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1. API Description

UTimeMaster API is dedicated to the platform data connection for the third-party system. The third-party system can read and set business data flexibly, which effectively reduces the complexity of the third-party system business integration and provides convenient, fast standard connection mode and data structure.

2. Get System User Auth Token

There are two kinds of auth token for software system user : JWT auth token and general auth token.

2.1 Get JWT Auth Token

(1) Request Instruction

HTTPS Method	POST
URI	/jwt-api-token-auth/
Content Type	application/json
Response Type	JSON
Parameter Description	username: string, is required, the username to login the system. password: string, is required, the password to login the system.
Request Herders	{ "Content-Type":"application/json" }
Request Body	{ "username":"username", "password":"pwd" }

(2) How to Get Token

1) Get token via browser,input the following link in the browser:

<http://serverIP:serverPort/api/docs/#jwt-api-token-auth>

serverIP : UTimeMaster server or computer IP, such as:

192.168.218.8; **serverPort** : The server port of UTimeMaster , such as: 8090;

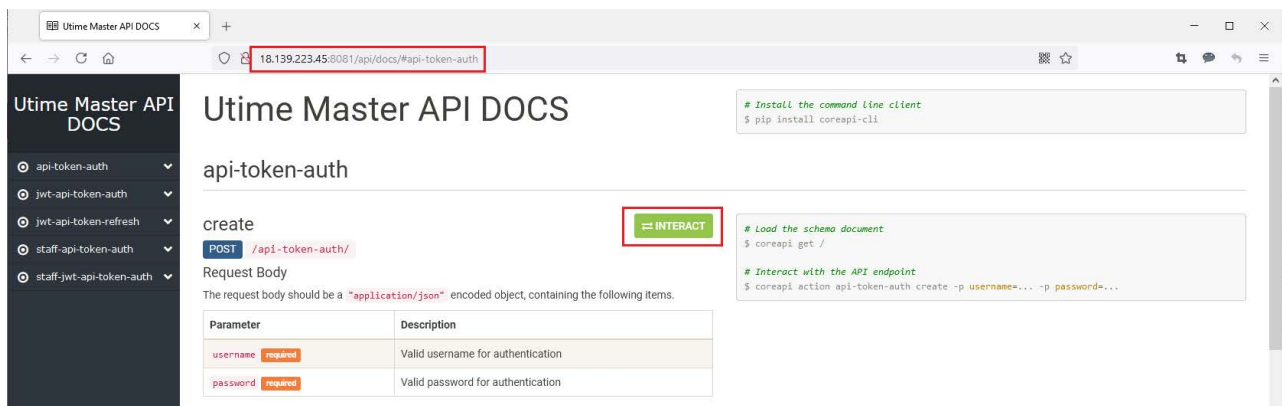
(2) How to Get Token

1) Get token via browser,input the following link in the browser:

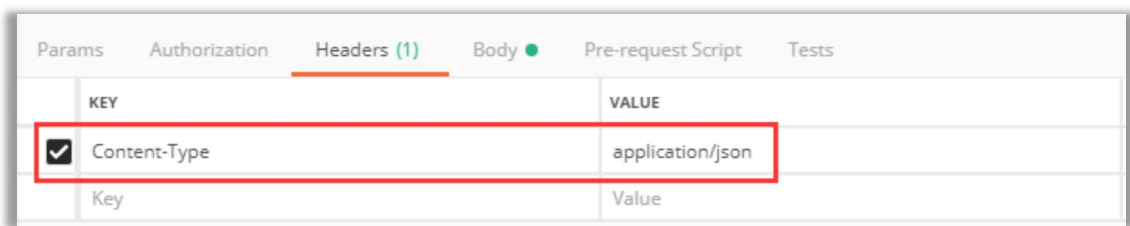
<http://serverIP:serverPort/api/docs/#api-token-auth>

