

Services for WEB Application

Classes :

/* This data structure is only for reference, dont try to use this exactly. They will change based on the API call, refer examples for each call before trying */

```
Plant :{
  id: unique, String, //can't be set by user
  plantName: String,
  readOnly : Boolean,
  condition : {
    temp      : {hi:Number, low: Number},
    ph        : {hi:Number, low: Number},
    light     : Number,
    Moisture  : Number,
    blah      : Type
  },
  parent : String // parent plant-id from where this plant is
created
}

Device : {
  id          : unique, String, //default random, user can't set it
  arduino_id : String
  DeviceName : String,
  PlantID    : String,
  // The plant that device holds, should be valid
  UserID     : String, // Who's controlling the device
  actuatorStatus : {
    PhBalance : Boolean,
    Nutrient  : Boolean,
    Moisturizer: Boolean
  }
}

User : {
  UserID : unique, String, // cant be set
  email: String,
  password : String, hashed,
  Name     : String,
  Phone    : String,
  DateOfBirth: String // dont know why to add this
  APNAToken : String, // used for notification purposes
  iphoneudid : String
}
```

```
}
```

```
PlantCondition : {  
  id: String, random,  
  condition      : {  
    temp          : {hi: Number, low: Number},  
    ph             : {hi: Number, low: Number},  
    light          : Number,  
    Moisture       : Number,  
    blah           : Type  
  },  
  userid          : String,  
  deviceid        : String,  
  timestamp       : Date,  
  currentStatus   : {  
    PhBalance: Boolean,  
    Nutrient  : Boolean,  
    Moisturizer : Boolean  
  }  
}  
  
}
```

Write Services for Web Application

/signup	-	post	(UI is done for this) {name,email,password,phone,dob}
/api/signup	-	post	
/api/login	-	post	{email,password}
/api/insertplant	-	post	{Plant}
/api/insertplants	-	post	{Plant[]}
/api/updateplant/<plantid>	-	post	{Plant}
/api/requestdevice	-	post	
/api/updatedevice	-	post	{Device}
/api/createchildplant	-	post	{Plant (without id)}
/api/updatetoken	-	post	{APNAToken}
/api/updateiphoneid	-	post	{iphoneid}
/api/updateplantindevice	-	post	{deviceid,plantid}
/api/updateandnotifyplant	-	post	{deviceid,plantid}
/api/logplantupdate	-	post	{PlantCondition}
/api/logplantupdates	-	post	[{PlantCondition}],
/api/logactuatorupdate	-	post	{Device with status}
/api/notifwebserver	-	post	{PlantCondition}

/api/sendnotification - post {deviceId: }

Read Services :

```
/api/getalldevices - get
/api/getrootplants - get
/api/getallplants - get
/api/getplantforarduino/<ARDID> - get
/api/getuserdata - get
/api/getdevice/<id> - get
/api/getplant/<id> - get
/api/getplantsforuser - get
/api/getplantupdates - get
/api/getlatestplantupdate- get
/api/getactuatorlatestupdate- get
/api/getallarduinosaurs - get
```

The Response Data Type would be :

```
{
  message: String //indicates the operation or describes error
  data : Object // this includes any data queried, say plants,
                devices, blah described above.
}
```

This API Doc is subjected to change with notice.

Samples:

API HOST <http://api.humandroid.us>
port : 80 ,

<http://api.humandroid.us/api/> GET

Response :

```
{
  "message": "welcome to IoT Hydroponics API"
}
```

<http://api.humandroid.us/api/login> POST { email: bala@scu.edu , password: bala }

Response:

```
{
  "message": "Hello authenticated user : bala@scu.edu"
}
```

Cookie :

Name	Value	Domain	Path	Expires	HTTP	Secure
connect.sid	s%3A0hMo5e214Y0hWYau	api.humandroid.us	/		true	
	OYVCKsjV.O%2BkjlLBQ					
	XThI5kCZhGyKC8UOT%2F					
	tGrD4m3wbGHCBNuI					

After successful authentication, all the subsequent requests will be authorized. If supplied with wrong credentials, unauthorized 401 response will be delivered.

