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Overview

用户

管理员

摘要

本文作为耐兮产品1,2,3服务端接口实现规范，用于客户端/服务端编码人员对接，目前只是初稿，接口参数在客户端/服务端代码对接时可能会有变动

- 知识点 - topic

> 按学科选出的两级知识点目录

- 源题 - exercise

> 有专门物理地址的HTML包，源题关联到相应知识点
>
> 分类
>
> - 真题：来源于各地区历年真题
> - 其他：自编辑习题

- 试卷 - paper

> 按照规则(真题、题纲、...)将源题组织成试卷，供用户(学生)选做
>
> 分类
>
> - 真题卷：试题来源于完整的历年真题试卷
> - 模拟卷：由系统或者教师构建

- 测试(答题) - examination

> 分类
>
> - 个人强弱分析测试：根据系统特定规则选题
> - 个人强弱训练：根据用户自定义选题
> - 真题测试：根据试卷选题
> - 知识点测试：根据知识点选题
>
> 开始测试以后，系统保存此次测试的源题 集、以及测试结果数据(得分、做题 进度、完成时间、...)

学科

```
{
    "M": "数学",
    "P": "物理",
    "C": "化学",
    "B": "生物"
}
```

测试(答题)分类

```
{
    "1": "强弱分析",
    "2": "真题试卷",
    "3": "知识点专题",
    "4": "专项能力训练",
    "5": "总体能力训练",
    "6": "真题试卷选知识点"
}
```

源题题型分类

```
{
    "1": "选择题",
    "2": "填空题",
    "3": "解答题"
}
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能力值

```json
{
    "2": "弱",
    "3": "一般",
    "4": "好",
    "5": "强"
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知识点

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"number":"25.0302","name":"分析法",
"number":"25.0303","name":"分析综合法",
"number":"25.0401","name":"反证法",
"number":"25.0402","name":"反证法与分析法、逆否命题的关系",
"number":"25.0403","name":"反证法的适用范围",
"number":"25.0404","name":"反证法常用的否定形式",
"number":"25.0501","name":"数学归纳法",
"number":"25.0502","name":"数学归纳法的基本思想",
"number":"25.0503","name":"归纳、猜想与证明",
"number":"26","name":"数系的扩充及复数的引入",
"number":"26.0101","name":"数系的扩充与复数的相关概念",
"number":"26.0102","name":"复数相等",
"number":"26.0103","name":"复平面及复数的几何意义",
"number":"26.0104","name":"复数的模型及几何意义",
"number":"26.0201","name":"复数代数形式的加法运算及其几何意义"
,
"number":"26.0202","name":"复数代数形式的减法运算及其几何意义"
,
"number":"26.0203","name":"复平面内两点间的距离",
"number":"27","name":"计数原理",
"number":"27.0101","name":"分类加法计数原理",
"number":"27.0102","name":"分布乘法计数原理",
"number":"27.0103","name":"两个计数原理的关系",
"number":"27.0201","name":"排列定义",
"number":"27.0202","name":"排列数与排列数公式",
"number":"27.0301","name":"组合定义",
"number":"27.0302","name":"组合数与组合数公式",
"number":"27.0303","name":"组合数的两个性质",
"number":"27.0401","name":"二项式定理",
"number":"27.0402","name":"二项展开式的通项公式",
```

"number":"28","name":"随机变量及其分布",
"number":"28.0101","name":"离散型随机变量",
"number":"28.0102","name":"离散型随机变量的分布及其性质",
"number":"28.0103","name":"两点分布与超几何分布",
"number":"28.0201","name":"条件概率",
"number":"28.0202","name":"事件的独立性",
"number":"28.0301","name":"独立重复试验",
"number":"28.0302","name":"二项分布",
"number":"28.0401","name":"离散型随机变量的均值",
"number":"28.0402","name":"离散型随机变量的方差",
"number":"28.0403","name":"常见分布的均值与方差",
"number":"28.0501","name":"正态分布",
"number":"28.0502","name":"正态曲线的性质",
"number":"28.0503","name":"3 原则",
"number":"29","name":"统计案例",
"number":"29.0101","name":"回归直线方程",
"number":"29.0102","name":"线性相关系数",
"number":"29.0103","name":"误差分析",
"number":"29.0201","name":"分类变量关系的分析与判断",
"number":"29.0202","name":"独立性检验的基本思想",
"number":"30","name":"矩阵与变换",
"number":"30.0101","name":"向量的坐标表示及直线的向量方程",
"number":"30.0102","name":"二阶矩阵与平面向量的乘法",
"number":"30.0201","name":"几种特殊的矩阵变换",
"number":"30.0202","name":"矩阵变换的性质",
"number":"30.0301","name":"变换的合成与矩阵乘法",
"number":"30.0302","name":"矩阵乘法的性质",
"number":"30.0401","name":"逆变换与逆矩阵",
"number":"30.0402","name":"二阶行列式与逆矩阵",
"number":"30.0403","name":"二阶矩阵与二元一次方程组",
"number":"30.0404","name":"矩阵变换的特征值与特征向量及矩阵应用",
"number":"31","name":"坐标系与参数方程",
"number":"31.0101","name":"平面直角坐标系",
"number":"31.0102","name":"坐标法",
"number":"31.0103","name":"平面直角坐标系中的伸缩变换",
"number":"31.0104","name":"极坐标系的概念",
"number":"31.0105","name":"点的极坐标系的不唯一性",
"number":"31.0106","name":"极坐标和直角坐标的互化",
"number":"31.0107","name":"曲线的极坐标方程",

```
"number":"31.0108","name":"两种方程的互化",
"number":"31.0109","name":"圆的极坐标方程",
"number":"31.0110","name":"直线的极坐标方程",
"number":"31.0111","name":"圆锥曲线的极坐标方程",
"number":"31.0201","name":"参数方程的概念",
"number":"31.0202","name":"圆的参数方程",
"number":"31.0203","name":"参数方程和普通方程的互化",
"number":"31.0204","name":"椭圆的参数方程",
"number":"31.0205","name":"抛物线的参数方程",
"number":"31.0206","name":"直线的参数方程的标准形式",
"number":"31.0207","name":"标准形式参数t的几何形式",
"number":"31.0208","name":"直线参数方程的一般式",
"number":"32","name":"不等式选讲",
"number":"32.0101","name":"实数大小的比较",
"number":"32.0102","name":"不等式的基本性质",
"number":"32.0103","name":"基本不等式",
"number":"32.0104","name":"几何平均不等式",
"number":"32.0201","name":"|a+b|≦|a|+|b|",
"number":"32.0202","name":"||a|-|b||≦|a+b|≦|a|+|b|",
"number":"32.0203","name":"|a-c|≦|a-b|+|b-c|",
"number":"32.0204","name":"绝对值不等式的解法",
"number":"32.0301","name":"比较法",
"number":"32.0302","name":"综合法",
"number":"32.0303","name":"分析法",
"number":"32.0304","name":"反证法",
"number":"32.0305","name":"放缩法",
"number":"32.0306","name":"柯西不等式",
"number":"32.0307","name":"排序不等式",
"number":"32.0308","name":"数学归纳法",
"number":"33","name":"几何证明选讲",
"number":"33.0101","name":"平行线等分线段定理",
"number":"33.0102","name":"平行线分线段成比例定理",
"number":"33.0103","name":"相似三角形的判定",
"number":"33.0104","name":"相似三角形的性质",
"number":"33.0105","name":"直角三角形的射影定理",
"number":"33.0201","name":"圆周角定理",
"number":"33.0202","name":"圆内接多边形的性质及判定",
"number":"33.0203","name":"圆的切线的性质及判定",
"number":"33.0204","name":"弦切角",
"number":"33.0205","name":"与圆有关的比例线段",
```

