



# Web & Network Technology

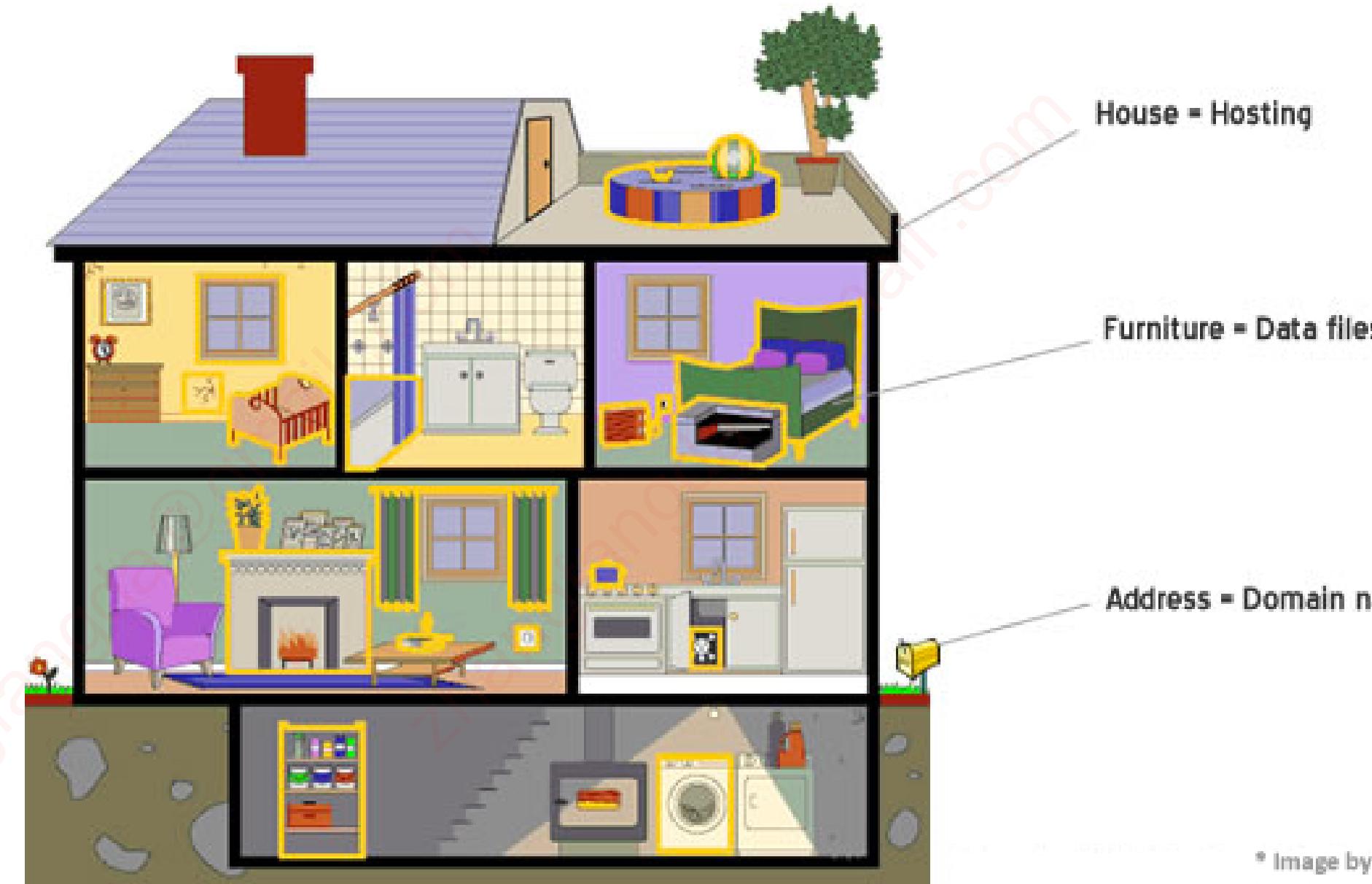
[www.jiangren.com.au](http://www.jiangren.com.au)

## What's Internet



<https://youtu.be/Dxcc6ycZ73M>

# IP Address , Domain Name, Hosting



匠人学院: Domain Name  
Level 13b 116 Adelaide Street : IP Address

## 如何买域名

Godaddy ( <https://au.godaddy.com> )

Crazy Domain ( <https://www.crazydomains.com.au> )

AWS Route 53 ( <https://aws.amazon.com>)

阿里云 ( <https://cn.aliyun.com>)

.com .net .org 国际顶级域名

[.com.au](https://www.com.au) (需要ABN) [.com.cn](https://www.com.cn) 国家代码顶级域名，需要ICP备案

