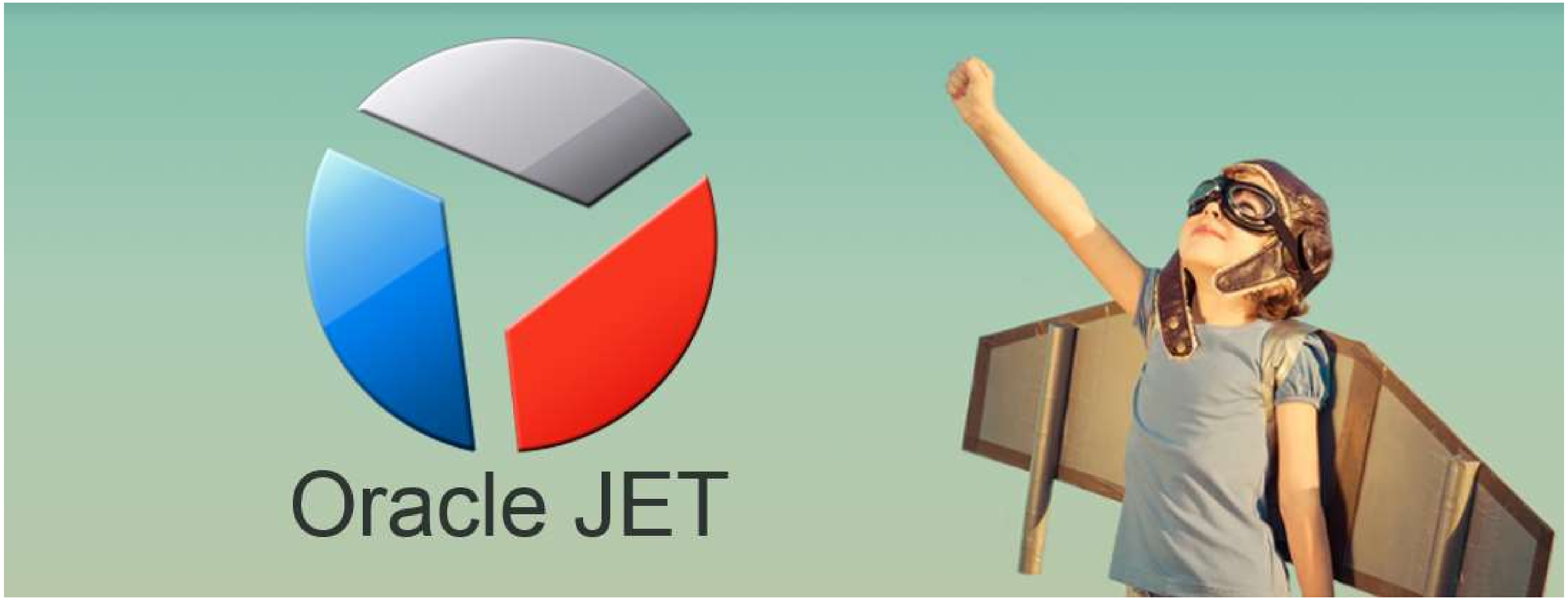
Oracle JET


Oracle JET

Oracle Solutions

PROJECT VISUAL CODE
TAILWIND
JDEVELOPER
VIRTUAL ASSISTANT
JAVASCRIPT
NETBEANS
WHATSAPP
CONTENT AND EXPERIENCE CLOUD
APPLICATION PERFORMANCE MONITORING
CUSTOMER INSIGHT AND ENGAGEMENT CS
MCS
MAX
MAF
FORMS
JET
GROOVY
DIGITAL ASSET
HTML5
CSS
USER EXPERIENCE
AUTOMATED TESTING
APACHE CORDOVA
SLACK
SITES CS
REST
WEBCENTER CONTENT
CHATBOT
BI PUBLISHER
WEBCENTER PORTAL ORACLE SOCIAL NETWORK
DATA VISUALIZATION
DEVELOPER CS
APPLICATION BUILDER CS
JAVA WEB START
APEX
ADF
JET MOBILE
DOCUMENT CS
JET COMPOSITE COMPONENTS
APPLICATION CONTAINER CS
WEBCENTER SITES
FACEBOOK MESSENGER

OJET Toolkit

jQuery
write less, do more.

jQuery
user interface

REQUIRE.JS

APACHE
CORDOVA™

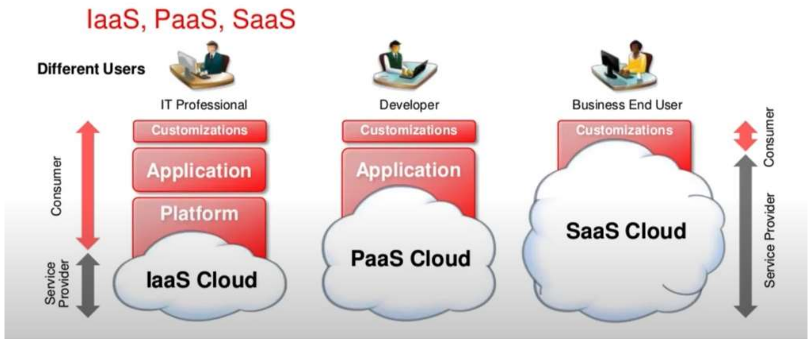
Knockout.

