

Command and Control Platform API Document

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API REFERENCE

Honeywell Command and Control Platform uses REST based API for integration with 3rd party Smart city elements to control, view and manage the subsystems. This document describes the standard API requirement to complete the integration. The data sent in request and response both are in JSON format.

ITS INTEGRATION

VEHICLE ASSIGN NOTIFICATION

This REST API is meant to be consumed by Intelligent transport Management Application to Notify the Route changes happened for a particular bus to ICCCApplcation.

ROOT URL: <http://<IP>:<PORT>/iotWebservices/>

URL: [:http://<IP>:<PORT>/iotWebservices/ITMSIntegration/sendItmsActionDetails](http://<IP>:<PORT>/iotWebservices/ITMSIntegration/sendItmsActionDetails)

DESCRIPTION: This API is used for notifying vehicle assign details to ICCCApplcation.

PATH: /ITMSIntegration/sendItmsActionDetails

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
phoneNo	body	String	true
name	body	String	true
basicId	body	String	true
message	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT: {"phoneNo":"8088892599","name":"Anil","basicId":"432","message":"Panic Alert"}

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"success": true, "message": "Updated ITMS action details"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {"success": true, "message": "Error in updating ITMS action details"}

BUS STOP DISPLAY INTEGRATION

This REST API is meant to be consumed by Intelligent transport Management Application to create, edit and delete operation for bus stop display board.

ROOT URL: http://<IP>:<PORT>/IOT_integration/

URL: http://<IP>:<PORT>/IOT_integration/IOTIntegration/busStopDisplayOperation

DESCRIPTION: This api is used for create, edit and delete operation for bus stop display board.

PATH: /IOTIntegration/busStopDisplayOperation

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
operation_id	body	int	true
macAddress	body	String	true
deviceName	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT:

```
{
  "operation_id": 1,
  "macAddress": "13246544464",
  "deviceName": "demo_name"
}
```

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"status ": "success"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {" status ":" failed", "message": "failed due to 'message-details'"}

GET ALL BUS SCHEDULES

This REST API is meant to be consumed by Intelligent transport Management Application to Get All Scheduled Route details.

2) **ROOT URL:** http://<IP>:<PORT>/ IOT_integration/

URL: http://<IP>:<PORT>/ IOT_integration/IOTIntegration/getScheduledRoutes

DESCRIPTION: This api is used to get scheduled routes.

PATH: /IOTIntegration/getScheduledRoutes

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
operation_id	body	int	true
macAddress	body	String	true
deviceName	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT:

```
{
  "operation_id": 1,
  "macAddress": "13246544464",
  "deviceName": "demo_name"
}
```

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"status ": "success"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {" status ":" failed", "message": "failed due to 'message-details'"}

LIVE ROUTE DETAILS

This REST API is meant to be consumed by Intelligent transport Management Application to Get route details which are live (route details, poi details)

ROOT URL: http://<IP>:<PORT>/ IOT_integration/

URL: http://<IP>:<PORT>/ IOT_integration/IOTIntegration/getOnGoingRouteDetails

DESCRIPTION: This using mac address.

PATH: /IOTIntegration/getOnGoingRouteDetails

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
macAddress	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT: {"routeId":8361,"macAddress": "861075026365494"}

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"status ": true, "ongoingRoutes":[{}] }

Or

{"status ": false, "message": "There is no vehicle for This mac address"}

ERROR RESPONSE:

CODE: 200

CONTENT: {" status ":"failed", "message": "failed due to 'message-details'"}

ETA DETAILS FOR BUSROUTE

This REST API is meant to be consumed by Intelligent transport Management Application to Get get ETA details for particular bus stop.

ROOT URL: http://<IP>:<PORT>/ IOT_integration/

URL: http://<IP>:<PORT>/ IOT_integration/IOTIntegration/getPoiETAData

DESCRIPTION: This api is used to get ETA details for particular bus stop.

