

ASDAN 商业竞赛项目 API 设计

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目录

1	一些修改及说明	2
2	Client API Endpoints	2
2.1	Get Information	2
2.2	Get Avatar	3
2.3	Get Property	4
2.4	Update Avatar	5
2.5	Get All User	6
2.6	交易：发出出售请求，监听出售结果	7
2.7	交易结束转发账单和现有资产	7
2.8	监听比赛状态改变	9
2.9	监听 produce 后资产的改变	9
2.10	Get Trade History	11
2.11	Get Produce History	12
3	Admin API Endpoints	13
3.1	Get All Competitions	13
3.2	Create Competition	14
3.3	Delete Competition By ID	15
3.4	Update Competition Status	15
3.5	Get Auction Machine	18
3.6	Record Auction Result	18
3.7	Get Competition Property	19

3.8	Update Competition Property	21
3.9	Get Competition Information	22
3.10	Record machine owner	24
4	Administrative Endpoints	26
4.1	Login Admin	27
4.2	Login Client	27
5	Utility Endpoints	28

1. Client API Endpoints: 为特定用户提供相关信息。
2. Admin API Endpoints: 为管理员提供相关信息。
3. Administrative Endpoints: 登录和交易时使用。
4. Utility Endpoints: 询问系统相关信息。

1 一些修改及说明

10.29: 修改了时间的表示方法, 目前按照 ISO-8601 格式, 具体请参照这篇文章: <https://stackoverflow.com/questions/19013562/java-dates-and-standard-formats>。

```
"yyyy-MM-dd'T'HH:mm:ss.SSS'Z'"
```

2 Client API Endpoints

为特定用户提供相关信息。

2.1 Get Information

输入 ID, 获得与这一 ID 相关的用户的配置信息。用户有默认头像。如果比赛还没有开始, 则 rank 为 0。

Request

```
GET /api/client/info/id={id}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json
```

Returns

```
HTTP 200 OK

{
  "memberList":
  [
```

```

        "member1": "wangmz",
        "member2": "songsh",
        "member3": "wtf"
    ],
    "username": "team1",
    "id": 3,
    "rank": 1,

    "gameStatus": "auction" ("not_start", "auction_not_record", "auction_recorded", "trade", "rest", "end")
    "round": 0/1/2/3 (第 (round+1) 轮)
    "timeLeft": 300(s)
}

```

Error

HTTP 404 NOT FOUND

2.2 Get Avatar

获得用户头像

Request

GET /api/client/info/getAvatar/id={id}

Host: localhost:8080

Auth:

Content-type: application/json

Accept: application/json

Returns

HTTP 200 OK

HashMap

```

{
    "fileoriginalsize", size;
    "contenttype", contentType;
    "base64", new String(Base64Utils.encode(IOUtils.toByteArray(stream)));
}

```

Error

```
HTTP 404 NOT FOUND
```

2.3 Get Property

输入 ID，获得与这一 ID 相关的用户的财产信息。包括机器的使用情况和材料的价格。

Request

```
GET /api/client/property/id={id}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json
```

Returns

```
HTTP 200 OK

{
  "wealth": 3000,
  "machine":
  [
    {
      "id": 0073,
      "type": "Cement",
      "left": 3
      "lock":false
    },
    {
      "id": 0793,
      "type": "Brick",
      "left": 0
      "lock":true(正处于出售中的机器和材料 lock == true)
    },
    {
      "id": 8765,
      "type": "Wood",
      "left": 2
      "lock":false
    }
  ],
}
```

```
"material":  
[  
  {  
    "type": "Wood",  
    "price": 10,  
    "number": 20,  
    "lock":true  
  },  
  {  
    "type": "Brick",  
    "price": 20,  
    "number": 0,  
    "lock":false  
  },  
  {  
    "type": "Cement",  
    "price": 80,  
    "number": 150,  
    "lock":false  
  }  
]  
}
```

Error

HTTP 404 NOT FOUND

2.4 Update Avatar

向服务器发送用户更改过的头像。(其它队友获取新头像直接调用 get Avatar)

Request

POST /api/client/info/updateAvatar/id={id}

Host: localhost:8080

MultipartHttpServletRequest request

Returns

HTTP 200 OK

HashMap

```
{
    "fileoriginalsize", size;
    "contenttype", contentType;
    "base64", new String(Base64Utils.encode(IOUTils.toByteArray(stream)));
}
```