ORACLE
JET

Javascript Ecosystem

- Vibrant, innovative ecosystem
- Increasing popularity of mobile devices
- Expense of native applications
- Popularity of hybrid mobile applications
- Challenges of a volatile, dynamic ecosystem
- Relevant and Maintainable over a number of years

Modern Business Applications and Cloud

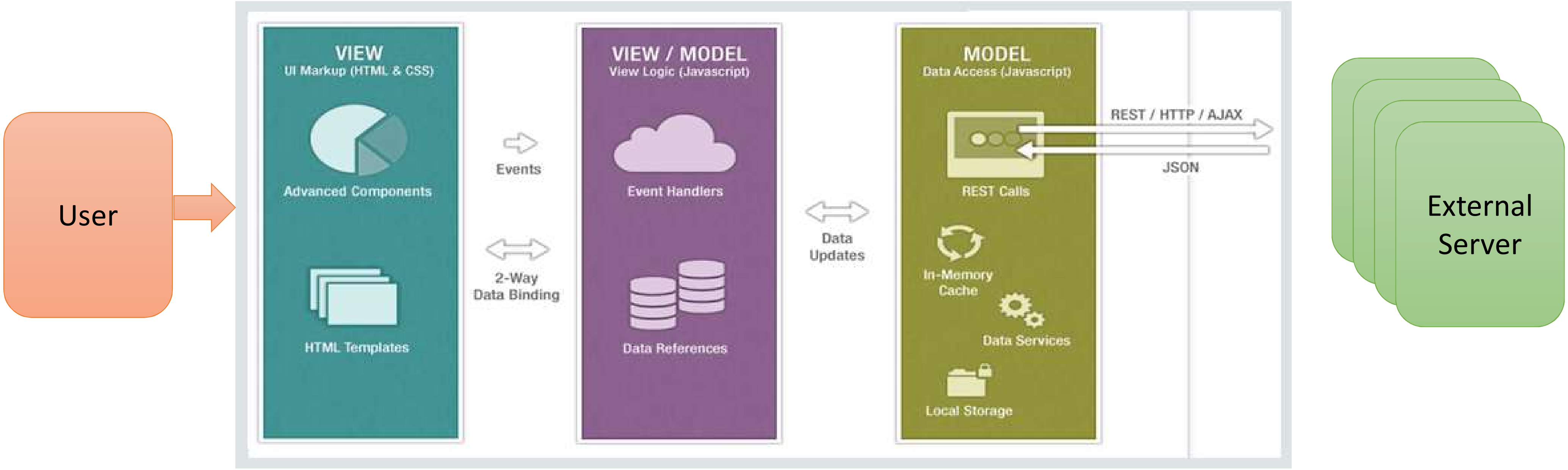


- JS is the native language of the internet
- Research with Cloud architectures
- OJET is the resultant of that research
- Oracle recommendations and best practices for enterprise JS

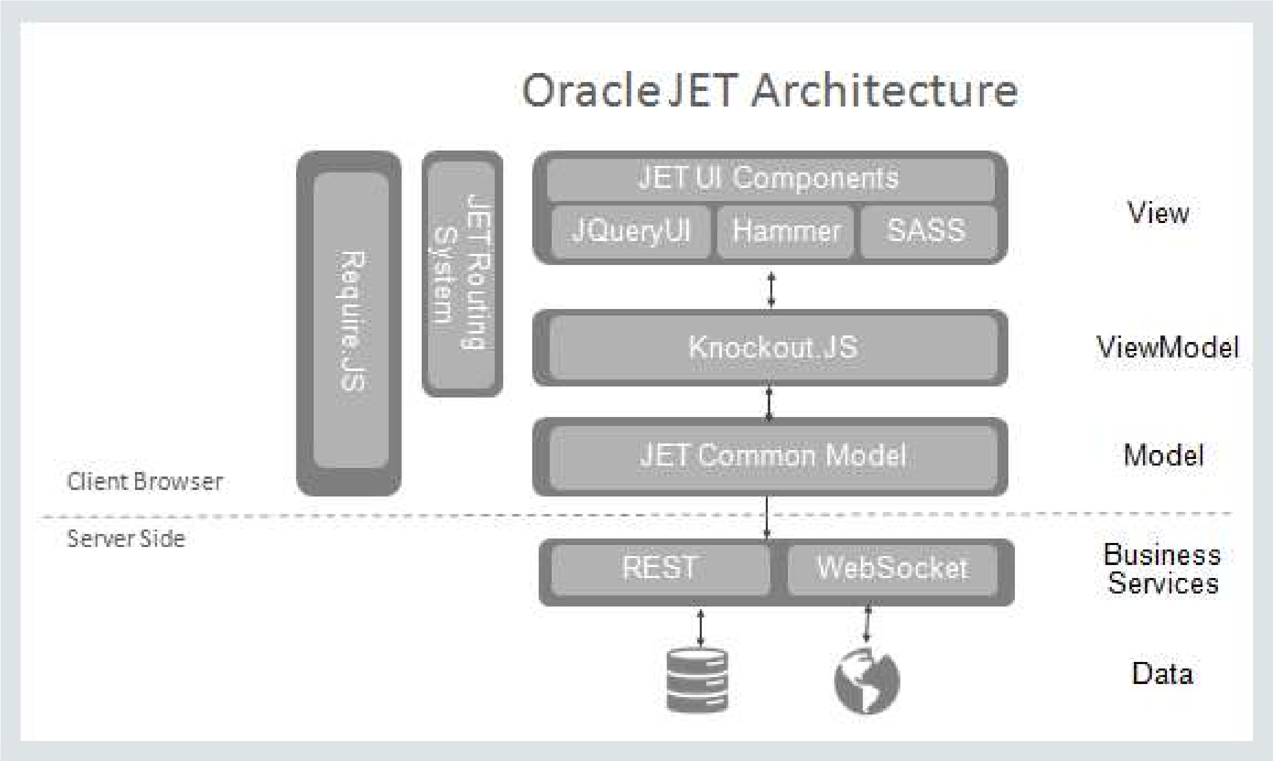
Oracle JET

- Free and Open Source
  - github.com/oracle/oraclejet
- Javascript Toolkit
- Useful Architectures, Patterns, Templates, Techniques, Components
- Focussed on Enterprise Applications
- Javascript, HTML5 and CSS3
- Result of research at Oracle in Javascript enterprise applications

