

Representational State Transfer

REST风格的API设计

@Xingwang

HTTPGET /users/xingwang

“Fast performance, reliability, and the ability to grow, by re-using components that can be managed and updated without affecting the system as a whole, even while it is running”

Design Constraints

Client-Server

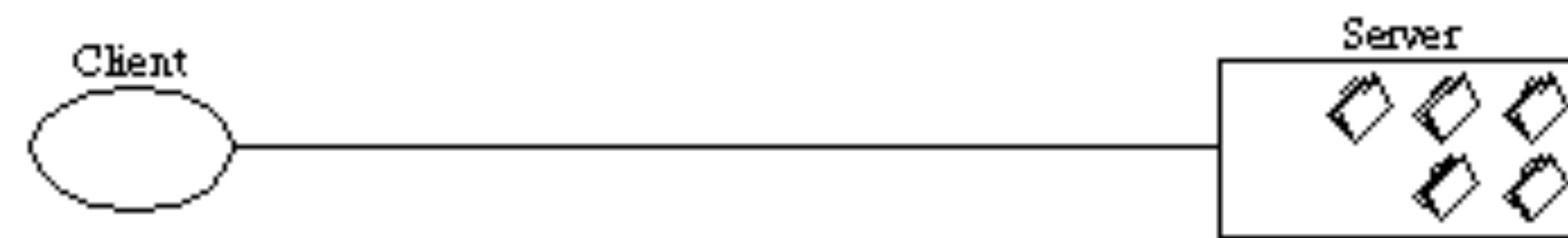


Figure 5-2. Client-Server

Stateless

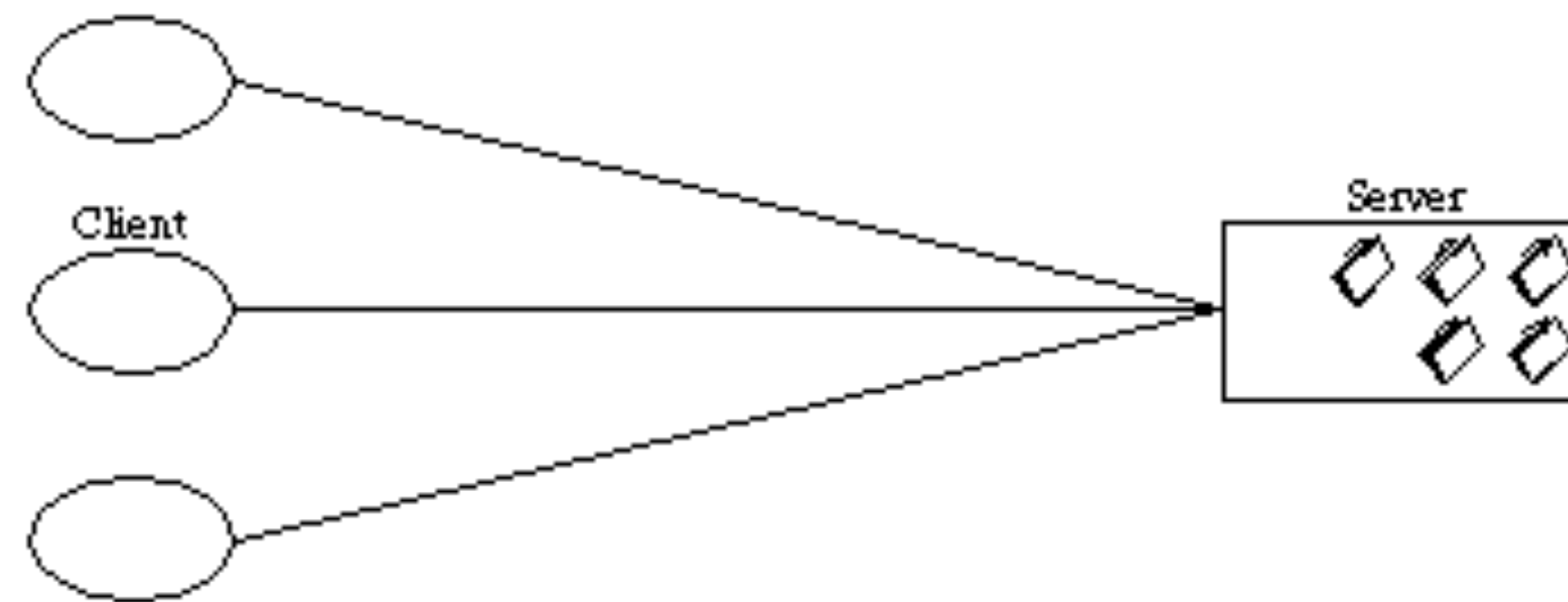


Figure 5-3. Client-Stateless-Server

Cacheable

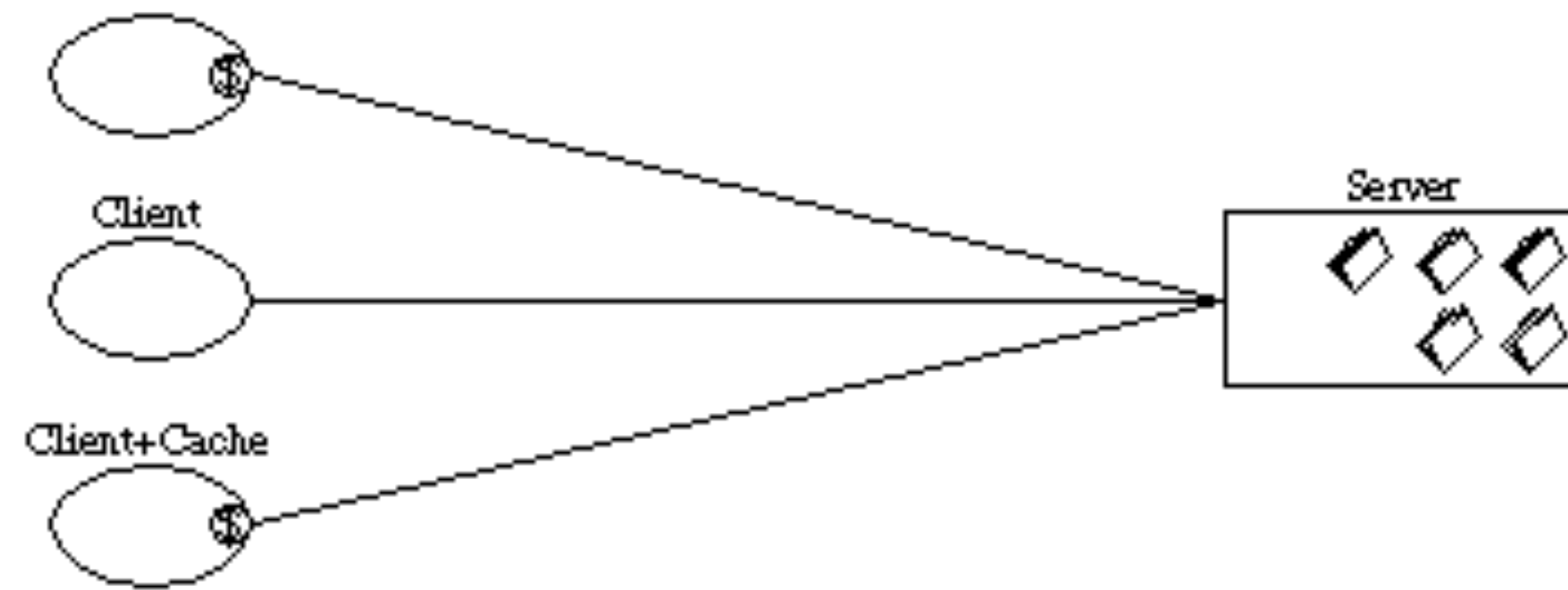


Figure 5-4. Client-Cache-Stateless-Server

Uniform Interface

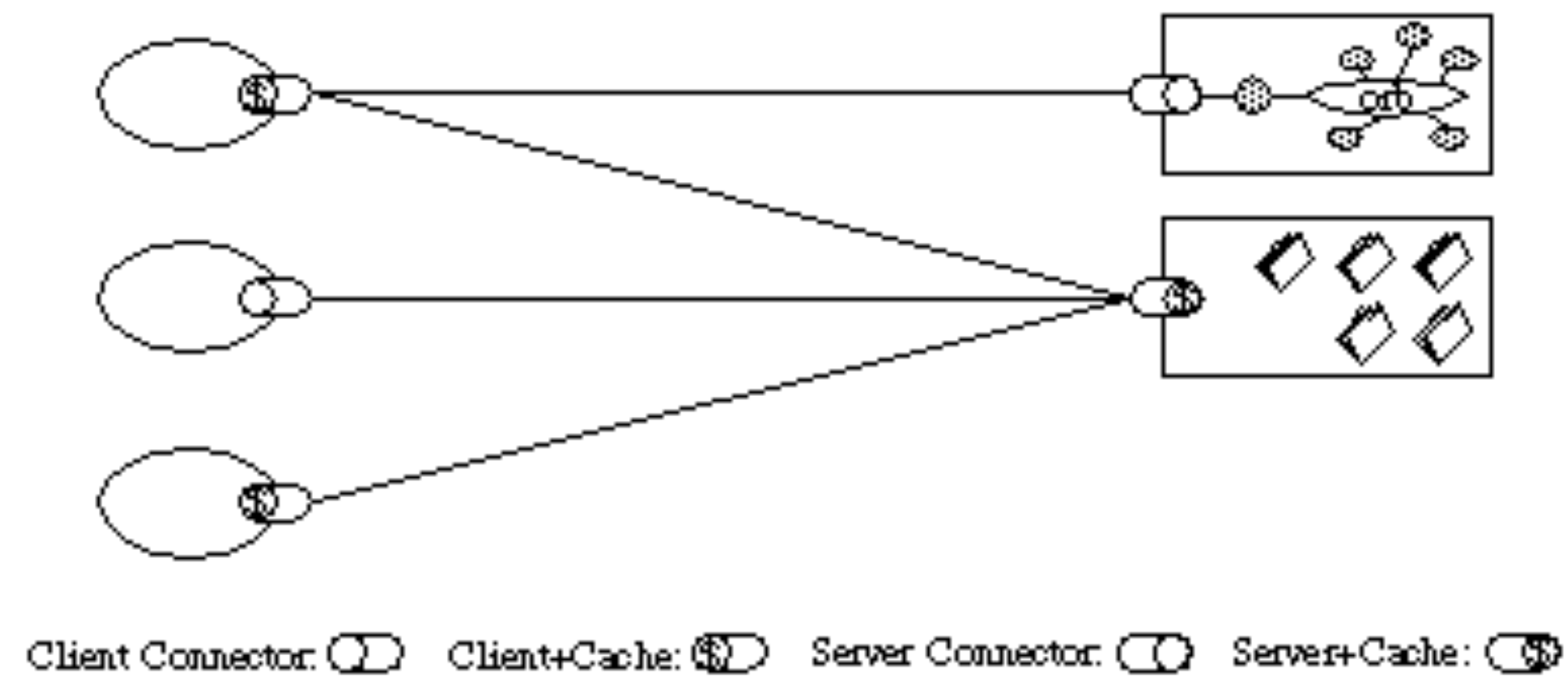


Figure 5-6. Uniform-Client-Cache-Stateless-Server

Layered System

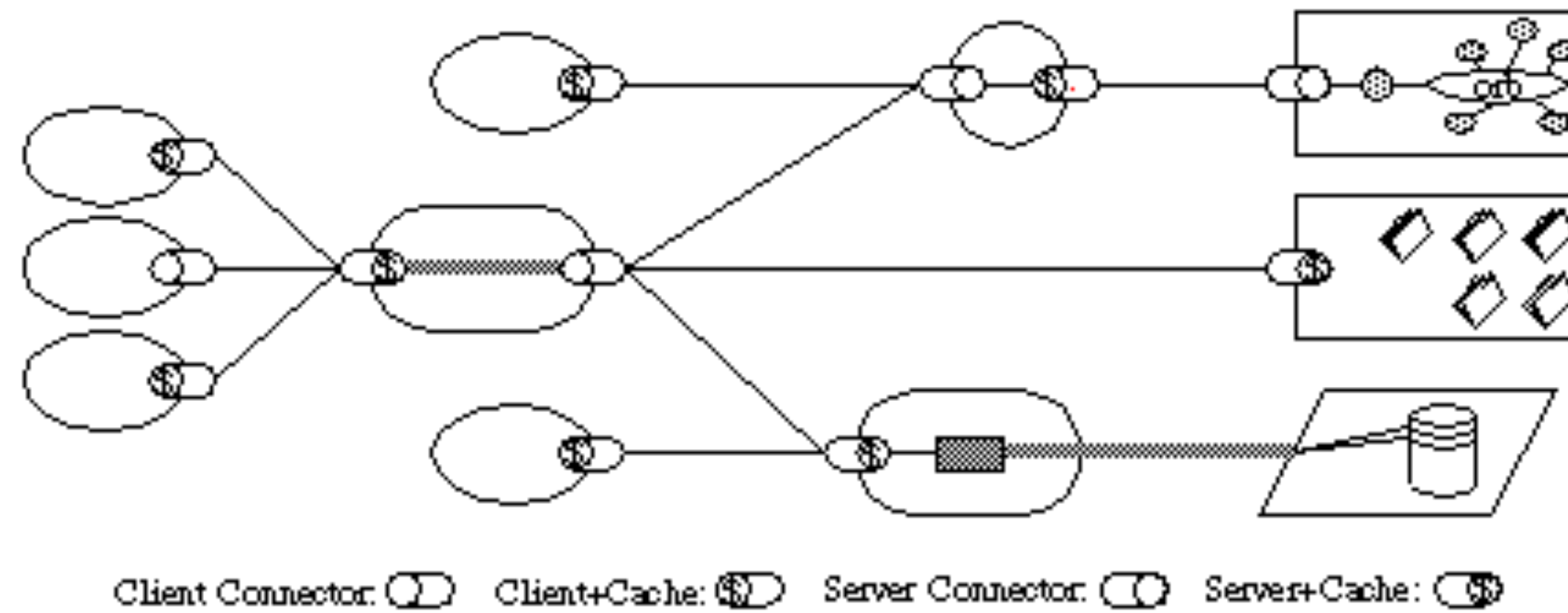


Figure 5-7. Uniform-Layered-Client-Cache-Stateless-Server

Examples in our code:

```