<https://leandomainsearch.com/>

## Cloud Service



AWS



Azure



Google Cloud

Google Cloud Platform



HEROKU

Heroku



linode

linode



DigitalOcean



阿里云  
aliyun.com

阿里云



腾讯云

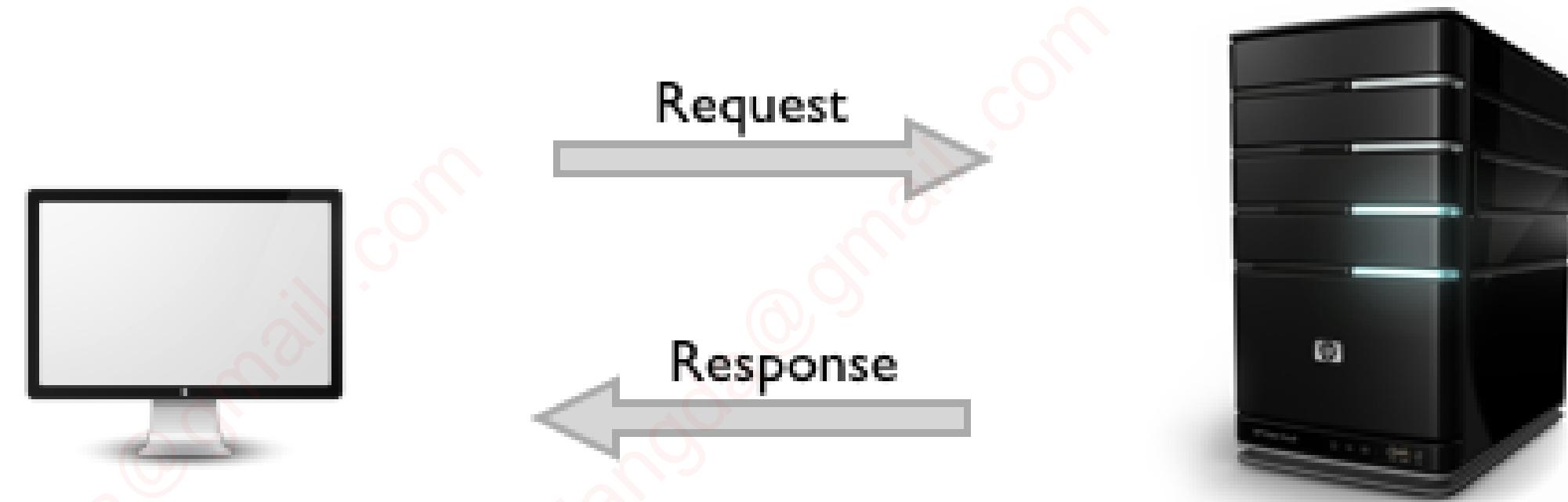
腾讯云

推荐阅读 <https://www.webhostingsecretrevealed.net/web-hosting-beginner-guide>



# IP Address , Domain Name, Hosting



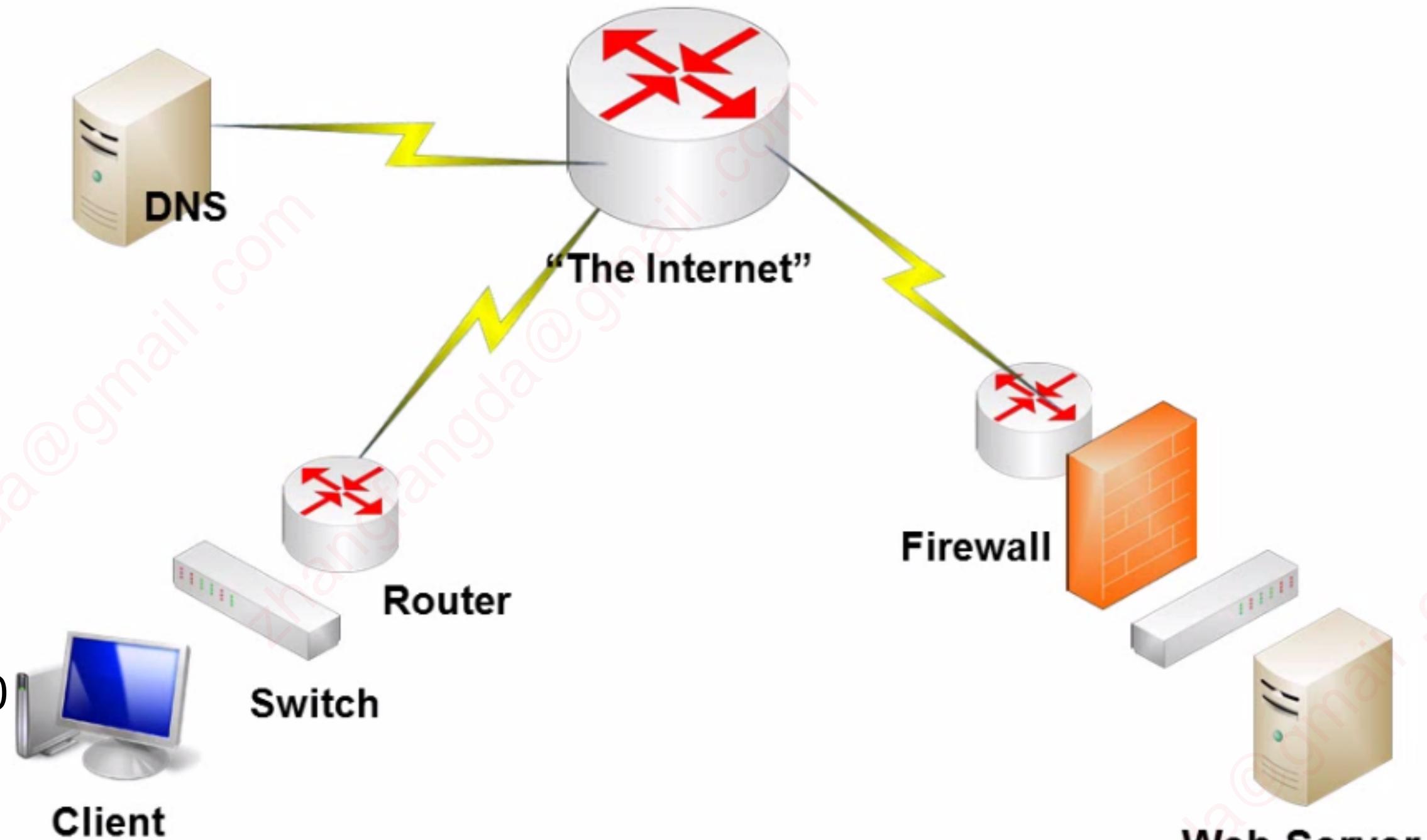


**国内阿里面试题：打开一个网页经历了什么**

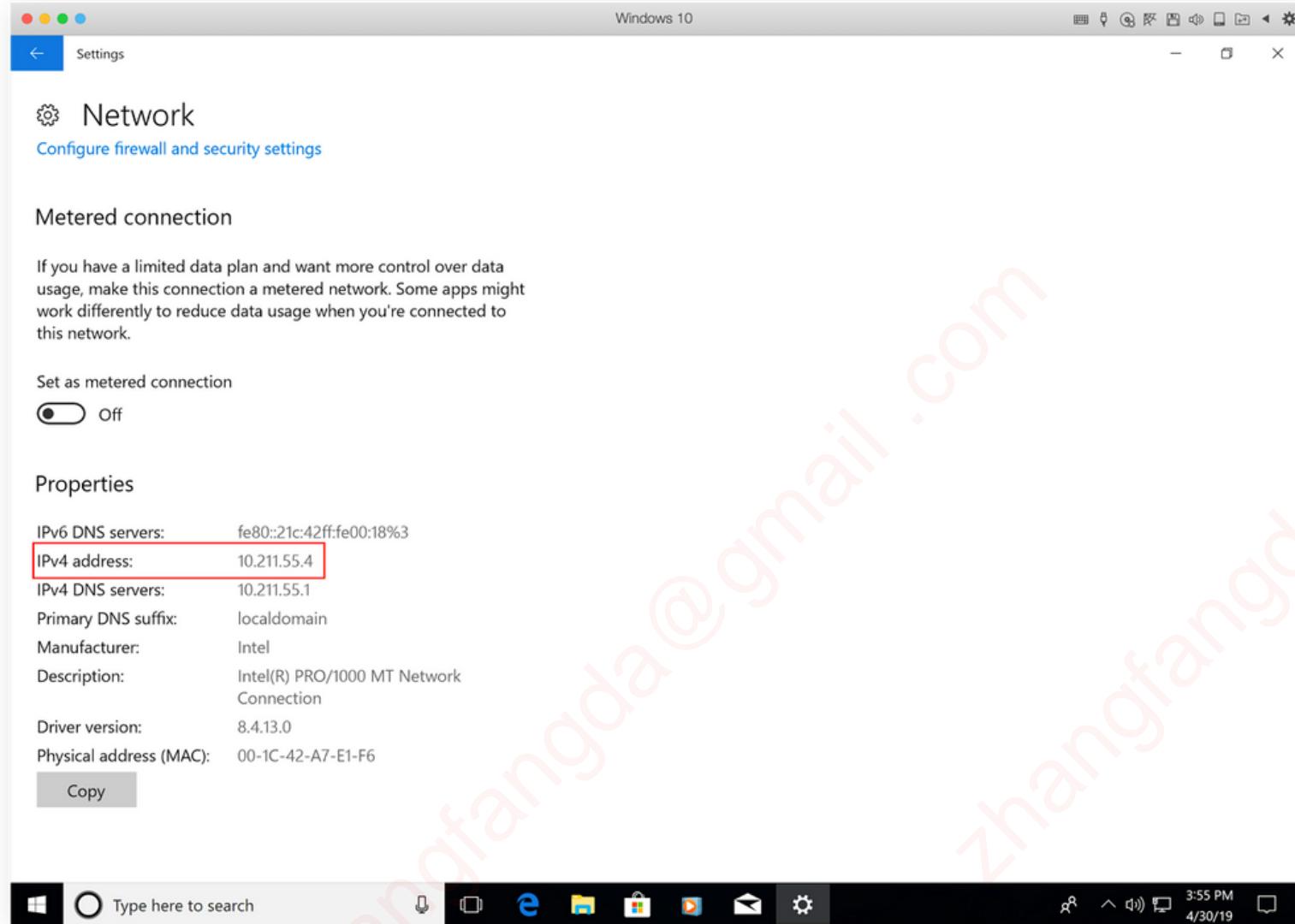
**CCNA自学材料：Google Drvie**  
<https://learningnetwork.cisco.com/s/>

Command line  
Windows:  
ipconfig

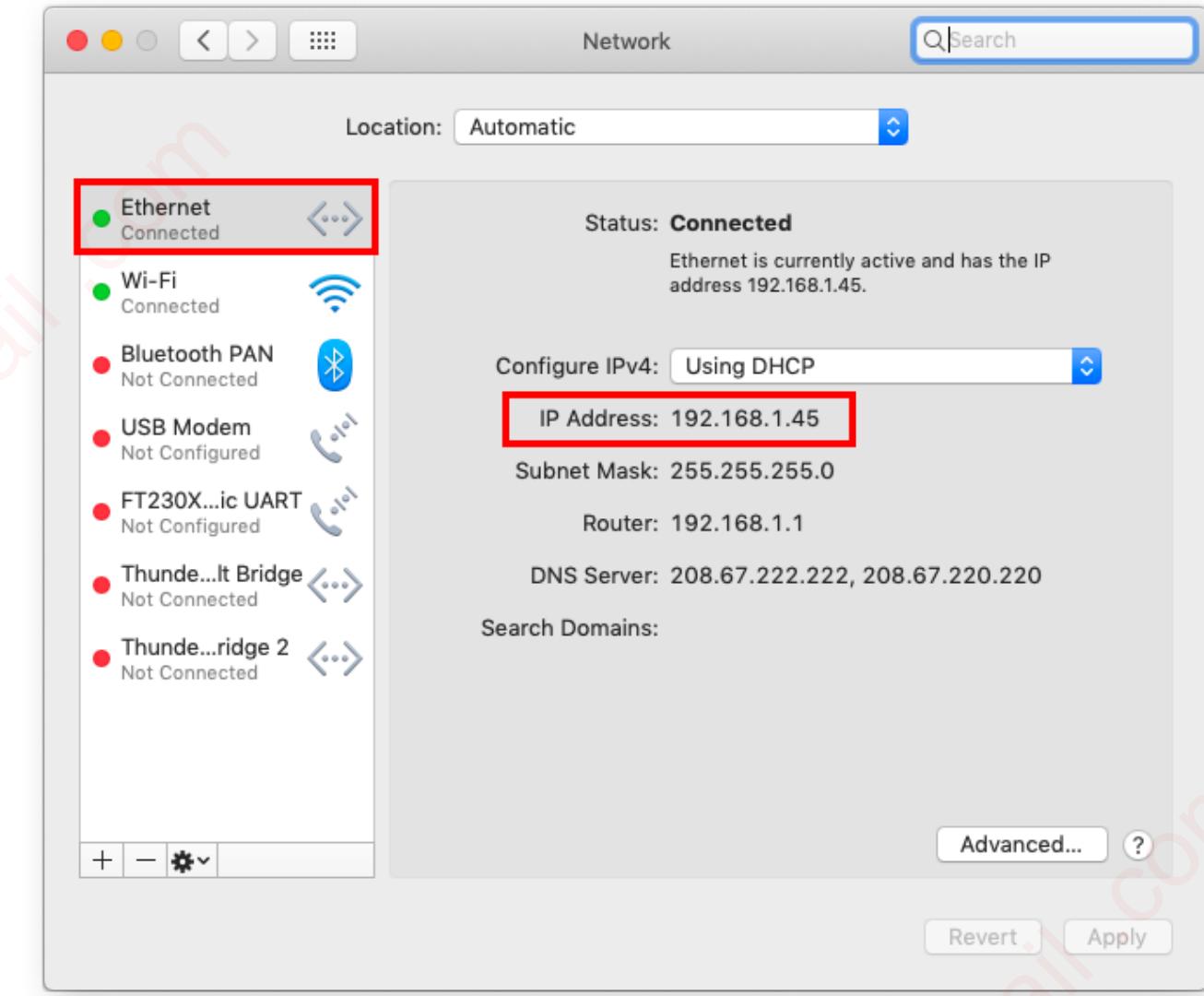
Mac:  
ifconfig  
curl ifconfig.me  
ipconfig getifaddr en0



