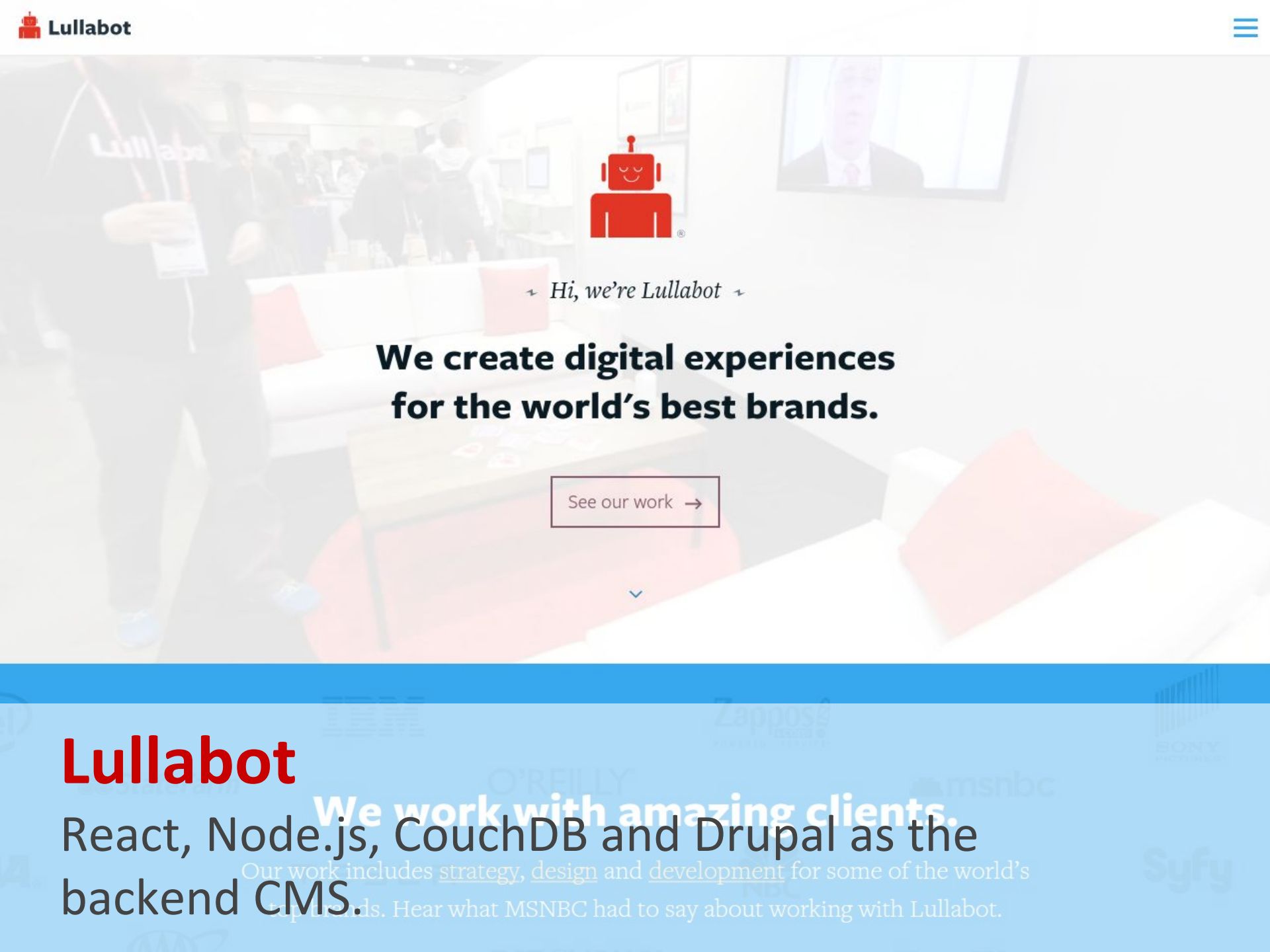
Meteor

Realtime app framework.

Meteor Galaxy is now available

Galaxy is the best way to operate and scale apps made with Meteor.

