

DefiDron (0.1.0)

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Management system for autonomous medical drones

Overview

The central endpoint is `/request_drone`, which tries to send a drone to the incident's location. If there's a nearby, ready drone it will be sent out. Its current position and other information can be inspected. If for any reason the drone cannot make it, a different nearby and ready drone (if there is one) will be sent out automatically.

Upon arriving at the scene, the drone lands - its job is finished. The AED can now be safely deattached.

The drone will *not* return to base after a successful mission and needs to be collected manually, the AED remounted and other maintenance conducted, if necessary. Next the drone needs to be returned to the base.

Drones

You can access information about all the drones in the system and more active details for the drones in an ongoing mission. You can also add completely new drones to get a token allowing them to connect to the system.

Reports

Report represents all mission critical informations for a given incident. When a drone is requested to a location, a corresponding report is automatically created. You can read both current and past reports.

drone_request

Requesting a drone

Request Drone

Request a drone to a given location.

If available a nearby drone will be sent to the location.

AUTHORIZATIONS: > *OAuth2PasswordBearer*

QUERY PARAMETERS

latitude
required number (Latitude)

longitude
required number (Longitude)

Responses

> **200** Successful Response

> **422** Validation Error

POST /request_drone

Response samples

200

422

Content type
application/json

```
{  
  "success": true,  
  "droneName": "string"  
}
```

drone

Management of the drone fleet

Read Drone

Read drone's at rest data

AUTHORIZATIONS: > *OAuth2PasswordBearer*

PATH PARAMETERS

droneName
required

string (Dronename)

Examples:

- defidron - defidron
 - dron - dron
 - UAV - UAV
-

Responses

> **200** Successful Response

> **422** Validation Error

GET /drone/{droneName}

Response samples

200

422

Content type

application/json

Copy

```
{
  "name": "string",
  "id": 0,
  "next_service": "2019-08-24",
  "status": "unknown"
}
```

Update Drone

Update drone's at rest data

AUTHORIZATIONS: > *OAuth2PasswordBearer*

PATH PARAMETERS

droneName
required string (Dronename)
Examples:

- defidron - defidron
- dron - dron
- UAV - UAV

REQUEST BODY SCHEMA: application/json

next_service > Next Service (string) or Next Service (null) (Next Service)

status > DroneStatus (string) or null

Responses

> **200** Successful Response

> **422** Validation Error

PATCH /drone/{droneName}

Request samples

Payload

Content type
application/json

Copy

```
{
  "next_service": "2019-08-24",
  "status": "unknown"
}
```

Response samples

200

422

Content type
application/json

Copy

```
{
  "name": "string",
  "id": 0,
  "next_service": "2019-08-24",
  "status": "unknown"
}
```

Read Drones

Read at rest data from multiple drones

AUTHORIZATIONS: > *OAuth2PasswordBearer*

QUERY PARAMETERS

offset integer (Offset)
Default:
Starting index offset

limit integer (Limit)
Default:
Return limit

Responses

> **200** Successful Response

> **422** Validation Error

GET /drone/

Response samples

200

422

Content type
application/json

Copy Expand all Collapse all

```
[
  - {
    "name": "string",
    "id": 0,
    "next_service": "2019-08-24",
    "status": "unknown"
  }
]
```

Create Drone

Add a new drone and get an access token for it

AUTHORIZATIONS: > *OAuth2PasswordBearer*

REQUEST BODY SCHEMA: application/json

name string (Name)

Responses

> **200** Successful Response

> **422** Validation Error

POST /drone/

Request samples

Payload

Content type

application/json

Example

defidron

Copy

```
{  
  "name": "defidron"  
}
```

Response samples

200

422

Content type

application/json

Copy

```
{
  "access_token": "string",
  "token_type": "string"
}
```

Read Active Drones

Read mission data from currently active drones

AUTHORIZATIONS: > *OAuth2PasswordBearer*

QUERY PARAMETERS

names > Array of Names (strings) or Names (null) (Names)

latitude > Latitude (number) or Latitude (null) (Latitude)

longitude > Longitude (number) or Longitude (null) (Longitude)

distance > Distance (number) or Distance (null) (Distance)

Responses

> **200** Successful Response

> **422** Validation Error

GET /drone/active/

Response samples

200

422

Content type

application/json

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```
[
-  {
    "name": "string",
    "status": "unknown",
    "flight_id": 0,
    "eta_seconds": 0,
    "current_waypoint": 0,
    "total_waypoints": 0,
    "distance_to_next_waypoint": 0,
    "status_text": "string",
+  "planned_path": [ ... ],
    "latitude": 0,
    "longitude": 0,
    "altitude_asl": 0,
    "heading": 0,
    "velocity_north": 0,
    "velocity_east": 0,
    "velocity_up": 0,
    "remining_battery": 0,
    "lidar_distance": 0,
    "timestamp": "2019-08-24T14:15:22Z",
    "is_armed": true,
    "altitude_agl": 0
  }
]
```

Read Drone Path

AUTHORIZATIONS: > *OAuth2PasswordBearer*

PATH PARAMETERS

droneName
required

string (Dronename)

Examples:

- defidron - defidron
- dron - dron

Responses

> **200** Successful Response

> **422** Validation Error

GET /drone/{droneName}/path

Response samples

200

422

Content type
application/json

Copy Expand all Collapse all

```
[
  - {
    "latitude": 0,
    "longitude": 0
  }
]
```

report

Management of reports

Read Reports

Read report information from multiple reports

AUTHORIZATIONS: > *OAuth2PasswordBearer*

QUERY PARAMETERS

offset integer (Offset)
Default:
Starting index offset

limit integer (Limit)
Default:
Return limit

Responses

> **200** Successful Response

> **422** Validation Error

GET /report/

Response samples

200

422

Content type
application/json

Copy Expand all Collapse all