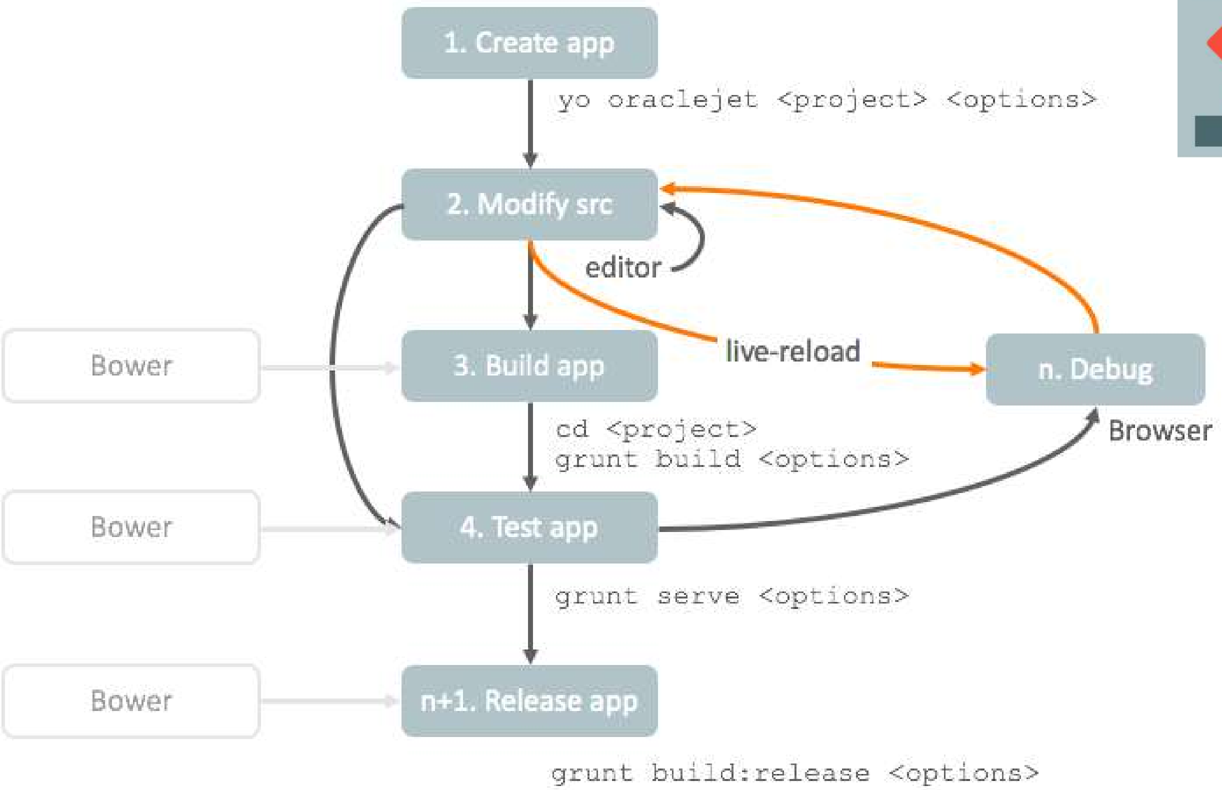
OJET MVVM Concepts



OJET Architecture



Development Process with OJET



1. Create app

```
yo oraclejet <project> <options>
```

2. Modify src

editor

live-reload

3. Build app

```
cd <project>
grunt build <options>
```

4. Test app

```
grunt serve <options>
```

n. Debug

Browser

n+1. Release app

```
grunt build:release <options>
```

Bower

Bower

Bower

Prerequisite software
Installed via npm
Git
Node
Package Manager
Yeoman
Grunt
Bower
Oracle JET
Minimum software for Oracle JET web applications

Installation and Configuration

- Download and install node.js

  https://nodejs.org/en/download/

- Install OJET Client

  ```
  > (sudo) npm install -g @oracle/ojet-cli
  ```

- Verify the OJET CLI

  ```
  > ojet help
  > ojet --version
  ```

First OJET Web Application

- Developing client-side web application with Oracle JET is simple and efficient
- Create a starter template

```
> ojet create firstwebapp ––template=navdrawer
```

