

后端基础知识

潘魏增

关于我

- 潘魏增
- 美团网 前端工程师
- <http://panweizeng.com>

域名解析

- 在浏览器地址栏输入<http://meituan.com>，背后到底发生了什么事情？

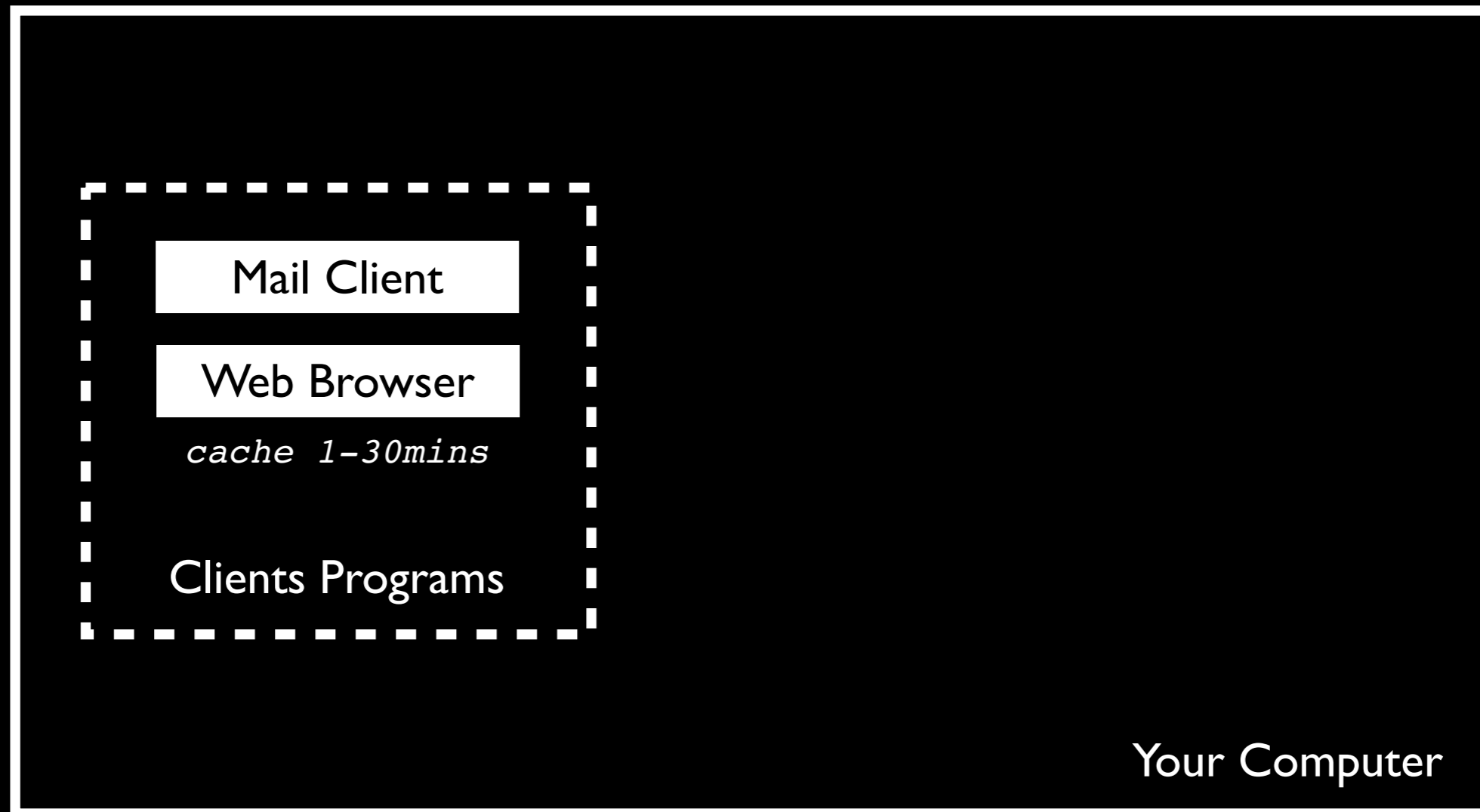
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- 为什么hosts文件可以定义任意的测试域名

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- 为什么hosts文件可以定义任意的测试域名
- 为什么localhost等于127.0.0.1