```
[
  - {
    "location_lat": 0,
    "location_lng": 0,
    "id": 0,
    "start_time": "2019-08-24T14:15:22Z",
    "end_time": "2019-08-24T14:15:22Z"
  }
]
```

Read Report

Read report information

AUTHORIZATIONS: > *OAuth2PasswordBearer*

PATH PARAMETERS

report_id required	integer (Report Id)
------------------------------	---------------------

Responses

> **200** Successful Response

> **422** Validation Error

GET /report/{report_id}

Response samples

200

422

Content type
application/json

Copy

```
{
  "location_lat": 0,
  "location_lng": 0,
  "id": 0,
  "start_time": "2019-08-24T14:15:22Z",
  "end_time": "2019-08-24T14:15:22Z"
}
```

Update Report

Update report information

AUTHORIZATIONS: > *OAuth2PasswordBearer*

PATH PARAMETERS

report_id
required integer (Report Id)

REQUEST BODY SCHEMA: application/json

end_time > End Time (string) or End Time (null) (End Time)

location_lat > Location Lat (number) or Location Lat (null) (Location Lat)

location_lng > Location Lng (number) or Location Lng (null) (Location Lng)

Responses

> **200** Successful Response

> **422** Validation Error

PATCH /report/{report_id}

Request samples

Payload

Content type
application/json

```
{  
  "end_time": "2019-08-24T14:15:22Z",  
  "location_lat": 0,
```

Copy

```
"location_lng": 0
}
```

Response samples

200

422

Content type
application/json

Copy

```
{
  "location_lat": 0,
  "location_lng": 0,
  "id": 0,
  "start_time": "2019-08-24T14:15:22Z",
  "end_time": "2019-08-24T14:15:22Z"
}
```

flight

Read Active Flights

AUTHORIZATIONS: > *OAuth2PasswordBearer*

QUERY PARAMETERS

offset integer (Offset)
Default:

limit integer (Limit)
Default:

Responses

> **200** Successful Response

> **422** Validation Error

GET /flight/active

Response samples

200

422

Content type

application/json

Copy Expand all Collapse all

```
[
  - {
    "id": 0,
    "drone_id": 0,
    "report_id": 0,
    "status": "ready",
    "start_time": "2019-08-24T14:15:22Z",
    "landing_time": "2019-08-24T14:15:22Z",
    "start_location_lat": 0,
    "start_location_lng": 0,
    "landing_location_lat": 0,
    "landing_location_lng": 0
  }
]
```

zone

Management of no fly zones

Read No Fly Zones

AUTHORIZATIONS: > *OAuth2PasswordBearer*

QUERY PARAMETERS

min_lat
required number (Min Lat)

min_lon
required number (Min Lon)

max_lat
required number (Max Lat)

max_lon
required number (Max Lon)

Responses

> **200** Successful Response

> **422** Validation Error

GET /zone/

Response samples

200

422

Content type
application/json

null

Copy

auth

Read Users Me

Return the currently logged-in user

AUTHORIZATIONS: > *OAuth2PasswordBearer*

Responses

> **200** Successful Response

GET /auth/users/me

Response samples

200

Content type
application/json

Copy

```
{  
  "username": "string"  
}
```

Create User

Create a new user with the given role

AUTHORIZATIONS: > *OAuth2PasswordBearer*

QUERY PARAMETERS

role string (Role)
Default:
Enum:

REQUEST BODY SCHEMA: application/x-www-form-urlencoded

grant_type > Grant Type (string) or Grant Type (null) (Grant Type)

username
required string (Username)

password
required string (Password)

scope string (Scope)
Default:

client_id > Client Id (string) or Client Id (null) (Client Id)

client_secret > Client Secret (string) or Client Secret (null) (Client Secret)

Responses

> **200** Successful Response

> **422** Validation Error

POST /auth/users

Response samples

200

422

Content type
application/json

Copy

```
{
  "username": "string"
}
```

Login For Access Token

Login the user to return a JWT for further access

REQUEST BODY SCHEMA: `application/x-www-form-urlencoded`

<code>grant_type</code> >	Grant Type (string) or Grant Type (null) (Grant Type)
<code>username</code> required	string (Username)
<code>password</code> required	string (Password)
<code>scope</code>	string (Scope) Default: <input type="text" value=""/>
<code>client_id</code> >	Client Id (string) or Client Id (null) (Client Id)
<code>client_secret</code> >	Client Secret (string) or Client Secret (null) (Client Secret)

Responses

> **200** Successful Response

> **422** Validation Error

POST `/auth/token`

Response samples

200

422

Content type

application/json

Copy

```
{
  "access_token": "string",
  "token_type": "string"
}
```

Register User

Register a new user

REQUEST BODY SCHEMA: `application/x-www-form-urlencoded`

<code>grant_type</code> >	Grant Type (string) or Grant Type (null) (Grant Type)
<code>username</code> required	string (Username)
<code>password</code> required	string (Password)
<code>scope</code>	string (Scope) Default: <input type="text" value=""/>
<code>client_id</code> >	Client Id (string) or Client Id (null) (Client Id)
<code>client_secret</code> >	Client Secret (string) or Client Secret (null) (Client Secret)

Responses

> **200** Successful Response

> **422** Validation Error

Response samples

200

422

Content type
application/json

null

Copy

Root

Responses

> 200 Successful Response

GET /

Response samples

200

Content type
application/json

null

Copy