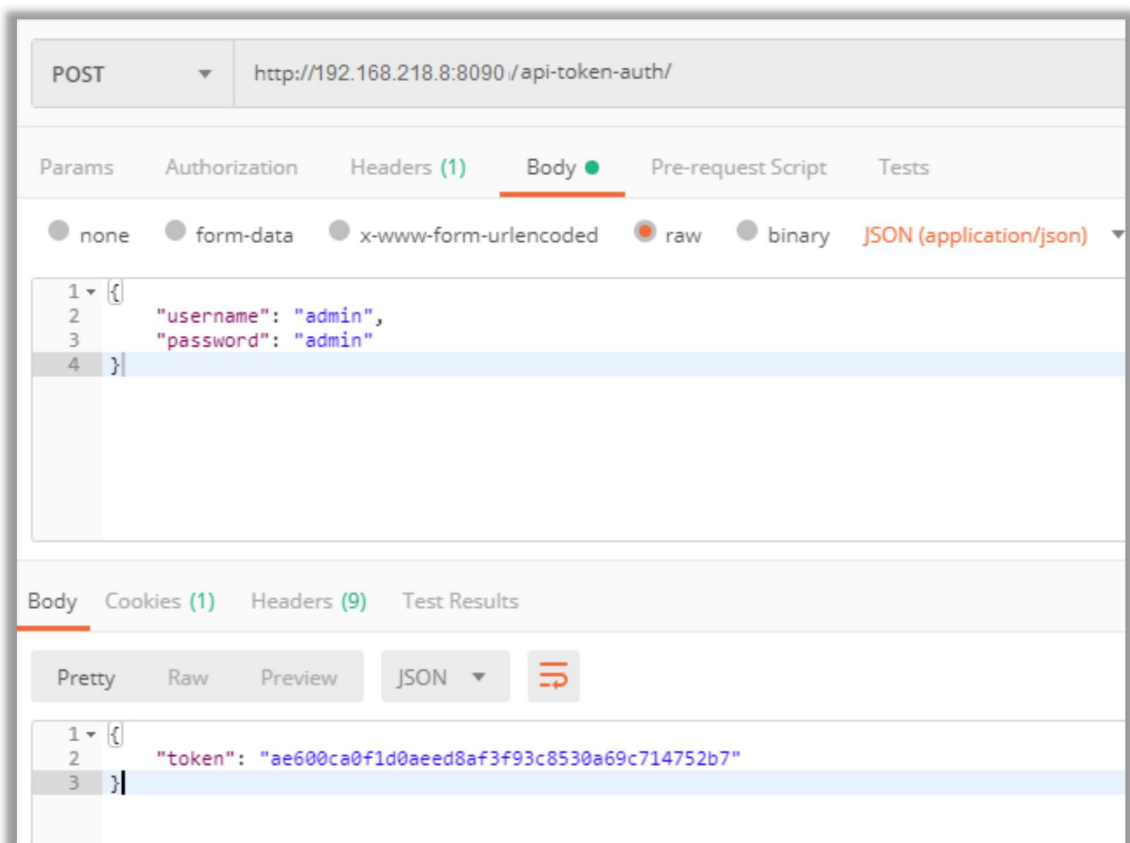
serverIP : UTimeMaster server or computer IP, such as:

192.168.218.8; **serverPort** : The server port of UTimeMaster 9.0,
such as: 8090;



2) Get token via third-party API development tool, such as Postman.





3. Get Staff Auth Token

3.1 Staff JWT auth token

URL: <http://serverIP:serverPort/staff-jwt-api-token-auth/>

serverIP : UTimeMaster server or computer IP;

serverPort : The server port of UTimeMaster 9.0;

The way to get token is the same as JWT token above.

3.2 Get staff General Auth Token

URL: <http://serverIP:serverPort/staff-api-token-auth/>

serverIP : UTimeMaster server or computer IP;

serverPort : The server port of UTimeMaster 9.0;

The way to get token is the same as JWT token above.