Error

HTTP 404 NOT FOUND

2.5 Get All User

get 所有队伍，(除了发送消息的队伍)，用来发 sell Request 时进行选择

Request

GET /api/client/getAllUser/id={id}

Host: localhost:8080

Auth:

Content-type: application/json

Accept: application/json

Returns

HTTP 200 OK

```
{
  [
    {
      "teamId": 889,
      "username": "dddd",
    },
    {
      "teamId": 999,
      "username": "ddfadf",
    },
  ]
}
```

Error

HTTP 404 NOT FOUND

2.6 交易：发出出售请求，监听出售结果

```
MessageMapping: /api/client/property/sellerId={sellerId}/buyerId={buyerId}

SendTo: /api/client/property/buyerId={buyerId}

EndPoint: http://127.0.0.1:8090/trade

Get JSon Pattern: (卖方发送)
{
  "sellerId":sellerId,
  "buyerId":buyerId,
  "buyer":"TOMATO"
  "typeOrMachineID":"9987" ("Wood" "Cement" "Brick" OR machineID)
  "price":300,
  "number":7
  "seller":"Rua"
}
Send JSon Pattern: (发给买方)
{
  "tradeId": tradeId,
  "sellerId": sellerId,
  "buyerId": buyerId,
  "buyer": "TOMATO"
  "typeOrMachineID": "9987" ("Wood" "Cement" "Brick" OR machineID)
  "price": 300,
  "number": 7
  "seller": "Rua"
}
```

2.7 交易结束转发账单和现有资产

```
MessageMapping: /api/client/tradeFinish/buyerId={buyerId}

SendTo: /api/client/tradeFinish/id={id}

EndPoint: http://127.0.0.1:8090/tradeFinish

Get JSon Pattern:
{
```



```

    "tradeId":tradeId,
    "sellerId":sellerId,
    "buyerId":buyerId,
    "buyer":"TOMATO"
    "typeOrMachineID":"9987" ("Wood" "Cement" "Brick" OR machineID)
    "price":300,
    "number":7
    "seller":"Rua"

    "isAccept":true
}

```

Send JSon Pattern:

```

{
    "tradeId":tradeId,
    "sellerId":sellerId,
    "buyerId":buyerId,
    "buyer":"TOMATO"
    "typeOrMachineID":"9987" ("Wood" "Cement" "Brick" OR machineID)
    "price":300,
    "number":7
    "seller":"Rua"

    "isAccept":true

    "wealth":1000,
    "machine":
    [
        {
            "id": 0073,
            "type": "Wood",
            "left": 3
            "lock":false
        },
        {
            "id": 8765,
            "type": "Cement",
            "left": 2
            "lock":false
        }
    ],
    "material":
    [
        {
            "type": "Wood",
            "price": 10,

```

```

        "number": 20,
        "lock": false
    },
    {
        "type": "Brick",
        "price": 20,
        "number": 0,
        "lock": false
    },
    ]
}

```

转发给买方和卖方

2.8 监听比赛状态改变

```

MessageMapping: /api/client/ListenCompetitionStatus/id=3

SendTo: /api/client/CompetitionStatus/id=3

EndPoint: http://127.0.0.1:8090/competitionStatus

Send JSon Pattern:
{
    "gameStatus": "auction" ("not_start", "auction_not_record", "auction_recorded", "trade", "rest", "end")
    "round": 0/1/2/3 (第 (round+1) 轮)
    "timeLeft": 227(s)
}

```

2.9 监听 produce 后资产的改变

```

MessageMapping: /api/client/ListenProperty/id=3

SendTo: /api/client/ListenProperty/receive/id=3

EndPoint: http://127.0.0.1:8090/listenProperty

Send JSon Pattern:
{
    "wealth": 1000,
    "machine":
    [
        {
            "id": 0073,

```

```

        "type": "Wood",
        "left": 3
        "lock":false
    },
    {
        "id": 0793,
        "type": "Brick",
        "left": 0
        "lock":true
    },
    {
        "id": 8765,
        "type": "Cement",
        "left": 2
        "lock":false
    }
],
"material":
[
    {
        "type": "Wood",
        "price": 10,
        "number": 20,
        "lock":false
    },
    {
        "type": "Brick",
        "price": 20,
        "number": 0,
        "lock":false
    },
    {
        "type": "Cement",
        "price": 80,
        "number": 150,
        "lock":false
    }
]
}

```

Get JSON Pattern:

```

{
    "id":2,
    "times":1,
}
}

```

2.10 Get Trade History

交易历史信息。在发订单的时候客户端手动更新 History。

Request

```
GET /api/client/tradeHistory/id={id}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json
```