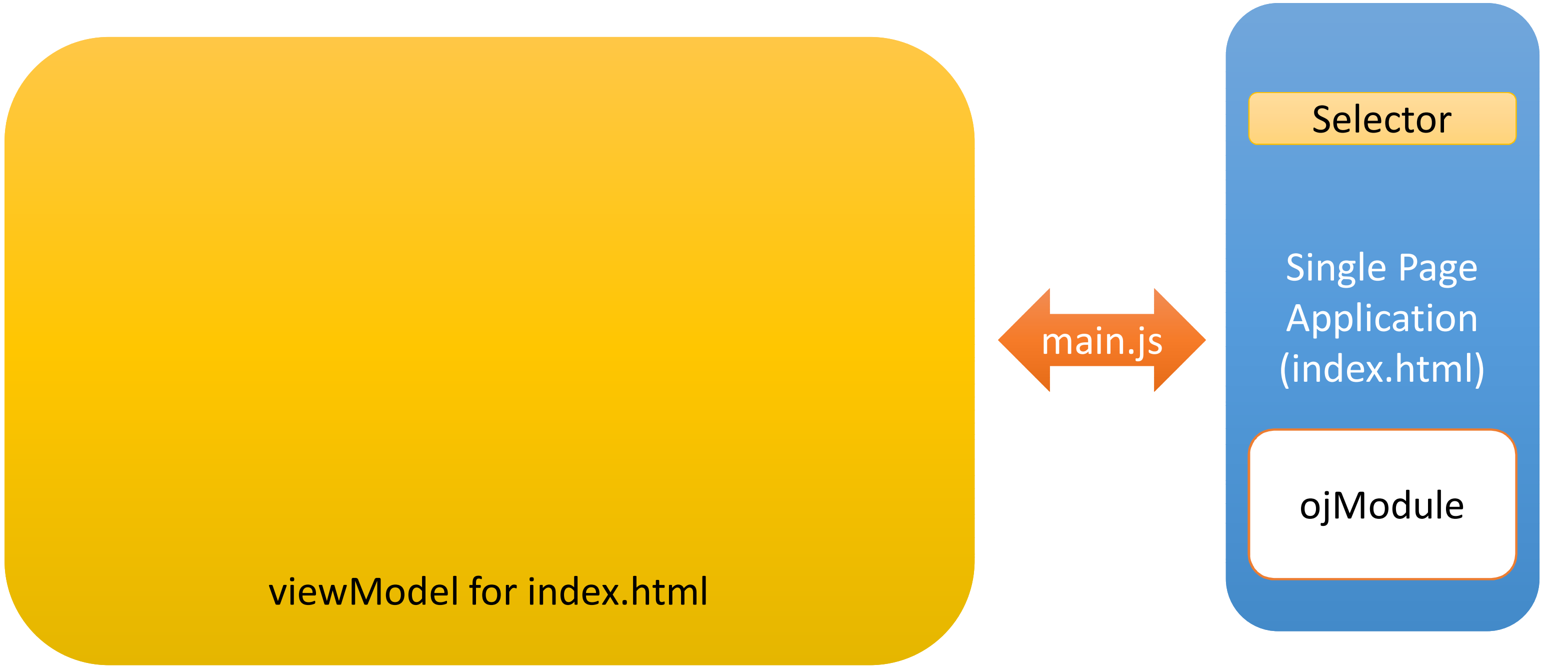
- Run the web application
  - Change the directory to firstwebapp
  - Execute the command

```
> ojet serve
```