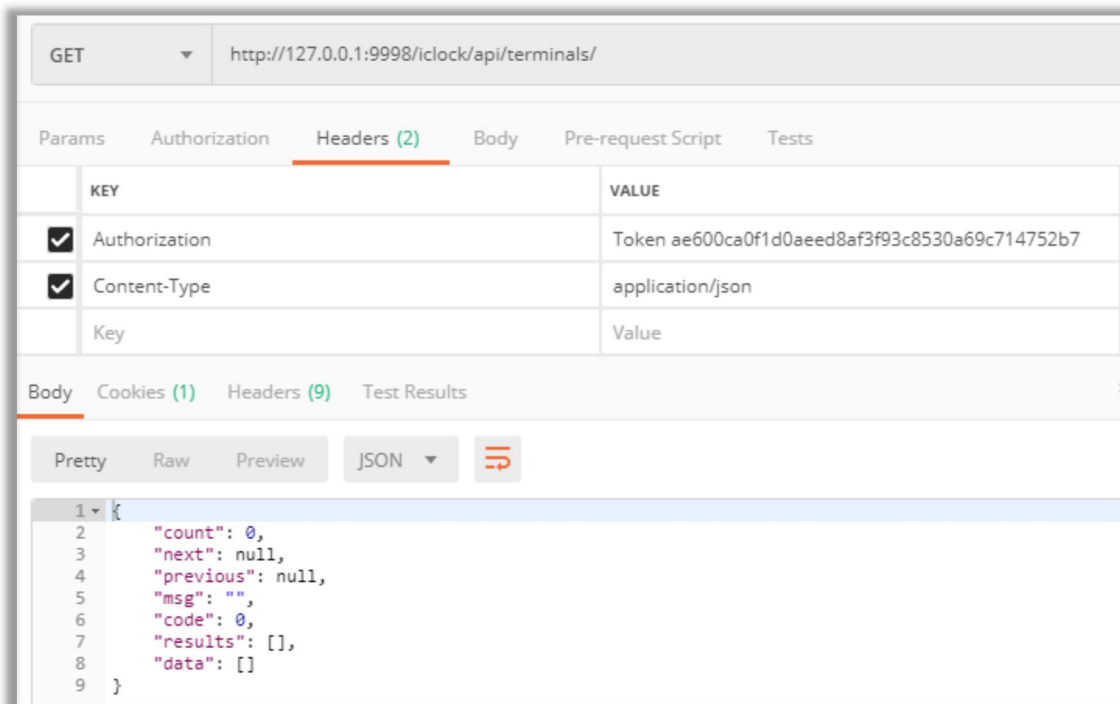
4. Use Auth Token

4.1 Demo 1

Request URL	http://serverIP:serverPort/iclock/api/terminals/
Request Herders	JWT Token <pre>{ "Content-Type":"application/json", "Authorization":"JWT ey.....oQi98" }</pre> General Token <pre>{ "Content-Type":"application/json", "Authorization":"Token ae600ca0f1d0aead8af3f93c8530a69c714752b7" }</pre>
Response Content	<pre>{ "count": 0, "next": null, "previous": null, "msg": "", "code": 0, "results": [], "data": [] }</pre>

4.2 Demo 2 (with Third Party Tool - Postman)

(1) Use General Token (same way to use JWT token)



5. Device API

5.1 Get Device List API

HTTP Method	GET
URI	/iclock/api/terminals/
Data Type	application/json
Response Type	JSON
Request Address	<p>http://serverIP:serverPort/iclock/api/terminals/?sn=**&page=**&limit=**&alias=**&area=**</p> <p>sn, page, limit, alias , area are optional filter field, use & as connector</p> <p>While the request address without any filter field, you will get all devices list.</p>
Response JSON Format	<p>Example:</p> <p>Request Address:</p> <p>http://192.168.217.8:8090/iclock/api/terminals/?sn=ACEZ185060382</p> <p>Response:</p> <pre>{</pre>


```
"count": 1,
"next": null,
"previous": null,
"msg": "",
"code": 0,
"data": [
  {
    "id": 1,
    "sn": "ACEZ185060382",
    "ip_address": "127.0.0.1",
    "alias": "ACEZ185060382_name",
    "terminal_name": null,
    "fw_ver": null,
    "push_ver": "",
    "state": 1,
    "terminal_tz": 8,
    "area": {
      "id": 1,
      "area_code": "1",
      "area_name": "Not Authorized"
    },
    "last_activity": null,
    "user_count": null,
    "fp_count": null,
    "face_count": null,
    "palm_count": null,
    "transaction_count": null,
    "push_time": null,
    "transfer_time": "00:00;14:05",
    "transfer_interval": 10,
    "is_attendance": true,
```