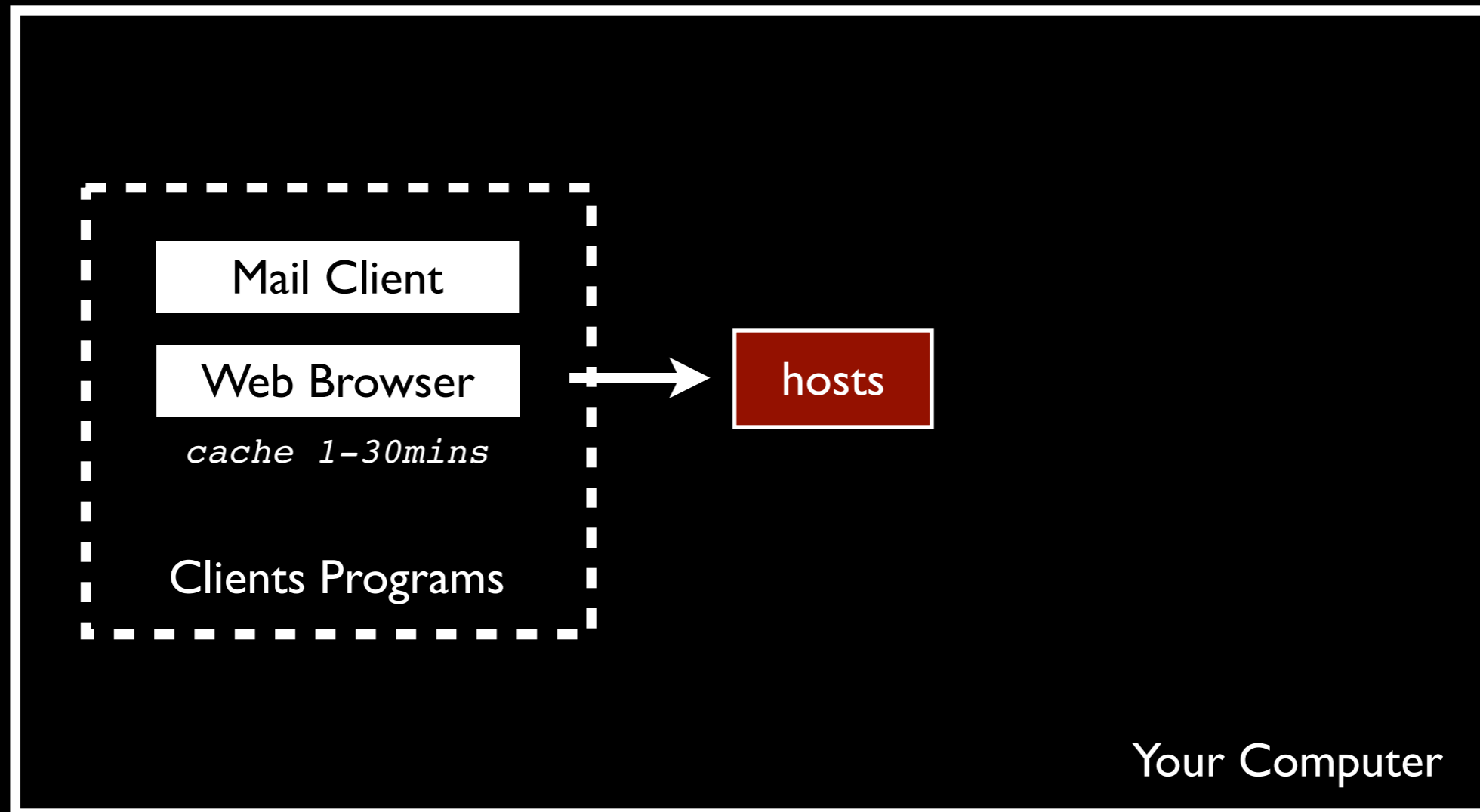
域名解析

- `/etc/nsswitch.conf`
- `/etc/hosts`
- `/etc/resolv.conf`

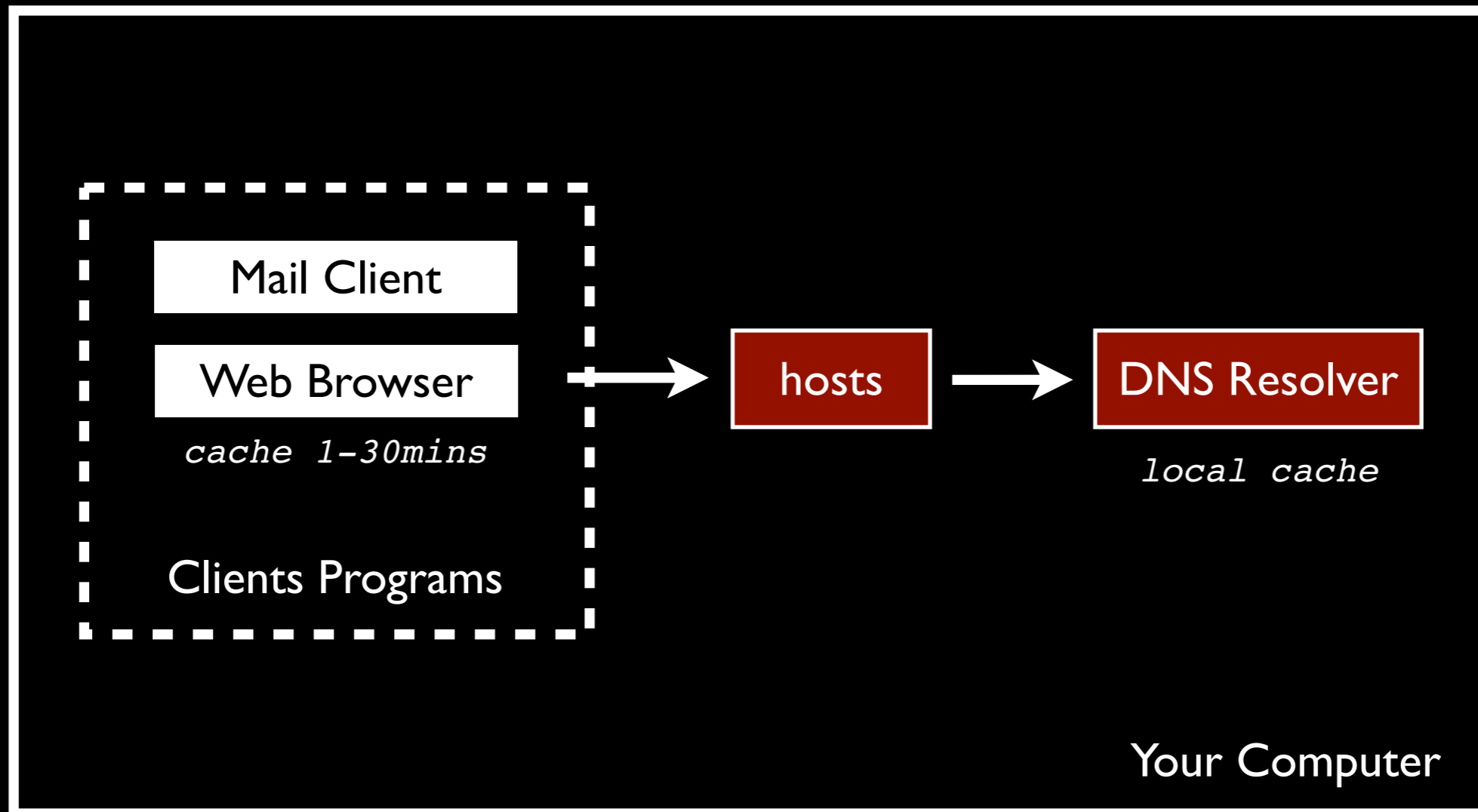
域名解析



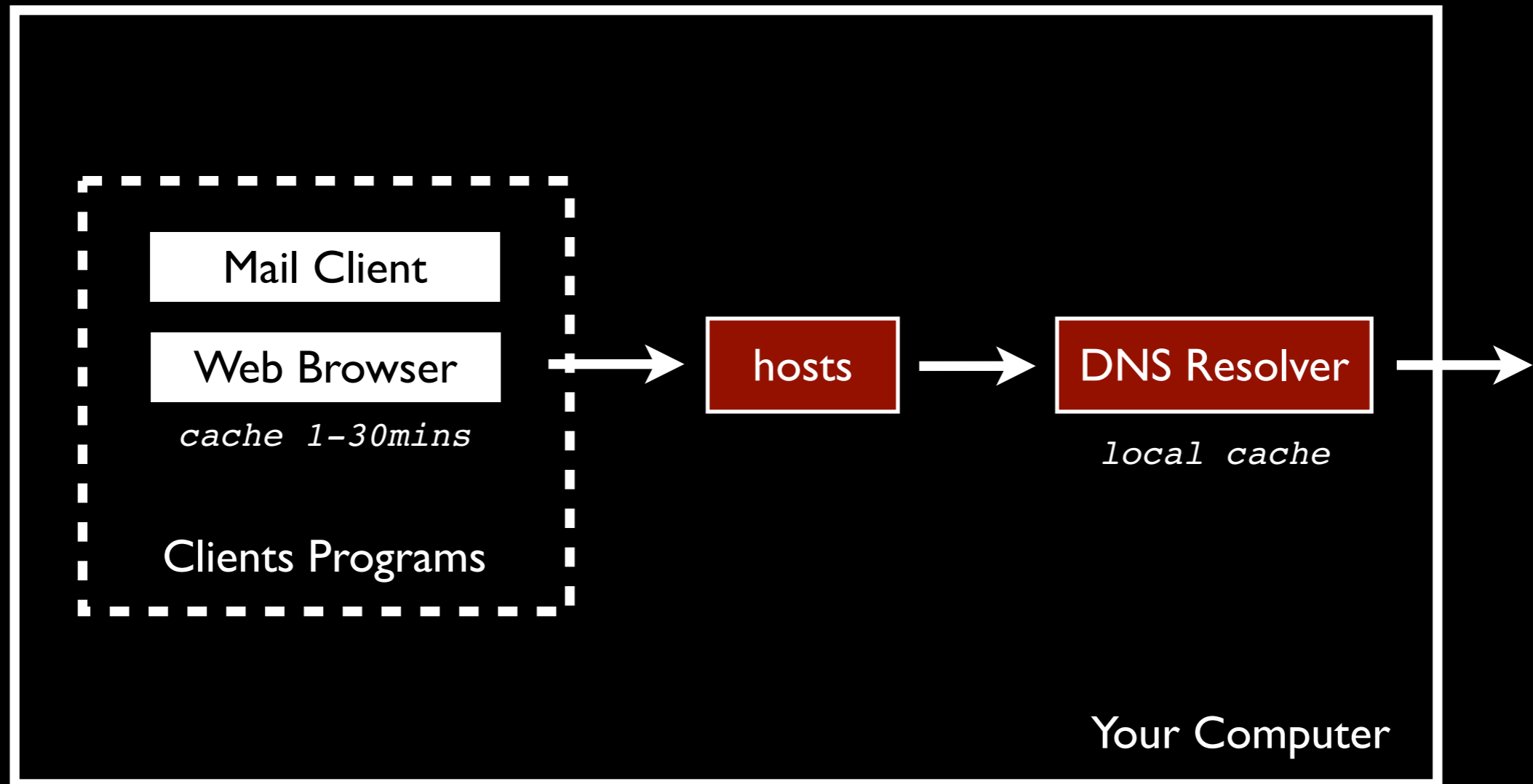
域名解析



域名解析



域名解析





Your Computer

Local Name Server / Your ISP



1



Your Computer

Local Name Server / Your ISP



Root Name Server



2



1



Your Computer

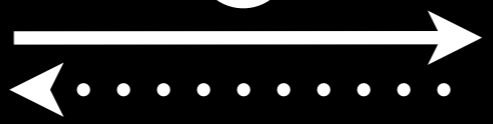
Local Name Server / Your ISP



Root Name Server



2



1



Your Computer

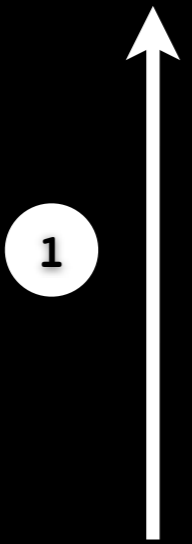
Local Name Server / Your ISP



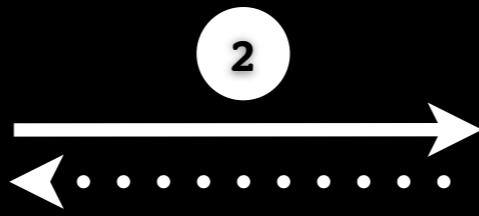
Root Name Server