/order/cancelBBDRelationByOrderId  
/logisticService/queryCarrierSelectList  
/sendTruckService/checkPickTruck  
/api/applyModify/finishBpm  
/api/member/getDemand  
.....
```



URL Pattern

/orders

/orders/Q2017081000004

HTTP Method

POST

CREATE

GET

READ

PUT

UPDATE

DELETE

DELETE

Uniform Resource Locator (URL)	GET	PUT	POST	DELETE
<code>/orders</code>	遍历所有的订单	替换所有的订单信息	创建一个新的订单	删除所有订单
<code>/orders/Q2017081000033</code>	根据订单id获取特定的订单信息	更新这个订单信息 如何这个订单id不存在，报错	用当前id创建一个新的订单	删除这个订单

More URL Patterns

Association

/orders/Q2017081000004/payments

Query

`/orders?status=已确认&productType=PET`

non-CRUD

/orders/Q2017081000004/cancel
/payments/1234/confirm

Paging and Sorting

```
/orders?  
offset=10&limit=5&sort=+createdAt
```

Exceptions



HTTP Status

1xx Informational

- 100** Continue
- 101** Switching Protocols
- 102** Processing

2xx Success

- 200** OK
- 201** Created
- 202** Accepted
- 203** Non-authoritative Information
- 204** No Content
- 205** Reset Content
- 206** Partial Content
- 207** Multi-Status
- 208** Already Reported
- 226** IM Used

3xx Redirection

- 300** Multiple Choices
- 301** Moved Permanently
- 302** Found
- 303** See Other
- 304** Not Modified
- 305** Use Proxy
- 307** Temporary Redirect
- 308** Permanent Redirect

4xx Client Error

- 400** Bad Request
- 401** Unauthorized
- 402** Payment Required
- 403** Forbidden
- 404** Not Found
- 405** Method Not Allowed
- 406** Not Acceptable
- 407** Proxy Authentication Required
- 408** Request Timeout
- 409** Conflict
- 410** Gone
- 411** Length Required
- 412** Precondition Failed
- 413** Payload Too Large
- 414** Request-URI Too Long
- 415** Unsupported Media Type
- 416** Requested Range Not Satisfiable

- 417** Expectation Failed
- 418** I'm a teapot
- 421** Misdirected Request
- 422** Unprocessable Entity
- 423** Locked
- 424** Failed Dependency
- 426** Upgrade Required
- 428** Precondition Required
- 429** Too Many Requests
- 431** Request Header Fields Too Large
- 444** Connection Closed Without Response
- 451** Unavailable For Legal Reasons
- 499** Client Closed Request

5xx Server Error

- 500** Internal Server Error
- 501** Not Implemented
- 502** Bad Gateway
- 503** Service Unavailable
- 504** Gateway Timeout
- 505** HTTP Version Not Supported
- 506** Variant Also Negotiates
- 507** Insufficient Storage
- 508** Loop Detected
- 510** Not Extended
- 511** Network Authentication Required
- 599** Network Connect Timeout Error