	<pre> "area_name": "Not Authorized" }] } </pre>
--	--

5.2 Get Device Object Info API

HTTP Method	GET
URI	/iclock/api/terminals/ <id>/
Data Type	application/json
Response Type	JSON
Request Address	http://serverIP:serverPort/iclock/api/terminals/device id/
Response JSON Format	<p>Example:</p> <p>Request Address: http://192.168.218.8:8090/iclock/api/terminals/1/</p> <p>Response:</p> <pre> { "id": 1, "sn": "ACEZ185060382", "ip_address": "127.0.0.1", "alias": "ACEZ185060382_name", "terminal_name": null, "fw_ver": null, "push_ver": "", "state": 1, "terminal_tz": 8, "area": { "id": 1, "area_code": "1", "area_name": "Not Authorized" } } </pre>

```

    },
    "last_activity": null,
    "user_count": null,
    "fp_count": null,
    "face_count": null,
    "palm_count": null,
    "transaction_count": null,
    "push_time": null,
    "transfer_time": "00:00;14:05",
    "transfer_interval": 10,
    "is_attendance": true,
    "area_name": "Not Authorized"
  }

```

6. Employee API

6.1 Get Employee List API

HTTP Method	GET
URI	/personnel/api/employees/
Data Type	application/json
Response Type	JSON
Request Address	<p>http://serverIP:serverPort/personnel/api/employee/?emp_code=**&page=**&first_name=**&last_name=**&department=**&app_status=**</p> <p>page, limit, emp_code, first_name, last_name, department, app_status are optional filter fields.</p>
Response JSON Format	<p>Example:</p> <p>Request Address:</p> <p>http://192.168.218.8:8090/personnel/api/employee/?emp_code=employee1</p> <p>Response:</p>

```
{
  "count": 1,
  "next": null,
  "previous": null,
  "msg": "",
  "code": 0,
  "data": [
    {
      "id": 5,
      "emp_code": "employee1",
      "first_name": "emp1_first_name",
      "last_name": "emp1_last_name",
      "nickname": "",
      "device_password": "",
      "card_no": "",
      "department": {
        "id": 1,
        "dept_code": "1",
        "dept_name": "Department"
      },
      "dept_name": "Department",
      "position": null,
      "position_name": null,
      "hire_date": "2019-04-02",
      "gender": "",
      "birthday": null,
      "verify_mode": null,
      "emp_type": null,
      "contact_tel": "",
      "office_tel": "",
      "mobile": ""
    }
  ]
}
```

```
        "national": "",
        "city": "",
        "address": "",
        "postcode": "",
        "email": "",
        "enroll_sn": "",
        "ssn": "",
        "religion": "",
        "enable_att": false,
        "enable_overtime": false,
        "enable_holiday": false,
        "dev_privilege": null,
        "self_password":
        "pbkdf2_sha256$36000$XIJACI8JIXWA$a4hztrK8RSMjBg9sWL3ITMQS3O9M
        z+QwaGU/RBiXRU=",
        "flow_role": [],
        "area": [
            {
                "id": 1,
                "area_code": "1",
                "area_name": "Not Authorized"
            }
        ],
        "area_name": "Not Authorized",
        "app_status": 0,
        "app_role": null
    }
}
```

6.2 Get Employee Object Info API

HTTP Method	GET
URI	/personnel/api/employees/ <id>/
Data Type	application/json
Response Type	JSON
Request Address	http://serverIP:serverPort/personnel/api/employees/employee ID/
Response JSON Format	<p>Example:</p> <p>Request Address: http://192.168.218.8:8090/personnel/api/employees/6/</p> <p>Response:</p> <pre>{ "emp_code": "employee333", "first_name": "emp3_first_name", "last_name": "emp3_last_name", "nickname": null, "device_password": null, "card_no": null, "department": 1, "position": null, "hire_date": "2019-04-02", "gender": null, "birthday": null, "verify_mode": -1, "emp_type": null, "contact_tel": null, "office_tel": null, "mobile": null, "national": null, "city": null,</pre>

