

API USER MANUAL

BioTime 8.5

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API Description

BioTime 8.5 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.

1. Get System User Auth Token

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

1.1 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:

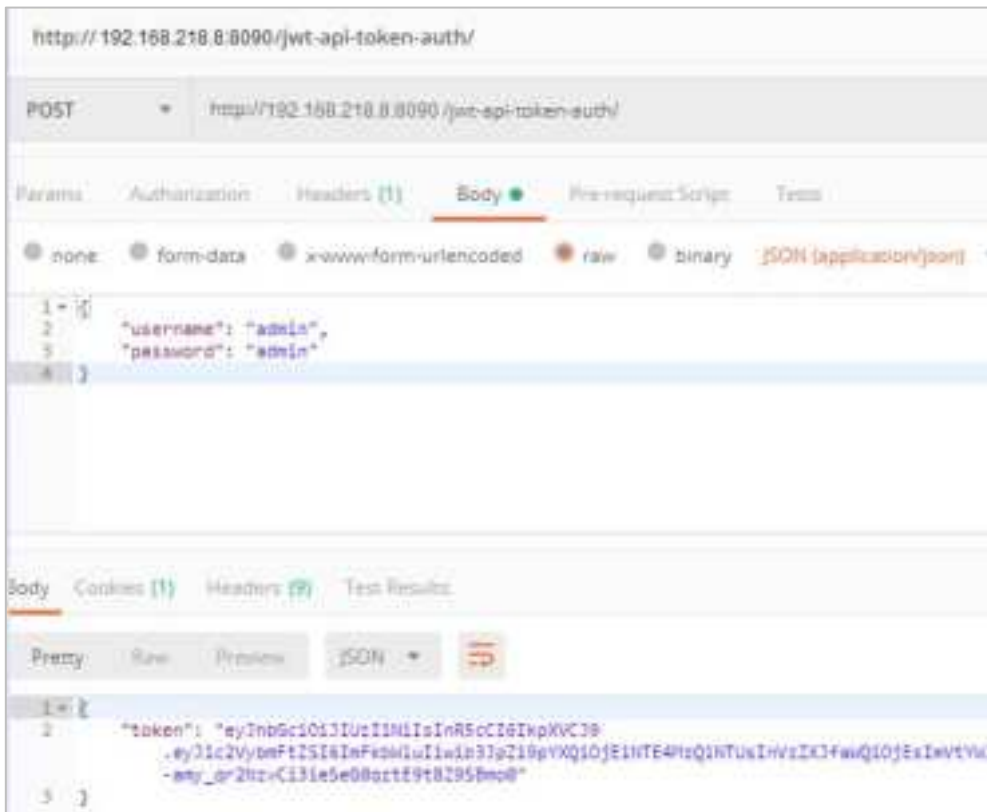
<http://serverIP:serverPort/api/docs/#jwt-api-token-auth>

serverIP: BioTime 8.5 server or computer IP, such as: 192.168.218.8

serverPort: The server port of BioTime 8.5, such as: 8090



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



1.2 Get General auth token

(1) Request Instruction

Same as getting JWT Token

(2) How to Get Token

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

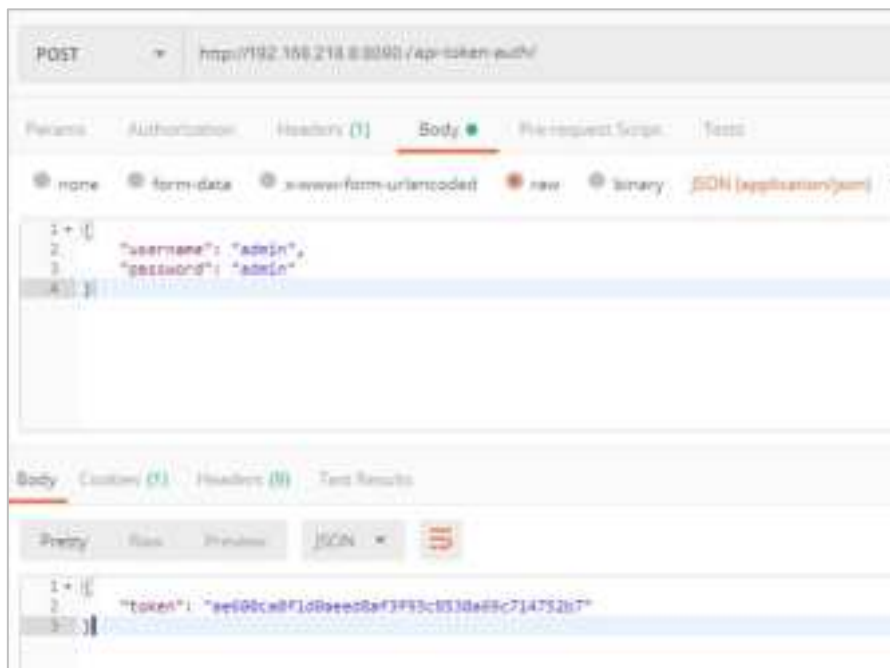
<http://serverIP:serverPort/api/docs/#api-token-auth>