Google Search: what is my ip



Windows



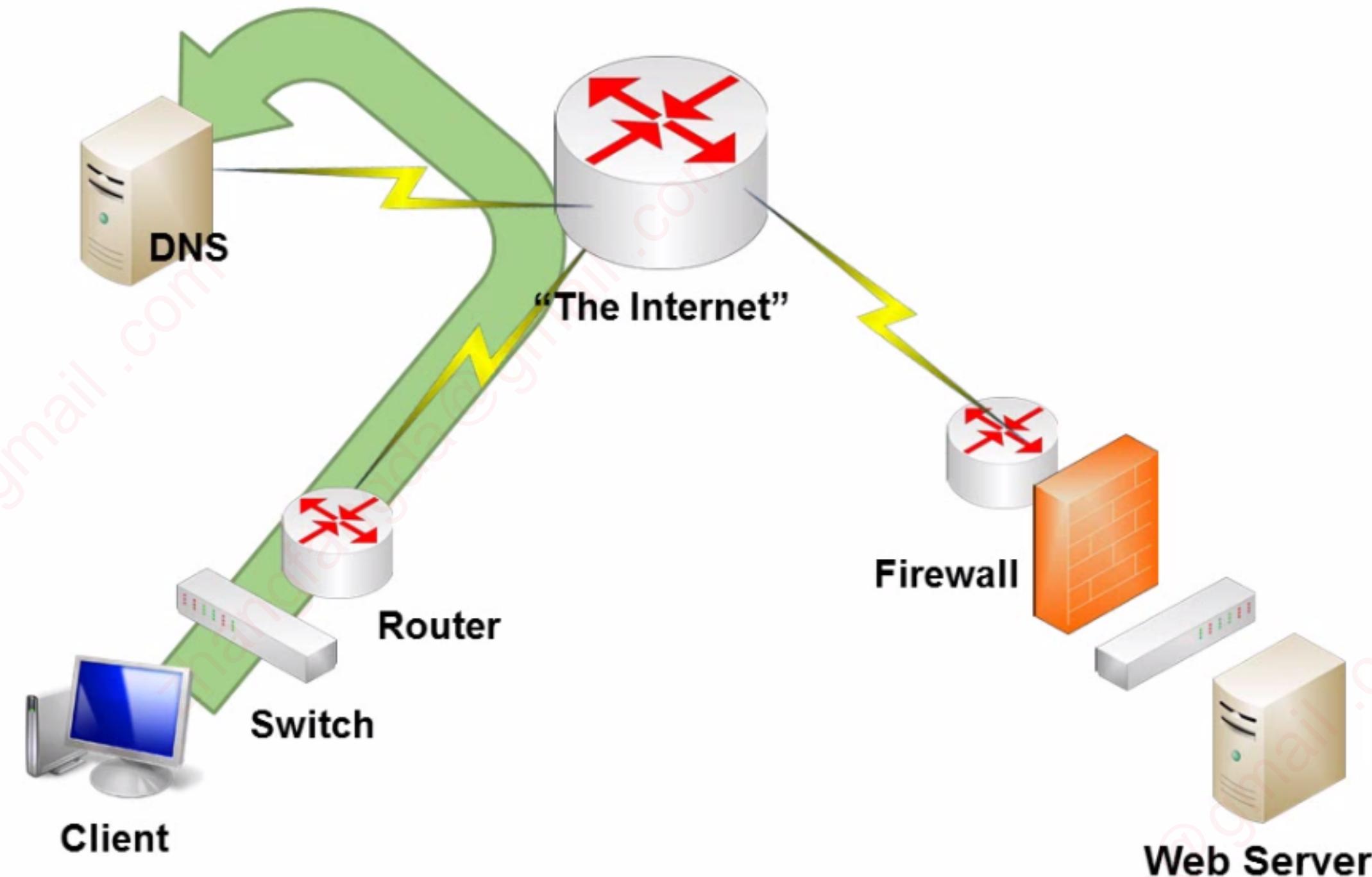
Mac

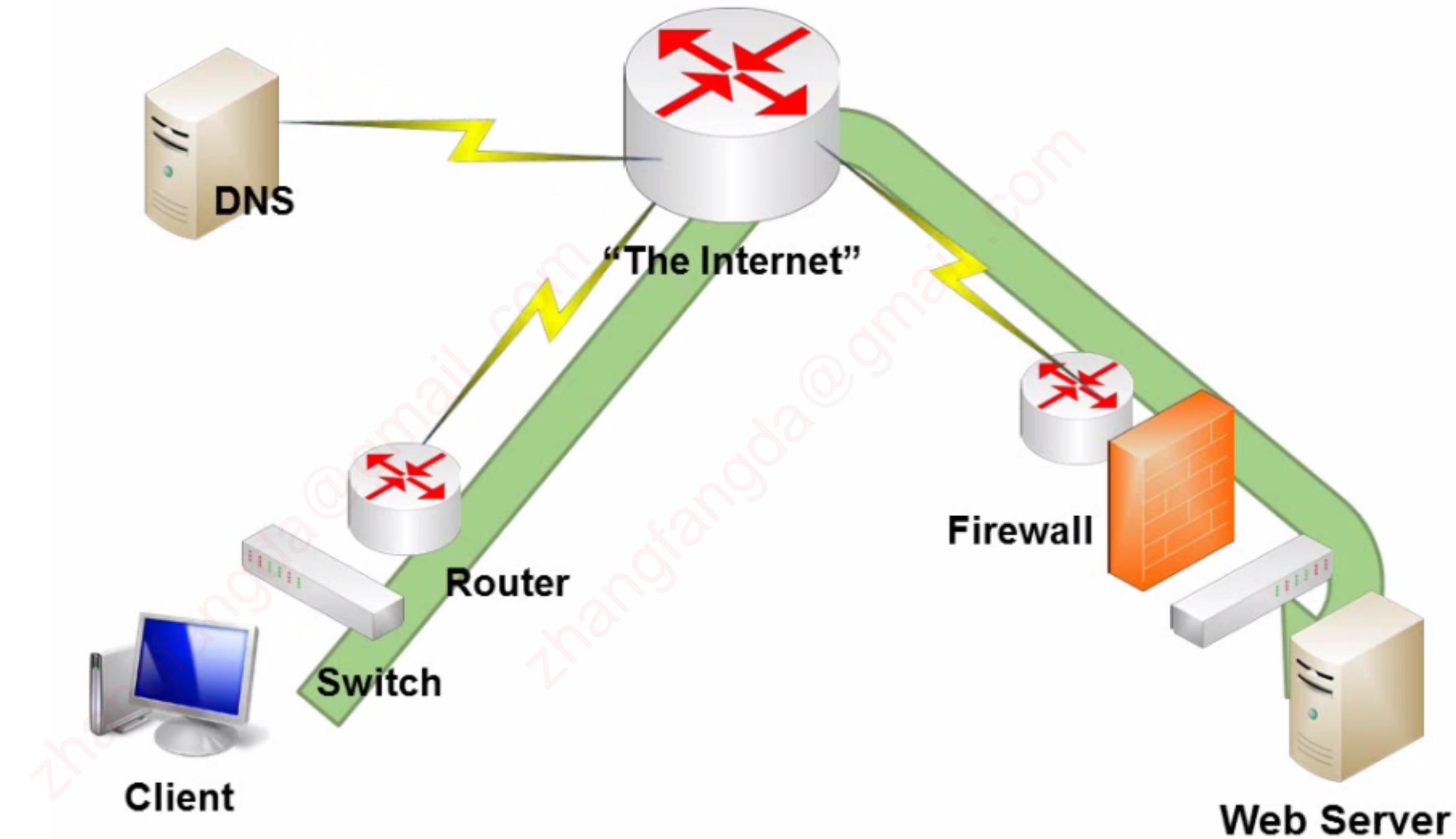
ipconfig getifaddr en0

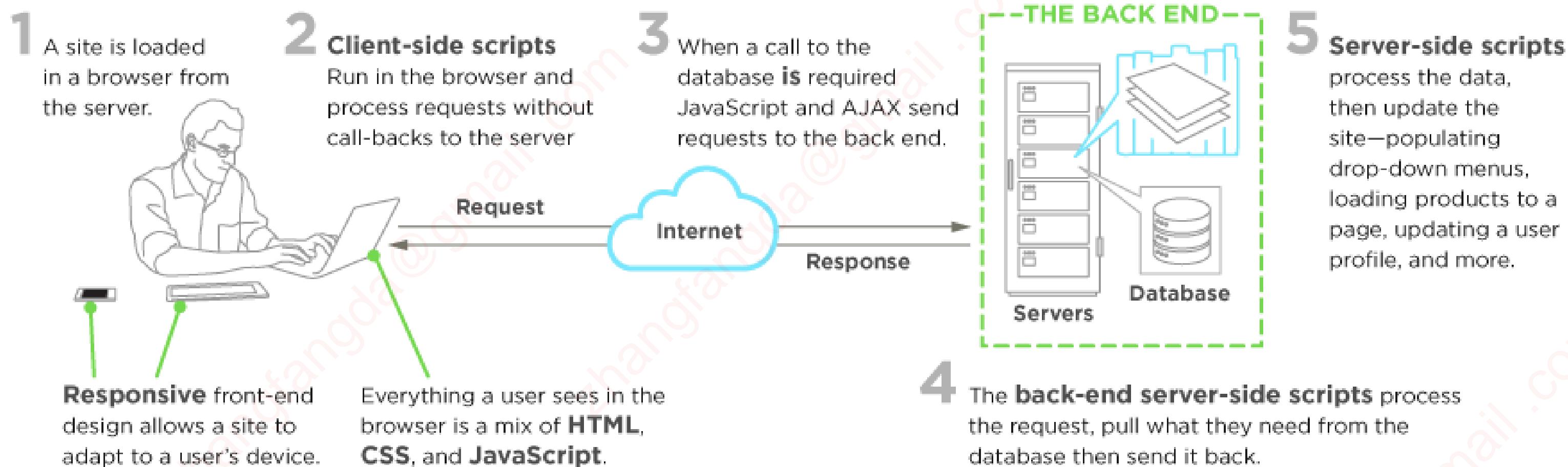
访问 [jiangren.com.au](http://jiangren.com.au)

**Command line**

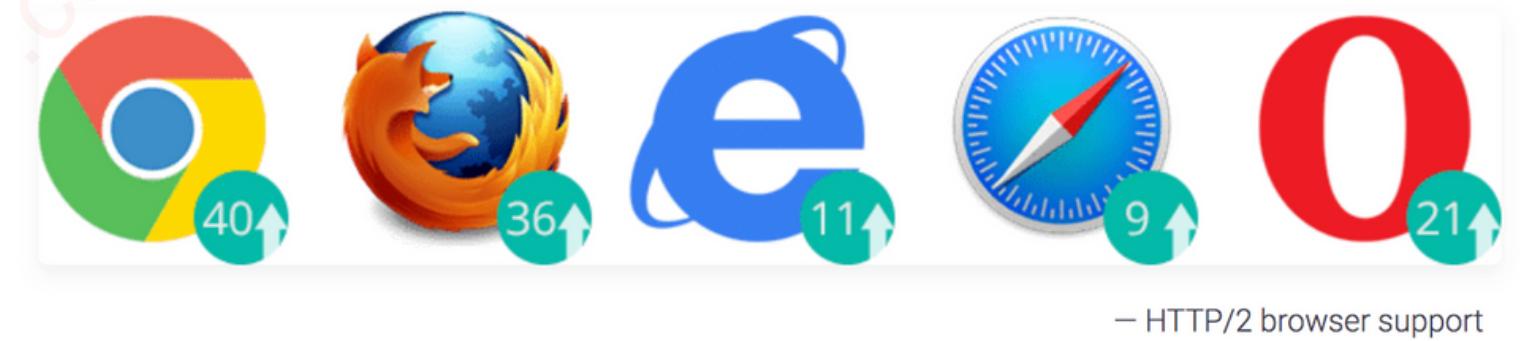
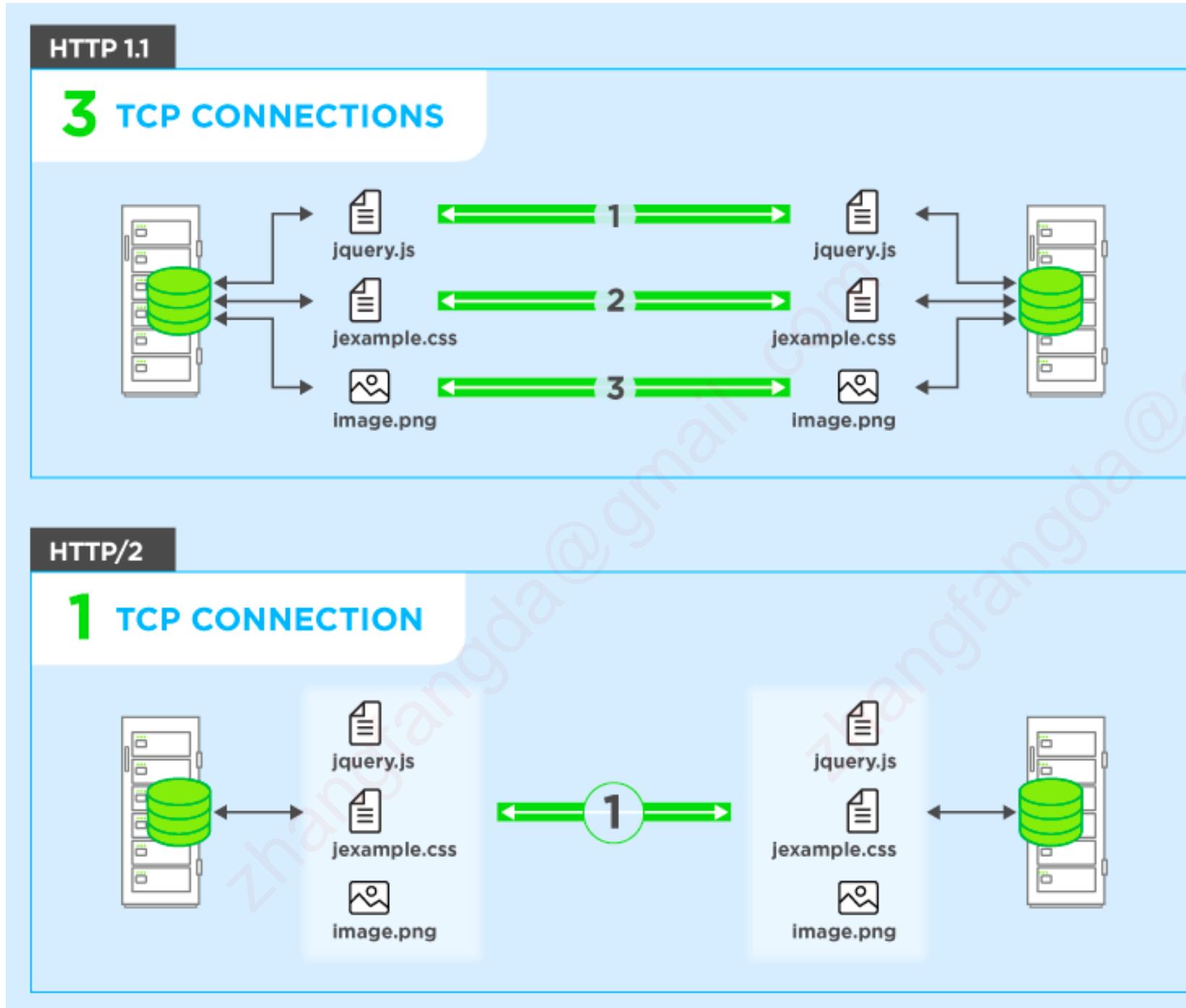
Ping [jiangren.com.au](http://jiangren.com.au)







## HTTP 1.1 vs HTTP/2



多路复用 (Multiplexing)

首部压缩 (Header Compression)

服务端推送 (Server Push)