	<pre> "address": null, "postcode": null, "email": null, "enroll_sn": null, "ssn": null, "religion": null, "enable_att": true, "enable_overtime": false, "enable_holiday": true, "dev_privilege": 1, "self_password": "pbkdf2_sha256\$36000\$XBVRNMOywdNI\$P4W7MIZVa3Ho2VBdU2SewS/pb8 GavBYSGBXM/bgL+N0=", "flow_role": [], "area": [1], "app_status": 0, "app_role": 1 } </pre>
--	---

6.3 Create Employee API

HTTP Method	POST
URI	/personnel/api/employees/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#employees-create
Response JSON Format	<p>Request Address:</p> <p>http://192.168.218.8:8090/personnel/api/employees/</p> <p>Request Body:</p>

```
{
  "emp_code": "employee333",
  "first_name": "emp3_first_name",
  "last_name": "emp3_last_name",
  "area": [1],
  "department": 1
}
```

Response Data:

```
{
  "id": 6,
  "emp_code": "employee333",
  "first_name": "emp3_first_name",
  "last_name": "emp3_last_name",
  "nickname": null,
  "device_password": null,
  "card_no": null,
  "department": {
    "id": 1,
    "dept_code": "1",
    "dept_name": "Department"
  },
  "dept_name": "Department",
  "position": null,
  "position_name": null,
  "hire_date": "2019-04-02",
  "gender": null,
  "birthday": null,
  "verify_mode": -1,
  "emp_type": null,
  "contact_tel": null,
  "office_tel": null,
}
```



```

"mobile": null,
"national": null,
"city": null,
"address": null,
"postcode": null,
"email": null,
"enroll_sn": null,
"ssn": null,
"religion": null,
"enable_att": true,
"enable_overtime": false,
"enable_holiday": true,
"dev_privilege": 0,
"self_password":
"pbkdf2_sha256$36000$XBVRNMOywdNI$P4W7MIZVa3Ho2VBdU2SewS/pb8
GavBYSGBXM/bgL+N0=",
"flow_role": [],
"area": [
  {
    "id": 1,
    "area_code": "1",
    "area_name": "Not Authorized"
  }
],
"area_name": "Not Authorized",
"app_status": 0,
"app_role": 1
}

```

6.4 Update Employee API

HTTP Method

PATCH

URI	/personnel/api/employees/ <id>/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#employees-update
Response JSON Format	<p>Request Address: http://192.168.218.8:8090/personnel/api/employees/6/</p> <p>Request Body:</p> <pre>{ "first_name": "emp3_first_name_update", "last_name": "emp3_last_name_update", }</pre> <p>Response Data:</p> <pre>{ "id": 6, "emp_code": "employee333", "first_name": "emp3_first_name_update", "last_name": "emp3_last_name_update", "nickname": null, "device_password": null, "card_no": null, "department": 1, "position": null, "hire_date": "2019-04-02", "gender": null, "birthday": null, "verify_mode": -1, "emp_type": null, "contact_tel": null, "office_tel": null, }</pre>

```

"mobile": null,
"national": null,
"city": null,
"address": null,
"postcode": null,
"email": null,
"enroll_sn": null,
"ssn": null,
"religion": null,
"enable_att": true,
"enable_overtime": false,
"enable_holiday": true,
"dev_privilege": 1,
"self_password":
"pbkdf2_sha256$36000$XBVRNMOywdNI$P4W7MIZVa3Ho2VBdU2SewS/pb8
GavBYSGBXM/bgL+N0=",
"flow_role": [],
"area": [
    1
],
"app_status": 0,
"app_role": 1
}
}

```

6.5 Delete Employee API

HTTP Method	DELETE
URI	/personnel/api/employees/<id>/
Data Type	application/json

Response Type	JSON
Request Address	http://127.0.0.1:81/personnel/api/employees/6/