Returns

```
HTTP 200 OK

[
  {
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",
    "target": "team1",
    "action": "sell",
    "content": "wood",
    "price": 10,
    "number": 2
    "status": 1, (完成)
  },

  {
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",
    "target": "team1",
    "action": "buy",
    "content": "1234" (machine.id ==1234)
    "price": 10,
    "number": 1 (只能是1)
    "status": 0, (正在进行)
  },

  {
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",
    "target": "team1",
    "action": "buy",
    "content": "6666" (machine.id ==1234)
    "price": 10,
    "number": 1 (只能是1)
    "status": -1, (失败)
```

```
}  
]
```

Error

HTTP 404 NOT FOUND

2.11 Get Produce History

生产历史信息。

Request

GET /api/client/produceHistory/id={id}

Host: localhost:8080

Auth:

Content-type: application/json

Accept: application/json

Returns

HTTP 200 OK

```
[  
  {  
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",  
    "machineId": 9987,  
    "content": "Brick",  
    "price": 10,  
    "number": 2  
  },  
  {  
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",  
    "machineId": 3457,  
    "content": "Wood",  
    "price": 10,  
    "number": 2  
  },  
  {  
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",  
    "machineId": 5777,  
    "content": "Cement",  
    "price": 10,  
    "number": 2  
  }  
]
```

```
    "number": 2
  },
]
```

Error

HTTP 404 NOT FOUND

3 Admin API Endpoints

3.1 Get All Competitions

列出全部比赛。

Status 是 "not_start", "auction_not_record", "auction_recorded", "trade", "rest", "end" 之一。

Request

GET /api/admin/competition/getall

Host: localhost:8080

Auth:

Content-type: application/json

Accept: application/json

Returns

HTTP 200 OK

```
[
  {
    "id": "competiton1_id",
    "username": "competition1",
    "status": "auction"
  },
  {
    "id": "competiton2_id",
    "username": "competition2",
    "status": "end"
  }
]
```

Error

HTTP 204 NO CONTENT

3.2 Create Competition

新建一场比赛。注意，底层也要生成机器的 id。注意每场比赛的基本配置（比赛名称，参赛人数）只能创建一次，不能修改。

Request

```
POST /api/admin/competition/new

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json

{
  "username": "competition_username",
  "round": 2,
  "startWealth": 1000,
  "roundParameter":
  [
    {
      "machineStartPrice": [300, 350, 400],
      "machineNum": [1, 1, 1],
      "materialProduceCost": [10, 20, 30],
      "time": 900,
    },
    {
      "machineStartPrice": [300, 350, 400],
      "machineNum": [1, 1, 1],
      "materialProduceCost": [10, 20, 30],
      "time": 900,
    }
  ]
}
```

Returns

HTTP 201 CREATED

Error

```
HTTP 404 NOT FOUND
{
  "error": "Unable to delete. Competition with id xxx not found."
}
```

3.3 Delete Competition By ID

通过 ID 删除比赛。

Request

```
DELETE /api/admin/competiton/id={competition_id}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json
```

Returns

```
HTTP 200 OK
[
  {
    "id": "competiton2_id",
    "username": "competition2",
    "status": "end"
  }
]
```

Error

```
{
  "error": "Unable to delete. Competition with id xxx not found."
}
```

3.4 Update Competition Status

需要进入下一环节时，管理员端会向服务器发送更新比赛状态的请求，服务器返回当前比赛信息以便管理员端更新到最新的比赛状态。

Request

```
POST /api/admin/competition/status/id={id}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json

{
  "status": "auction"
  "round": 1 (-1 if round field is not nessasary)
}
```

Returns

```
HTTP 200 OK

{
  "id": "competition_id",
  "username": "competition_username",
  "status": "auction",
  "round": 2,
  "presentRound": 1,
  "teamInfo":
  [
    {
      "id": "id1",
      "wealth": 100,
      "material": [30, 40, 50],
      "machine":
      [
        {
          "id": "machine1_id",
          "type": "type1",
          "left": 3
        },
        {
          "id": "machine2_id",
          "type": "type2",
          "left": 2
        }
      ]
    },
    {
      "id": "id2",
```

```

    "wealth": 100,
    "material": [30, 40, 50],
    "machine":
    [
        {
            "id": "machine1_id",
            "type": "type1",
            "left": 3
        },
        {
            "id": "machine2_id",
            "type": "type2",
            "left": 2
        }
    ]
},
],
"trade_history":
[
    {
        "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",
        "sell": "team_id1",
        "buy": "team_id2",
        "content": {"material1": 1},
        "price": 10
    },
    {
        "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",
        "sell": "team_id1",
        "buy": "team_id2",
        "content": {"material2": 1},
        "price": 20
    }
]
}