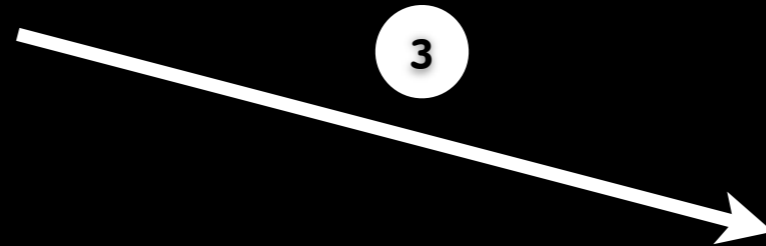
Com Name Server



1



2



3



Your Computer

Local Name Server / Your ISP



Root Name Server



Com Name Server



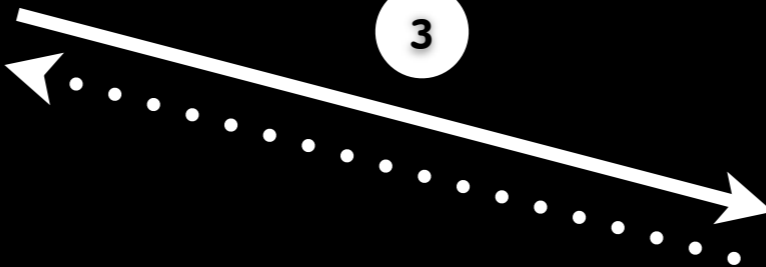
1



2



3



Your Computer



Local Name Server / Your ISP

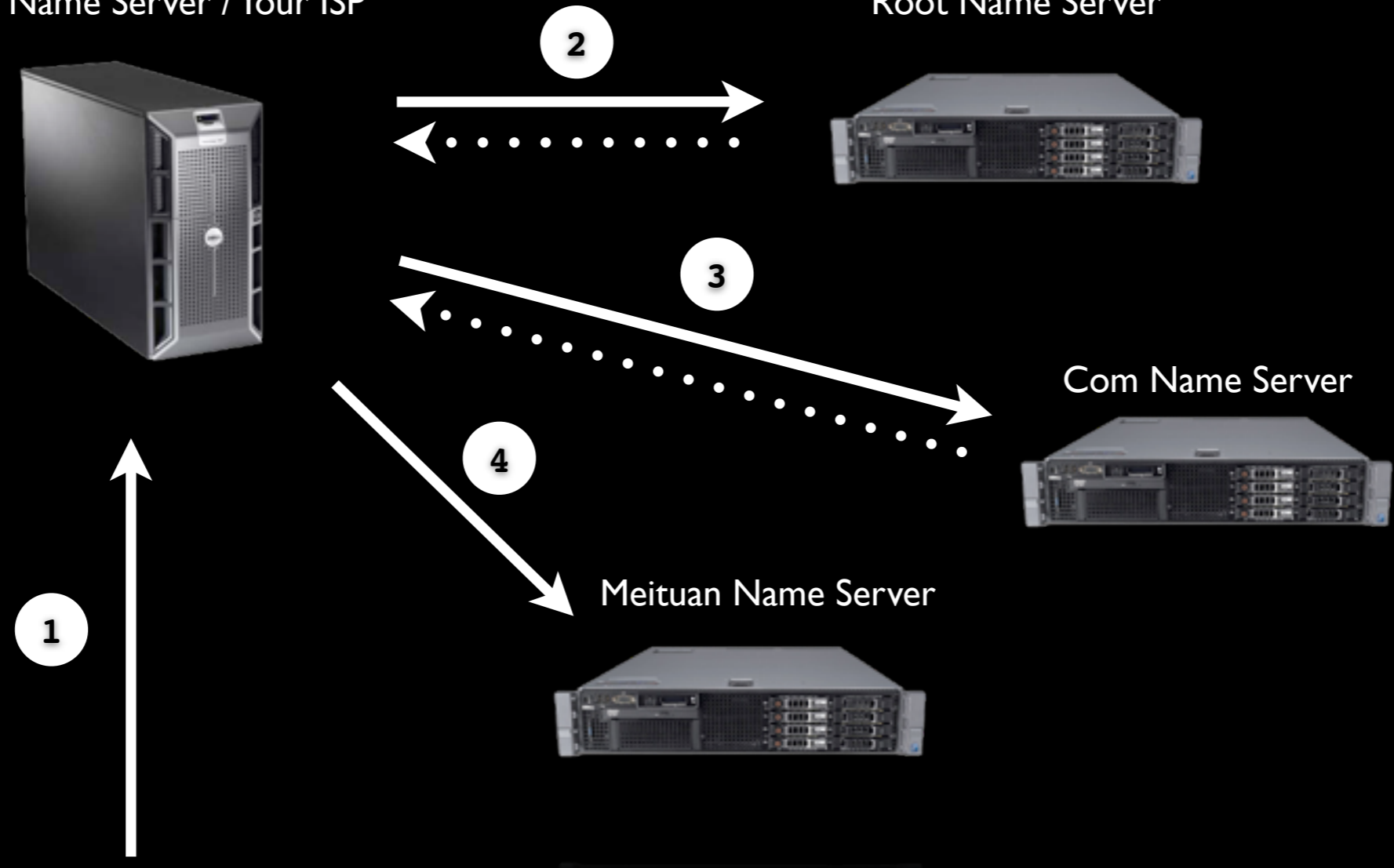
Root Name Server

Com Name Server

Meituan Name Server



Your Computer



Local Name Server / Your ISP

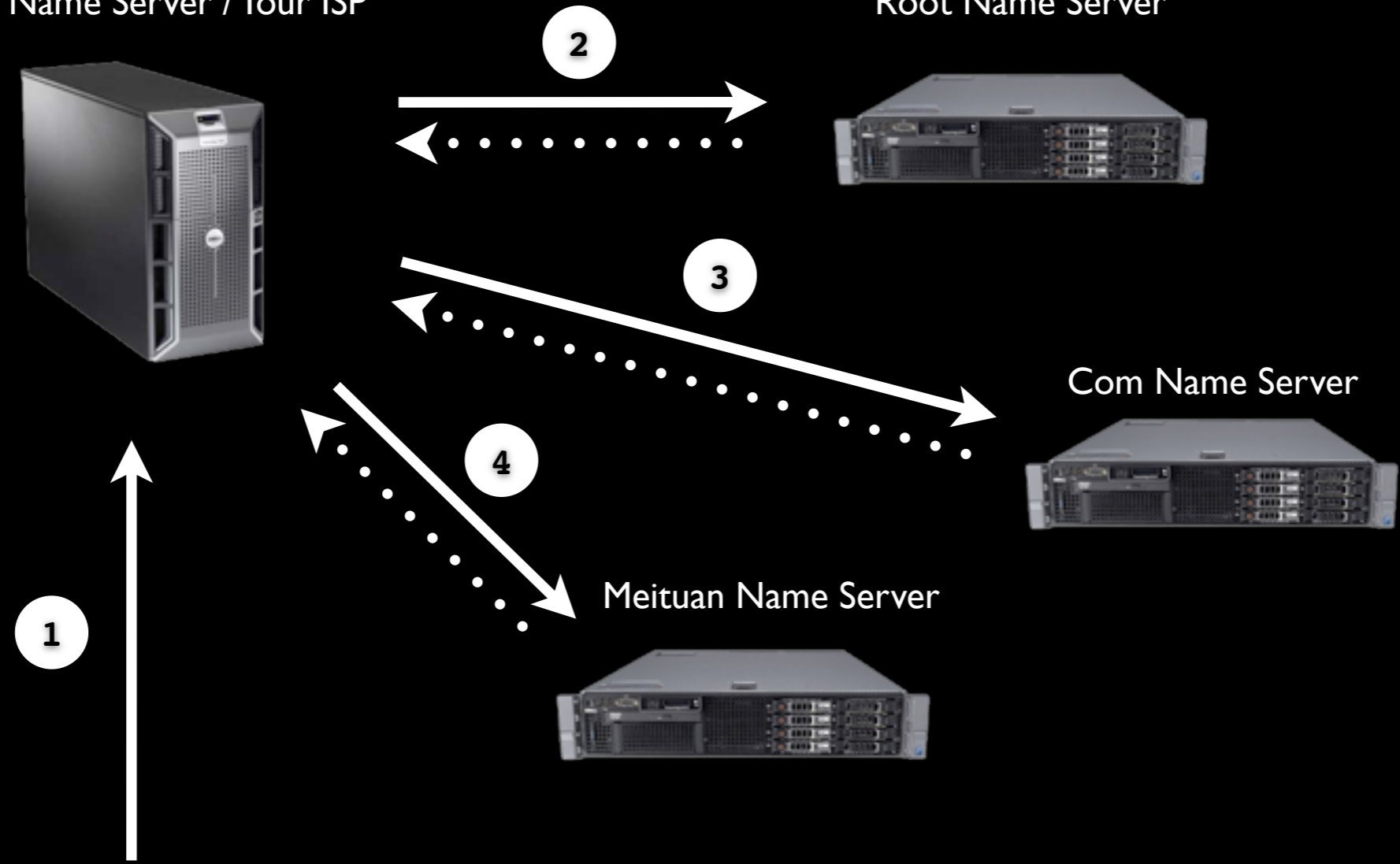
Root Name Server

Com Name Server

Meituan Name Server



Your Computer



Local Name Server / Your ISP

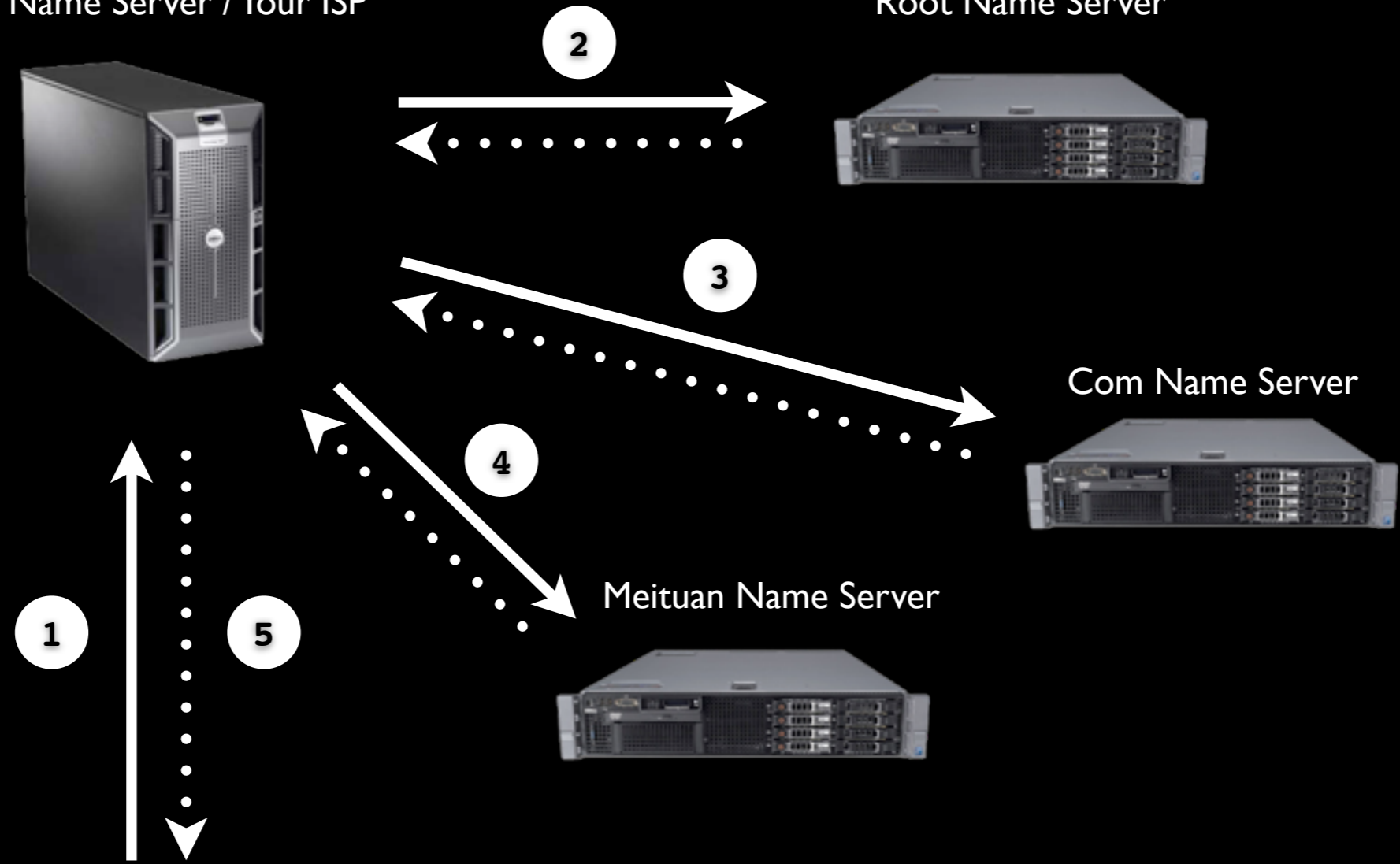
Root Name Server

Com Name Server

Meituan Name Server