Learn more ›



Lullabot

React, Node.js, CouchDB and Drupal as the backend CMS.

How to Isomorph

Isomorphic JavaScript can be
environment agnostic
or
shimmed per environment.

Environment agnostic

Does not depend on browser-specific properties (window) or server-specific properties (process.env, req.cookies).

Shimmed per Environment

Provide shims for accessing environment-specific properties so module can expose a single API.

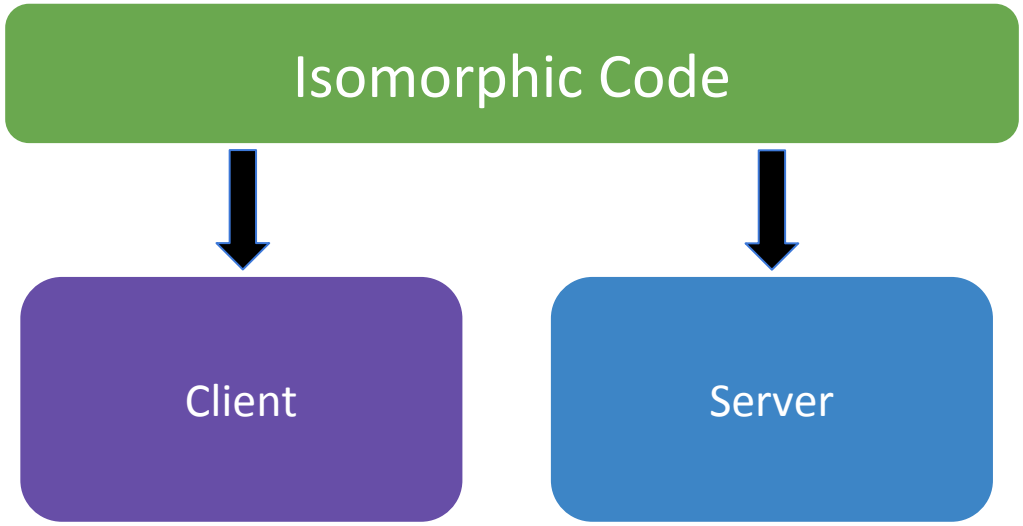
window.location.pathname

vs

req.path

Abstractions

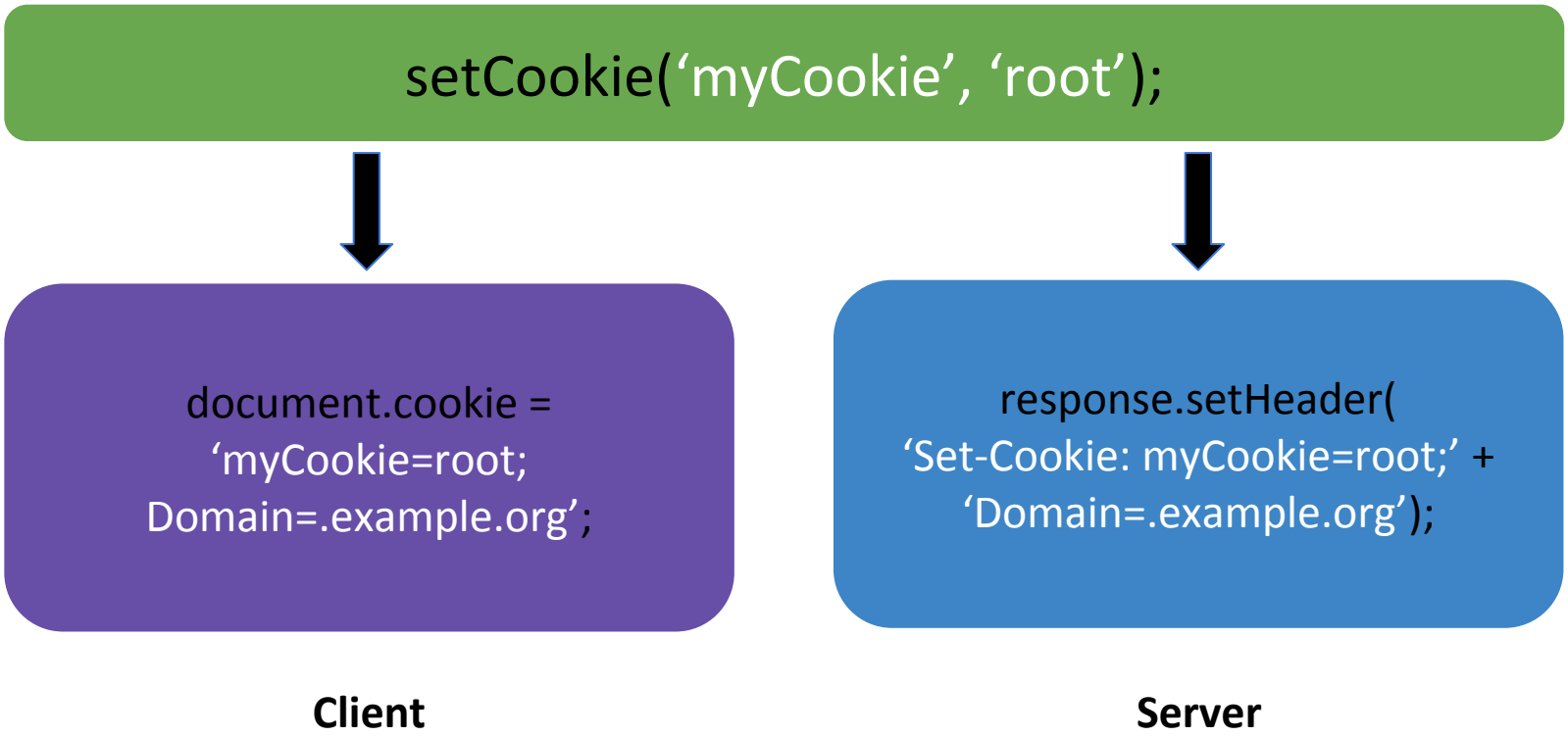
Isomorphism



Abstract all the things!!