```
        "number":"33.0301","name":"平行投影",
        "number":"33.0302","name":"平面与圆柱面的截线",
        "number":"33.0303","name":"平面与圆锥面的截线"
    ]
}
```

- Header

```
X-Requested-With: XMLHttpRequest
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
Accept: application/json; charset=UTF-8
X-CSRF-TOKEN: window.laravel.token
```

> 对于需要登录认证的还需要

```
Authorization: Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.e
yJpc3MiOiJodHRwOi8vbngubgubG8vYXBpL2NsaWVudC9sb2dpbiIsImlhdCI6M
TUyMjMxMDEwMywiZXhwIjoxNTIyMzEzNzAzLCJuYmYiOjE1MjIzMTAxMDMsI
mp0aSI6InJMR2d0V00zZFhSaFY3STEiLCJzdWIiOjEsInBydiI6Ijg3ZTBhZ
jFlZjlmZDE1ODEyZmRlYzk3MTUzYTE0ZTBiMDQ3NTQ2YWEifQ.tX2h8ky9H4
Kvq17c8EbY7dtpKPriUWVe3MPgLSav9Z8
```

语言切换

```
POST lang/switch
```

POST数据样例：

```
{
    "lang": "en"
}
```

成功返回结果：

```
{
  "c": 200,
  "m": "",
  "d": {},
  "r": ""
}
```

注册&登录

```
POST api/client/register
```

POST数据样例：

```json
{
    "name": "bamboo",
    "password": "111111",
    "password_confirmation": "111111",
    "email": "89391740@qq.com"
}
```

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "name": "bamboo",
        "email": "89391740@qq.com",
        "token": "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpc3MiO
iJodHRwOi8vbngubgubG8vYXBpL2NsaWVudC9yZWdpc3RlciIsImlhdCI6MTUyMjMxM
Dk1MiwiZXhwIjoxNTIyMzE0NTUyLCJuYmYiOjE1MjIzMTA5NTIsImp0aSI6ImVUQ
lFzb3JET1lkTG52b3kiLCJzdWIiOjIsInBydiI6Ijg3ZTBhZjFlZjjlmZDE1ODEyZ
mRlYzk3MTUzYTE0ZTBiMDQ3NTQ2YWEifQ.1vave8m7nZND-NTib89p_cazInZZUm
-PNyVaLaaAKa4"
    },
    "r": ""
}
```

登录

```
POST api/client/login
```

POST数据样例：

```json
{
    "name": "bamboo",
    "password": "1"
}
```

成功返回结果：

```json
{
  "c": 200,
  "m": "",
  "d": {
    "name": "chafang",
    "email": "chafang0131@163.com",
    "token": "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpc3MiOiJod
HRwOi8vbngububG8vYXBpL2NsaWVudC9sb2dpbiIsImlhdCI6MTUyMTYxMTU3OCwiZ
XhwIjoxNTIxNjE1MTc4LCJuYmYiOjE1MjE2MTE1NzgsImp0aSI6ImxZcGFCeHpPKe
kN0YWtlTWUiLCJzdWIiOjQsInBydiI6Ijg3ZTBhZjFlZjlmZDE1ODEyZmRlYzk3M
TUzYTE0ZTBiMDQ3NTQ2YWEifQ.JORClmkeeC_8HOd9osh9RlWNt-qSlreUwXvDiy
LNmmk"
  },
  "r": ""
}
```

安全登出

```
POST api/client/logout
```

成功返回结果：

```json
{
  "c": 200,
  "m": "",
  "d": {},
  "r": ""
}
```

解锁

```
POST api/client/unlock
```

POST数据样例：

```
{
    "name": "bamboo",
    "password": "1"
}
```

成功返回结果：

```
{
  "c": 200,
    "m": "",
    "d": {
        "token": "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpc3MiO
iJodHRwOi8vbngubG8vYXBpL2NsaWVudC91bmxvY2siLCJpYXQiOjE1MjMyNTI0O
DgsImV4cCI6MTUyNTg0NDQ4OCwibmJmIjoxNTIzMjUyNDg4LCJqdGkiOiJKdEZab
mVHdFpDNkxIcDZlIiwic3ViIjoxLCJwcnYiOiI4N2UwYWYxZWY5ZmQxNTgxMmZkZ
WM5NzE1M2ExNGUwYjA0NzU0NmFhIn0.Hv_5obW8fXJ19TE1_HpC5Ep2-XP5PqHHG
Ono8G_BFDs"
    },
    "r": ""
}
```

知识点 - 学习

```
POST api/client/forgot-password
```

POST数据样例：

```
{
    "email": "89391740@qq.com"
}
```

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {},
    "r": ""
}
```

回馈 - 看不懂题目

```
POST api/client/feedback/exercise
```

POST数据样例：

```
{
    "id": 1,
    "content": "this is a test"
}
```

id: 源题ID - integer

content: 内容 - text | max:150, min: 10

成功返回结果：

```
{
  "c": 200,
  "m": "",
  "d": 1,
  "r": ""
}
```

回馈 - 看不懂答案

```
POST api/client/feedback/solution
```

POST数据样例：

```json
{
    "id": 1,
    "content": "this is a test"
}
```

id: 源题ID - integer

content: 内容 - text | max:150, min: 10

成功返回结果：

```json
{
  "c": 200,
  "m": "",
  "d": 1,
  "r": ""
}
```

回馈 - 看不懂知识点

```
POST api/client/feedback/topic
```

POST数据样例：

```
{
    "id": 1,
    "content": "this is a test"
}
```

id: 知识点ID - integer

content: 内容 - text | max:150, min: 10

成功返回结果：