Your Computer



Local Name Server / Your ISP

Root Name Server



Com Name Server



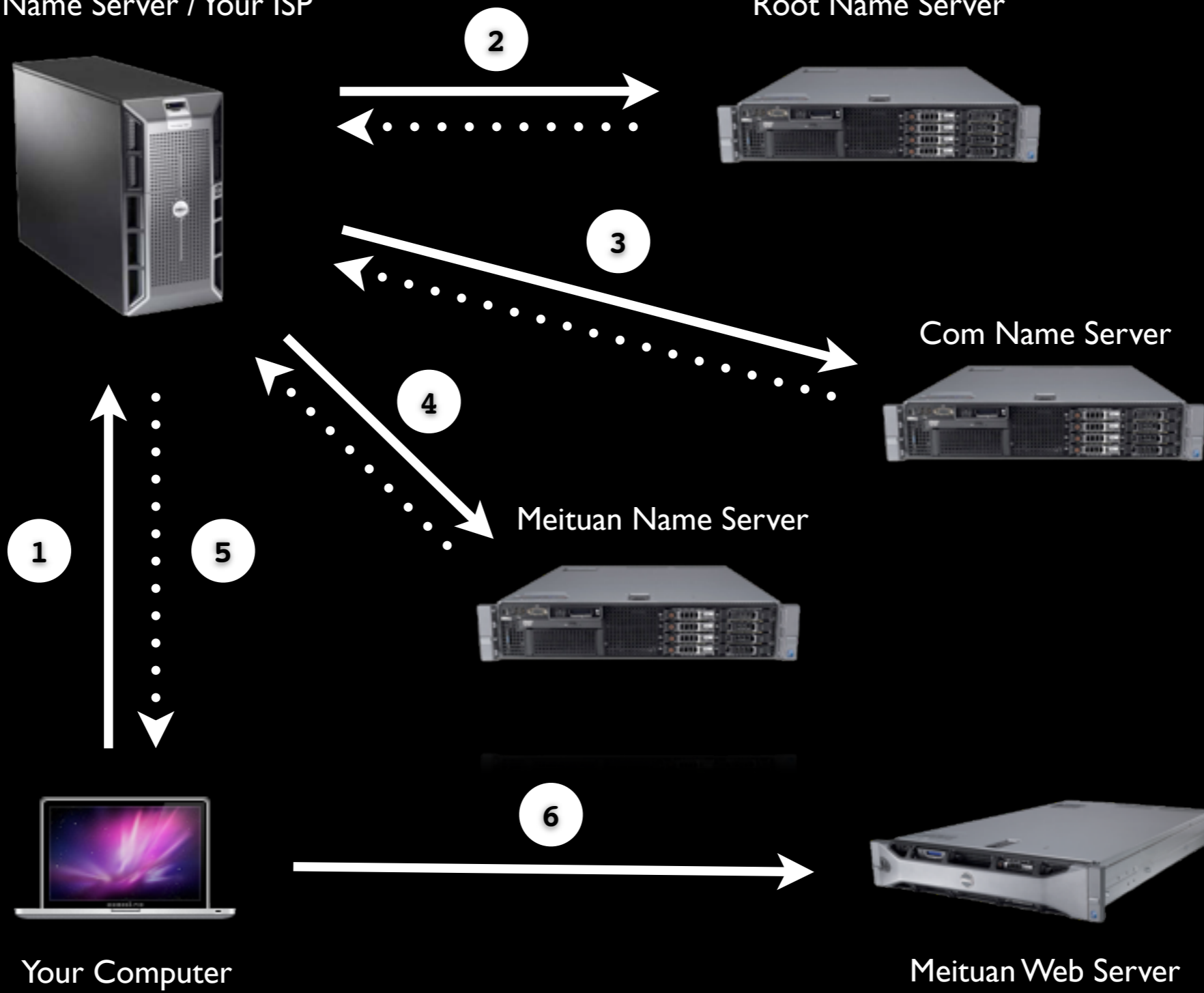
Meituan Name Server



Meituan Web Server



Your Computer



它们的关系

- meituan.com
- www.meituan.com

实战

- dig meituan.com
- dig +trace meituan.com
- dig www.meituan.com
- dig s0.meituan.com

HTTP

- Hypertext Transfer Protocol

HTTP

- Hypertext Transfer Protocol
- 我们都是靠HTTP吃饭的程序员

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A diagram consisting of two vertical red rectangles with white outlines, positioned side-by-side on a black background. The left rectangle is labeled 'client' and the right rectangle is labeled 'server'.