<http://api.humandroid.us/api/checkme> to check if you are logged in to the api server

<http://api.humandroid.us/api/signup> POST

```
{
  "email": "bala1@scu.edu",
  "password": "bala",
  "name": "Balakrishnan",
  "date": "11-10-1992",
  "phone": "6505500551",
  "sq": "secret question"
  "Sa": "any answer"
}
```

```
}
```

Response:

```
{  
  "message": "The user has been created successfully"  
}
```

<http://api.humandroid.us/api/insertplant> POST

```
{  
  name: Tomato Big  
  readOnly: true  
  temph: 70.6  
  templ: 65.7  
  phh: 5.5  
  phl: 4.5  
  light: 6  
  moisture: 77  
  nutrienth: 55  
  nutrientl: 50  
  parent: parent  
}
```

Response :

```
{  
  "message": "Plant created successfully"  
}
```

<http://api.humandroid.us/api/requestdevice> POST

Response:

```
{  
  "message": "The device successfully created for the user",  
  "requestedDevice": {  
    "UserID": "E1-koosql",  
    "DeviceID": "EkZqE3bLjx"
```

```
}  
}
```

<http://api.humandroid.us/api/updateDevice> POST

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8

Origin: http://localhost:8080

Upgrade-Insecure-Requests: 1

Content-Type: application/json

DNT: 1

Accept-Encoding: gzip, deflate

```
{  
  "device": {  
    "UserID": "E1-koosql",  
    "DeviceID": "EkZqE3bLjx",  
    "DeviceName": "Base Tower",  
    "PlantID": "asdokfsadf"  
  }  
}
```

Response:

```
{  
  "message": "The device successfully updated for the user",  
  "updatedDevice": {  
    "UserID": "E1-koosql",  
    "DeviceID": "EkZqE3bLjx",  
    "DeviceName": "Base Tower",  
    "PlantID": "asdokfsadf"  
  }  
}
```

<http://api.humandroid.us/api/getalldevices> GET

Response

```
{
  "message": "requested list of devices of the user Balakrishnan",
  "devices": [
    {
      "UserID": "E1-koosql",
      "DeviceName": "Base Tower",
      "PlantID": "asdokfsadf",
      "DeviceID": "EkZqE3bLjx"
    }
  ]
}
```

<http://api.humandroid.us/api/getdevice/EkZqE3bLjx> GET

/api/getdevice/<deviceId> will return the details of the particular device only if that device is associated with that user.

response:

```
{
  "message": "requested device of the user Balakrishnan",
  "data": {
    "UserID": "E1-koosql",
    "DeviceName": "Reshma",
    "PlantID": "asdokfsadf",
    "DeviceID": " "Base Tower"
  }
}
```

<http://api.humandroid.us/api/getrootplants> GET

```
{
  "message": "List of Root Plants",
  "data": [
    {
      "plantName": "small tomato",
      "readOnly": false,
      "parent": "VklbEkCi9g",
      "condition": {
        "light": 50,
        "moisture": 39,
        "nutrient": {
```

```
    "hi": 50,  
    "low": 40  
  },  
  "ph": {  
    "hi": 7,  
    "low": 6  
  },  
  "temp": {  
    "hi": 55,  
    "low": 50  
  }  
},  
"id": "NyovLQJ3e"  
}  
]  
}
```

<http://api.humandroid.us/api/getuserdata> GET

```
{  
  "message": "Requested user details",  
  "data": {  
    "userID": "E1-koosql",  
    "Phone": "6505500551",  
    "Name": "Balakrishnan",  
    "DateOfBirth": "16-14-1999",  
    "email": "bala@scu.edu",  
    "password": "blah"  
  }  
}
```

<http://api.humandroid.us/api/getplantsforuser> GET

```
{
```



```
"message": "List of Root Plants",
"data": [
  {
    "plantName": "Tomato Big",
    "readOnly": false,
    "parent": "VklbEkCi9g",
    "condition": {
      "light": 6,
      "nutrient": 55,
      "moisture": 77,
      "ph": {
        "hi": 5.5,
        "low": 4.5
      },
      "temp": {
        "hi": 70.6,
        "low": 65.7
      }
    },
    "id": "NJl7Hpe8ol"
  }
]
}
```