```
{
  "c": 200,
  "m": "",
  "d": 1,
  "r": ""
}
```

个人强弱 - 答题

```
POST api/client/ability/act
```

POST数据样例：

```
{
    "course": "M"
}
```

course: string - 学科;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 1,
        "category_id": 1,
        "active_number": 1,
        "correct": 0,
        "total": 42,
        "score": "210.00",
        "error": 0,
        "done": 0,
        "gain": null,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 459,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/4/1/4/11/11/CMQ3310b0b0p040b0d2w"
        },
        "answer": {
            "number": 1,
            "exercise_id": 459,
            "score": "5.00",
            "answer": null,
            "gain": null,
            "answer_check": null
        },
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

id: 当前测试id

active_number：当前题号;

correct：当前题号;

total：当前测试题目总数;

score：当前测试总分;

error：当前测试做错误的题数;

done：当前测试总共做的题数;

gain：当前测试总得分;

complete_at：当前测试完成时间;

is_completed：当前测试是否确认完成;

exercise.id：源题ID;

exercise.score：源题分值;

exercise.url：源题地址;

exercise.type_id：源题类型;

个人强弱 - 提交答案

```
POST api/client/ability/answer
```

POST数据样例：

```
{
    "id": "1",
    "number": "1",
    "answer": "B"
}
```

id: int - 测试id;

number: int - 题号;

answer: int - 答案;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 1,
        "category_id": 1,
        "active_number": 1,
        "correct": 0,
        "total": 42,
        "score": "210.00",
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 459,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/4/1/4/11/11/CMQ3310b0b0p040b0d2w"
        },
        "answer": {
            "number": 1,
            "exercise_id": 459,
            "score": "5.00",
            "answer": "B",
            "gain": "0.00",
            "answer_check": 0
        },
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

answer.exercise_id：该答案的源题id;

answer.number：该答案的题号;

answer.score：该答案的分值;

answer.answer：用户原始答案;

answer.gain：得分;

answer.answer_check：结果勘误(null: 未作答, 0-错误, 1-部分正确, 2-正确);

个人强弱 - 下一题

```
POST api/client/ability/next
```

POST数据样例：

```
{
    "id": 1
}
```

> id: int - 测试id

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 1,
        "category_id": 1,
        "active_number": 2,
        "correct": 0,
        "total": 42,
        "score": "210.00",
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 2,
            "type_id": 1,
            "score": "5.00",
            "url": "C/M/1/1/1/2/2/CMQ14102020201020101"
        },
        "answer": {
            "number": 2,
            "exercise_id": 452,
            "score": "5.00",
            "answer": null,
            "gain": null,
            "answer_check": null
        },
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

个人强弱答题 - 完成

```
POST api/client/ability/complete
```

POST数据样例：

```
{
    "id": 1
}
```

> id: int - 测试id

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 1,
        "category_id": 1,
        "active_number": 2,
        "correct": 0,
        "total": 42,
        "score": "210.00",
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 1,
        "paper": null,
        "exercise": {
            "id": 2,
            "type_id": 1,
            "score": "5.00",
            "url": "C/M/1/1/1/2/2/CMQ14102020201020101"
        },
        "answer": {
            "number": 2,
            "exercise_id": 452,
            "score": "5.00",
            "answer": null,
            "gain": null,
            "answer_check": null
        },
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

个人强弱 - 分析

```
GET api/client/ability/analysis
```

GET数据样例：

```json
{
    "course": "M"
}
```

> course: string - 学科;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": [
        {
            "id": 1,
            "number": "01",
            "name": "集合",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 15,
            "number": "02",
            "name": "函数的概念",
```

```
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 29,
            "number": "03",
            "name": "二次函数",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 33,
            "number": "04",
            "name": "指数函数",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 43,
            "number": "05",
            "name": "对数函数",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 49,
            "number": "06",
            "name": "幂函数",
```

```
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 52,
            "number": "07",
            "name": "函数的应用",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 59,
            "number": "08",
            "name": "空间几何体",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 75,
            "number": "09",
            "name": "点直线平面之间的位置关系",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 96,
            "number": "10",
            "name": "直线与方程",
```

```
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 113,
            "number": "11",
            "name": "圆与方程",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 125,
            "number": "12",
            "name": "算法初步",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 132,
            "number": "13",
            "name": "统计",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 143,
            "number": "14",
            "name": "概率",
```

```json
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 153,
            "number": "15",
            "name": "三角函数",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 178,
            "number": "16",
            "name": "平面向量",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 197,
            "number": "17",
            "name": "三角恒等变换",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 206,
            "number": "18",
            "name": "解三角形",
```

```
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 213,
            "number": "19",
            "name": "数列",
            "level": 3,
            "pass2": 0,
            "pass3": 2,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 228,
            "number": "20",
            "name": "不等式",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 237,
            "number": "21",
            "name": "常用逻辑用语",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 249,
            "number": "22",
            "name": "圆锥曲线与方程",
```

```json
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 263,
            "number": "23",
            "name": "空间向量与立体几何",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 274,
            "number": "24",
            "name": "导数及其应用",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 301,
            "number": "25",
            "name": "推理与证明",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {
            "id": 319,
            "number": "26",
            "name": "数系的扩充及复数的引入",
```

```
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {

            "id": 327,
            "number": "27",
            "name": "计数原理",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {

            "id": 338,
            "number": "28",
            "name": "随机变量及其分布",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {

            "id": 352,
            "number": "29",
            "name": "统计案例",
            "level": null,
            "pass2": 0,
            "pass3": 0,
            "pass4": 0,
            "pass5": 0
        },
        {

            "id": 358,
            "number": "30",
            "name": "矩阵与变换",
```

```
        "level": null,
        "pass2": 0,
        "pass3": 0,
        "pass4": 0,
        "pass5": 0
    },
    {
        "id": 369,
        "number": "31",
        "name": "坐标系与参数方程",
        "level": null,
        "pass2": 0,
        "pass3": 0,
        "pass4": 0,
        "pass5": 0
    },
    {
        "id": 389,
        "number": "32",
        "name": "不等式选讲",
        "level": null,
        "pass2": 0,
        "pass3": 0,
        "pass4": 0,
        "pass5": 0
    },
    {
        "id": 406,
        "number": "33",
        "name": "几何证明选讲",
        "level": null,
        "pass2": 0,
        "pass3": 0,
        "pass4": 0,
        "pass5": 0
    }
],
"r": ""
}
```

id: topic id

number: topic number

level: 你的能力(参考字典==>能力值)

pass2: 容易(0: 空缺, 1-未达到, 2-达到)

pass3: 一般(0: 空缺, 1-未达到, 2-达到)

pass4: 困难(0: 空缺, 1-未达到, 2-达到)

pass5: 很难(0: 空缺, 1-未达到, 2-达到)

个人强弱专项训练 - 答题

```
POST api/client/special-training/act
```

POST数据样例：

```
{
    "ability_id": 4
}
```

> ability_id: int - 个人能力项id

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 2,
        "category_id": 4,
        "active_number": 1,
        "correct": 0,
        "error": 0,
        "done": 0,
        "gain": null,
        "target_level": 3,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 272,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/5/1/5/4/4/CMQ33104040o05040a1s"
        },
        "answer": null,
        "topic": {
            "id": 33,
            "number": "04",
            "name": "指数函数"
        },
        "ability": {
            "id": 4,
            "level": null
        }
    },
    "r": ""
}
```

target_level：目标级别;

topic.id：专攻知识点id;

topic.number：专攻知识点编号;

topic.name：专攻知识点名称;

ability.id：当前专攻能力id;

ability.level：当前专攻能力级别(为空说明用户还没有做过该能力级别的题目,可做2处理);

个人强弱专项训练 - 提交答案