LAB #1

OJET Code Structure

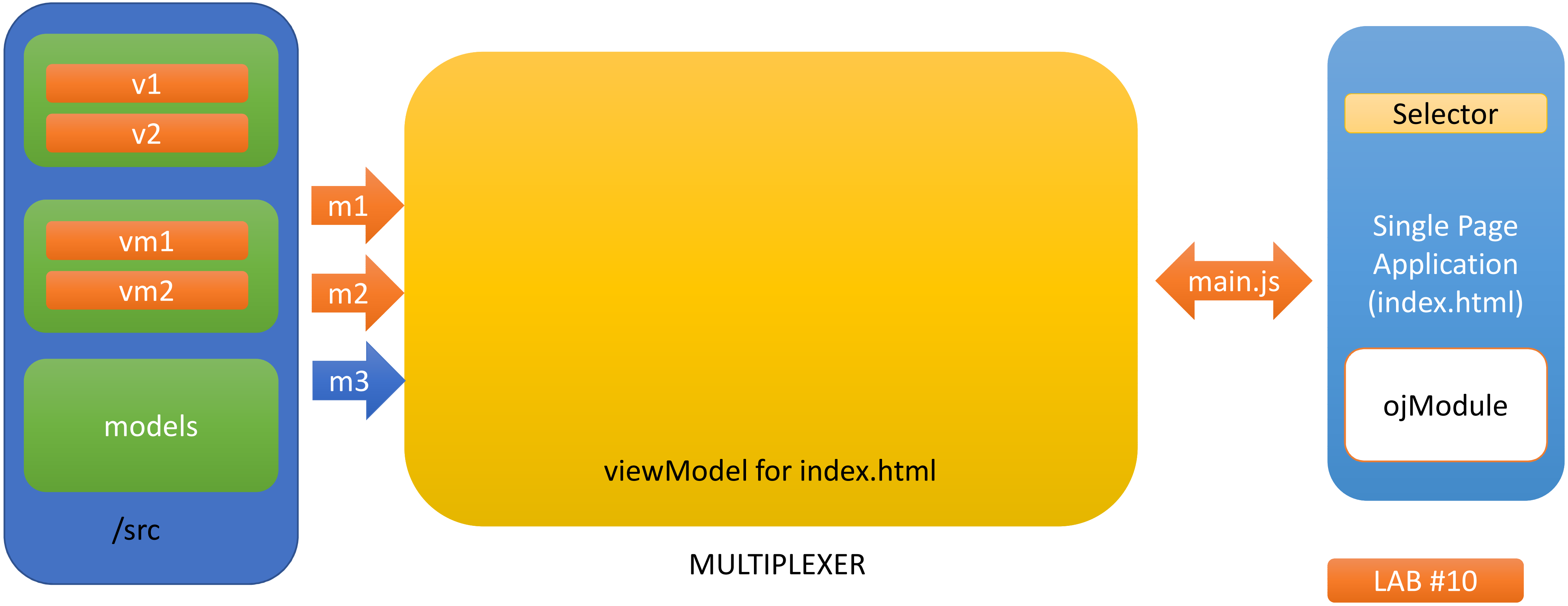
Feature = Module = view + viewModel



MULTIPLEXER

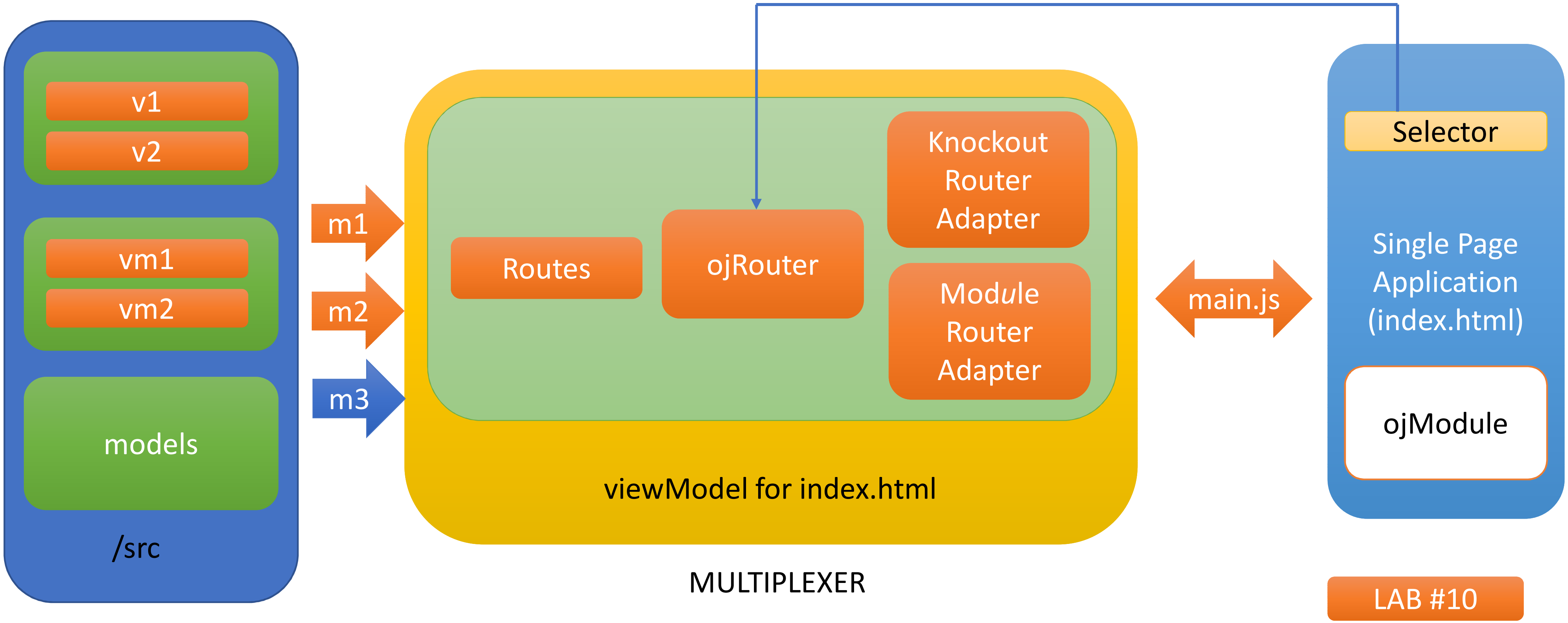
OJET Code Structure

Feature = Module = view + viewModel



OJET Code Structure

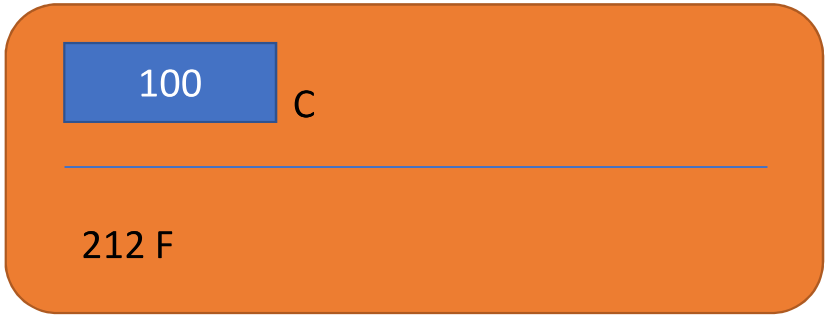
Feature = Module = view + viewModel



Evolution of Javascript Ecosystem

Using Require JS and Knockout JS in OJET

- Require JS helps in dependency management
- Knockout JS helps in data-binding and automatic tracking of value/property changes, it updates all references to that property automatically



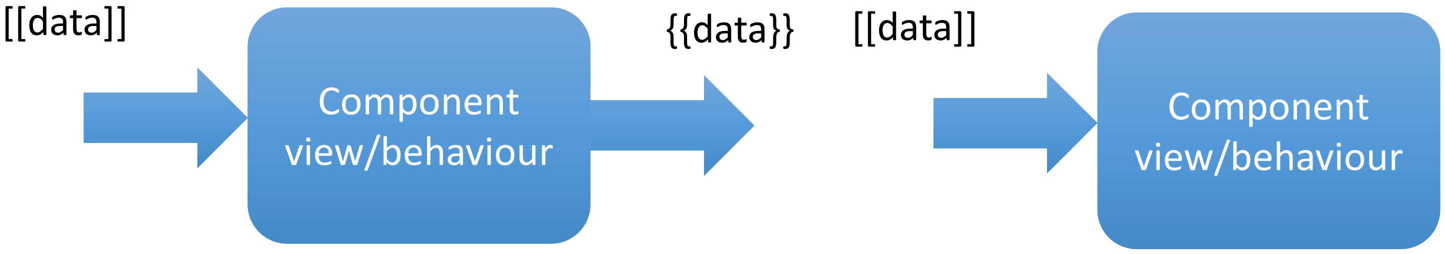
100 C

212 F

LAB #2

Oracle JET Components

- Powerful and clean way of organizing UI code into self-contained reusable chunks
- Development patterns beneficial for large applications, simplifying by encapsulation
- Improve performance by incremental loading of resources



LAB #3

Loading Resources

- Require.js Text Plugin is an extension of Require.js
- Enables you to load text based resources
- Let's you separate HTML templates from business logic in Javascript files