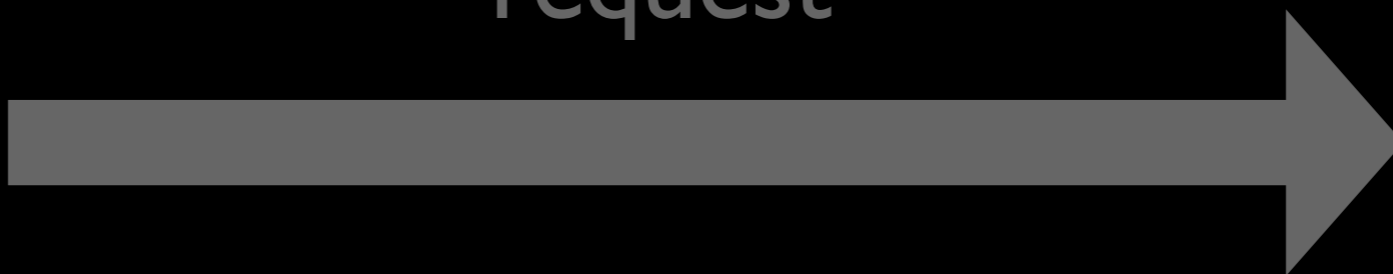
client

server





request



response

- **GET /path/to/file/index.html HTTP/1.0**

- HTTP/1.0 200 OK

- 404 Not Found
- 500 Server Error

- 301 Moved Permanently
- 302 Moved Temporarily
- 304 Not Modified
- 401 Unauthorized
- 403 Forbidden
- 502 Bad Gateway

Request Headers

- Host: `www.meituan.com`
- User-Agent: `Mozilla/5.0 (Macintosh; Intel Mac OS X 10.6; rv:2.0.1) Gecko/20100101 Firefox/4.0.1`

AJAX

- X-Requested-With: XMLHttpRequest

Response Headers

- Server: nginx
- Date: Mon, 20 Jun 2011 09:12:11 GMT
- Content-Type: application/json;