```
POST api/client/special-training/answer
```

POST数据样例：

```json
{
    "id": 2,
    "answer": "C"
}
```

id: int - 测试id;

answer: string - 答案;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 2,
        "category_id": 4,
        "active_number": 1,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "target_level": 3,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
```

```
        "exercise": {
            "id": 272,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/5/1/5/4/4/CMQ33104040o05040a1s"
        },
        "answer": {
            "number": 1,
            "exercise_id": 272,
            "score": "5.00",
            "answer": "C",
            "gain": "0.00",
            "answer_check": 0
        },
        "topic": {
            "id": 33,
            "number": "04",
            "name": "指数函数"
        },
        "ability": {
            "id": 4,
            "level": null
        }
    },
    "r": ""
}
```

个人强弱专项训练 - 下一题

```
POST api/client/special-training/next
```

POST数据样例：

```
{
    "id": 2
}
```

> id: int - 测试id;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 2,
        "category_id": 4,
        "active_number": 2,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "target_level": 3,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 344,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/5/1/5/3/11/CMQ331030b0o050b0b1N"
        },
        "answer": null,
        "topic": {
            "id": 33,
            "number": "04",
            "name": "指数函数"
        },
        "ability": {
            "id": 4,
            "level": null
        }
    },
    "r": ""
}
```

个人强弱总体训练 - 答题

```
POST api/client/general-training/act
```

POST数据样例：

```json
{
    "course": "M",
    "target": 3
}
```

course: string - 学科;

target: int - 目标级别;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 3,
        "category_id": 5,
        "active_number": 1,
        "correct": 0,
        "error": 0,
        "done": 0,
        "gain": null,
        "target_level": 3,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 352,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/5/1/5/1/12/CMQ331010c0l050c0b1T"
        },
        "answer": null,
        "topic": {
            "id": 1,
            "number": "01",
            "name": "集合"
        },
        "ability": {
            "id": 1,
            "level": null
        }
    },
    "r": ""
}
```

个人强弱总体训练 - 提交答案

```
POST api/client/general-training/answer
```

POST数据样例：

```json
{
    "id": 3,
    "answer": "D"
}
```

> id: int - 测试id;
>
> answer: string - 答案;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 3,
        "category_id": 5,
        "active_number": 1,
        "correct": 1,
        "error": 0,
        "done": 1,
        "gain": "5.00",
        "target_level": 3,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
```

```
        "exercise": {
            "id": 352,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/5/1/5/1/12/CMQ331010c0l050c0b1T"
        },
        "answer": {
            "number": 1,
            "exercise_id": 352,
            "score": "5.00",
            "answer": "D",
            "gain": "5.00",
            "answer_check": 2
        },
        "topic": {
            "id": 1,
            "number": "01",
            "name": "集合"
        },
        "ability": {
            "id": 1,
            "level": null
        }
    },
    "r": ""
}
```

个人强弱总体训练 - 下一题

```
POST api/client/general-training/next
```

POST数据样例：

```
{
    "id": 3
}
```

> id: int - 测试id;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 3,
        "category_id": 5,
        "active_number": 2,
        "correct": 1,
        "error": 0,
        "done": 1,
        "gain": "5.00",
        "target_level": 3,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 352,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/5/1/5/1/12/CMQ331010c0l050c0b1T"
        },
        "answer": null,
        "topic": {
            "id": 1,
            "number": "01",
            "name": "集合"
        },
        "ability": {
            "id": 1,
            "level": null
        }
    },
    "r": ""
}
```

真题 - 选择试卷

```
GET api/client/reality-paper
```

GET数据样例：

```json
{
    "course": "M"
}
```

> course: string - 学科;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": [
        {
            "id": 1,
            "period": "2015",
            "title": "江苏卷",
            "total": 6,
            "topics": [
                {
                    "id": 33,
                    "name": "指数函数",
                    "number": "04",
                    "total": 2,
                    "score": 10
                },
                {
```

```
                "id": 197,
                "name": "三角恒等变换",
                "number": "17",
                "total": 2,
                "score": 5
            },
            {
                "id": 206,
                "name": "解三角形",
                "number": "18",
                "total": 1,
                "score": 5
            },
            {
                "id": 213,
                "name": "数列",
                "number": "19",
                "total": 1,
                "score": 5
            },
            {
                "id": 249,
                "name": "圆锥曲线与方程",
                "number": "22",
                "total": 1,
                "score": 0
            },
            {
                "id": 358,
                "name": "矩阵与变换",
                "number": "30",
                "total": 1,
                "score": 0
            }
        ]
    },
    {
        "id": 2,
        "period": "2016",
        "title": "江苏卷",
```

真题 - 选择试卷

```
        "total": 10,
        "topics": [
            {
                "id": 15,
                "name": "函数的概念",
                "number": "02",
                "total": 1,
                "score": 5
            },
            {
                "id": 43,
                "name": "对数函数",
                "number": "05",
                "total": 1,
                "score": 0
            },
            {
                "id": 113,
                "name": "圆与方程",
                "number": "11",
                "total": 1,
                "score": 5
            },
            {
                "id": 125,
                "name": "算法初步",
                "number": "12",
                "total": 1,
                "score": 5
            },
            {
                "id": 132,
                "name": "统计",
                "number": "13",
                "total": 1,
                "score": 5
            },
            {
                "id": 153,
                "name": "三角函数",
```

```
                "number": "15",
                "total": 1,
                "score": 5
            },
            {
                "id": 197,
                "name": "三角恒等变换",
                "number": "17",
                "total": 2,
                "score": 5
            },
            {
                "id": 213,
                "name": "数列",
                "number": "19",
                "total": 2,
                "score": 5
            },
            {
                "id": 249,
                "name": "圆锥曲线与方程",
                "number": "22",
                "total": 1,
                "score": 0
            },
            {
                "id": 358,
                "name": "矩阵与变换",
                "number": "30",
                "total": 1,
                "score": 0
            }
        ]
    }
  ],
  "r": ""
}
```

真题答题