<http://api.humandroid.us/api/getplant/NJl7Hpe8ol> GET

```
{
  "message": "requested plant",
  "data": {
    "plantName": "Tomato Big",
    "readOnly": false,
    "parent": "VklbEkCi9g",
    "condition": {
      "light": 6,
      "nutrient": 55,
      "moisture": 77,
      "ph": {
        "hi": 5.5,
        "low": 4.5
      },
      "temp": {
        "hi": 70.6,
        "low": 65.7
      }
    }
  }
}
```

```
    }  
  },  
  "id": "NJl7Hpe8ol"  
}  
}
```

<http://api.humandroid.us/api/createchildplant> POST

```
{  
  "name": "small tomato",  
  "temph": 55,  
  "templ": 50,  
  "phh": 7,  
  "phl": 6,  
  "light": 45,  
  "nutrienth": 34,  
  "nutrientl": 34,  
  "moisture": 39,  
  "parent": "VklbEkCi9g"  
}
```

Response:

```
{  
  "message": "Plant created successfully",  
  "data": {  
    "plantName": "small tomato",  
    "readOnly": false,  
    "parent": "VklbEkCi9g",  
    "condition": {  
      "light": 45,  
      "nutrient": 34,  
      "nutrient": 34,  
      "moisture": 39,  
      "ph": {  
        "hi": 7,  
        "low": 6  
      },  
      "temp": {  
        "hi": 55,  
        "low": 50  
      }  
    },  
    "id": "NyovLQJ3e"  
  }  
}
```

```
}
```

<http://api.humandroid.us/api/updatetoken> POST

apnatoken=zsdffasdfsdf

Response

```
{
  "message": "token updated successfully"
}
```

<http://api.humandroid.us/api/updateiphoneid> POST

iphoneid=gfsasdfsdfasdfsdfasdfsadf

Response:

```
{
  "message": "iphone ID updated successfully"
}
```

<http://api.humandroid.us/api/updateandnotifyplant> POST

/* Very important - you have to supply all the below attributes, server will put zero against the values which are not listed */

body :

```
{"plant":{
  "PlantID":"EJeE57ofpg",
  "name":"small tomato",
  "temph":55,
  "templ":50,
  "phh":7,
  "phl":6,
  "light":50,
  "nutrienth":34,
  "nutrientl":30,
  "moisture":39
}}
```

Response:

```
{
  "message": "Plant Updated and notified by server ",
  "data": "done" }
```

<http://api.humandroid.us/api/getplantforarduino/ESP001> GET

ESP001 is the Arduino ID, you can change it to any ArduinoID and issue a request

Response:

```
{
  "message": "requested plant",
  "data": {
    "plantName": "extra small tomato",
    "readOnly": false,
    "parent": "VklbEkCi9g",
    "condition": {
      "light": 45,
      "moisture": 39,
      "nutrient": {
        "hi": 50,
        "low": 40
      },
      "ph": {
        "hi": 7,
        "low": 6
      },
      "temp": {
        "hi": 55,
        "low": 50
      }
    },
    "id": "EJeE57ofpg"
  }
}
```

Analytics APIs:

/api/logplantupdate - post {PlantCondition}

<http://api.humandroid.us/api/logplantupdate> - POST

/*important - ArduinoID is important */

```
{
  "condition"      : {
    "temp"          : 20,
```

```

        "ph"           : 45,
        "light"        : 67,
        "nutrient"     : 55,
        "moisture"     : 45
    },
    "actuatorstatus":{
        "PhBalance"    : true,
        "Nutrition"    : true,
        "Moisturizer"  : true
    },
    "DeviceID"         : "NkgPdVXXTe",
    "ArduinoID"        : "ESP001",
    "boot"              : false,
    "APNAToken": "this is the new device token for this device"
}

```

Response :

```

{
  "message": "Log updated at : 2016-03-02 09:14:06.157Z"
}

```

<http://api.humandroid.us/api/getallarduinos> GET

Response:

```

{
  "message": "requested list of devices of the user Bala",
  "data": [
    {
      "device": {
        "UserID": "VkyIlNy3e",
        "DeviceName": "Sai Test Device",
        "PlantID": "EJeE57ofpg",
        "actuatorStatus": {
          "PhBalance": true,
          "Nutrition": false,
          "Moisturizer": false,
          "Light": false
        },
        "ArduinoID": "ESP001",
        "APNAToken": "this is the new device token for this device",
        "DeviceID": "4ke4nmsz6g"
      },