```

如果是生产交易环节还需要添加

```

"endTime": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'"

```

Error

HTTP 404 NOT FOUND

```

{
    "error": "Unable to update. Competition with id xxx not found"
}

```

3.5 Get Auction Machine

获得某场比赛某一轮拍卖机器的初始信息。

Request

```
GET /api/admin/competition/auction/id={id}/round={round}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json
```

Returns

```
HTTP 200 OK
[
  {
    "machineId": "machine1",
    "type": "Wood",
    "startPrice": 200,
  },
  {
    "machineId": "machine2",
    "type": "Brick",
    "startPrice": 300,
  },
  {
    "machineId": "machine3",
    "type": "Cement",
    "startPrice": 400,
  }
]
```

Error

```
HTTP 404 NOT FOUND
{
  "error": "Competition with id xxx not found." (or Competition with id xxx does not have round xxx)
}
```

3.6 Record Auction Result

登记某场比赛某一轮的拍卖结果。

Request

```
POST /api/admin/competition/record/id={id}/round={round}
```

```
Host: localhost:8080
```

```
Auth:
```

```
Content-type: application/json
```

```
Accept: application/json
```

Returns

```
HTTP 200 OK
```

```
[
  {
    "machineId": "machine1",
    "teamId": "team1",
    "price": 2000,
  },
  {
    "machineId": "machine2",
    "teamId": "brick",
    "price": 3000,
  },
  {
    "machineId": "machine3",
    "teamId": "cement",
    "price": 4000,
  }
]
```

Error

```
HTTP 404 NOT FOUND
```

```
{
  "error": "Competition with id xxx not found." (or Competition with id xxx does not have round xxx)
}
```

3.7 Get Competition Property

从服务器按 id 获取某一比赛的各种属性。如果该比赛的属性尚未被设置，则该项为空。属性包括名称、比赛轮数（如果比赛已开始，则不能删除已开始或结束的轮）、比赛各项参数（不能修改已开始或结束的轮的参数）、机器的 id 等等。

Request

```
GET /api/admin/competition/property/id={id}
```

```
Host: localhost:8080
```

```
Auth:
```

```
Content-type: application/json
```

```
Accept: application/json
```

Returns

```
HTTP 200 OK
```

```
{
  "id": "competition_id",
  "username": "competition_username",
  "status": "not started",
  "teamNum": 1,
  "participantNum": 2,
  "team":
  [
    {
      "username": "team1",
      "participant": ["member1", "member2", "member2"],
      "password": "password",
    }
  ]
  "round": 1,
  "startWealth": 1000,
  "roundParameter":
  [
    {
      "machineStartPrice": [300, 350, 400],
      "machineNum": [1, 1, 1],
      "materialProduceCost": [10, 20, 30],
      "time": 900,
    }
  ]
}
```

Error

```
HTTP 404 NOT FOUND
```

```
{
  "error": "Competition with id xxx not found."
}
```

3.8 Update Competition Property

更新比赛的各种属性。属性包括名称、比赛轮数（如果比赛已开始，则不能更改）、比赛各项参数（不能修改已开始或结束的轮的参数）。

Request

```
PUT /api/admin/competition/property/id={id}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json

{
  "round": 2,
  "startWealth": 1000,
  "round_parameter":
  [
    {
      "machineStartPrice": [300, 350, 400],
      "machineNum": [1, 1, 1],
      "materialProduceCost": [10, 20, 30],
      "time": 900,
    },
    {
      "machineStartPrice": [300, 350, 400],
      "machineNum": [1, 1, 1],
      "materialProduceCost": [10, 20, 30],
      "time": 900,
    }
  ]
}
```

Returns

```
HTTP 201 CREATED
```

Error

```
HTTP 404 NOT FOUND
{
  "error": "Competition with id xxx not found."
}
```

```
HTTP 400 INVALID REQUEST
{
  "error": "Cannot update competition id xxx with given changes."
}
```

3.9 Get Competition Information

获取当前比赛信息，包括队伍的数量、资产、交易记录、机器的使用情况等。

Request

```
GET /api/admin/competition/info/id={id}

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json
```