```
POST api/client/reality/act
```

POST数据样例：

```
{
    "paper_id": 39
}
```

paper_id : int - 试卷id;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "id": 4,
        "category_id": 2,
        "active_number": 5,
        "correct": 0,
        "error": 0,
        "done": 0,
        "gain": null,
        "complete_at": null,
        "is_completed": 0,
        "paper": {
            "id": 39,
            "name": "2017 全国卷3",
            "total": 10,
            "score": 35
```

```json
        },
        "exercise": [
            {
                "id": 238,
                "number": "5",
                "score": "5.00",
                "type_id": 3,
                "url": "C/M/4/1/4/11/9/CMQ3410b090o0409091m",
                "topics": [
                    {
                        "id": 233,
                        "name": "一元二次不等式的解法"
                    },
                    {
                        "id": 236,
                        "name": "线性规划的实际应用问题"
                    },
                    {
                        "id": 237,
                        "name": "常用逻辑用语"
                    }
                ]
            }
        ],
        "answer": null,
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

paper.id: 真题试卷id;

paper.name: 真题试卷名称;

paper.total: 真题试卷总题数;

paper.score: 真题试卷总分;

exercise[]: 真题卷中的习题可能有选做的情况，如果exercise数组的长度大于1，可判断该题是选做题,选做题的列表就是exercise数组;

exercise[].topics：用户在做真题习题答题的时候, 可以看该题的知识点, 该项列出真题的知识点列表;

真题答题 - 提交答案

```
POST api/client/reality/answer
```

POST数据样例：

```json
{
    "id": 4,
    "number": 5,
    "answer": 1,
    "exercise_id": 1,
}
```

id: int - 测试id;

number: int - 题号;

answer: string - 答案;

exercise_id: 对于真题试卷中的选做题，提交答案的时候需要传选做的源题Id

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 4,
        "category_id": 2,
        "active_number": 8,
        "correct": 0,
        "error": 1,
        "done": 1,
```

```
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 0,
        "paper": {
            "id": 39,
            "name": "2017 全国卷3",
            "total": 10,
            "score": 35
        },
        "exercise": [
            {
                "id": 201,
                "number": "8",
                "score": "5.00",
                "type_id": 3,
                "url": "C/M/4/1/4/11/9/CMQ3410b090p0409081a",
                "topics": [
                    {
                        "id": 65,
                        "name": "圆台的结构特征"
                    },
                    {
                        "id": 66,
                        "name": "球的结构特征"
                    }
                ]
            }
        ],
        "answer": null,
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

真题答题 - 下一题

```
POST api/client/reality/next
```

POST数据样例：

```
{
    "id": 4
}
```

id: int - 测试id;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "id": 4,
        "category_id": 2,
        "active_number": 10,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 0,
        "paper": {
            "id": 39,
            "name": "2017 全国卷3",
            "total": 10,
            "score": 35
```

```
        },
        "exercise": [
            {
                "id": 267,
                "number": "10",
                "score": "5.00",
                "type_id": 3,
                "url": "C/M/4/1/4/11/9/CMQ3410b090i04090914",
                "topics": [
                    {
                        "id": 232,
                        "name": "一元二次不等式的概念"
                    }
                ]
            }
        ],
        "answer": null,
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

真题答题 - 看不懂题目

```
POST api/client/reality/skip
```

POST数据样例：

```json
{
    "id": 4,
    "exercise_id": 201
}
```

id: int - 测试id;

exercise_id: int - 源题id;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 4,
        "category_id": 2,
        "active_number": 10,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 0,
        "paper": {
            "id": 39,
```

```
                "name": "2017 全国卷3",
                "total": 10,
                "score": 35
            },
            "exercise": [
                {
                    "id": 267,
                    "number": "10",
                    "score": "5.00",
                    "type_id": 3,
                    "url": "C/M/4/1/4/11/9/CMQ3410b090i04090914",
                    "topics": [
                        {
                            "id": 232,
                            "name": "一元二次不等式的概念"
                        }
                    ]
                }
            ],
            "answer": null,
            "topic": null,
            "ability": null
        },
        "r": ""
    }
```

真题答题 - 看知识点

同 知识点 - 看知识点

真题(选知识点) - 答题

```
POST api/client/reality-topic/act
```

POST数据样例：

```json
{
    "paper_id": 1,
    "topic_id": 33
}
```

paper_id：int - 试卷id;

topic_id：int - 知识点;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 5,
        "category_id": 6,
        "active_number": 1,
        "correct": 0,
        "error": 0,
        "done": 0,
        "gain": null,
        "complete_at": null,
        "is_completed": 0,
        "paper": {
            "id": 1,
```

```
                "name": "2015 江苏卷",
                "total": 6,
                "score": 15
            },
            "exercise": {
                "id": 271,
                "type_id": 1,
                "score": "5.00",
                "url": "C/M/5/1/5/1/1/CMQ12101010l05010a1r",
                "topics": [
                    {
                        "id": 213,
                        "name": "数列"
                    },
                    {
                        "id": 35,
                        "name": "分数指数幂及幂指数"
                    }
                ]
            },
            "answer": null,
            "topic": {
                "id": 33,
                "name": "指数函数",
                "total": 2,
                "score": 10
            },
            "ability": null
        },
        "r": ""
    }
```

topic.id：当前所选知识点id;

topic.name：当前所选知识点名称;

topic.total：当前所选知识点总题数;

topic.score：当前所选知识点总分值;

真题(选知识点) - 提交答案

```
POST api/client/reality-topic/answer
```

POST数据样例：

```
{
    "id": 5,
    "number": 1,
    "answer": 1
}
```

id: int - 测试id;

number: int - 题号;

answer: int - 答案;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "id": 5,
        "category_id": 6,
        "active_number": 1,
        "correct": 1,
        "error": 0,
        "done": 1,
        "gain": "5.00",
        "complete_at": null,
        "is_completed": 0,
```

```json
        "paper": {
            "id": 1,
            "name": "2015 江苏卷",
            "total": 6,
            "score": 15
        },
        "exercise": {
            "id": 271,
            "type_id": 1,
            "score": "5.00",
            "url": "C/M/5/1/5/1/1/CMQ12101010l05010a1r",
            "topics": [
                {
                    "id": 213,
                    "name": "数列"
                },
                {
                    "id": 35,
                    "name": "分数指数幂及幂指数"
                }
            ]
        },
        "answer": {
            "number": 1,
            "exercise_id": 271,
            "score": "5.00",
            "answer": "1",
            "gain": "5.00",
            "answer_check": 2
        },
        "topic": {
            "id": 33,
            "name": "指数函数",
            "total": 2,
            "score": 10
        },
        "ability": null
    },
    "r": ""
}
```

active_number：当前题号;

exercise.source_id：源题ID;

exercise.source_path：源题地址;

exercise.source_type_id：源题类型(1-选择题, 2-填空题, 3-解答题);

真题(选知识点) - 下一题

```
POST api/client/reality-topic/next
```

POST数据样例：

```
{
    "id": 5
}
```

id : int - 测试ID;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "id": 5,
        "category_id": 6,
        "active_number": 2,
        "correct": 1,
        "error": 0,
        "done": 1,
        "gain": "5.00",
        "complete_at": null,
        "is_completed": 0,
        "paper": {
            "id": 1,
            "name": "2015 江苏卷",
            "total": 6,
            "score": 15
```