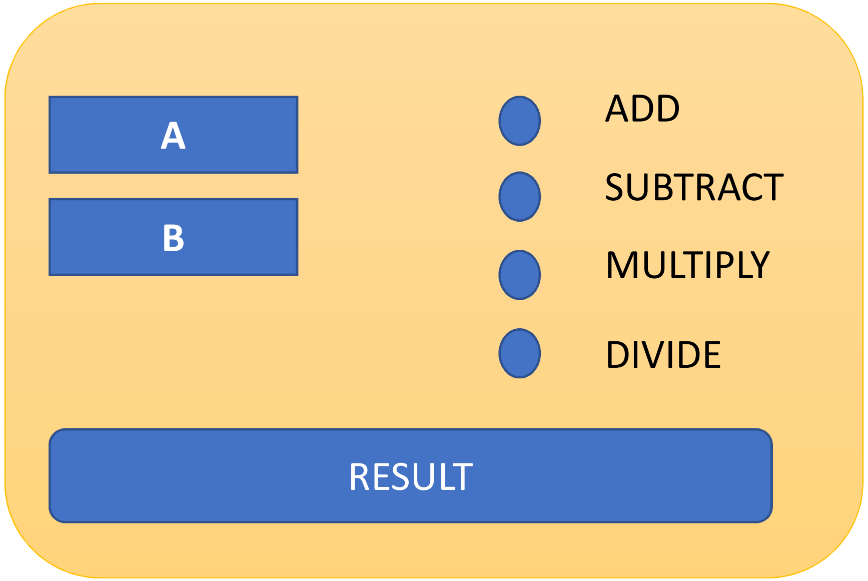
LAB #4

Creating Modules

- OJET applications are inherently modular
- An OJET module has its business logic in Javascript and its view in HTML
- An OJET module represents a section in your application providing a new feature to the user

LAB #5

Creative Lab: Add a new feature to the app



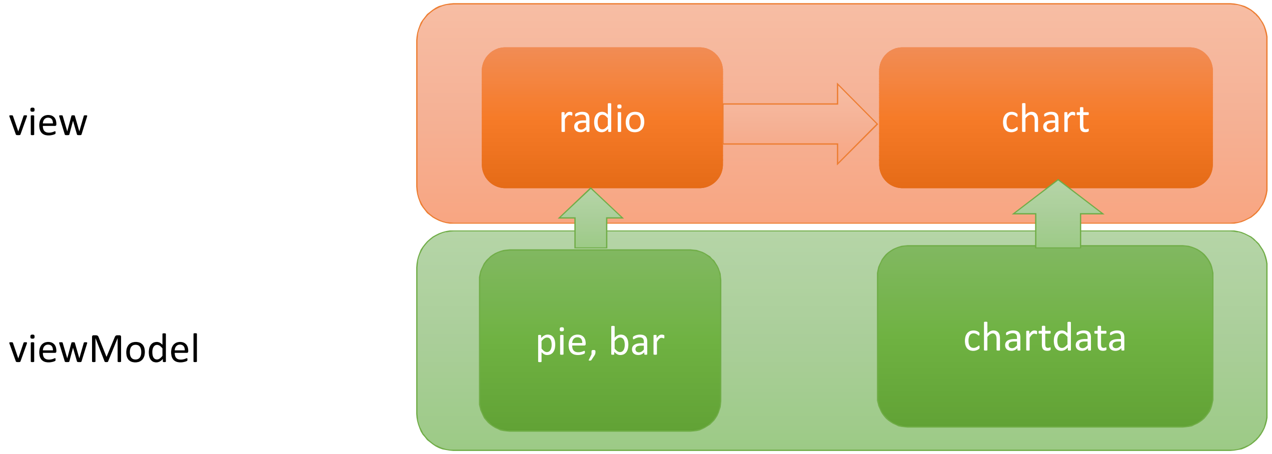
OJET Cookbook Components

- Open sourced
- Online OJET Cookbook provides recipes for each component
  - HTML View
  - JS/TS Business Logic
- JSDoc describes each component

60
50
40
30
20
10
0
Group A
Group B
80
70
60
50
40
30
20
10
0
2010
2012
2013
2014
2015
2016
2017
2018
3.378%
6.757%
28.38%
24.32%
37.16%
12.4%
23.7%
12.4%
Sales by Product
20.3%
31.1%