serverIP: BioTime 8.5 server or computer IP, such as: 192.168.218.8

serverPort: The server port of BioTime 8.5, such as: 8090



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



2. Get Staff Auth Token

2.1 Staff JWT auth token

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

serverIP: BioTime 8.5 server or computer IP

serverPort: The server port of BioTime 8.5

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

2.2 Get staff General Auth Token

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

serverIP: BioTime 8.5 server or computer IP

serverPort: The server port of BioTime 8.5

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

3. Use Auth Token

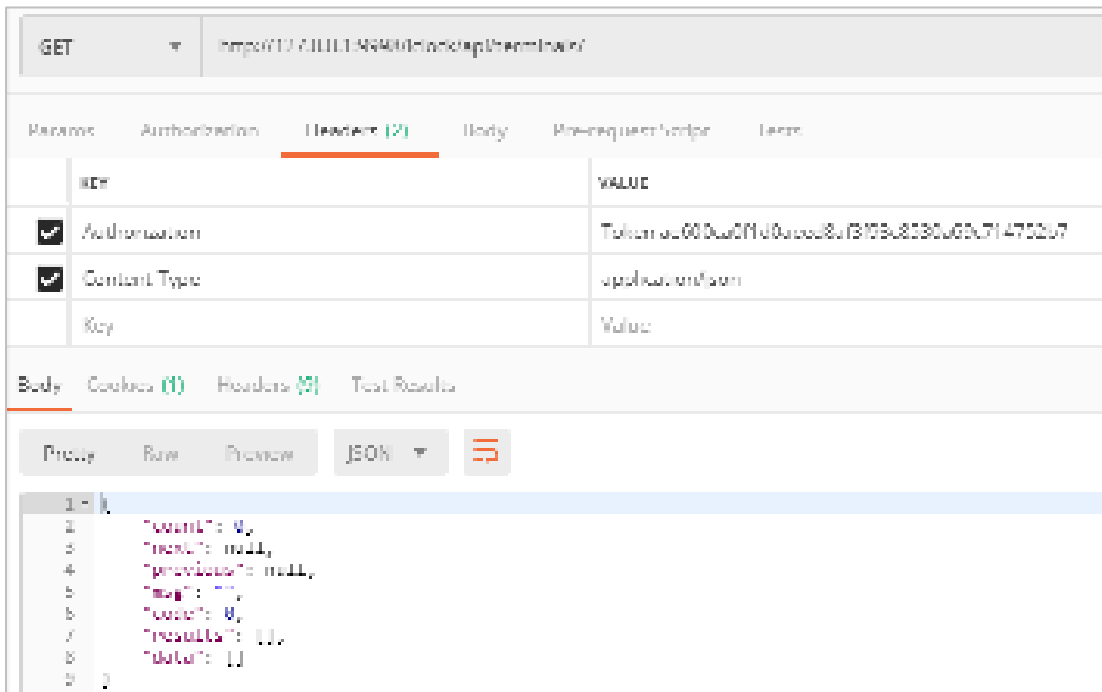
3.1 Demo 1

| Request URL | http://serverIP:serverPort/iclock/api/terminals/ |
|-----------------|---|
| Request Herders | <p>JWT Token</p> <pre>{ "Content-Type":"application/json", "Authorization":"JWT ey.....oQi98" }</pre> <p>General Token</p> <pre>{ "Content-Type":"application/json", "Authorization":"Token ae600ca0f1d0aeed8af3f93c8530a69c714752b7" }</pre> |

| | |
|-------------------------|--|
| Response Content | <pre> { "count": 0, "next": null, "previous": null, "msg": "", "code": 0, "results": [], "data": [] } </pre> |
|-------------------------|--|