```json
        },
        "exercise": {
            "id": 331,
            "type_id": 1,
            "score": "5.00",
            "url": "C/M/5/1/5/1/1/CMQ15101010f05010b1K",
            "topics": [
                {
                    "id": 35,
                    "name": "分数指数幂及幂指数"
                },
                {
                    "id": 42,
                    "name": "指数函数图象的变换"
                }
            ]
        },
        "answer": null,
        "topic": {
            "id": 33,
            "name": "指数函数",
            "total": 2,
            "score": 10
        },
        "ability": null
    },
    "r": ""
}
```

active_number：当前题号;

exercise.source_id：源题ID;

exercise.source_path：源题地址;

exercise.source_type_id：源题类型(1-选择题, 2-填空题, 3-解答题);

真题(选知识点) - 看不懂题目

```
POST api/client/reality-topic/skip
```

POST数据样例：

```
{
    "id": 5,
    "exercise_id": 331
}
```

id: int - 测试id;

exercise_id: int - 源题id;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "id": 5,
        "category_id": 6,
        "active_number": 2,
        "correct": 1,
        "error": 0,
        "done": 1,
        "gain": "5.00",
        "complete_at": "2018-04-23 05:32:52",
        "is_completed": 0,
        "paper": {
            "id": 1,
```

```
            "name": "2015 江苏卷",
            "total": 6,
            "score": 15
        },
        "exercise": {
            "id": 331,
            "type_id": 1,
            "score": "5.00",
            "url": "C/M/5/1/5/1/1/CMQ15101010f05010b1K",
            "topics": [
                {
                    "id": 35,
                    "name": "分数指数幂及幂指数"
                },
                {
                    "id": 42,
                    "name": "指数函数图象的变换"
                }
            ]
        },
        "answer": null,
        "topic": {
            "id": 33,
            "name": "指数函数",
            "total": 2,
            "score": 10
        },
        "ability": null
    },
    "r": ""
}
```

真题答题 - 完成

```
POST api/client/reality/complete
```

POST数据样例：

```
{
    "id": 4
}
```

> id: int - 测试id

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "id": 4,
        "category_id": 2,
        "active_number": 10,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 1,
        "paper": {
            "id": 39,
            "name": "2017 全国卷3",
            "total": 10,
            "score": 35
```

```
        },
        "exercise": [
            {
                "id": 267,
                "number": "10",
                "score": "5.00",
                "type_id": 3,
                "url": "C/M/4/1/4/11/9/CMQ3410b090i04090914",
                "topics": [
                    {
                        "id": 232,
                        "name": "一元二次不等式的概念"
                    }
                ]
            }
        ],
        "answer": null,
        "topic": null,
        "ability": null
    },
    "r": ""
}
```

真题答题 - 完成

```
POST api/client/reality-topic/complete
```

POST数据样例：

```json
{
    "id": 5
}
```

id: int - 测试id

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 5,
        "category_id": 6,
        "active_number": 2,
        "correct": 1,
        "error": 0,
        "done": 1,
        "gain": "5.00",
        "complete_at": "2018-04-23 05:32:52",
        "is_completed": 1,
        "paper": {
            "id": 1,
            "name": "2015 江苏卷",
            "total": 6,
            "score": 15
```

```json
        },
        "exercise": {
            "id": 331,
            "type_id": 1,
            "score": "5.00",
            "url": "C/M/5/1/5/1/1/CMQ15101010f05010b1K",
            "topics": [
                {
                    "id": 35,
                    "name": "分数指数幂及幂指数"
                },
                {
                    "id": 42,
                    "name": "指数函数图象的变换"
                }
            ]
        },
        "answer": null,
        "topic": {
            "id": 33,
            "name": "指数函数",
            "total": 2,
            "score": 10
        },
        "ability": null
    },
    "r": ""
}
```

真题(选知识点) - 看知识点

知识点 - 选择知识点

```
GET api/client/topic
```

GET数据样例：

```
{
    "course": "M"
}
```

course: string - 学科;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": [
        {
            "id": 1,
            "name": "集合",
            "number": "01",
            "children": [
                {
                    "id": 2,
                    "name": "集合与元素的含义",
                    "number": "01.0101"
                },
                {
                    "id": 3,
                    "name": "集合中元素的三个特征",
                    "number": "01.0102"
```

```
                },
                {
                    "id": 4,
                    "name": "元素与集合的关系",
                    "number": "01.0103"
                },
                {
                    "id": 5,
                    "name": "集合的表示方法",
                    "number": "01.0104"
                },
                {
                    "id": 6,
                    "name": "子集的概念",
                    "number": "01.0201"
                },
                {
                    "id": 7,
                    "name": "集合相等",
                    "number": "01.0202"
                },
                {
                    "id": 8,
                    "name": "真子集",
                    "number": "01.0203"
                },
                {
                    "id": 9,
                    "name": "空集",
                    "number": "01.0204"
                },
                {
                    "id": 10,
                    "name": "Venn 图",
                    "number": "01.0205"
                },
                {
                    "id": 11,
                    "name": "子集的性质",
                    "number": "01.0206"
```

```
            },
            {
                "id": 12,
                "name": "并集的定义与基本运算",
                "number": "01.0301"
            },
            {
                "id": 13,
                "name": "交集的定义与基本运算",
                "number": "01.0302"
            },
            {
                "id": 14,
                "name": "全集与补集",
                "number": "01.0303"
            }
        ]
    },
    {
        "id": 15,
        "name": "函数的概念",
        "number": "02",
        "children": [
            {
                "id": 16,
                "name": "函数的概念",
                "number": "02.0101"
            },
            {
                "id": 17,
                "name": "函数的三要素",
                "number": "02.0102"
            },
            {
                "id": 18,
                "name": "相同的函数",
                "number": "02.0103"
            },
            {
                "id": 19,
```

```
                "name": "函数的表示方法",
                "number": "02.0201"
            },
            {
                "id": 20,
                "name": "分段函数",
                "number": "02.0202"
            },
            {
                "id": 21,
                "name": "映射",
                "number": "02.0203"
            },
            {
                "id": 22,
                "name": "函数的图象",
                "number": "02.0204"
            },
            {
                "id": 23,
                "name": "函数的单调性",
                "number": "02.0301"
            },
            {
                "id": 24,
                "name": "函数的最大值与最小值",
                "number": "02.0302"
            },
            {
                "id": 25,
                "name": "函数奇偶性的定义",
                "number": "02.0401"
            },
            {
                "id": 26,
                "name": "函数奇偶性的运算性质",
                "number": "02.0402"
            },
            {
                "id": 27,
```

```
                "name": "奇，偶函数的图象",
                "number": "02.0403"
            },
            {

                "id": 28,
                "name": "奇，偶函数的性质",
                "number": "02.0404"
            }
        ]
    }
    ],
    "r": ""
}
```

```
                "name": "奇，偶函数的图象",
                "number": "02.0403"
```

知识点 - 看知识点

```
GET api/client/topic/{id}
```

> id: int - 知识点id;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 2,
        "course": "M",
        "name": "集合与元素的含义",
        "number": "01.0101",
        "code": "02",
        "author_name": "",
        "author_id": 0,
        "created_at": null,
        "updated_at": null,
        "level": 2,
        "parent_number": "01",
        "parent_id": 1,
        "parent_name": "集合"
    },
    "r": ""
}
```