Explore Cookbook, Understand Workflow

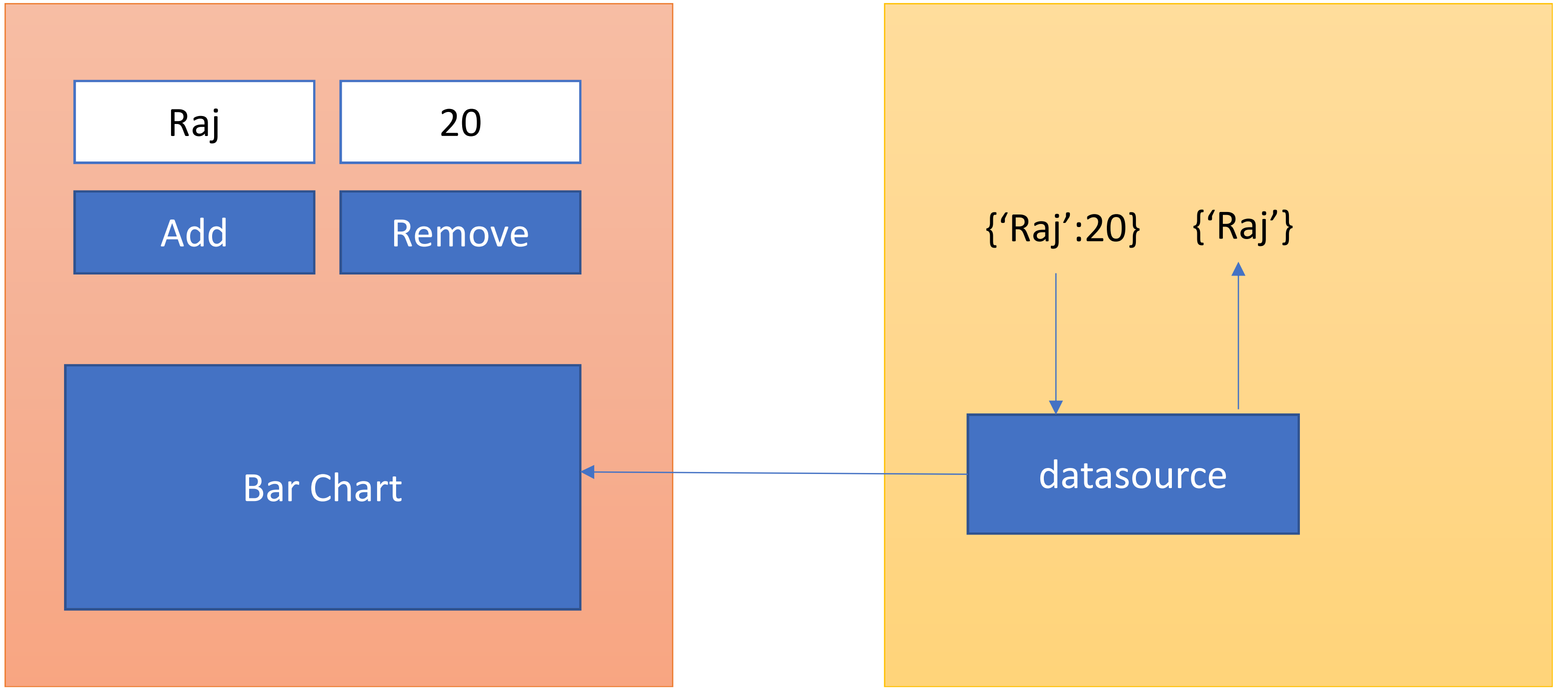
OJET Cookbook Components



LAB #6

Employees.html

Employees.js



Raj

20

Add

Remove

Bar Chart

{‘Raj’:20}

{‘Raj’}

datasource

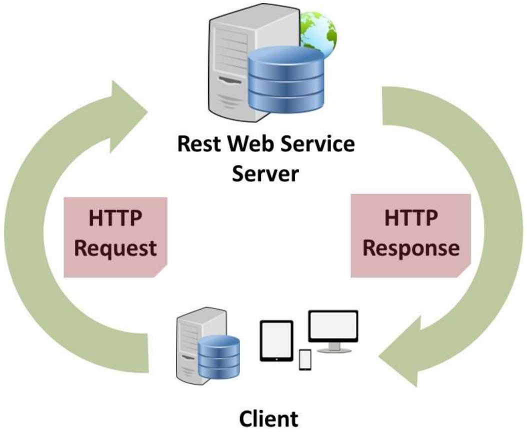
OJET Flex Layouts

- Oracle ALTA UI design systems https://www.oracle.com/webfolder/ux/middleware/alta/index.html
  - Set of CSS classes used to design modern Oracle applications
  - Default theme of Oracle JET
  - Design with mobile first approach
- Flex box layout is the standard part
  - Efficient way to layout, align and distribute space for applications
  - Helps accommodate variety of device visual spaces

LAB #7

Accessing and Integrating Data

- We access data using REST Services
- Representation State Transfer
  - Data and functionality are resources
  - Resources are accessed using URI
  - Benefit: Simplicity and it’s a standard
  - Can expose data via Java EE, Spring Boot, Node, etc
- OJET allows you to create REST clients to integrate REST services
- jQuery API can be used for REST calls

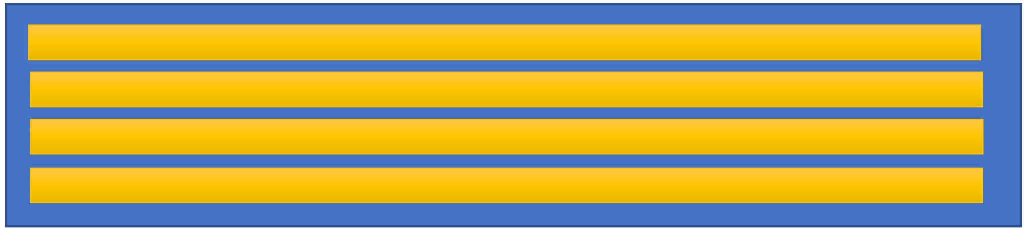


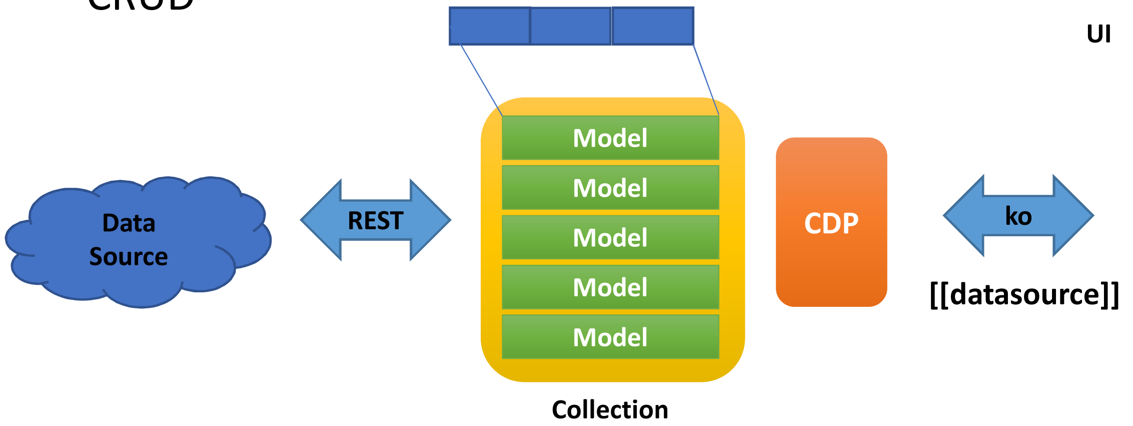
Experiment with a REST endpoint

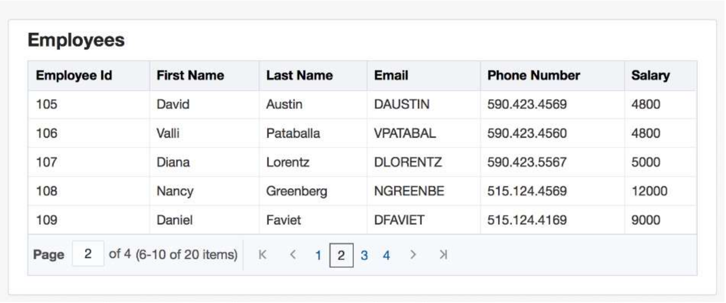
Common Model

Rest Server

- Idiomatic alternative to working with data
- **Ordered set of models**
- Inspired by Backbone JS
  - Model and Collections
  - CRUD