PATH: IOTIntegration/getPoiETAData

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
operation_id	body	Int	true
routeld	body	Int	true
poild	body	Int	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT: {"operationId":1,"routeld":8361,"poild":8277}

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"status ": true, "poiEtaData":{}} }

Or

{"status ": true, "message":"no result found"}

ERROR RESPONSE:

CODE: 200

CONTENT: {" status ": false, "message": "failed due to 'message-details'"}

ALERT NOTIFICATION

This REST API is meant to be consumed by Intelligent transport Management Application to notify all alert coming from a bus terminals

ROOT URL: http://<IP>:<PORT>/ IOT_integration/

URL: http://<IP>:<PORT>/ IOT_integration/IOTIntegration/insertPanicAlertData

PATH: IOTIntegration/insertPanicAlertData

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
dateTime	body	String	true
alertType	body	String	true
alertTypeId	body	int	true
macId	body	String	true
latitude	body	float	true
basicId	body	int	true
location	body	String	true
longitude	body	float	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT:

```
{
  "dateTime": "2017-11-21 15:02:23",
  "alertType": "Panic Alert",
  "alertTypeid": 1036,
  "macId": "ITMS4321",
```

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```

        "latitude": 15.848595,
        "basicId": 2118,
        "location": "",
        "longitude": 74.49979
    }

```

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"status ": true, "message": inserted successfully"}

ERROR RESPONSE:

CODE: 200

CONTENT: {" status ": false, "message": failed due to 'message-details'"}

SWM INTEGRATION

VEHICLE ASSIGN NOTIFICATION

This REST API is meant to be consumed by Solid Waste Management Application to notifying vehicle assign details to ICCA Application

ROOT URL: <http://<IP>:<PORT>/iotWebservices/>

URL: <http://<IP>:<PORT>/iotWebservices/SWMIntegration/sendAssignedVehicleDetails>

PATH: /SWMIntegration/sendAssignedVehicleDetails

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
vehicleMacId	body	String	true
vehicleNumber	body	String	true
basicId	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT: {"vehicleMacId":"","vehicleNumber":"","basicId":"123"}

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RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"success": true, "message": "Assigned vehicle updated successfully"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {"success": false, "message": "Error in updating assigned vehicle details"}

BIN ALERT NOTIFICATION

This REST API is meant to be consumed by Intelligent transport Management Application to notifying bin empty status details to ICCA Application.

2) **ROOT URL:** <http://<IP>:<PORT>/iotWebservices/>

URL: <http://<IP>:<PORT>/iotWebservices/SWMIntegration/sendBinEmptyStatus>

PATH: /SWMIntegration/sendBinEmptyStatus

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
collectionTime	body	String	true
maclId	body	String	true
basicId	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT: {"collectionTime":"2017-01-0221:02:01","maclId":"123","basicId":"123"}

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"success": true, "message": "Updated bin empty status successfully"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {"success": true, "message": "Error in updating bin empty status"}

INCOMPLETE TRIP DETAILS

This REST API is meant to be consumed by Solid Waste Management Application to notifying incomplete trip details to ICCA Application.

3) **ROOT URL:** <http://<IP>:<PORT>/iotWebservices/>

URL: <http://<IP>:<PORT>/iotWebservices/SWMIntegration/sendIncompleteTripDetails>

PATH: /SWMIntegration/sendIncompleteTripDetails

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
vehicleId	body	String	true
collectionPoints	body	JSON Array	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT:

{"vehicleId": "collectionPoints":