## HTTP vs HTTPS

http



https



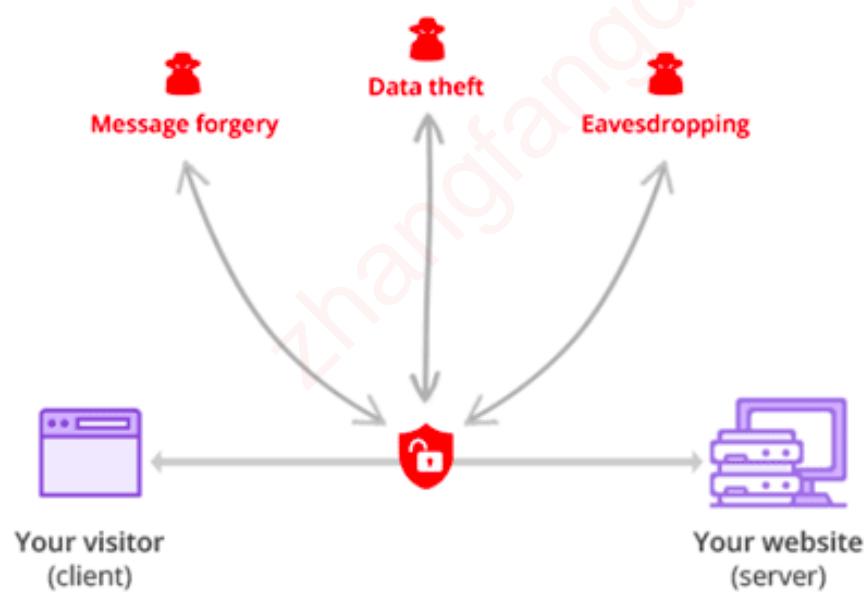
## HTTP vs HTTPS

### https benefits

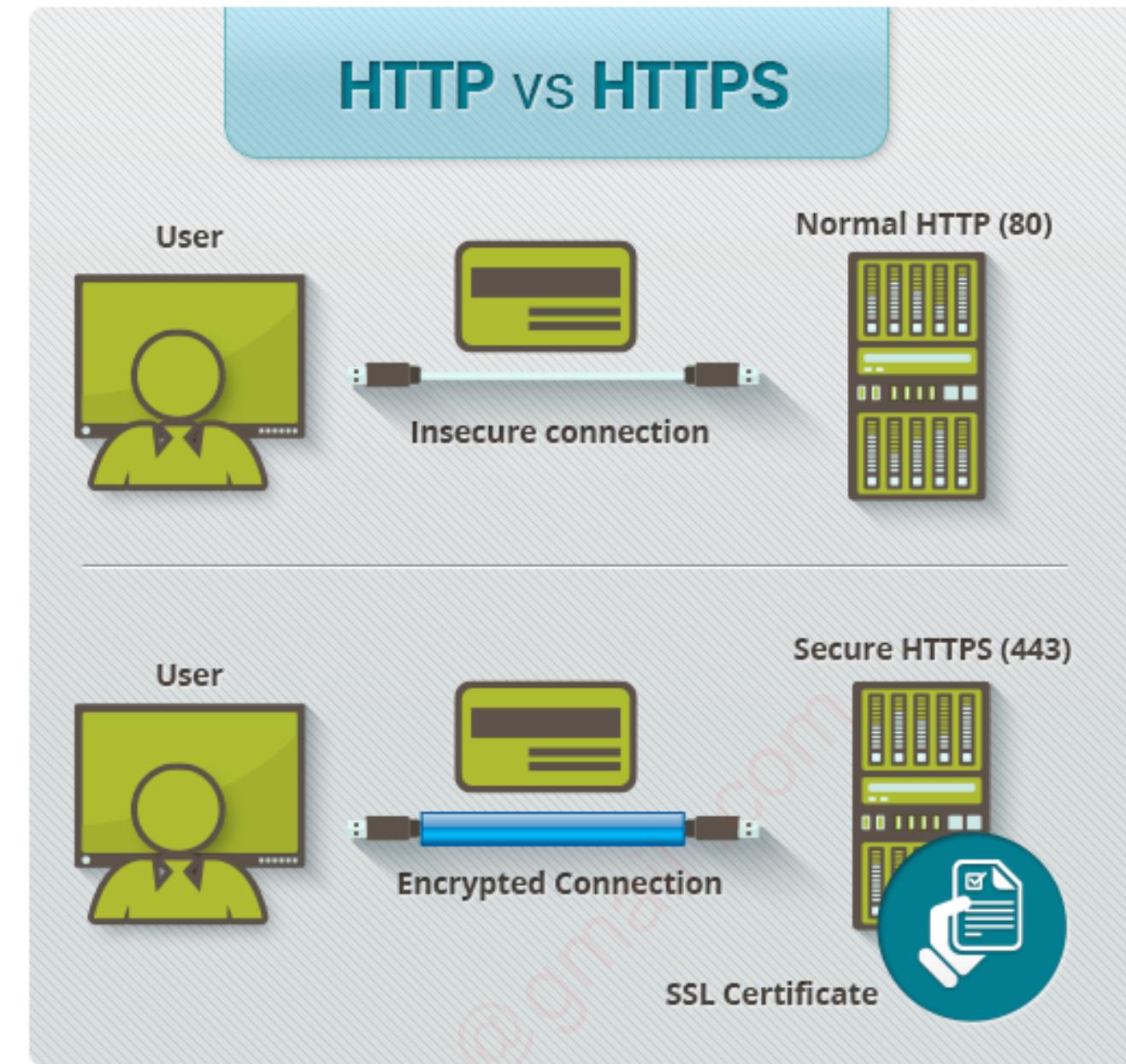
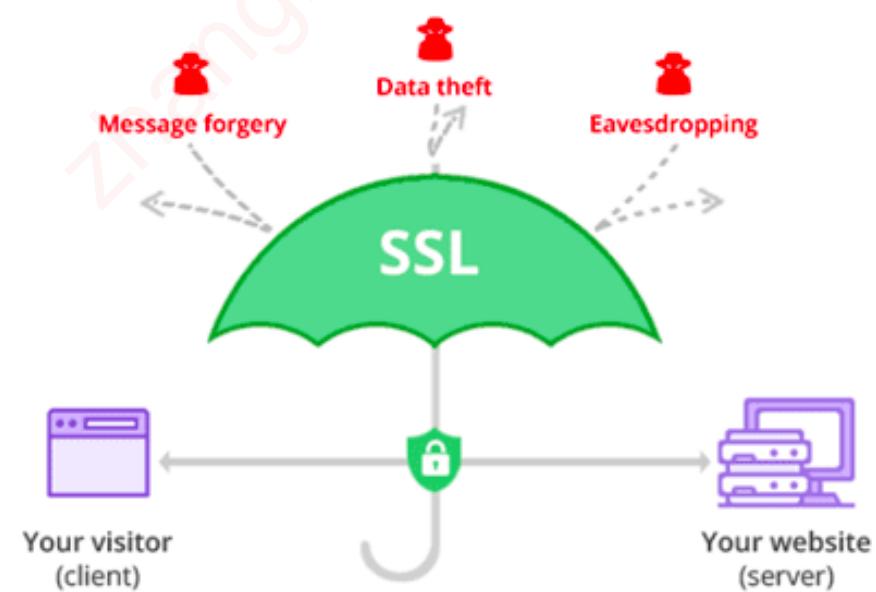
1. Safer websites
2. Sense of trust
3. Improve SEO
4. Simplified Integration

### 使用Certbot

HTTP: No Encryption (no SSL)

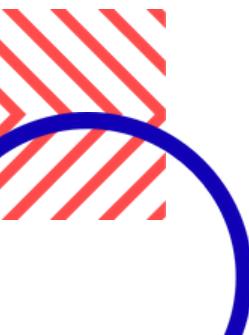


HTTPS: Secure Cheap SSL Connection



# Port

http : 80  
https: 443  
ssh: 22



## Uniform Resource Locators

<http://www.food.com>

**http://food.com/recipe/grilled-cauliflower**



The diagram illustrates the structure of the URL "http://food.com/recipe/grilled-cauliflower". It is divided into three main parts: "URL Scheme" (the protocol part), "Host" (the domain name part), and "URL Path" (the specific resource path part). Each part is highlighted with a green rounded rectangle and labeled below it.

- URL Scheme*: http://
- Host*: food.com
- URL Path*: /recipe/grilled-cauliflower

### Other URL Scheme

<ftp://jiangren.com.au/download/books>  
<mailto://lightman@jiangren.com>

## Uniform Resource Locators

**http://wikipedia.org/wiki/Jabuticaba#Description**



**http://host:8080/path?q=query#fragment**

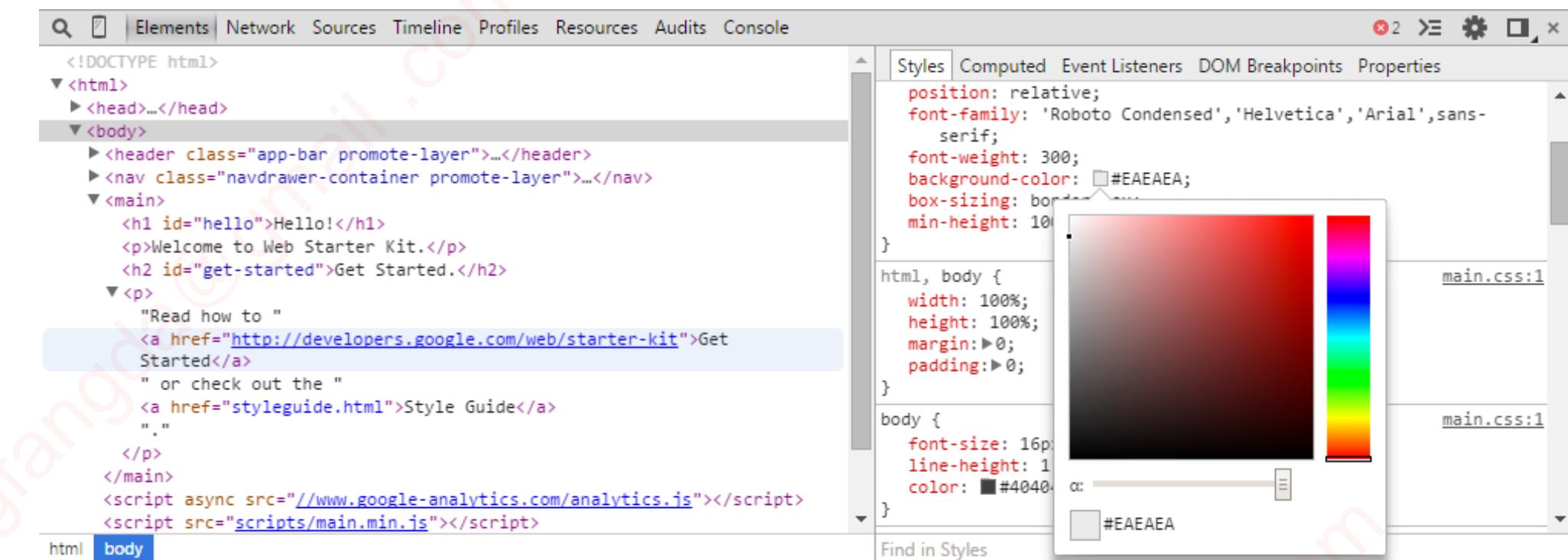
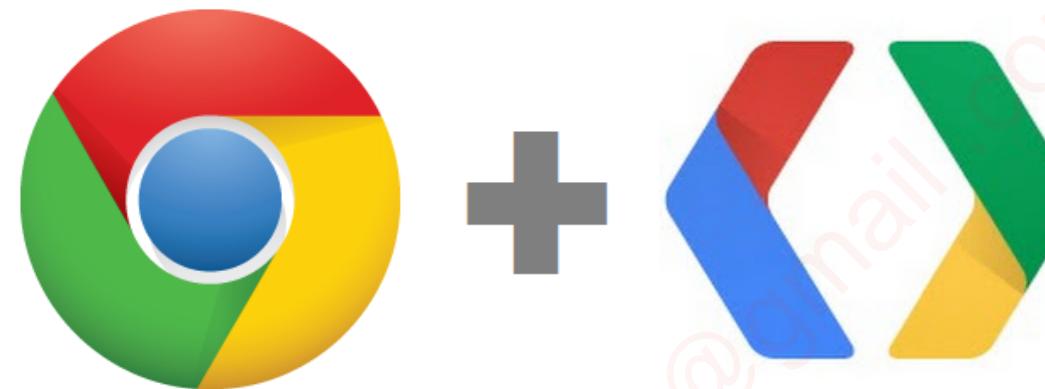
<https://jiangren.com.au/program-courses>

推荐阅读 <https://code.tutsplus.com/tutorials/http-the-protocol-every-web-developer-must-know-part-1--net-31177>

<https://code.tutsplus.com/tutorials/http-the-protocol-every-web-developer-must-know-part-2--net-31155>

# Chrome Dev Tool

## How to Access DevTools



<https://secure.budgetdirect.com.au/sar/2.0/?LinkId=09441>

- Select the **Chrome menu**  at the top-right of your browser window, then select **Tools > Developer Tools**.
- Right-click on any page element and select **Inspect Element**.

## Website vs Web Application

## Request

### Method

```
GET /index.html HTTP/1.1
Host: www.example.com
```

### Get/Post/PUT/Delete

参考 <https://developer.mozilla.org/en-US/docs/Web/HTTP/Methods>

### 【Chrome Developer Tools】

## HTTP example

## Response

```
HTTP/1.1 200 OK
Date: Mon, 23 May 2005 22:38:34 GMT
Content-Type: text/html; charset=UTF-8
Content-Encoding: UTF-8
Content-Length: 138
Last-Modified: Wed, 08 Jan 2003 23:11:55 GMT
Server: Apache/1.3.3.7 (Unix) (Red-Hat/Linux)
ETag: "3f80f-1b6-3e1cb03b"
Accept-Ranges: bytes
Connection: close

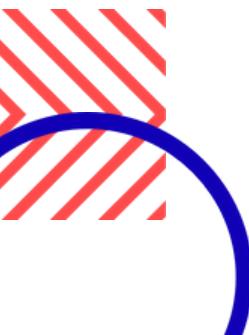
<html>
<head>
  <title>An Example Page</title>
</head>
<body>
  Hello World, this is a very simple HTML document.
</body>
</html>
```

200 OK  
400 Bad Request  
401 Unauthorized  
402 Payment Required  
403 Forbidden  
404 Not Found  
500 Internal Server Error

ref <https://httpstatuses.com/>

# Chrome Dev Tool

- Inspect Element
- Responsive
- Resource
- Network
- Application
- Audit
- Safari Console