3.2 Demo 2 (with Third Party Tool - Postman)

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



4. Device API

4.1 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, page_size, 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> { "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" } }], }</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"
    }
]
}

```

4.2 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: 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", </pre> |

```

"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,
"area_name": "Not Authorized"
}

```

5. Employee API

5.1 Get Employee List API

| | |
|----------------------|---------------------------|
| HTTP Method | GET |
| URI | /personnel/api/employees/ |
| Data Type | application/json |
| Response Type | JSON |

| | |
|------------------------------------|--|
| <p>Request Address</p> | <p>http://serverIP:serverPort/personnel/api/employee/?emp_code=**&page=**&first_name=**&last_name=**&department=**&app_status=**</p> <p>page, page_size, emp_code, first_name, last_name, department, app_status are optional filter fields.</p> |
| <p>Response JSON Format</p> | <p>Example:</p> <p>Request Address:</p> <p>http://192.168.218.8:8090/personnel/api/employee/?emp_code=employee1</p> <p>Response:</p> <pre>{ "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",</pre> |

```

"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$a4hztrK8RSMjBgd9sWL3ITMQS3O9M
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
  }
]
}

```

5.2 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, </pre> |

```

"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": 1,
"self_password":
"pbkdf2_sha256$36000$XBVRNMOywdNI$P4W7MIZVa3Ho2VBdU2SewS/pb8
GavBYSGBXM/bgL+N0=",
"flow_role": [],
"area": [
    1
],
"app_status": 0,
"app_role": 1
}
    
```

5.3 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
Request Address:

http://192.168.218.8:8090/personnel/api/employees/

Request Body:

```
{
  "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
}

```

5.4 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, }</pre> |

```

"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": 1,
"self_password":
"pbkdf2_sha256$36000$XBVRNMOywdNI$P4W7MIZVa3Ho2VBdU2SewS/pb8
GavBYSGBXM/bgL+N0=",
"flow_role": [],
"area": [
    1
],
"app_status": 0,
"app_role": 1
}
}
    
```

5.5 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/ |

6. Department API

6.1 Get Department List API

| | |
|-----------------------------|--|
| HTTP Method | GET |
| URI | /personnel/api/departments/ |
| Data Type | application/json |
| Response Type | JSON |
| Request Address | <p>http://serverIP:serverPort/personnel/api/departments/?dept_code=**&page=**&dept_code=**&dept_name=**&parent_dept=**</p> <p>page, page_size , dept_code, dept_name, parent_dept are optional filter fields.</p> |
| 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> |

6.2 Get Department Object Info API

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

6.3 Create Department API

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

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

6.4 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 <pre> { "dept_name": "Department222_update" } </pre> </p> <p>Response Data <pre> { "id": 2, "dept_code": "222", "dept_name": "Department222_update", "parent_dept": 1 } </pre> </p> |

6.5 Delete Department API

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

7. Area API

7.1 Get Area List API

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

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

7.2 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> |

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

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

7.5 Delete Area API

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

8. Position API

8.1 Get Position List API

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

| | |
|-----------------------------|--|
| URI | /personnel/api/positions/ |
| Data Type | application/json |
| Response Type | JSON |
| Request Address | <p>http://serverIP:serverPort/personnel/api/positions/?position_code=**&page=**&position_code=**&position_name=**&parent_position=**</p> <p>page, page_size, position_code, position_name, parent_position are optional filter fields.</p> |
| 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> |

8.2 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> <p>Request Body:</p> |

```
{
  "id": 1,
  "position_code": "1",
  "position_name": "Position",
  "parent_position": null,
  "parent_position_name": null
}
```

8.3 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 | <p>Request Address http://192.168.218.8:8090/personnel/api/positions/</p> <p>Request Body</p> <pre>{ "position_code": "222", "position_name": "Position222", "parent_position": 1 }</pre> <p>Response Data</p> <pre>{ "id": 2, "position_code": "222", "position_name": "Position222", "parent_position": 1 }</pre> |

8.4 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> |

8.5 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> |

9. Transaction API

9.1 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 , page_size, emp_code, terminal_sn, start_time, end_time are optional filter fields.</p> |
| Response JSON Format | <p>Request Address: 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, }] }</pre> |

```
"latitude": null,  
"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  
},  
...  
...  
...  
]  
}
```

For any clarifications regarding the API User Manual, please contact us
through e-mail at softwaresupport@zkteco.com.

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