```

```

    "plant": {
      "plantName": "extra small tomato",
      "readOnly": false,
      "parent": "VklbEkCi9g",
      "condition": {
        "light": 45,
        "moisture": 39,
        "nutrient": {
          "hi": 50,
          "low": 40
        },
        "ph": {
          "hi": 7,
          "low": 6
        },
        "temp": {
          "hi": 55,
          "low": 50
        }
      },
      "id": "EJeE57ofpg"
    }
  },
  {
    "device": {
      "UserID": "VkyIlNy3e",
      "DeviceName": "tryqwe",
      "PlantID": "VklbEkCi9g",
      "actuatorStatus": {
        "PhBalance": true,
        "Nutrition": true,
        "Moisturizer": true
      },
      "ArduinoID": "ESP002",
      "APNAToken": "this is the new device token for this device",
      "DeviceID": "NkgPdVXXTe"
    },
    "plant": {
      "plantName": "Tomato",
      "readOnly": true,
      "parent": "parent",
      "condition": {
        "light": 6,

```

```

        "moisture": 77,
        "nutrient": {
            "hi": 50,
            "low": 43
        },
        "ph": {
            "hi": 5.5,
            "low": 4.5
        },
        "temp": {
            "hi": 70.6,
            "low": 65.7
        }
    },
    "id": "VklbEkCi9g"
}
]
}

```

/api/logplantupdates - post [{PlantCondition}]

<http://api.humandroid.us/api/logplantupdates> POST

/* body should contain an array with 0,1, or more objs as we did for last api call. Same condition applies. Each log can be of same plant/device or different, it doesnt matter */

request body:

```

[ {
    "PlantID"      : "NyovLQJ3e",
    "condition"    : {
        "temp"     : 57.5,
        "ph"       : 6.5,
        "light"    : 45,

```

```

        "nutrient"      : 55,
        "moisture"      : 65
    },
    "actuatorstatus":{
        "PhBalance"     : true,
        "Nutrition"     : false,
        "Moisturizer"   : false
    },
    "DeviceID"          : "VJgC3Q4yhg"
}] // see, its an array.

```

Response :

```

{
  "message": "Log updated at : "
}

```

/api/logactuatorupdate - post {Device with status}

<http://api.humsndroid.us/api/logactuatorupdate> POST

/*This API updates the device status and NOT in the Plant condition logs. The Arduino ID is important, see example to post the actuator update */

request body:

```

{
  "actuatorstatus":{
    "PhBalance"     : true,
    "Nutrition"     : false,
    "Moisturizer"   : false,

  },
  "ArduinoID"       : "ESP001"
}

```

Response:

```

{
  "message": "Log updated"
}

```

/api/getplantupdates - get

<http://api.humandroid.us/api/getplantupdates/NyovLQJ3e?days=1&limit=10>

/*NyovLQJ3e is the plant ID, you can replace with whatever plant you want. Plant should be there in one of the devices you own. limit and days are optional. By default the logs will be given from the last day. If supplied, the logs will be from the number of 'days'. The server uses UTC time */

Response:

```
{
  "message": "Plantcondition updates",
  "data": [.... same as what you updated to server
]
}
```

/api/getlatestplantupdate- get

<http://api.humandroid.us/api/getlatestplantupdate/NyovLQJ3e> - GET

/*NyovLQJ3e is the plant ID, you can replace with whatever plant you want. Plant should be there in one of the devices you own. The server uses UTC time */

Response :

```
{
  "message": "Plantcondition update",
  "data": [
    {
      "DeviceID": "VJgC3Q4yhg",
      "UserID": "VkyIlny3e",
      "PlantID": "NyovLQJ3e",
      "timestamp": "2016-03-02T09:14:06.157Z",
      "actuatorstatus": {
        "PhBalance": true,
        "Nutrition": false,
        "Moisturizer": false
      },
      "condition": {
        "temp": 57.5,
        "ph": 6.5,
        "light": 45,
        "nutrient": 55,
        "moisture": 65
      },
      "id": "4kkWAq1hl"
    }
  ]
}
```

```
}
```

```
/api/getactutatorlatestupdate-    get
```