# Full-stack 基本要求



User Story、Feature等需求，Developer默认对Mobile  
iPad Desktop端的Web都要支持



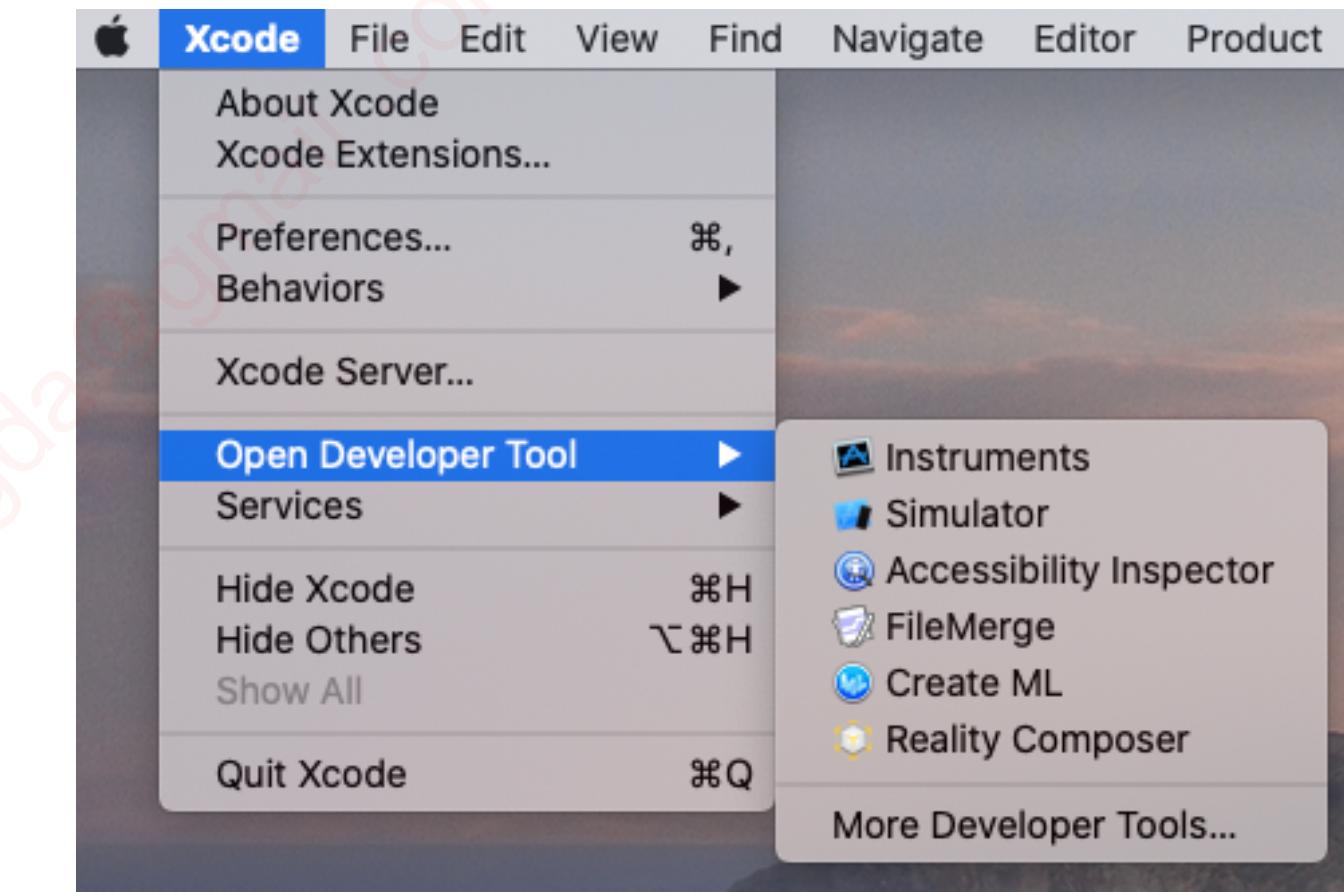
# Debug iOS Real Device



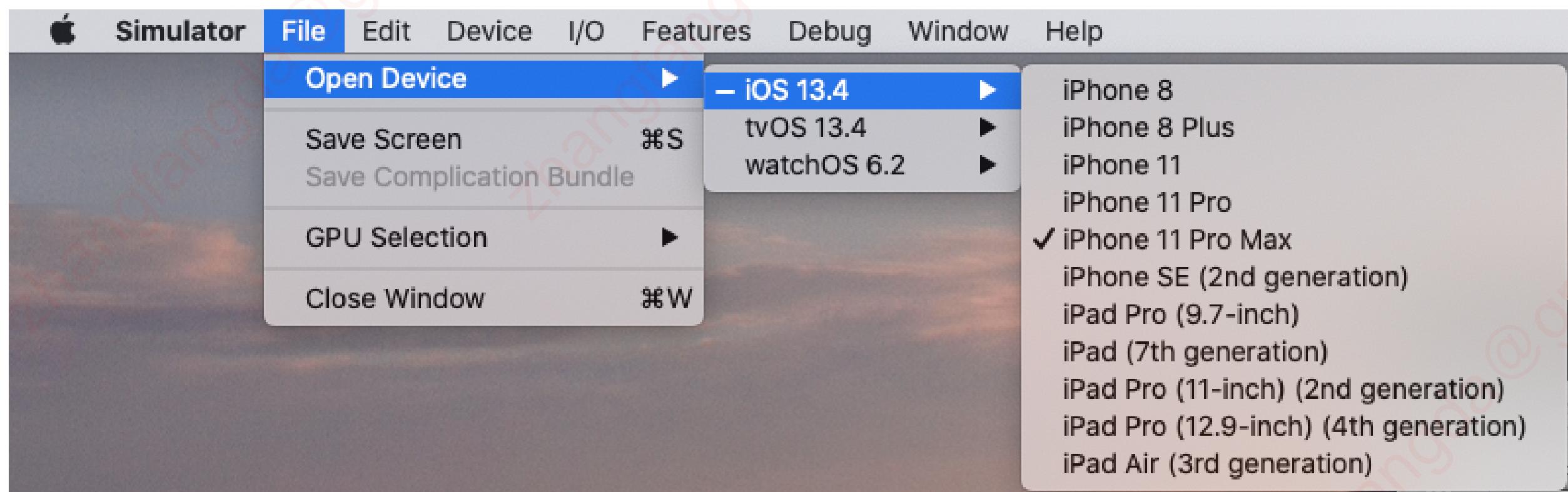
# Debug iOS Real Device



Xcod  
e



# Debug iOS Real Device



# Debug iOS Real Device



1



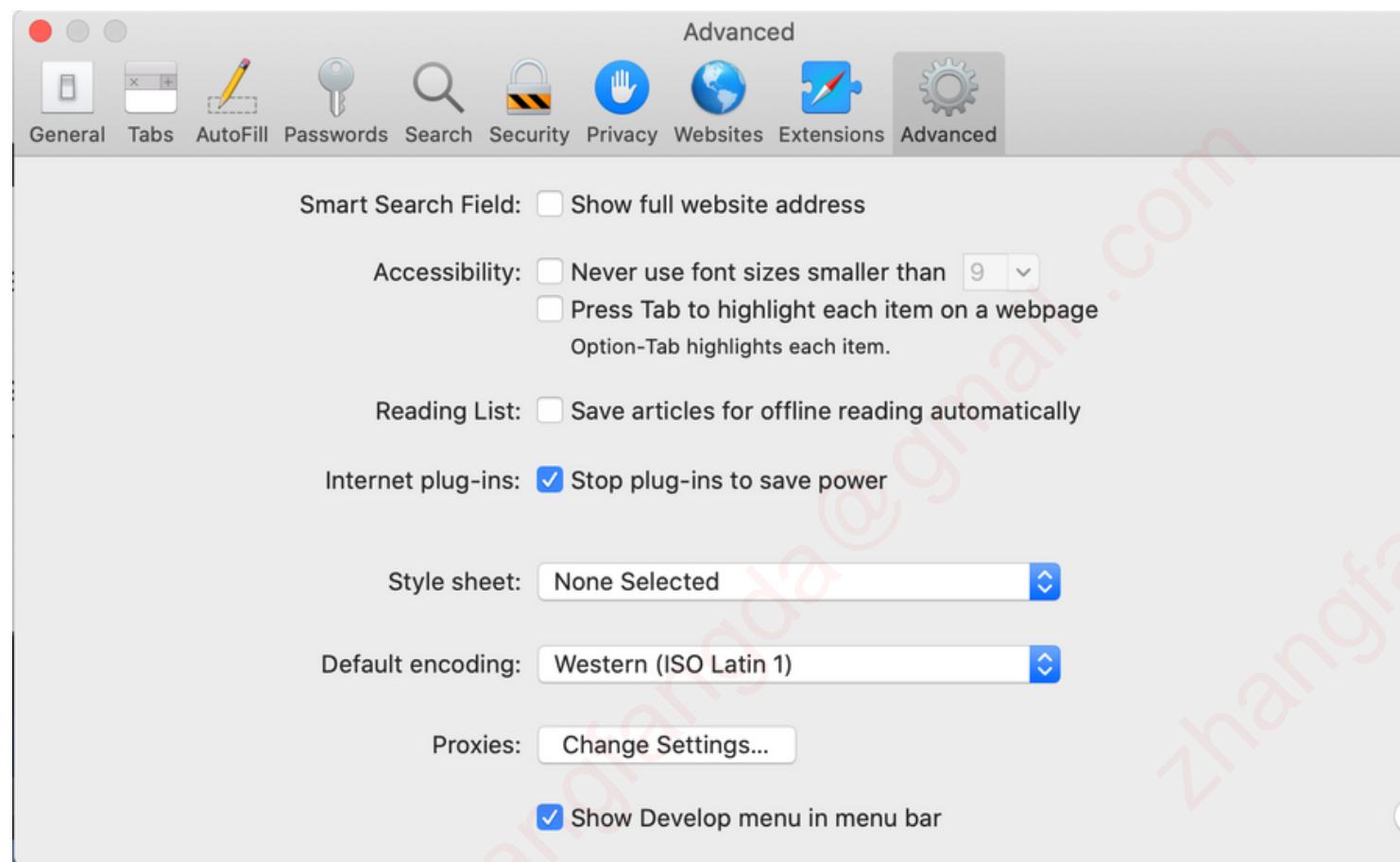
2



3



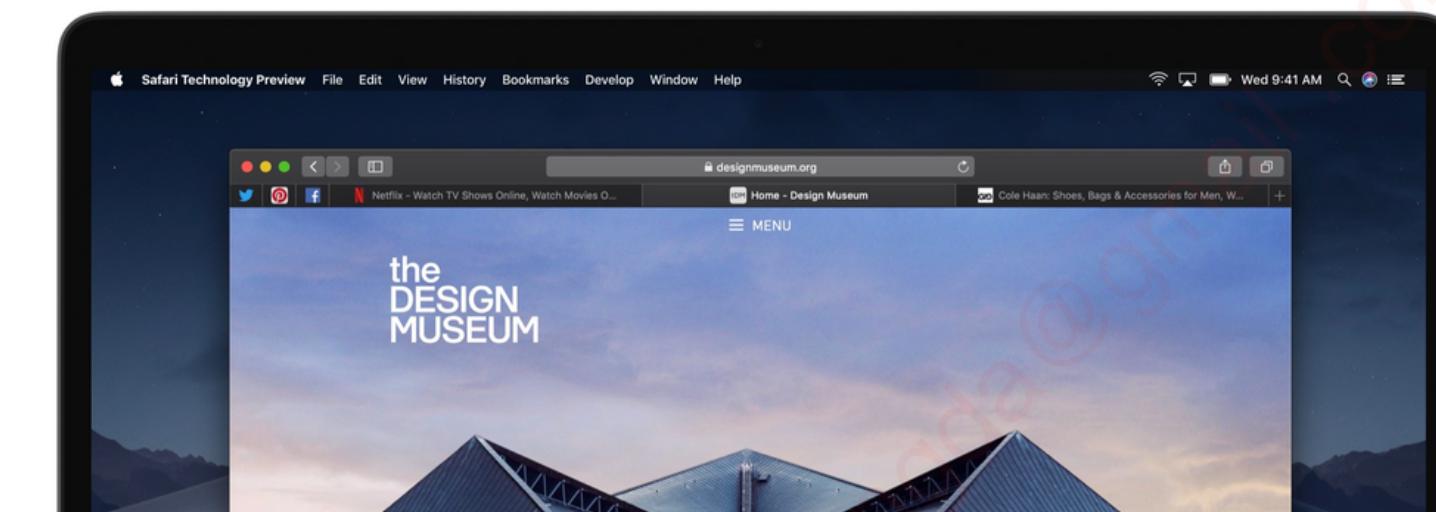
# Debug iOS Real Device



A screenshot of the Safari Technology Preview website. The header includes the Apple Developer logo and links for Discover, Design, Develop, Distribute, Support, Account, and a search icon. Below the header, it says "Safari" and lists Overview, Tools, Features, Extensions, Preview, Resources, What's New, and a Download button. The main content features a purple compass icon and the title "Safari Technology Preview".

Safari is the best way to see the sites on iPhone, iPad, and Mac. Safari Technology Preview gives you an early look at upcoming web technologies in macOS and iOS. Get the latest layout technologies, visual effects, developer tools, and more, so you can provide input on how they are implemented and deliver a best-in-class user experience on all Apple devices.

[Download Safari Technology Preview >](#)