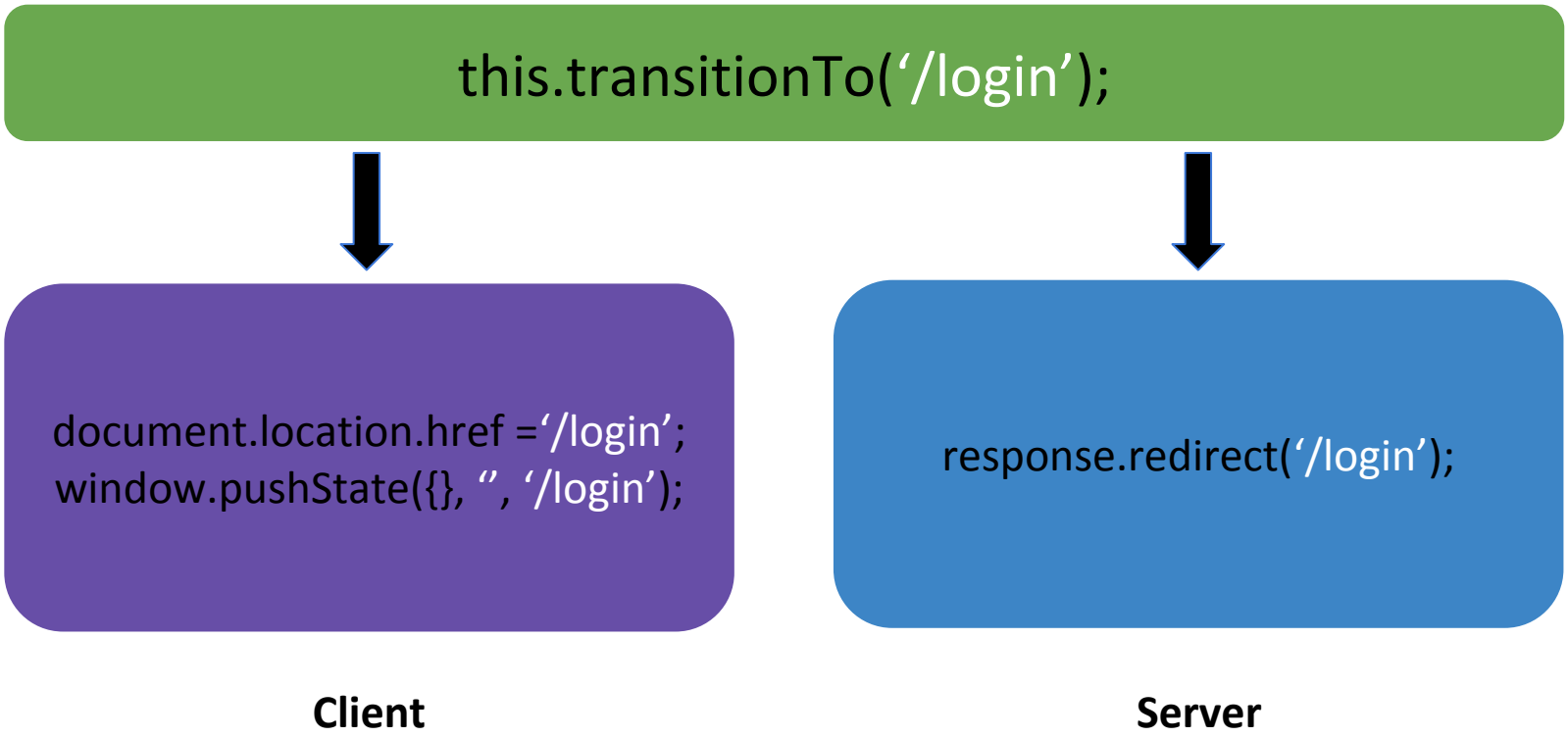
Abstraction

Cookies



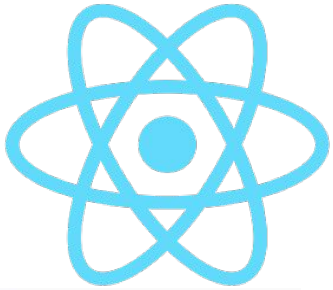
Abstraction

Redirects



Most of your favourite JS libraries are Isomorphic

You can use these libraries



React

Brisket

Invisible.js

FOR NODE.JS
flatiron

lazojs

jsblocks
BETA

Ezel

Taunus

Chaplin

Rendr

Derby

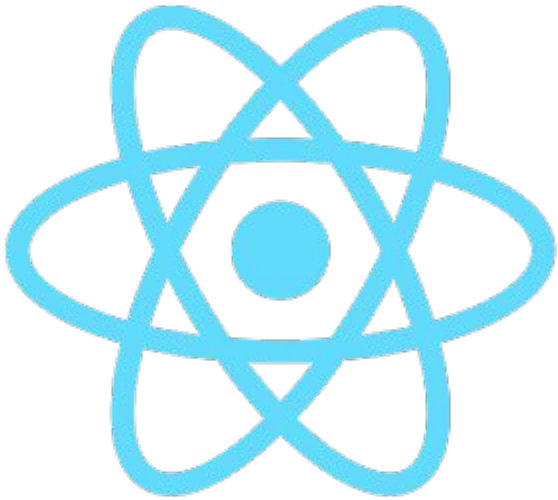
Sara.js

Este.js

Meteor

Mojito

Fluxible



React

React

(JavaScript framework by Facebook)

- New and fashionable
- Uses a virtual DOM, and syncs only the changed parts
- A javascript library for building user interface
- Strict data control mechanism

Isomorphic Javascript with Drupal

Available libraries in Drupal as a Module

React -- Recommended release (react & myreactjs)

Meteor -- Sandbox

Rendr -- No module yet

Stop talking. Show me the code!!

THANK YOU

FAICHI SOLUTIONS PVT LTD

USA:
OFFICE NO. 230, 640 WEST
CALIFORNIA AVENUE SUITE 210
SUNNYVALE, CA 94086
TEL: +1 (408) 769-4941

INDIA:
ACCORD IT PARK, BANER ROAD,
PUNE, MAHARASHATRA-411045
PH. NO. +91-20-65291435