Fleet Management API Documentation

Fleet manager

- Reporting Fault {Downtime, Result}

- AMR State Status {Health, Location, Battery, PayLoad(Loaded Item Detail), Current Task}

**Variables**

|  |  |
| --- | --- |
| **Variables** | **Values** |
| Token ID | Given main ID |
| Task ID | Assigned Designated ‘Task ID’ |
| Task Type | Defines the type of task |
| Priority | Used to Execute first in the Queuing System |

**1.0 Task Delegation**

**[1.1] - Task Received from E-Stocker**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/fleet-manager/received-task’ | |
| **Method** | ‘POST’ | |
| **Description** | This endpoint is used by the E-Stocker to send instructions to the Fleet Manager's "Receive Instruction" component. It allows the E-Stocker to communicate tasks that need to be carried out by the Fleet Manager. | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Instruction Data | JSON |  |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Acknowledgment (Success) | 200 |  |
| Error Response (Failure) | 4xx or 5xx |  |

**[1.1] - Create Task**

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| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/task/task-create’ | |
| **Method** | ‘POST’ | |
| **Description** | This endpoint is used by the Fleet Manager that creates a new task that it is given in the [fleet-manager/receive-instruction]. From that It Creates a new task and assigns it to the AMR. | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Task Creation Input Data | JSON | Input: (Token ID, Task ID, Task Type, AMR, Priority) |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successfully created a task |
| Error Response (Failure) | 4xx or 5xx | Failed to create task |

**[1.2] - Delete Task**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/task/task-delete’ | |
| **Method** | ‘DELETE’ | |
| **Description** | This endpoint deletes the task from the Task list. | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Task Delete | JSON | Input: (Task ID)  [Task ID]: ‘Assigned ID’, |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successfully created a task |
| Error Response (Failure) | 4xx or 5xx | Failed to create task |

**[1.3] - Edit Task**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/task/task-edit’ | |
| **Method** | ‘PUT’ | |
| **Description** | This endpoint enables to edit the task | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Edit Task | JSON | Input: (Task ID, Task Type, AMR, Priority)  Updates the Task |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successfully Edited the Task |
| Error Response (Failure) | 4xx or 5xx | Failed to Edit task |

**[1.4] - Report Task**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/task/task-report’ | |
| **Method** | ‘POST’ | |
| **Description** | This endpoint is used by the Fleet Manager to sends status report of the task to the E-Stocker, indicating the current state of the task | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Report Data | JSON | Containing acknowledgment information sent by the Fleet Manager to the E-Stocker.  Input: (Task ID, Task Type, AMR, Priority) |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successfully reported the Data to E-Stocker |
| Error Response (Failure) | 4xx or 5xx | Failed to report Data to E-Stocker |

**2.0 Queuing System**

**[2.1] - Get Queuing System List**

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| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/queue/queue-list’ | |
| **Method** | ‘GET’ | |
| **Description** | This endpoint allows you to retrieve a list of tasks in the queue. It does not require any input parameters. | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successful response containing a list of Task IDs currently in the queue. |
| Error Response (Failure) | 4xx or 5xx | Failed to retrieve List |

**[2.2] - Adding Task to Queuing System**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/queue/queue-task-add’ | |
| **Method** | ‘POST’ | |
| **Description** | This endpoint is used by the Fleet Manager to assign a new task to the Queuing System. | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Creates a New Item in Queue | JSON | Input: (Token ID, Task ID, Task Type, AMR, Priority) |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successfully added task to Que |
| Error Response (Failure) | 4xx or 5xx | Failed to add task to Que |

**[2.3] - Removing Task from Queuing System**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/queue/queue-task-delete’ | |
| **Method** | ‘DELETE’ | |
| **Description** | This endpoint is used by the Fleet Manager to remove an existing task from the Queuing System. | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Remove Task in Queue | JSON | Input: (Token ID, Task ID, Task Type, AMR, Priority) |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successfully removed task from queue |
| Success Response (Success) | 4xx or 5xx | Failed to remove task from queue |