知识点 - 学习

```
POST api/client/learn-topic/act
```

POST数据样例：

```
{
    "id": 1
}
```

id: int - 知识点id;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "topic": {
            "id": 1,
            "name": "集合",
            "number": "01",
            "parent_name": ""
        },
        "previous": null,
        "next": {
            "id": 2,
            "name": "集合与元素的含义",
            "number": "01.0101",
            "parent_name": "集合"
        }
    },
    "r": ""
}
```

知识点 - 下一个

```
POST api/client/learn-topic/next
```

POST数据样例：

```
{
    "id": 1 // int
}
```

> id: int - 知识点id;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "topic": {
            "id": 2,
            "name": "集合与元素的含义",
            "number": "01.0101",
            "parent_name": "集合"
        },
        "previous": {
            "id": 1,
            "name": "集合",
            "number": "01",
            "parent_name": ""
        },
        "next": {
            "id": 3,
            "name": "集合中元素的三个特征",
            "number": "01.0102",
            "parent_name": "集合"
        }
    },
    "r": ""
}
```

知识点 - 上一个

```
POST api/client/learn-topic/previous
```

POST数据样例：

```
{
    "id": 4 // int
}
```

> id: int - 知识点id;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "topic": {
            "id": 3,
            "name": "集合中元素的三个特征",
            "number": "01.0102",
            "parent_name": "集合"
        },
        "previous": {
            "id": 2,
            "name": "集合与元素的含义",
            "number": "01.0101",
            "parent_name": "集合"
        },
        "next": {
            "id": 4,
            "name": "元素与集合的关系",
            "number": "01.0103",
            "parent_name": "集合"
        }
    },
    "r": ""
}
```

知识点 - 看不懂知识点

```
POST api/client/learn-topic/skip
```

POST数据样例：

```
{
    "id": 3, // int
}
```

> id: int - 知识点id;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "topic": {
            "id": 4,
            "name": "元素与集合的关系",
            "number": "01.0103",
            "parent_name": "集合"
        },
        "previous": {
            "id": 3,
            "name": "集合中元素的三个特征",
            "number": "01.0102",
            "parent_name": "集合"
        },
        "next": {
            "id": 5,
            "name": "集合的表示方法",
            "number": "01.0104",
            "parent_name": "集合"
        }
    },
    "r": ""
}
```

知识点答题

```
POST api/client/topic/act
```

POST数据样例：

```
{
    "topic_id": 11
}
```

topic_id：int - 知识点;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 6,
        "category_id": 3,
        "active_number": 1,
        "correct": 0,
        "error": 0,
        "done": 0,
        "gain": null,
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 102,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/2/1/2/11/7/CMQ3210b070q0207030o"
        },
        "answer": null,
        "topic": {
            "id": 11,
            "number": "01.0206",
            "name": "子集的性质",
            "total": 2,
            "score": 10,
            "parent_id": 1,
            "parent_number": "01",
            "parent_name": "集合"
        },
        "ability": null
    },
    "r": ""
}
```

topic.id: 知识点id;

topic.number: 知识点编号;

topic.name: 知识点名称;

topic.id: 该知识点总题数;

topic.id: 该知识点所有题目的分值;

topic.parent_id: 知识点上级知识点id;

topic.parent_number: 知识点上级知识点编号;

topic.parent_name: 知识点上级知识点名称;

知识点答题 - 下一题

```
POST api/client/topic/next
```

POST数据样例：

```
{
    "id": 6
}
```

> id: int - 测试id;

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "id": 6,
        "category_id": 3,
        "active_number": 2,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 103,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/2/1/2/4/6/CMQ32104060q0206030p"
        },
        "answer": null,
        "topic": {
            "id": 11,
            "number": "01.0206",
            "name": "子集的性质",
            "total": 2,
            "score": 10,
            "parent_id": 1,
            "parent_number": "01",
            "parent_name": "集合"
        },
        "ability": null
    },
    "r": ""
}
```

知识点答题 - 提交答案

```
POST api/client/topic/answer
```

POST数据样例：

```json
{
    "id": 6,
    "number": 1,
    "answer": "B"
}
```

> id: int - 测试id;
>
> number: int - 题号;
>
> answer: int - 答案;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 6,
        "category_id": 3,
        "active_number": 1,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": null,
        "is_completed": 0,
```

```
        "paper": null,
        "exercise": {
            "id": 102,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/2/1/2/11/7/CMQ3210b070q0207030o"
        },
        "answer": {
            "number": 1,
            "exercise_id": 102,
            "score": "5.00",
            "answer": "B",
            "gain": "0.00",
            "answer_check": 0
        },
        "topic": {
            "id": 11,
            "number": "01.0206",
            "name": "子集的性质",
            "total": 2,
            "score": 10,
            "parent_id": 1,
            "parent_number": "01",
            "parent_name": "集合"
        },
        "ability": null
    },
    "r": ""
}
```

通过exercise.gain与exercise.score比对结果判断答案正误

知识点答题 - 看不懂题目

```
POST api/client/topic/skip
```

POST数据样例：

```
{
    "id": 6,
    "exercise_id": 103
}
```

id: int - 测试id;

exercise_id: int - 源题id;

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 6,
        "category_id": 3,
        "active_number": 2,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": "2018-04-23 05:36:35",
        "is_completed": 0,
        "paper": null,
        "exercise": {
            "id": 103,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/2/1/2/4/6/CMQ32104060q0206030p"
        },
        "answer": null,
        "topic": {
            "id": 11,
            "number": "01.0206",
            "name": "子集的性质",
            "total": 2,
            "score": 10,
            "parent_id": 1,
            "parent_number": "01",
            "parent_name": "集合"
        },
        "ability": null
    },
    "r": ""
}
```

知识点答题 - 完成

```
POST api/client/topic/complete
```

POST数据样例：

```
{
    "id": 6
}
```

id: int - 测试id

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "id": 6,
        "category_id": 3,
        "active_number": 2,
        "correct": 0,
        "error": 1,
        "done": 1,
        "gain": "0.00",
        "complete_at": "2018-04-23 05:36:35",
        "is_completed": 1,
        "paper": null,
        "exercise": {
            "id": 103,
            "type_id": 3,
            "score": "5.00",
            "url": "C/M/2/1/2/4/6/CMQ32104060q0206030p"
        },
        "answer": null,
        "topic": {
            "id": 11,
            "number": "01.0206",
            "name": "子集的性质",
            "total": 2,
            "score": 10,
            "parent_id": 1,
            "parent_number": "01",
            "parent_name": "集合"
        },
        "ability": null
    },
    "r": ""
}
```

我的首页 - 强弱点分析

同"个人强弱 - 分析"

我的首页 - 学习历史 - 知识点