Returns

```
HTTP 200 OK
{
  "id": "competition_id",
  "username": "competition_username",
  "status": "not_start",
  "round": 2,
  "presentRound": 0,
  "teamInfo":
  [
    {
      "id": "id1",
      "wealth": 100,
      "material": [30, 40, 50],
      "machine":
      [
        {
          "id": "machine1_id",
          "type": "type1",
          "left": 3
        },
        {
          "id": "machine2_id",
          "type": "type2",
          "left": 2
        }
      ]
    }
  ]
}
```

```

    }
  ]
},
{
  "id": "id2",
  "wealth": 100,
  "material": [30, 40, 50],
  "machine":
  [
    {
      "id": "machine1_id",
      "type": "type1",
      "left": 3
    },
    {
      "id": "machine2_id",
      "type": "type2",
      "left": 2
    }
  ]
}
],
"trade_history":
[
  {
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",
    "sell": "team_id1",
    "buy": "team_id2",
    "content": {"material1": 1},
    "price": 10
  },
  {
    "time": "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'",
    "sell": "team_id1",
    "buy": "team_id2",
    "content": {"material2": 1},
    "price": 20
  }
]
}

```

Error

HTTP 404 NOT FOUND

```

{
  "error": "Competition with id 1 not found."
}

```



```
}
```

3.10 Record machine owner

向服务器发送对比赛的更新信息。增加机器、分配财产之类的。

Request

```
PUT /api/admin/competition/info/id={id}
```

```
Host: localhost:8080
```

```
Auth:
```

```
Content-type: application/json
```

```
Accept: application/json
```

```
{
  "round": 2,
  "present_round": 0,
  "team_info":
  [
    {
      "id": "id1",
      "wealth": "100",
      "machine":
      [
        {
          "id": "machine1_id",
          "left": 3
        },
        {
          "id": "machine2_id",
          "left": 2
        }
      ]
    },
    {
      "id": "id2",
      "wealth": "100",
      "machine":
      [
        {
          "id": "machine1_id",
          "left": 3
        },
        {

```

```

        "id": "machine2_id",
        "left": 2
    }
]
}
]
}

```

Returns

HTTP 200 OK

```

{
  "id": "competition_id",
  "username": "competition_username",
  "status": "not started",
  "round": "2",
  "present_round": "0",
  "team_info":
  [
    {
      "id": "id1",
      "wealth": 100,
      "material": [30, 40, 50],
      "machine":
      [
        {
          "id": "machine1_id",
          "type": "type1",
          "left": 3
        },
        {
          "id": "machine2_id",
          "type": "type2",
          "left": 2
        }
      ]
    },
    {
      "id": "id2",
      "wealth": 100,
      "material": [30, 40, 50],
      "machine":
      [
        {
          "id": "machine1_id",
          "type": "type1",

```

```

        "left": 3
      },
      {
        "id": "machine2_id",
        "type": "type2",
        "left": 2
      }
    ]
  }
],
"trade_history":
[
  {
    "time": "hh:MM:ss",
    "sell": "team_id1",
    "buy": "team_id2",
    "content": {"material1": 1},
    "price": 10
  },
  {
    "time": "hh:MM:ss",
    "sell": "team_id1",
    "buy": "team_id2",
    "content": {"material2": 1},
    "price": 20
  }
]
}

```

Error

HTTP 404 NOT FOUND

```

{
  "error": "Competition with id xxx not found."
}

```

HTTP 400 INVALID REQUEST

```

{
  "error": "Cannot update competition id xxx with given information."
}

```

4 Administrative Endpoints

登录和交易时使用。

4.1 Login Admin

管理员登录。

Request

```
POST /api/admin/login

Host: localhost:8080
Auth:
Content-type: application/json
Accept: application/json

{
  "username": "admin",
  "password": "admin",
}
```

Returns

```
HTTP 200 OK

{
  "username": "admin",
  "token": "1283091828021803120",
}
```

Error

```
HTTP 401 NOTAUTHORIZED

{
  "error": "Admin with username admin doesn't exist or password is wrong."
}
```

4.2 Login Client

用户登录。

Request

```
POST /api/client/login

Host: localhost:8080
```

```
Auth:
Content-type: application/json
Accept: application/json
```

```
{
  "username": "client",
  "password": "client",
}
```

Returns

```
HTTP 200 OK
{
  "username": "client",
  "id": "3",
  "token": "1283091828021803120",
}
```

Error

```
HTTP 401 NOTAUTHORIZED
{
  "error": "Client with userusername admin doesn't exist or password is wrong."
}
```

5 Utility Endpoints

询问系统相关信息。