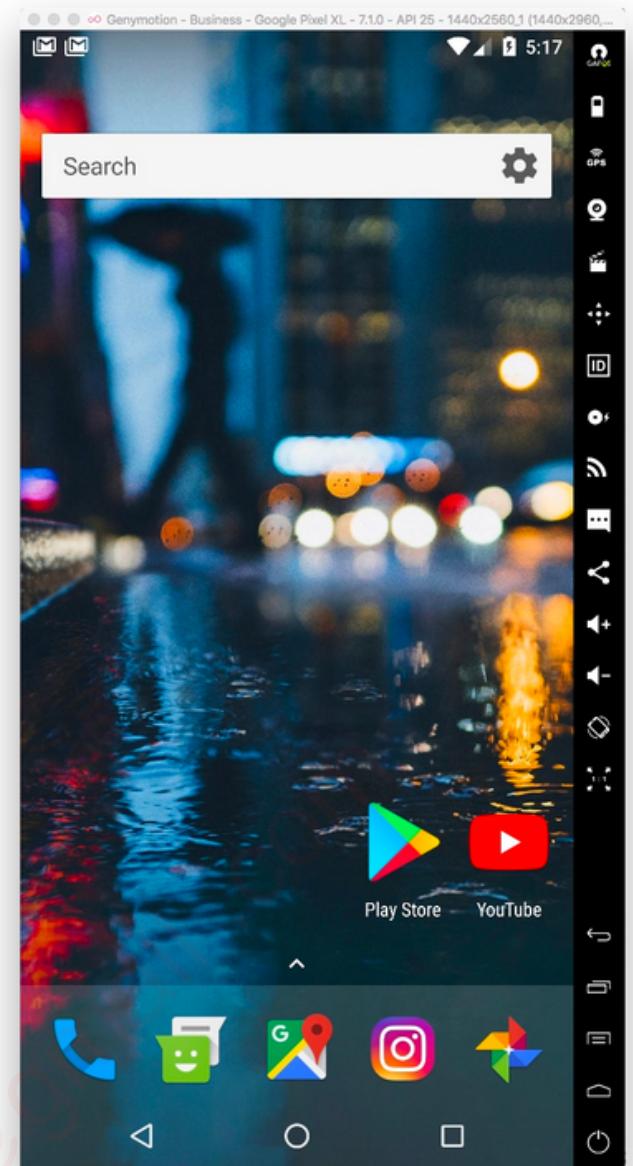
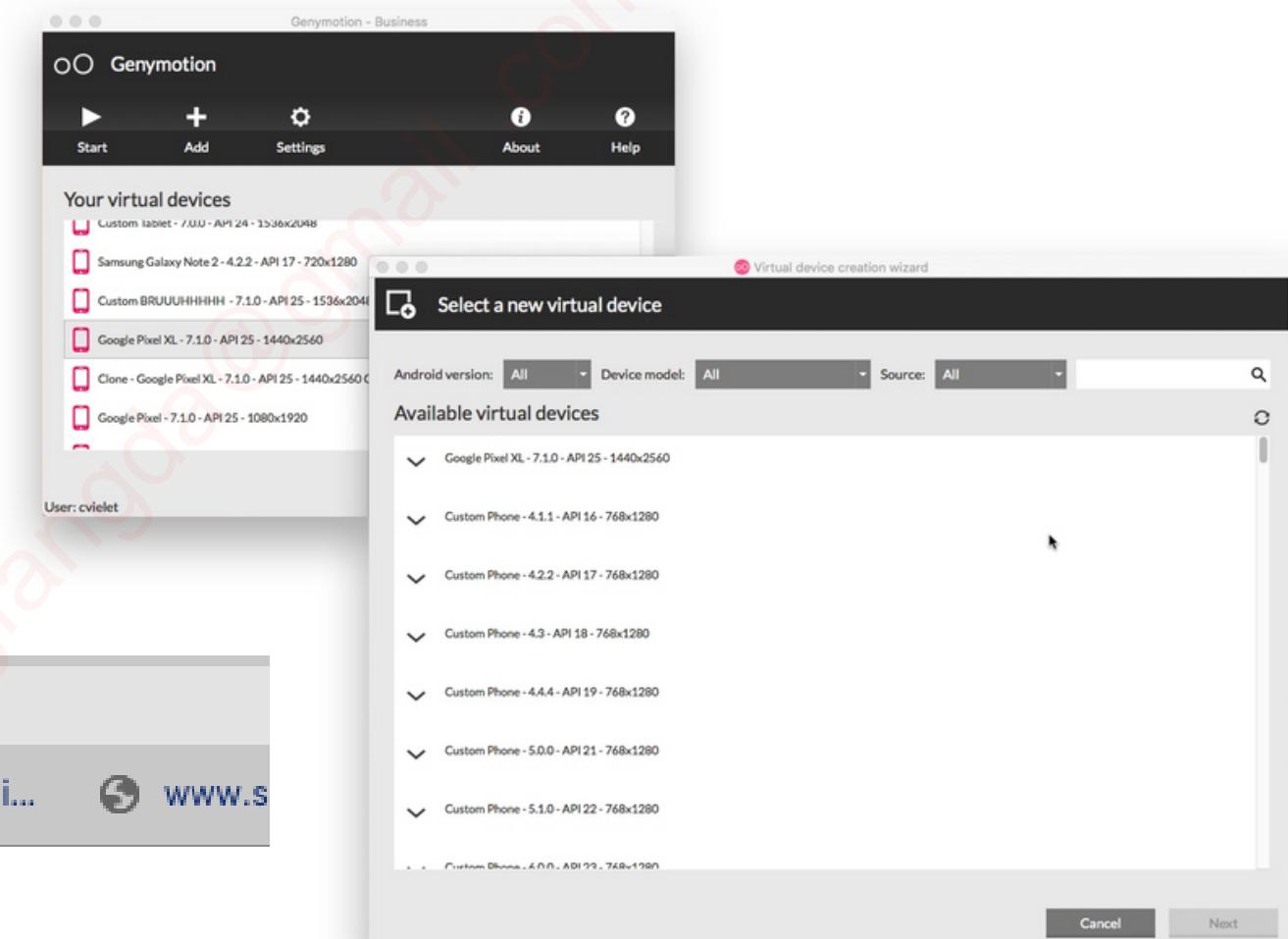
# Debug Android Real Device



**GENYMOTION**  
By Genymobile

<https://www.genymotion.com/>

chrome://inspect/#devices



# Debug Mobile Device



iOS用 Safari, 并且使用Mac  
Android 用 Chrome

# 其他工具

BrowserStack: 模拟多种设备  
<https://www.browserstack.com/>



BrowserStack

Quick Launch	iPhone		iPad	
 Android	 iPhone 6S Plus	9	 iPad Air 2	8
 iOS	 iPhone 6S		 iPad Air	7
 Windows Phone	 iPhone 6 Plus	8	 iPad 4	7
 Windows	 iPhone 6	8	 iPad Mini 3	8
+ Mac	 iPhone 5S	7	 iPad Mini 2	7
Mac	 iPhone 7 Plus	10.3	 iPad Pro	10.3
Sierra	 iPhone 7	10.3	 iPad Pro	9.3
El Capitan	 iPhone SE	10.3	 iPad Air 2	9.3
Yosemite	 iPhone 5	6	 iPad Air	8.3
Mavericks	 iPhone 4S	6	 iPad Mini 4	9.3
Mountain Lion	 iPhone 4S	5.1	 iPad Mini 2	8.3
Lion	 iPhone 4	4	 iPad Mini	7
Snow Leopard	 iPhone 3GS	3		

 Test on physical devices!  
Look for this icon.

Got it

## Web Tech

### 什么是Web

#### 前后端不分的时代

互联网发展的早期，前端开发是一体的，前端代码是后端代码的一部分。

后端收到浏览器的请求

生成静态页面

发送到浏览器

<http://web.archive.org/>

#### 后端 MVC 的开发模式

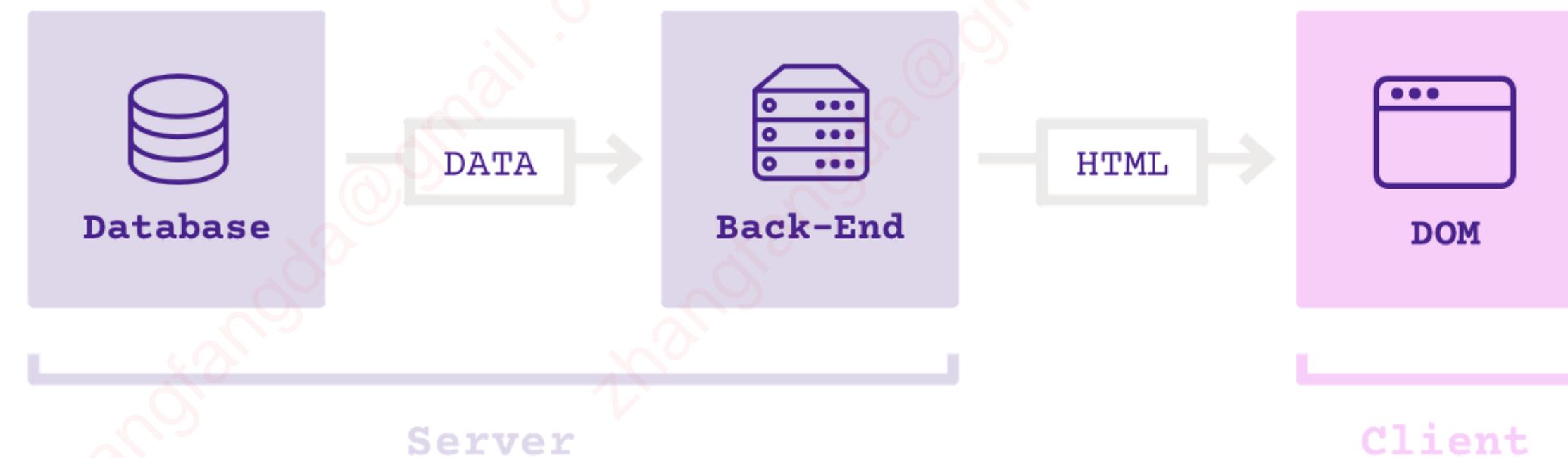
那时的网站开发，采用的是后端 MVC 模式。

- Model（模型层）：提供/保存数据
  - Controller（控制层）：数据处理，实现业务逻辑
  - View（视图层）：展示数据，提供用户界面
- 前端只是后端 MVC 的 V。