**[2.4] - Editing Task from Queuing System**

|  |  |  |
| --- | --- | --- |
| **Endpoint** | **Description** | |
| **URL** | ‘/api/fm/queue/queue-task-edit’ | |
| **Method** | ‘PUT’ | |
| **Description** | This endpoint is used by the Fleet Manager to Edit an existing task from the Queuing System. | |
| Parameters | | |
| **Parameter** | **Type** | **Description** |
| Edit Task in Queue | JSON | Input: (Token ID, Task ID, Task Type, AMR, Priority) |
| Response | | |
| **Response** | **HTTP Status** | **Description** |
| Success Response (Success) | 200 | Successfully removed task from queue |
| Error Response (Failure) | 4xx or 5xx | Failed to remove task from queue |

**3.0 AMR**

**3.1 AMR Fault Monitoring**

AMR Fault Monitoring Details

|  |  |  |
| --- | --- | --- |
| Item | Description | Data Type |
| namekey | Unique identifier of a fault entity. | String |
| upd | Timestamp when this record was last updated. | Long |
| robot | Name of AMR with fault state set. | String |
| active | Current fault state. | Boolean |
| blockDriving | Block Driving fault. |
| driving | Driving fault. |
| critical | Critical fault. |
| clearedOnGo | Fault clear on go. |
| clearedOnAck | Fault clear on acknowledge. |
| application | Application fault. |
| name | Fault name. | String |
| type | Fault type. |
| shortDescription | Short description of fault. |
| longDescription | Long description of fault. |

AMR Fault Monitoring Using ***Rest***

|  |  |  |
| --- | --- | --- |
| Method | Resource | Function |
| GET | /RobotFault/ByKey/{namekey} | Get AMR fault by namekey. |
| GET | /RobotFault/UpdatedSince?sinceTime={time millis} | Get a list of AMR fault entities that have been updated since the given time. |
| GET | /RobotFault/History?sinceTime={time millis} | Get a list of AMR fault history entities that have been updated since the given time. |
| GET | /RobotFault/History?sinceTime={time millis}&namekey={namekey} | Get a list of AMR fault history entities for a specific namekey that have been updated since the given time. |
| GET | /RobotFault/ByRobot/{AMR} | Get a list of AMR fault entities filtered by AMR. |
| GET | /RobotFault/ByType/{Type} | Get a list of AMR fault entities filtered by type. |
| GET | /RobotFault/ByName/{Name} | Get a list of AMR fault entities filtered by name. |
| GET | /RobotFault/ByActive/{Value} | Get a list of AMR fault entities filtered by active state. |

AMR Fault Monitoring ***JSON*** Schema Examples

|  |
| --- |
| {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  } |

|  |
| --- |
| [  {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  },  {  "namekey": "fault124",  "upd": 1635734500000,  "robot": "AMR-002",  "active": false,  "blockDriving": false,  "driving": true,  "critical": false,  "clearedOnGo": true,  "clearedOnAck": false,  "application": true,  "name": "SoftwareError",  "type": "Software",  "shortDescription": "Software error detected.",  "longDescription": "This fault indicates a software error in the AMR's system."  }  ] |

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| --- |
| [  {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  },  {  "namekey": "fault124",  "upd": 1635734500000,  "robot": "AMR-002",  "active": false,  "blockDriving": false,  "driving": true,  "critical": false,  "clearedOnGo": true,  "clearedOnAck": false,  "application": true,  "name": "SoftwareError",  "type": "Software",  "shortDescription": "Software error detected.",  "longDescription": "This fault indicates a software error in the AMR's system."  }  ] |

|  |
| --- |
| [  {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  }  ] |

|  |
| --- |
| [  {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  }  ] |

|  |
| --- |
| [  {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  }  ] |

|  |
| --- |
| [  {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  }  ] |

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| --- |
| [  {  "namekey": "fault123",  "upd": 1635734400000,  "robot": "AMR-001",  "active": true,  "blockDriving": true,  "driving": false,  "critical": true,  "clearedOnGo": false,  "clearedOnAck": true,  "application": false,  "name": "SensorError",  "type": "Hardware",  "shortDescription": "Sensor error detected.",  "longDescription": "This fault indicates a sensor error in the AMR's hardware."  }  ] |