charset=utf-8;
- Content-Length: 138

- 无状态协议
- cookie
- session

实战

- 完整分析一次美团网邮件订阅过程

Apache

- HTTP Server中最经典的一款

启动、停止和重启

- `sudo /etc/init.d/httpd start`
- `sudo /etc/init.d/httpd stop`
- `sudo /etc/init.d/httpd restart/graceful`

我用的是Mac

- sudo apachectl start

配置

- `/etc/httpd/conf/http.conf`
- `/etc/http/conf/vm/*`

常用配置

- ServerRoot "/etc/httpd"
- DocumentRoot "/opt/www/webroot"
- Listen 80

常用配置

- User apache
- Group apache
- LoadModule php5_module /usr/lib64/httpd/modules/libphp5.so

常用配置

- DirectoryIndex index.php index.html
- AccessFileName .htaccess
- ErrorLog /opt/logs/error_log
- ErrorDocument 404 /not-found.html

常用配置

```
<Directory />
```

```
Options FollowSymLinks Indexes
```

```
AllowOverride None
```

```
</Directory>
```

虚拟主机配置

```
<VirtualHost *:80>
```

```
    ServerName www.xpmt.com
```

```
    ServerAlias *.xpmt.com
```

```
    DocumentRoot /home/panweizeng/mt/webroot
```

```
    RewriteEngine on
```

```
    RewriteRule ^/(static\.*)$ /$1 [L]
```

```
    RewriteRule ^/(.*)$ /index.php [L]
```

```
</VirtualHost>
```


虚拟主机配置

```
<VirtualHost *:80>
```

```
    ServerName xpmt.com
```

```
    RewriteEngine On
```

```
    RewriteRule ^/(.*)$ http://www.xpmt.com/$1 [L,R]
```

```
</VirtualHost>
```