7. Department API

7.1 Get Department List API

HTTP Method	GET
URI	/personnel/api/departments/
Data Type	application/json
Response Type	JSON
Request Address	http://serverIP:serverPort/personnel/api/departments/?dept_code=**&page=**&dept_code=**&dept_name=**&parent_dept=** page, limit, dept_code, dept_name, parent_dept are optional filter fields.
Response JSON Format	<p>Request address: http://192.168.218.8:8090/personnel/api/departments/?dept_code=1</p> <p>Response JSON format:</p> <pre>{ "count": 1, "next": null, "previous": null, "msg": "", "code": 0, "data": [{ "id": 1, "dept_code": "1", "dept_name": "Department", "parent_dept": null, "parent_dept_name": null }] }</pre>

7.2 Get Department Object Info API

HTTP Method	GET
URI	/personnel/api/departments/<id>/
Data Type	application/json
Response Type	JSON
Response JSON Format	Request Address: http://192.168.218.8:8090/personnel/api/departments/1/ Request Body: { "id": 1, "dept_code": "1", "dept_name": "Department", "parent_dept": null, "parent_dept_name": null }

7.3 Create Department API

HTTP Method	POST
URI	/personnel/api/departments/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#departments-create
Response JSON Format	Request Address http://192.168.218.8:8090/personnel/api/departments/ Request Body { "dept_code": "222", "dept_name": "Department222", "parent_dept": 1 }

	<pre> }</pre> <p>Response Data</p> <pre> { "id": 2, "dept_code": "222", "dept_name": "Department222", "parent_dept": 1 }</pre>
--	---

7.4 Update Department API

HTTP Method	PATCH
URI	/personnel/api/departments/ <id>/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#departments-update
Response JSON Format	<p>Request Address http://192.168.218.8:8090/personnel/api/departments/2/</p> <p>Request Body</p> <pre> { "dept_name": "Department222_update" }</pre> <p>Response Data</p> <pre> { "id": 2, "dept_code": "222", "dept_name": "Department222_update", "parent_dept": 1 }</pre>

7.5 Delete Department API

HTTP Method	DELETE
--------------------	--------

URI	/personnel/api/departments/<id>/
Data Type	application/json
Response Type	JSON
Response JSON Format	Request Address: http://19.2168.218.8:8090/personnel/api/departments/2/ Request Body: {}

8. Area API

8.1 Get Area List API

HTTP Method	GET
URI	/personnel/api/areas/
Data Type	application/json
Response Type	JSON
Request Address	http://serverIP:serverPort//personnel/api/areas/?area_code=**&page=**&area_code=**&area_name=**&parent_area=** page, limit, area_code, area_name, parent_area are optional filter fields.
Response JSON Format	Request address: http://192.168.218.8:8090/personnel/api/areas/?area_code=2/ Response JSON format: <pre>{ "id": 2, "area_code": "2", "area_name": "Primero", "parent_area": { "id": 1, "area_code": "1", "area_name": "Not Authorized", "parent_area": null } }</pre>

	<pre> }, "parent_area_name": "Not Authorized" } </pre>
--	--

8.2 Get Area Object Info API

HTTP Method	GET
URI	/personnel/api/areas/<id>/
Data Type	application/json
Response Type	JSON
Response JSON Format	<p>Request address: http://192.168.218.8:8090/personnel/api/areas/2/</p> <p>Response JSON format:</p> <pre> { "id": 2, "area_code": "2", "area_name": "Primero", "parent_area": { "id": 1, "area_code": "1", "area_name": "Not Authorized", "parent_area": null }, "parent_area_name": "Not Authorized" } </pre>

8.3 Create Area API

HTTP Method	POST
URI	/personnel/api/areas/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#areas-create

Response JSON Format	Request Address http://192.168.218.8:8090/personnel/api/areas/
	Request Body <pre>{ "area_code": "222", "area_name": "Department222", "parent_area": 1 }</pre>
	Response Data <pre>{ "id": 2, "area_code": "222", "area_name": "Department222", "parent_area": 1 }</pre>

8.4 Update Area API

HTTP Method	PATCH
URI	/personnel/api/areas/ <id>/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#areas-update

Response JSON Format	Request Address http://192.168.218.8:8090/personnel/api/areas/2/
	Request Body <pre>{ "area_name": "Area222_update" }</pre> Response Data <pre>{ "id": 2, "area_code": "222", "area_name": "area222_update", "parent_area": 1 }</pre>