HTTP Status

- 200** OK
- 400** Bad Request, 参数错误
- 401** Unauthorized, 没有权限访问或者未登录
- 404** Not Found, 资源不存在
- 500** Internal Server Error, 系统错误

ERROR Payload

```
{  
  "code" : 500,  
  "message" : "Something bad happened :(",  
  "description" : "More details about the error here"  
}
```

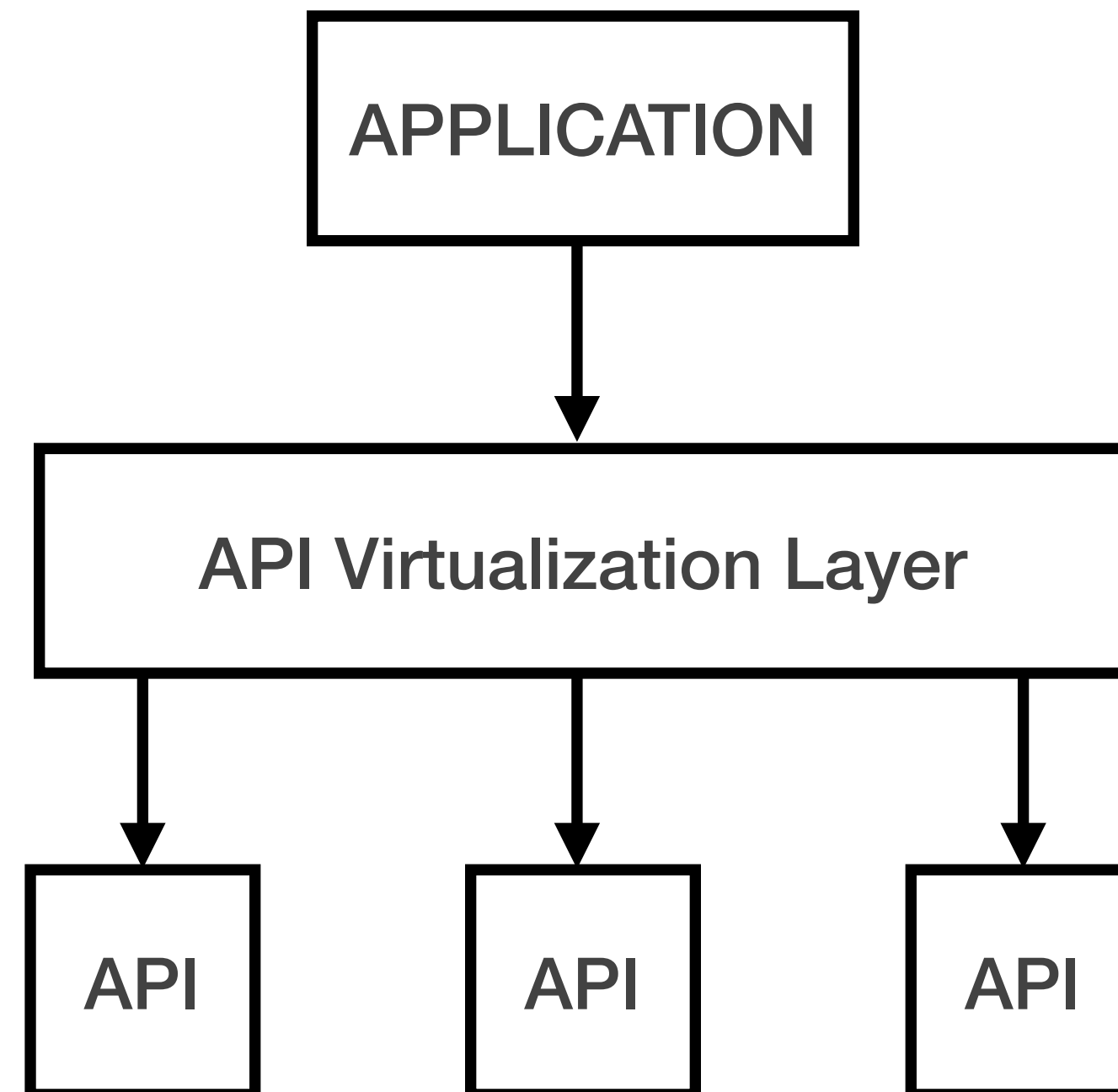

Anything else?

Version

/v1.5/orders

/v1.6/orders/Q2017081000004

Complex API



Q&A