Nginx

- HTTP server中的潮流款
- load balancer

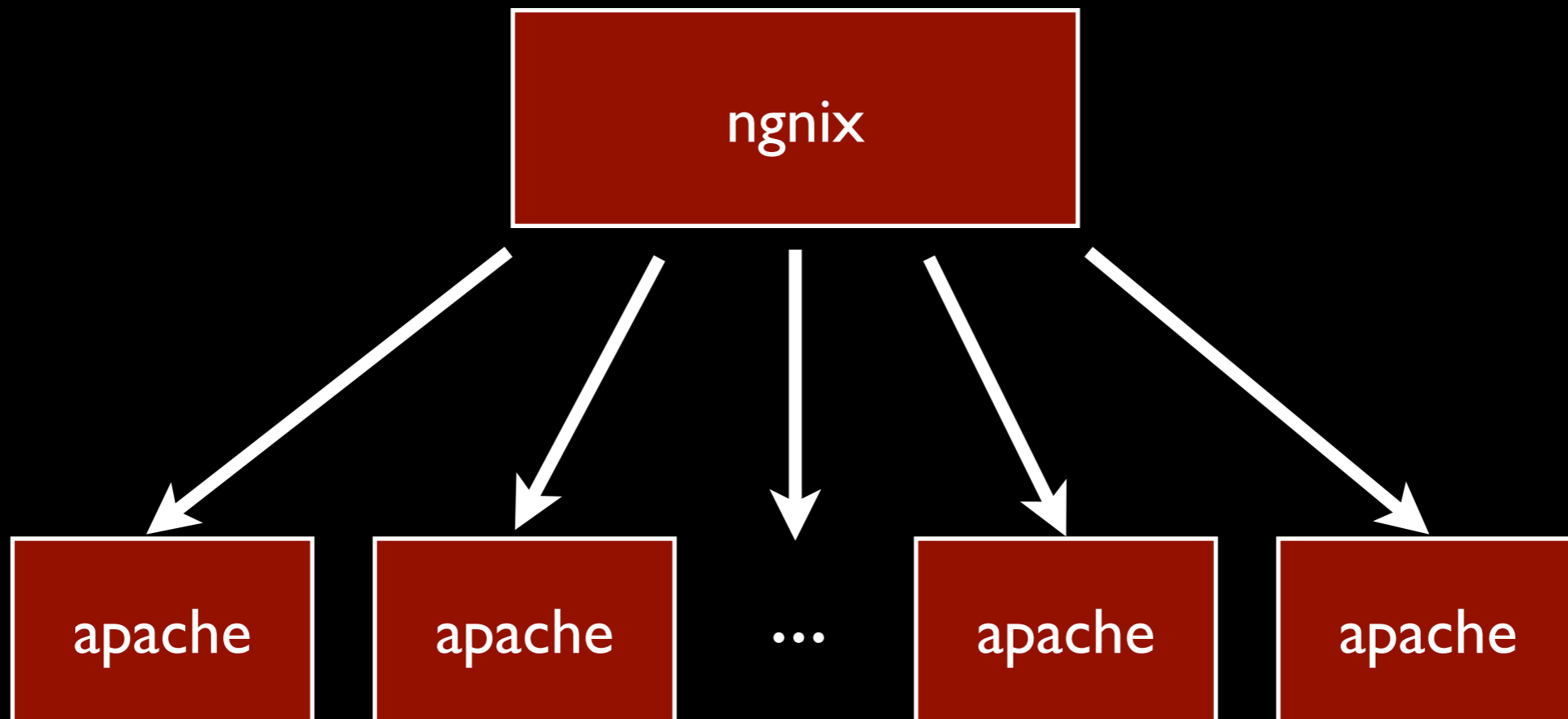
开发环境

apache

生产环境

nginx

生产环境



实战

- 分析我们的开发服务器配置

PHP Framework

- 具有自主知识产权
- 会自然进化的框架

where to start

- apache config
- webroot/index.php

index.php

```
if ($redirectTo = checkSource()) {  
    header("Location: $redirectTo");  
    die;  
}  
  
ControllerFront::getInstance()->dispatch();
```

加载路由配置

- 隐式调用ControllerFront::importConf
- 加载router config，对不遵循约定的特殊URL进行转换，使它遵循约定

dispatch

- 解析请求的URL
- 定义模板目录
- 创建Request实例
- 调用ControllerAction::runAction

runAction

- 构建Action实例
- 载入Plugin
- 解析模板

核心类库

- `classes/*`

- Core.php
- Obj.php
- DBObj.php
- DB.php

- `Cookie.php`
- `Session.php`
- `Cache.php`

- Debug.php
- Log.php
- Loader.php

- Request.php
- Response.php

- ControllerFront.php
- ControllerAction.php
- ControllerActionPlugin.php
- ControllerBusiness.php

配置

- 系统的prepend.php(`php -i |grep prepend`)
`/opt/www.config/prepend.php`
- 开发环境的prepend.php
`~/mt/config/prepend.php`
- 业务逻辑配置
`config/*`

prepend.php

- 定义常量如ROOT/TS/DOMAIN_HOST
- 设置include_path
- 配置数据库链接
- 初始化Debug参数
- 设置autoload

autoload

- Loader::registerAutoload
Loader::load
- 自动载入class/Model/Controller/Helper等

实战

- <http://bj.meituan.com/deal/959830.html>
- <http://bj.meituan.com/deals/page2>

作业

- 在自己的Macbook上配置apache+php+mysql环境
- 编写mini web framework (php/python/ruby都可以)，实现简单的router、dispatcher、orm等
- 注意：必须独立完成