```
[{"collectionPoint": "Test", "totalBins": 20, "collectedBins": 10, "collectedTime": "2017-01-02 08:12:12", "binDetails": [{"binId": "Bin1", "houseHolderName": "XYZ", "Status": true}]}]
```

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"success": true, "message": "Alert Registered Successfully"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {"success": false, "message": "Error in alert registration"}

ROUTE CHANGE NOTIFICATION

This REST API is meant to be consumed by Solid Waste Management Application to notifying incomplete trip details to ICCC Application.

1) ROOT URL: <http://<IP>:<PORT>>

URL: http://<IP>:<PORT>/IOT_integration/VehicleGatewayregistered/getRouteDetailsOfVehicle

PATH: /VehicleGatewayregistered/getRouteDetailsOfVehicle

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
MacAddress	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT: {"MacAddress":"359569050319251"}

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: [{"route_geom":"LINESTRING (15.840420000000002 74.5027, 15.83867 74.50199, 15.837430000000001 74.50145, 15.83632 74.501020000000011, 15.835550000000001 74.500790000000009, 15.83449 74.50058, 15.834500000000002 74.50049, 15.834660000000001 74.500250000000008, 15.834920000000002 74.499990000000011, 15.83514 74.499670000000009, 15.835690000000001 74.49916, 15.83622 74.498640000000009, 15.836380000000002 74.49848, 15.83632 74.498340000000013, 15.836210000000001 74.498, 15.836030000000001 74.49693, 15.835810000000002 74.495910000000009)","bin":[{"Mac_Address":"359569050306514","Lat":15.837307103067026,"Long":74.50147211551666}]}]

ERROR RESPONSE:

CODE: 500

BIN SENSOR STATUS

This REST API is meant to be consumed by Solid Waste Management Application to notifying incomplete trip details to ICCA Application.

ROOT URL: <http://<IP>:<PORT>/>

URL: <http://<IP>:<PORT>/SWM-API rest/getBinSensorData>

PATH: /rest/getBinSensorData

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
dt	body	String	true
MacAddress	body	String	true
vol	body	Integer	true
BasicId	body	String	true

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT:

`{"dt":"2017-07-28 15:48:27","MacAddress":"359569050293332","vol":29,"BasicId":54333344654}`

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"Status":"success","Result":"inserted successfully."}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {"success": error," message": " please enter correct data."}

3) ROOT URL: <http://<IP>:<PORT>/>

URL:http://<IP>:<PORT>/IOT_integration/VehicleGatewayregistered/vehicles

DESCRIPTION: This api is used to register vehicle Data to SWM.

PATH: VehicleGatewayregistered/vehicles

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
operation_id	body	int	true
simNumber	body	String	true
macAddress	body	String	true
deviceName	body	String	true

Note: operation_id for Insert is 1, Update is 2, Delete is 3.

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT:

`{" operation_id ":1," simNumber ":""," macAddress ":" ", "deviceName ":" "}`

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"Status": "success"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {"success": "error"}

SMART BIN REGISTRATION

This REST API is meant to be consumed by Solid Waste Management Application to register Bin Id Details to SWM.

4) **ROOT URL:** <http://<IP>:<PORT>/>

URL: http://<IP>:<PORT>/IOT_integration/AllregisteredBins/bindetails

PATH: AllregisteredBins/bindetails

METHOD: Post

URL PARAMS: None

REQUEST HEADERS: Content-Type: application/json

DATA PARAMS:

Parameter Name	Parameter Type	Data Type	Required
operation_id	body	int	true
macAddress	body	String	true
deviceName	body	String	true
latitude	body	String	true
longitude	body	String	true
simNumber	body	String	true
binTagId	body	String	true

Note: operation_id for Insert is 1, Update is 2, Delete is 3.

CONSUMES: application/json

PRODUCES: application/json

SAMPLE INPUT:

```
{
  "operation_id": 1,
  "macAddress": "",
  "deviceName": "",
  "latitude": "",
  "longitude": "",
  "simNumber": "",
  "binTagId": ""
}
```

RESPONSE HEADERS: None

SUCCESS RESPONSE:

CODE: 200

CONTENT: {"Status": "success"}

ERROR RESPONSE:

CODE: 200 or 500

CONTENT: {"success": "error"}

SMART LIGHTING INTEGRATION

SMART LIGHTING POLE REGISTRATION

This REST API is meant to be consumed by Lighting Application System to manage Lighting devices register by the CCP Administrator. The data sent in request and response both are in JSON format.

1. Response

The status of the response can be determined from two fields:

1. *status* field in response body
2. HTTP Status Header

Response Body:

The response body will always have a *status* field showing the status of the request. The value of the *status* field will be:

1. success - if the request was successful
2. failure - if the request was failure

In case of failure the response body will also contain a *message* field that will contain the error message.

HTTP Status Header:

The HTTP *Status* Header in the response will be *200 OK* in case of success and will be anything other than *200 OK* in case of failure.

ASSET ONBOARDING

Device Registration

API: <http://IP:PORT/ICCCIntegration/registerLightingDevice>

Method: POST

Request Body:

Sl.no	Field	Data type	Description	Info
1	Operation_ID	integer	ID of operation to be performed	1 for adding new device, 2 for updating existing device

2	Device Name	string	Name of device	
3	Device Type	integer	Type of device	
4	Latitude	float	Latitude of location where device is installed	
5	Longitude	float	Longitude of location where device is installed	
6	MAC Address	string	MAC address of the device	
7	Device Location	string	Full address of location where device is installed	

Ex:

```
{
  "operation_id": 1, //1 for adding 2 for updating
  "Device Name": "Lighting device",
  "Device Id": 18, //For parking default value will be 18
  "longitude": 77.5959877,
  "latitude": 12.981728,
  "Mac Address": "123456793",
  "device_location ": "Gubbi Thotadappa Rd, Kempegowda,
  Sevashrama, Bengaluru, Karnataka 560023, India"
}
```

Response:

Sl.no	Field	Data Type	Description	Info
1	status	String	True/false status	

Ex:

Success response:

```
{
  " success ": "true",
  "message", "Device configured successfully"
}
```

Failure response:

```
{  
  "success": "false",  
  "message": "Device not configured"  
}
```

REAL TIME DATA INTEGRATION

Real Time Data Packet is sent from the Lighting Device to the CCP IoT Hub through REST API on top of CCP IoT. The payload will be of JSON Object format which is explained below.

REST API:

http://IP:PORT/PSIMWebRestService/rest/lightingServices/sendLightingDetails

Request Type:POST,

Body Part:

```
{  
  "DeviceMACId": null,  
  "FeederIdentifier": "00000000-0000-0000-0000-000000000000",  
  "FeederName": null,  
  "TimeStamp": "0001-01-01T00:00:00",  
  "PhaseL1Voltage": 0.0,  
  "PhaseL2Voltage": 0.0,  
  "PhaseL3Voltage": 0.0,  
  "MainsVoltagesR": 0.0,  
  "MainsVoltagesY": 0.0,  
  "MainsVoltagesB": 0.0,  
  "OutputVoltageU": 0.0,  
  "OutputVoltageV": 0.0,  
  "OutputVoltageW": 0.0,  
  "PhaseWiseCurrentI1": 0.0,  
  "PhaseWiseCurrentI2": 0.0,  
  "PhaseWiseCurrentI3": 0.0,  
  "Frequency": 0.0,  
}
```

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```
"Phase1PowerFactor": 0.0,  
"Phase2PowerFactor": 0.0,  
"Phase3PowerFactor": 0.0,  
"TotalActivePower": 0.0,  
"TotalReactivePower": 0.0,  
"TotalActiveEnergy": 0.0,  
"TotalReactiveEnergy": 0.0,  
"TotalKVAHEnergy": 0.0,  
"ApparentPowerKVA": 0.0,  
"MeteringKWhCumulative": 0.0,  
"MeteringKVAhCumulative": 0.0,  
"Temperature": 0.0,  
"BatteryVoltage": 0.0,  
"MCBTrip": 0,  
"ContactorFailure": 0,  
"DoorOpen": 0,  
"GroundLeakage": 0,  
"BatteryChargingVoltage": 0.0,  
"ContactorStatus": 0,  
"GSMSignalStrength": 0,  
"GSMModemStatus": 0,  
"Contactor": 0,  
"DimmingSchedules": [  
  {  
    "StartTime": "2017-04-20T12:49:35.0791499+05:30",  
    "EndTime": "2017-04-21T12:49:35.080151+05:30"  
  }  
],  
"OperationSchedules": [  
  {
```

```
"StartTime": "2017-04-20T12:49:35.080151+05:30",  
"EndTime": "2017-04-21T12:49:35.080151+05:30"  
}  
]  
}
```

RESPONSE

Success response:

```
{  
  " success ": "true",  
  "message", "Data Received"  
}
```

Failure response:

```
{  
  " success ": "false",  
  "message", "Failed to receive"  
}
```

ENERGY CONSUMPTION

Data Packet is sent from the IoT Hub to the Lighting Application Server through Apache CCP IoT-publish-subscribe model. The payload will be of JSON Object format which is explained below.

Topic : LIGHTING

Payload : JSON Object

Payload Description:

Payload:

```
{
```

```
“LIGHTING” : {  
  “<PARAMETER>”:<VALUE>,  
  ... ,  
  ... ,  
  ... ,  
  }  
}
```