```
GET api/client/user/history-learn-topic
```

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": [
        {
            "id": 1,
            "name": "集合",
            "number": "01",
            "total": 5,
            "answered": 0,
            "children": [
                {
                    "id": 2,
                    "name": "集合与元素的含义",
                    "number": "01.0101",
                    "total": 0,
                    "answered": 0
                },
                {
                    "id": 3,
                    "name": "集合中元素的三个特征",
                    "number": "01.0102",
                    "total": 0,
                    "answered": 0
                },
                {
                    "id": 4,
                    "name": "元素与集合的关系",
```

        "number": "01.0103",
        "total": 0,
        "answered": 0
    },
    {
        "id": 5,
        "name": "集合的表示方法",
        "number": "01.0104",
        "total": 0,
        "answered": 0
    },
    {
        "id": 6,
        "name": "子集的概念",
        "number": "01.0201",
        "total": 0,
        "answered": 0
    },
    {
        "id": 7,
        "name": "集合相等",
        "number": "01.0202",
        "total": 0,
        "answered": 0
    },
    {
        "id": 8,
        "name": "真子集",
        "number": "01.0203",
        "total": 0,
        "answered": 0
    },
    {
        "id": 9,
        "name": "空集",
        "number": "01.0204",
        "total": 0,
        "answered": 0
    },
    {

```
                "id": 10,
                "name": "Venn 图",
                "number": "01.0205",
                "total": 0,
                "answered": 0
            },
            {
                "id": 11,
                "name": "子集的性质",
                "number": "01.0206",
                "total": 2,
                "answered": 0
            },
            {
                "id": 12,
                "name": "并集的定义与基本运算",
                "number": "01.0301",
                "total": 2,
                "answered": 0
            },
            {
                "id": 13,
                "name": "交集的定义与基本运算",
                "number": "01.0302",
                "total": 0,
                "answered": 0
            },
            {
                "id": 14,
                "name": "全集与补集",
                "number": "01.0303",
                "total": 1,
                "answered": 0
            }
        ]
    },
    {
        "id": 15,
        "name": "函数的概念",
        "number": "02",
```

```
            "total": 44,
            "answered": 0,
            "children": [
                {
                    "id": 16,
                    "name": "函数的概念",
                    "number": "02.0101",
                    "total": 0,
                    "answered": 0
                },
                {
                    "id": 17,
                    "name": "函数的三要素",
                    "number": "02.0102",
                    "total": 0,
                    "answered": 0
                },
                {
                    "id": 18,
                    "name": "相同的函数",
                    "number": "02.0103",
                    "total": 9,
                    "answered": 0
                },
                {
                    "id": 19,
                    "name": "函数的表示方法",
                    "number": "02.0201",
                    "total": 0,
                    "answered": 0
                },
                {
                    "id": 20,
                    "name": "分段函数",
                    "number": "02.0202",
                    "total": 10,
                    "answered": 0
                },
                {
                    "id": 21,
```

```
                    "name": "映射",
                    "number": "02.0203",
                    "total": 2,
                    "answered": 0
                },
                {
                    "id": 22,
                    "name": "函数的图象",
                    "number": "02.0204",
                    "total": 1,
                    "answered": 0
                },
                {
                    "id": 23,
                    "name": "函数的单调性",
                    "number": "02.0301",
                    "total": 8,
                    "answered": 0
                },
                {
                    "id": 24,
                    "name": "函数的最大值与最小值",
                    "number": "02.0302",
                    "total": 0,
                    "answered": 0
                },
                {
                    "id": 25,
                    "name": "函数奇偶性的定义",
                    "number": "02.0401",
                    "total": 1,
                    "answered": 0
                },
                {
                    "id": 26,
                    "name": "函数奇偶性的运算性质",
                    "number": "02.0402",
                    "total": 5,
                    "answered": 0
                },
```

```
            {
                "id": 27,
                "name": "奇，偶函数的图象",
                "number": "02.0403",
                "total": 0,
                "answered": 0
            },
            {
                "id": 28,
                "name": "奇，偶函数的性质",
                "number": "02.0404",
                "total": 8,
                "answered": 0
            }
        ]
    }
    ],
    "r": ""
}
```

我的首页 - 学习历史 - 真题

```
GET api/client/user/history-learn-reality
```

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": [
        {
            "id": 51,
            "name": "2007 宁夏海南卷",
            "total": 9,
            "answered": 0
        },
        {
            "id": 50,
            "name": "2008 宁夏海南卷",
            "total": 15,
            "answered": 0
        }
    ],
    "r": ""
}
```

我的首页 - 个人资料

```
GET api/client/user
```

成功返回结果：

```
{
    "c": 200,
    "m": "",
    "d": {
        "first_name": "",
        "last_name": "",
        "sex": "",
        "mobile": "",
        "first_name": "",
        "addresses": {"id":1, "province": "", "city": "", "area"
: ""},
        "school"::"",
        "grade": "",
        "teachers": [
            {"first_name":"", "last_name":"", "mobile":""},
            {"first_name":"", "last_name":"", "mobile":""},
        ],
        "parents": [
            {"first_name":"", "last_name":"", "mobile":""},
            {"first_name":"", "last_name":"", "mobile":""},
        ],
    },
    "r": ""
}
```

我的首页 - 个人资料 - 保存

```
POST api/client/user
```

POST数据样例：

```
{
    "first_name": "",
        "last_name": "",
        "sex": "",
        "mobile": "",
        "first_name": "",
        "addresses": {"id":1},
        "school"::"",
        "grade": "",
        "teachers": [
            {"first_name":"", "last_name":"", "mobile":""},
            {"first_name":"", "last_name":"", "mobile":""},
        ],
        "parents": [
            {"first_name":"", "last_name":"", "mobile":""},
            {"first_name":"", "last_name":"", "mobile":""},
        ],
}
```

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "first_name": "",
        "last_name": "",
        "sex": "",
        "mobile": "",
        "first_name": "",
        "addresses": {"id":1, "province": "", "city": "", "area": ""},
        "school"::"",
        "grade": "",
        "teachers": [
            {"first_name":"", "last_name":"", "mobile":""},
            {"first_name":"", "last_name":"", "mobile":""},
        ],
        "parents": [
            {"first_name":"", "last_name":"", "mobile":""},
            {"first_name":"", "last_name":"", "mobile":""},
        ],
    },
    "r": ""
}
```

我的首页 - 继续学习

```
GET api/client/user/learn-record
```

成功返回结果：

```json
{
    "c": 200,
    "m": "",
    "d": {
        "url": "http://nx.lo/api/client/ability/act",
        "parameters": {
            "course": "M"
        }
    },
    "r": ""
}
```

url: 路由地址;

parameters: 路由参数与;

重置密码

```
POST api/client/forgot-password/reset
```

POST数据样例：

```
{
    "email": "89391740@qq.com",
    "verify_code": "208334",
    "password": "111156",
    "password_confirmation": "111156"
}
```

成功返回结果：

```
{
    "c": 200,
    "m": "reset_password_successfully",
    "d": [],
    "r": ""
}
```