传统的架构

## Server Side Rendering (SSR)

Website



编程入门班

## Modern Web Development Technology

### 前后端分离

#### Ajax

Ajax 技术诞生，改变了一切。

2004年：Gmail

2005年：Google 地图

前端不再是后端的模板，可以独立得到各种数据。

#### Web 2.0

Ajax 技术促成了 Web 2.0 的诞生。

#### 前端 MVC 框架

Backbone.js ,

### Node

2009年，Node 项目诞生，它是服务器上的 JavaScript 运行环境。

Node = JavaScript + 操作系统 API

#### SPA

前端可以做到：

- 读写数据
- 切换视图
- 用户交互

这意味着，网页其实是一个应用程序。

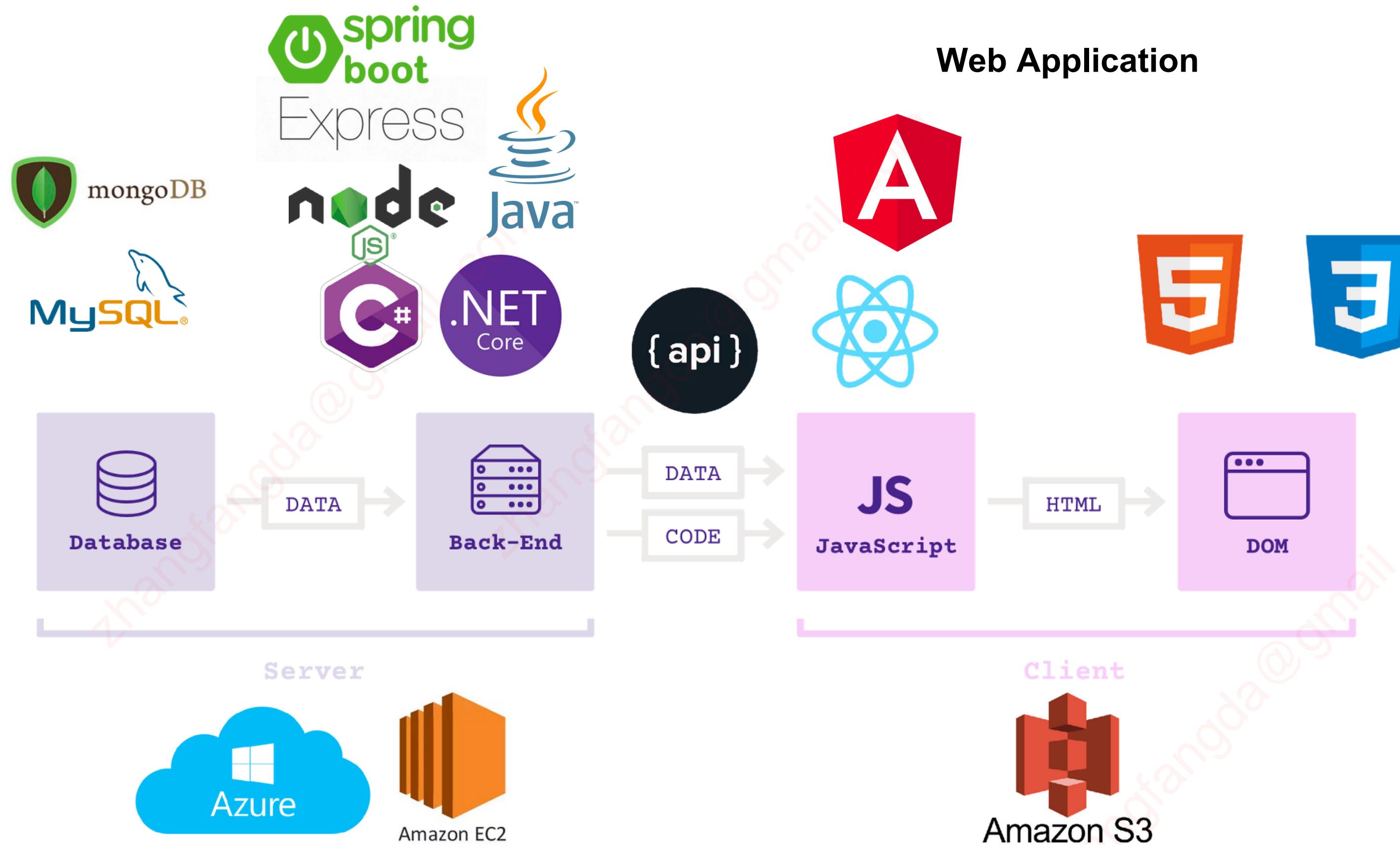


SPA = Single-page application

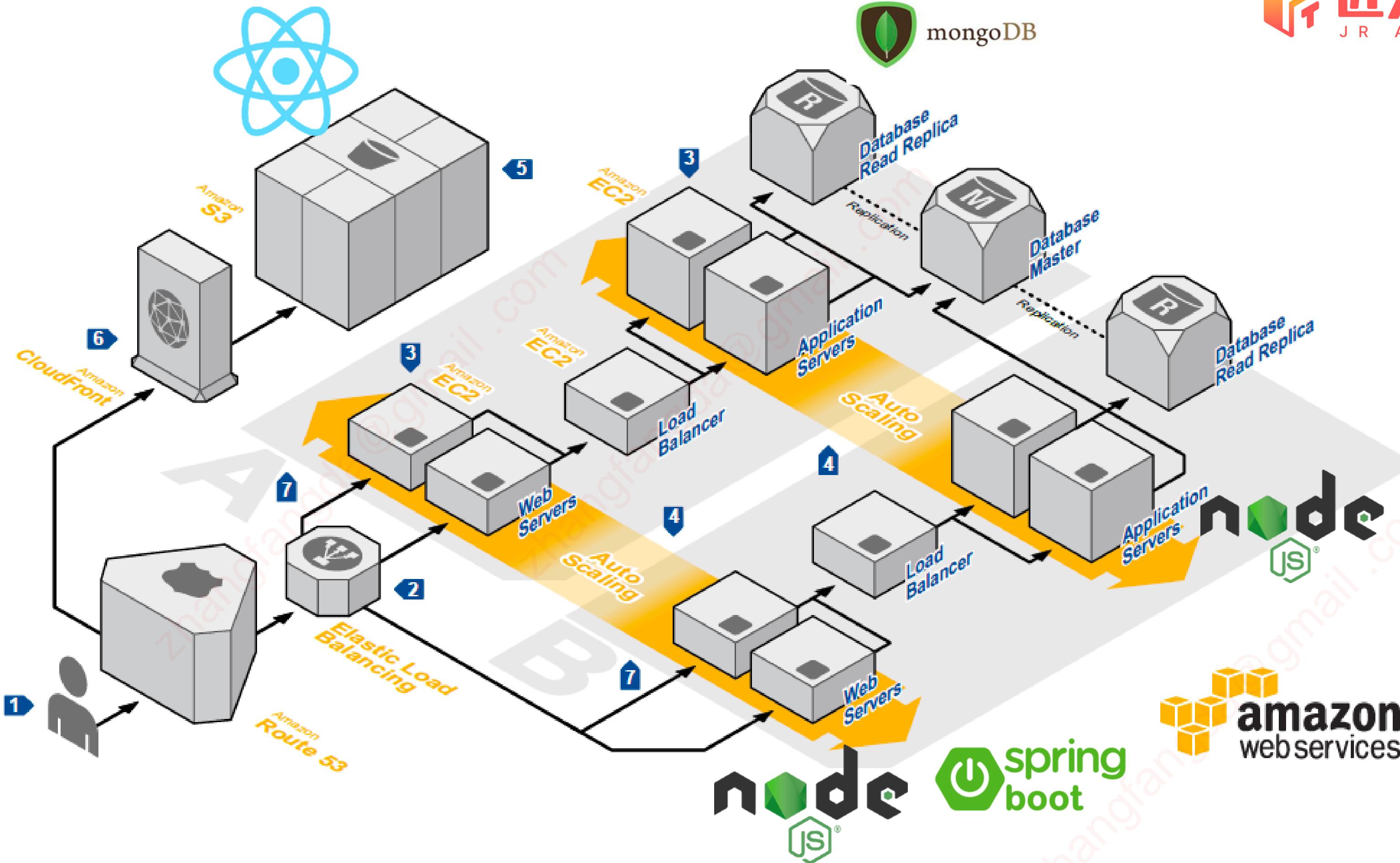
2010年后，前端工程师从开发页面，变成了开发“前端应用”（跑在浏览器里面的应用程序）。

# Web Application : 单页应用的架构 Single Page Application SPA

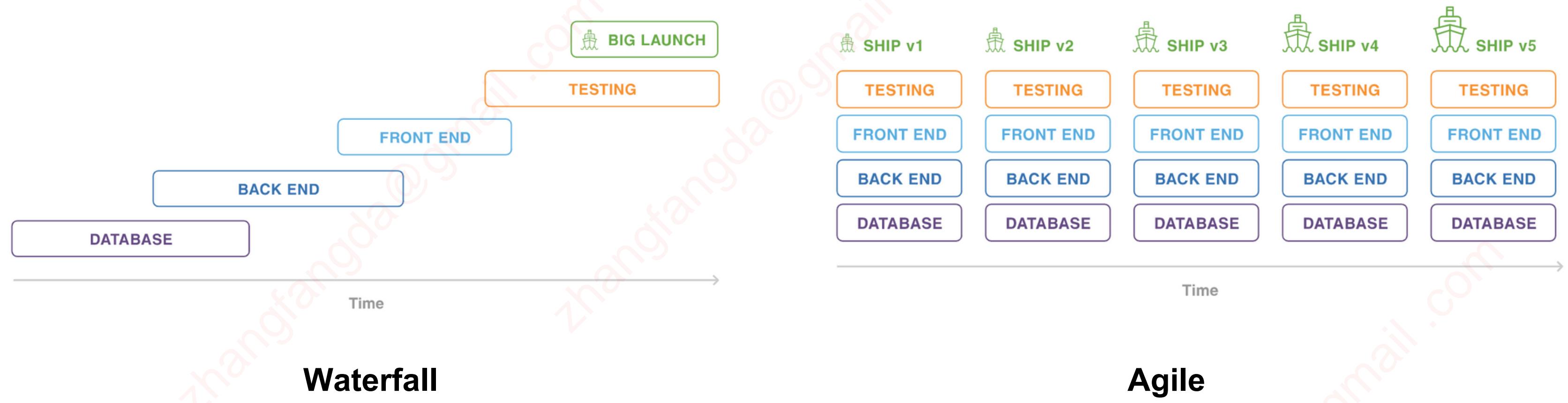
## Client Side Rendering (CSR)



# Architecture



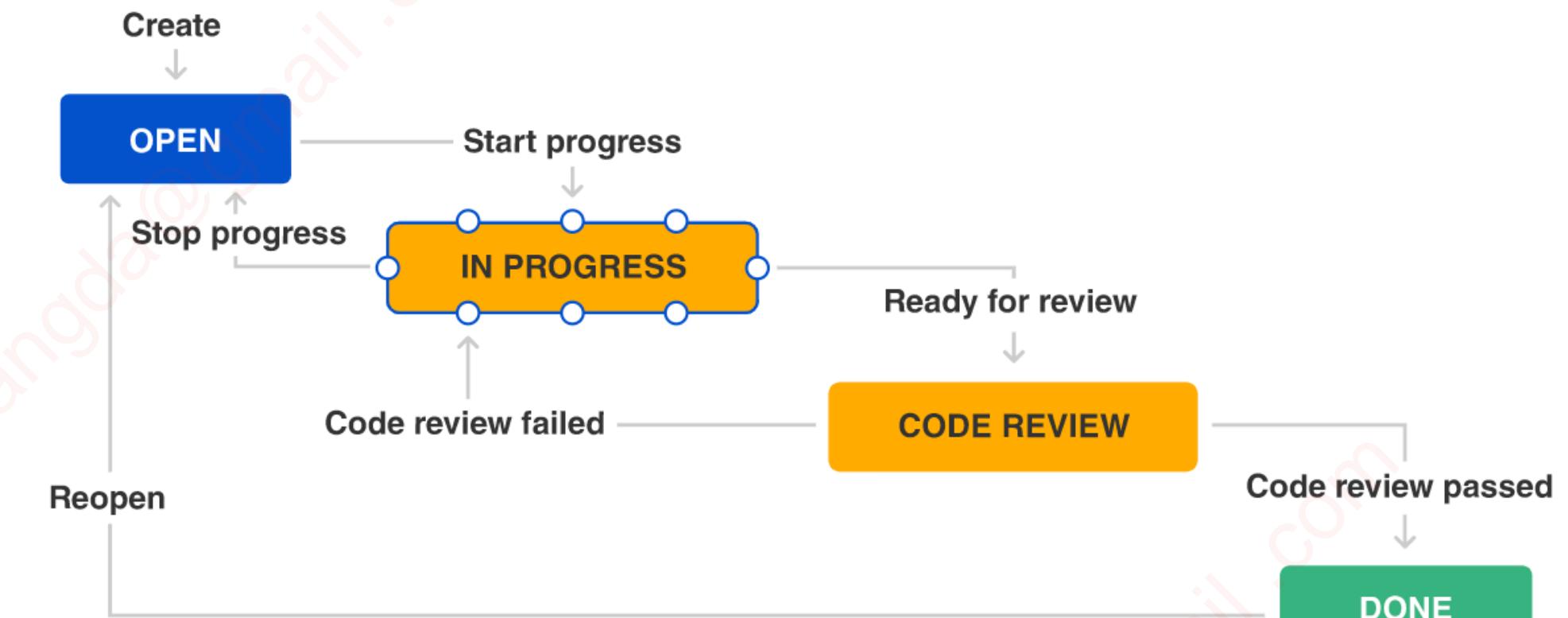
# Agile Project Management



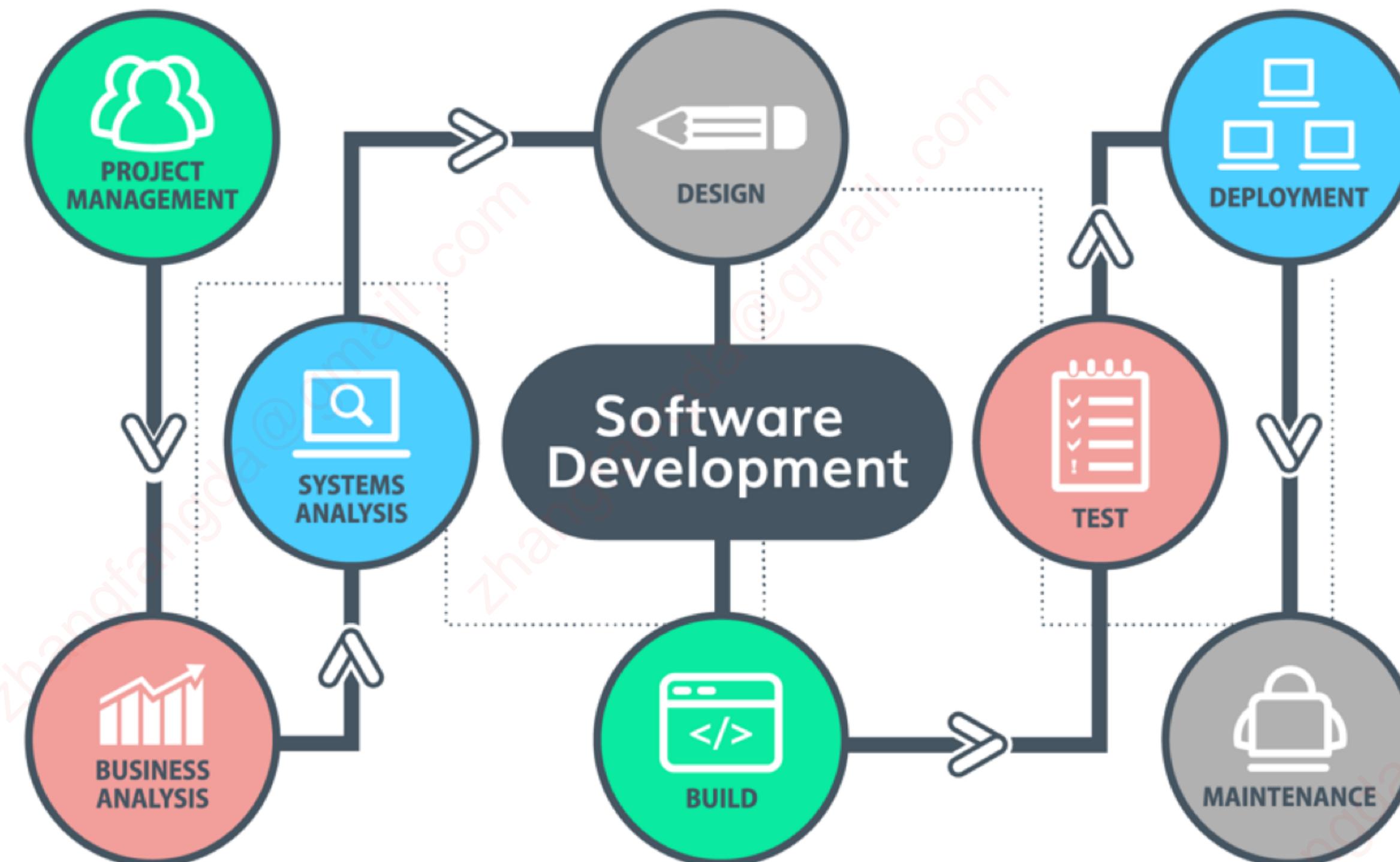
详细的Agile会有单独的课讲解

# Agile Project Management - Workflow

- !** TO DO  
Work that has not been started
- IN PROGRESS  
Work that is actively being looked at by the team.
- !** CODE REVIEW  
Work that is completed, but awaiting review.
- ✓** DONE  
Work that is completely finished and meets the team's definition of done.