8.5 Delete Area API

HTTP Method	DELETE
URI	/personnel/api/areas/<id>/
Data Type	application/json
Response Type	JSON
Response JSON Format	Request Address: http://19.2168.218.8:8090/personnel/api/areas/2/ Request Body: <pre>{}</pre>

9. Position API

9.1 Get Position List API

HTTP Method	GET
--------------------	-----

URI	/personnel/api/positions/
Data Type	application/json
Response Type	JSON
Request Address	http://serverIP:serverPort/personnel/api/positions/?position_code=**&page=**&position_code=**&position_name=**&parent_position=** page, limit, position_code, position_name, parent_position are optional filter fields.
Response JSON Format	<p>Request address: http://192.168.218.8:8090/personnel/api/positions/?position_code=1</p> <p>Response JSON format:</p> <pre>{ "count": 1, "next": null, "previous": null, "msg": "", "code": 0, "data": [{ "id": 1, "position_code": "1", "position_name": "Department", "parent_position": null, "parent_position_name": null }] }</pre>

9.2 Get Position Object Info API

HTTP Method	GET
URI	/personnel/api/positions/<id>/
Data Type	application/json
Response Type	JSON
Response JSON Format	<p>Request Address: http://192.168.218.8:8090/personnel/api/positions/1/</p>

	Request Body: <pre>{ "id": 1, "position_code": "1", "position_name": "Position", "parent_position": null, "parent_position_name": null }</pre>
--	---

9.3 Create Position API

HTTP Method	POST
URI	/personnel/api/positions/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#positions-create
Response JSON Format	Request Address http://192.168.218.8:8090/personnel/api/positions/ Request Body <pre>{ "position_code": "222", "position_name": "Position222", "parent_position": 1 }</pre> Response Data <pre>{ "id": 2, "position_code": "222", "position_name": "Position222", "parent_position": 1 }</pre>

9.4 Update Position API

HTTP Method	PATCH
--------------------	-------

URI	/personnel/api/positions/ <id>/
Data Type	application/json
Response Type	JSON
Request Parameter	Reference: http://serverIP:serverPort/api/personnel_docs/#positions-update
Response JSON Format	<p>Request Address http://192.168.218.8:8090/personnel/api/positions/2/</p> <p>Request Body <pre>{ "position_name": "Position222_update" }</pre> </p> <p>Response Data <pre>{ "id": 2, "position_code": "222", "position_name": "Position222_update", "parent_position": 1 }</pre> </p>

9.5 Delete Position API

HTTP Method	DELETE
URI	/personnel/api/positions/<id>/
Data Type	application/json
Response Type	JSON
Response JSON Format	<p>Request Address: http://19.2168.218.8:8090/personnel/api/positions/2/</p> <p>Request Body: <pre>{}</pre> </p>

10. Transaction API

10.1 Get Transaction List API

HTTP Method	GET
URI	/iclock/api/transctions/
Data Type	application/json
Response Type	JSON
Request Address	<p>http://serverIP:serverPort/iclock/api/transactions/?emp_code=**&start_time=**&end_time=**</p> <p>page , limit, emp_code, terminal_sn, start_time, end_time are optional filter fields.</p>
Response JSON Format	<p>Request Address:</p> <p>http://192.168.218.8:8090/iclock/api/transactions/?emp_code=100001&start_time=2019-03-01 00:00:00&end_time=2019-04-1 00:00:00</p> <p>Response JSON format:</p> <pre>{ "count": 7, "next": null, "previous": null, "msg": "", "code": 0, "data": [{ "id": 1, "emp_code": "100001", "punch_time": "2019-03-04 09:50:00", "punch_state": "0", "verify_type": 1, "work_code": null, "terminal_sn": "", "terminal_alias": null, "area_alias": null, "longitude": null, "latitude": null, }] }</pre>

```
"gps_location": "",  
"mobile": null,  
"source": 0,  
"purpose": 1,  
"crc": null,  
"is_attendance": 1,  
"reserved": null,  
"upload_time": "2019-03-04 09:50:00",  
"sync_status": 1,  
"sync_time": null,  
"emp": null,  
"terminal": null
```

```
},
```

```
...
```

```
...
```

```
...
```

```
]
```

```
}
```