Employees

Employee Id	First Name	Last Name	Email	Phone Number	Salary
105	David	Austin	DAUSTIN	590.423.4569	4800
106	Valli	Pataballa	VPATABAL	590.423.4560	4800
107	Diana	Lorentz	DLORENTZ	590.423.5567	5000
108	Nancy	Greenberg	NGREENBE	515.124.4569	12000
109	Daniel	Faviet	DFAVIET	515.124.4169	9000

```
var collection = [
{“Employee ID”:105, “First Name”: David, “Last Name”:”Austin”, “Email”:”DAUSTIN”, “Phone Number”:590-423-4569”, “Salary”:4800},
…
]
```

LAB #8

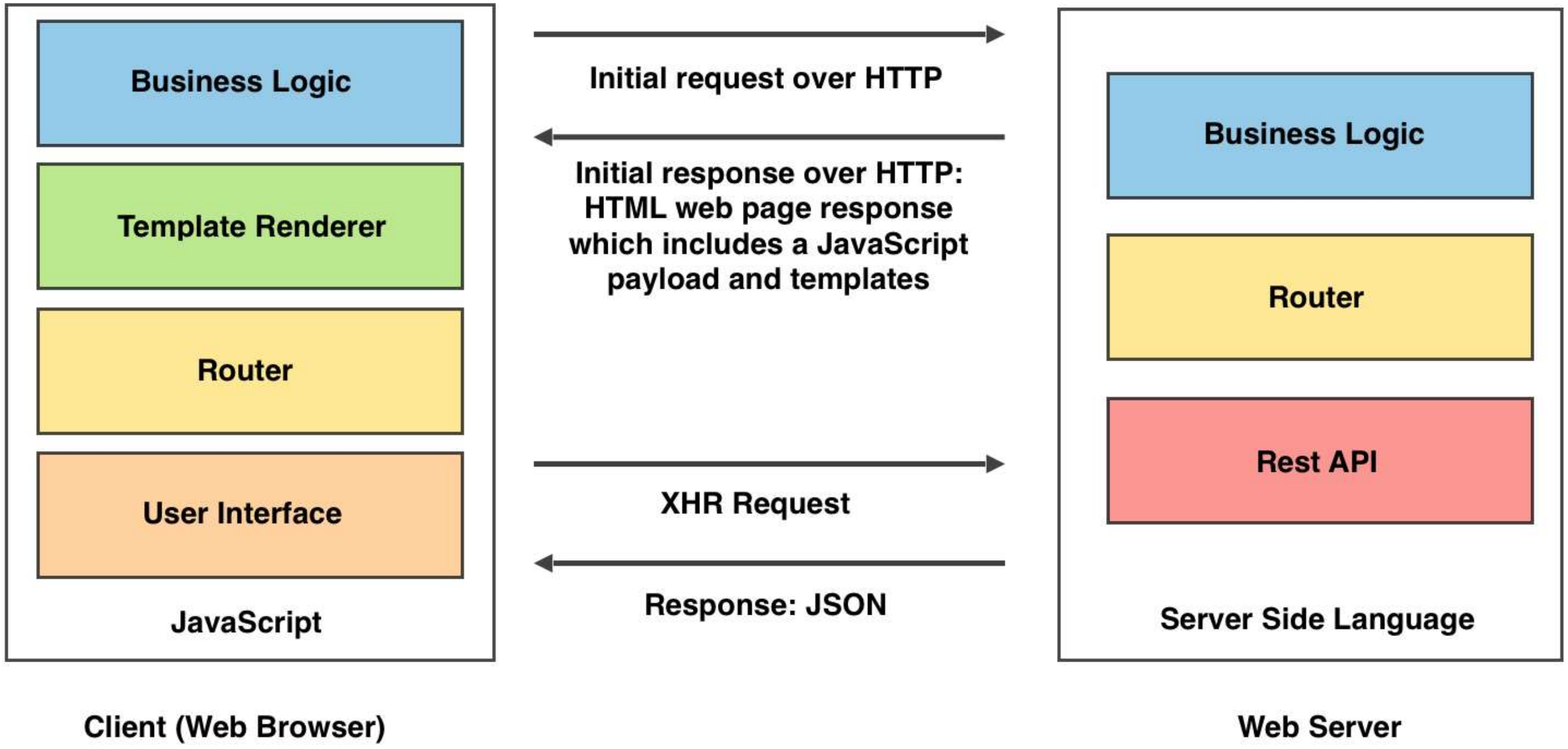
Single Page Applications

- A single-page application is a web application or website that interacts with the web browser by **dynamically <u>rewriting</u> the current web page with new data** from the web server, instead of the default method of the browser loading entire new pages
- https://www.excellentwebworld.com/what-is-a-single-page-application/

airbnb
PayPal

https://globekit.co/

LAB #9


Business Logic
Template Renderer
Router
User Interface
JavaScript
Client (Web Browser)
Initial request over HTTP
Initial response over HTTP: HTML web page response which includes a JavaScript payload and templates
XHR Request
Response: JSON
Business Logic
Router
Rest API
Server Side Language
Web Server