## Deployment Process

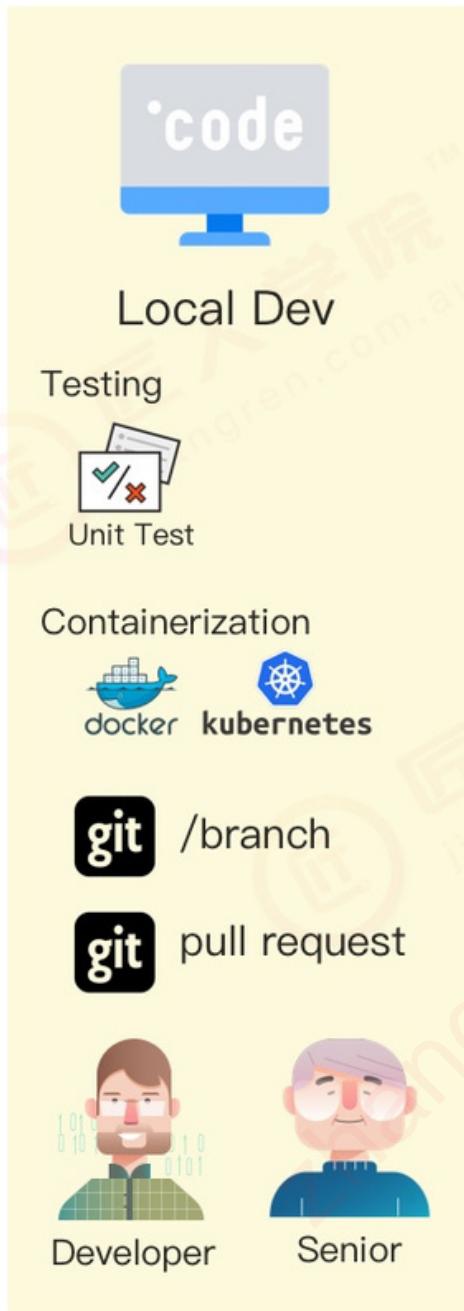


# Environment

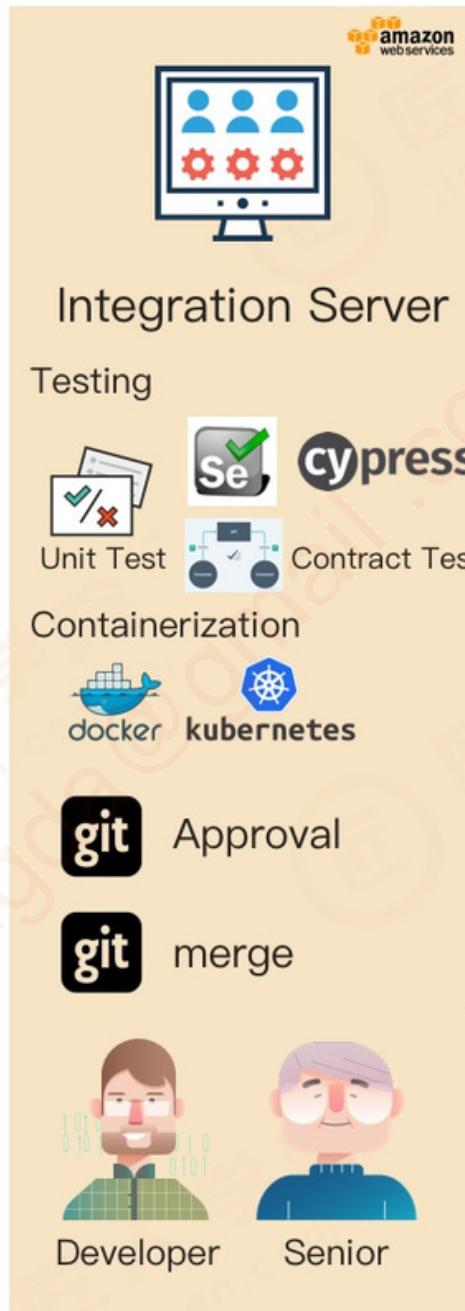
- Local
- Development/Trunk
- Integration
- Testing/Test/QC/Internal Acceptance/UAT
- Staging/Stage/Model/Pre-production/External-Client Acceptance/Demo/Prelive
- Production/Live

# Development Process

Dev



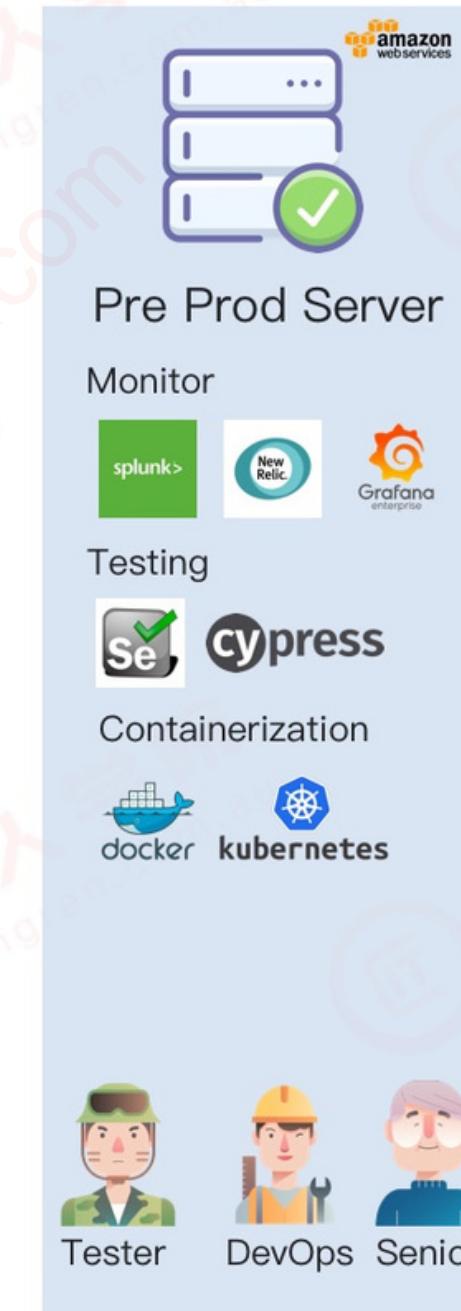
Test/Integration



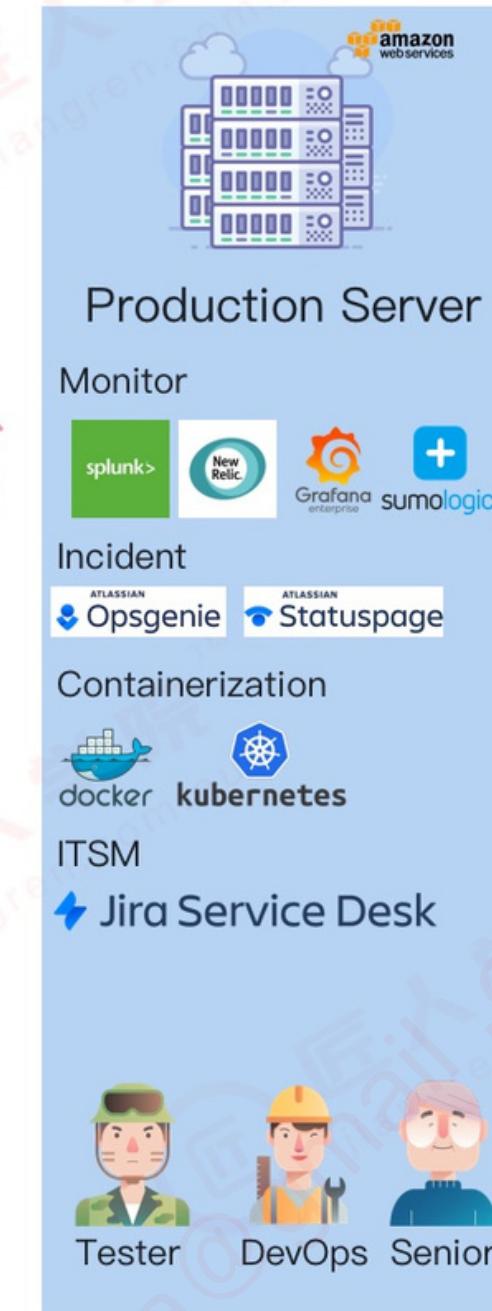
UAT



Staging/Prelive



Production



One Sprint



Product Owner  
Business Analyst  
Product Manager

Jira

CI/CD  
CI/CD

Bamboo  
Jenkins

Travis CI  
Ansible

Terraform  
Terraform  
匠人学院™  
jiangren.com.au

# Development Process



Terraform + Lambda + API Gateway + Nodejs  
Cloudformation

# Developer与DevOps工作对比

**Developer/Software Engineer:**

制造火车的工人



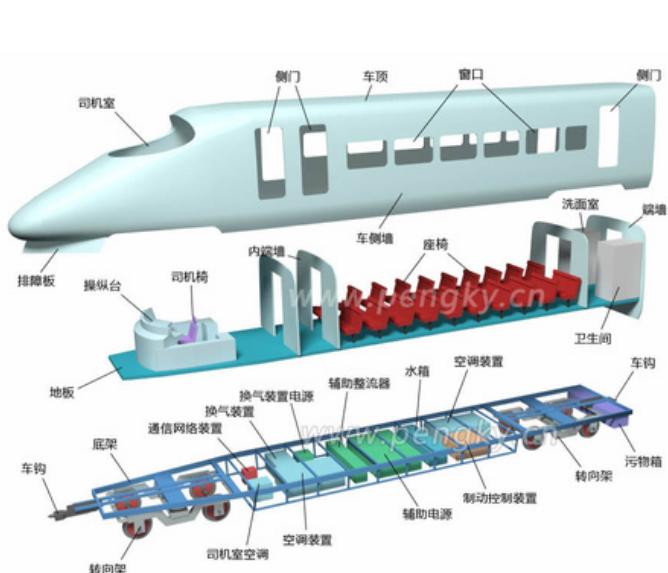
我们要确保：  
生产更快、更先进、  
更舒适的火车  
我们要改变！

**DevOps/SRE:**

火车调度员

我们要确保：  
火车开上铁轨，并能  
安全、平稳地行驶  
我们要稳定！

# DevOps与Developer工作 比



造



开发运维



Developer/Software Engineer

DevOps/SRE

# 匠人学院DevOps Engineer工作 例



## 单一数据库



Amazon EC2



mongoDB



UAT

mongoDB® Atlas

Staging

mongoDB® Atlas

Production

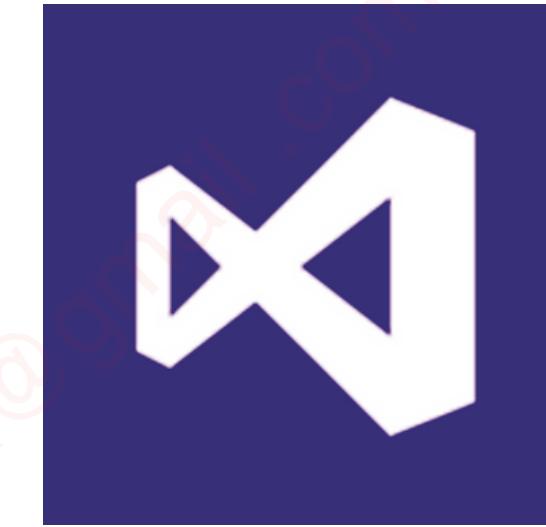
mongoDB® Atlas



sublime text



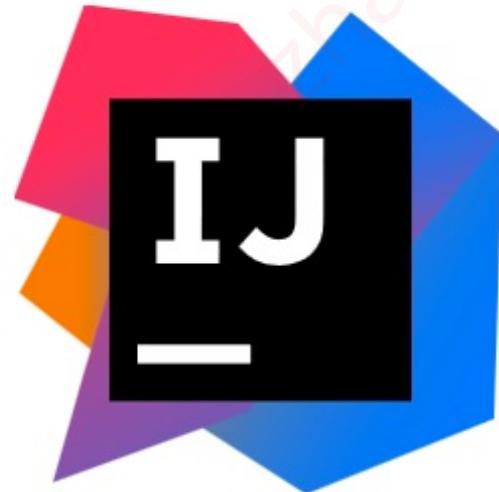
Atom



VS code



Web Storm



intellij



Brackets

Brackets



Visual  
Studio

Visual Studio

500px (<https://500px.com/>)  
iconfinder (<https://www.iconfinder.com/>)  
themeforest (<https://themeforest.net/>)  
codepen (<https://codepen.io>)  
codrops (<https://tympanus.net/codrops/>)  
freepick (<http://www.freepik.com/>)  
behance (<https://www.behance.net/>)  
dribbble (<https://dribbble.com/>)  
codyhouse (<https://codyhouse.co/>)

## 作业

1. 注册 Github，安装好Git (Tutor协助)
2. 注册 Linkedin
3. 安装好Nodejs <https://nodejs.org/en/> 18版本，偶数LTS版本 -->  
安装不成功联系tutor，下节课使用
4. Download Visual Studio for mac/Download one editor
5. 浏览常用工具网站并了解功能及价值
6. 阅读第一节课课后阅读

- Web开发模式演变历史和趋势 <http://www.reqianduan.com/680.html>
- Material Design <https://material.io/guidelines/>
- Atomic Design <http://bradfrost.com/blog/post/atomic-web-design/>
- Atomic Design <http://atomicdesign.bradfrost.com/>
- Introducing JSON <http://json.org/>
- The Document Object Model [http://eloquentjavascript.net/13\\_dom.html](http://eloquentjavascript.net/13_dom.html)