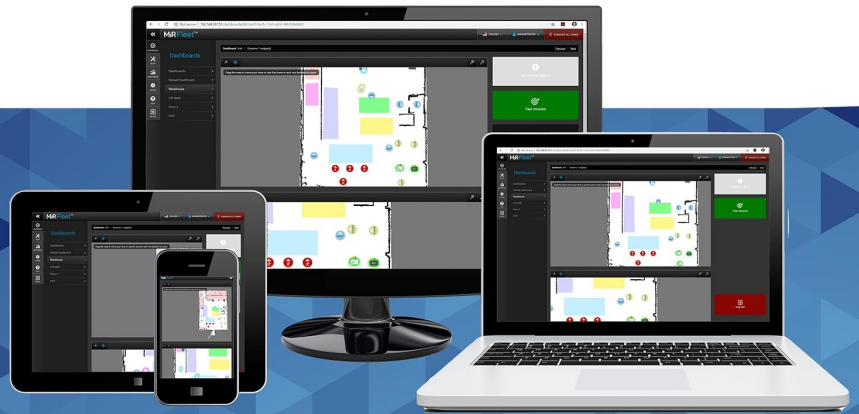


Getting started (en)

Date: 09/2019

Revision: v.1.1



MiR Fleet

PC

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1. About this document

This guide describes how to set up MiR Fleet PC and get started with MiR Fleet interface. As MiR Fleet PC user, you have received the following information to get started:

- License ID and password
- USB pen with MiR Fleet software and this getting started guide.
- An Intel® NUC Kit



1.1 Where to find more information

At www.mobile-industrial-robots.com, several additional resources are available. To access more information, sign in to the Distributor site with your distributor account at <http://www.mobile-industrial-robots.com/en/account/>. The following resources are available:

- **Distributor site > Manuals**

<http://www.mobile-industrial-robots.com/en/account/manuals/>

This page contains the following resources:

- **Quick starts** describe how you start operating MiR robots quickly. This document is in print in the box with the robots. Quick starts are available in multiple languages.
- **User guides** provide all the information you need to operate and maintain MiR robots. User guides are available in multiple languages.
- **Risk Analysis Guides** include guidelines for how to create a risk assessment of your robot solution.
- **Commissioning guides** describe how to commission your robot safely and prepare it to operate in the workplace.
- **Operating guides** describe how to set up and use add-ons, such as charging stations, hooks, shelf lifts, and pallet lifts.
- **Getting started guides** describe how to set up products that are mainly software based, such as MiR Fleet and MiR AI Camera.
- **Reference guides** contain descriptions of all the elements of the robot and MiR Fleet interface. Reference guides are available in multiple languages.
- **REST API references** for robots, MiRHook, and MiR Fleet.
- **MiR network requirements** specify the performance requirements of your network for MiR robots and MiR Fleet to operate successfully.

- **Distributor site > Download**

<http://www.mobile-industrial-robots.com/en/account/download/>

This page contains the following resources:

- **Software and Product Release Notes** for your MiR product are displayed by selecting your product in the drop-down menu.
- **CAD drawings** of MiR products are displayed by selecting **Show CAD-files**.
- **Certificates** for the MiR products and Declarations of Conformity are displayed by selecting **Show Certificates**.

- **Distributor site > FAQ**

<https://www.mobile-industrial-robots.com/en/account/faq/>

This page contains frequently asked questions regarding MiR products.

- **Distributor site > How to**
<http://www.mobile-industrial-robots.com/en/account/how-to/>
This page contains how-to guides that describe how to perform specific tasks with MiR products.
- **Distributor site > Troubleshooting**
<https://www.mobile-industrial-robots.com/en/account/troubleshooting/>
This page contains troubleshooting guides to solve common issues with MiR products.
- **MiR Fleet PC product page**
<https://www.mobile-industrial-robots.com/en/products/mir-add-ons/mir-fleet/>
This page contains specifications, pictures, and brochures for MiR Fleet PC.
- **Universal Robots:**
<http://www.universal-robots.com/support>

1.2 Version history

This table shows current and previous versions of this document and their interrelations with hardware releases.

Revision	Release Date	Description	SW	HW
1.0	2019-30-07	First edition	2.5.0 and higher	1.0
1.1	2019-20.12	Second edi- tion	2.7.9 and higher	1.0

1. Specifications

The specifications of the MiR Fleet PC are listed below.

- Model: NUC5i3MYHE
- PC: Intel® Maple Canyon NUC
- CPU: Intel® Core i3-5010U (3MB cache, 2.1GHz base clock)
- RAM: 8GB DDR3L-1600
- SSD: 128GB 2.5"
- Operating system: Linux Ubuntu 16.04
- Network capabilities: 1 Gbit Ethernet, no wireless option
- Required connections: 110 V or 230 V power socket and Ethernet network cable
- Installation requirements: Must run on the same physical network as the robots

1.3 Network architecture

MiR Fleet is able to communicate to MiR robots, existing computer devices and WISE modules once connected to the network. Within the network it is still also possible for other computer devices to connect directly to the MiR robots through their robot interface. The WISE modules enable MiR Fleet to control existing PLCs.

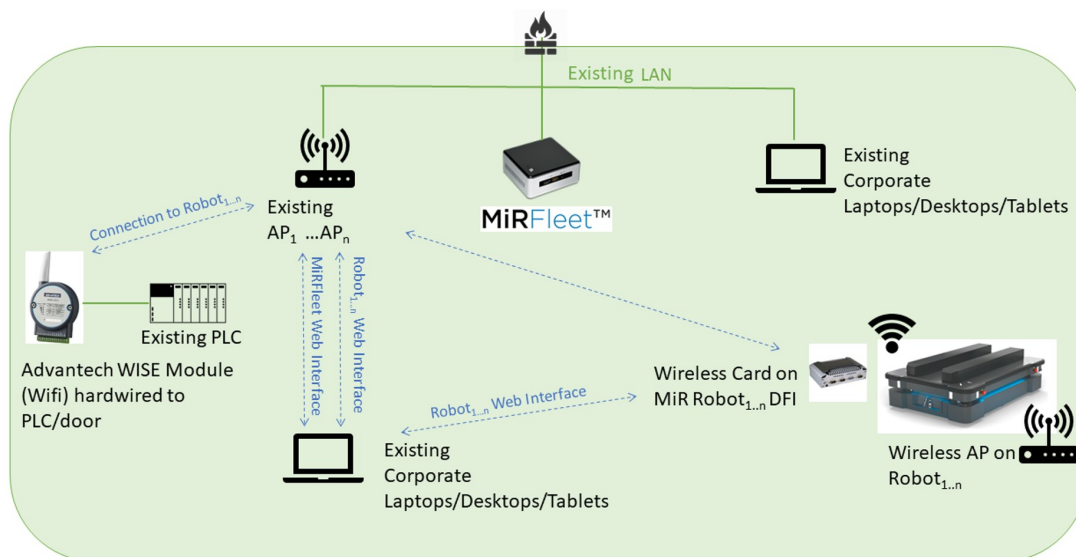


Figure 1.1. MiR Fleet network architecture



NOTICE

Using the robot interface to control robots that are active in MiR Fleet can cause fleet resource issues.

- Avoid using the robot interface to control robots that are active in MiR Fleet

2. Getting Started

This section describes how to prepare your robots to join the fleet, start up your MiR Fleet PC for the first time, and activate your license.

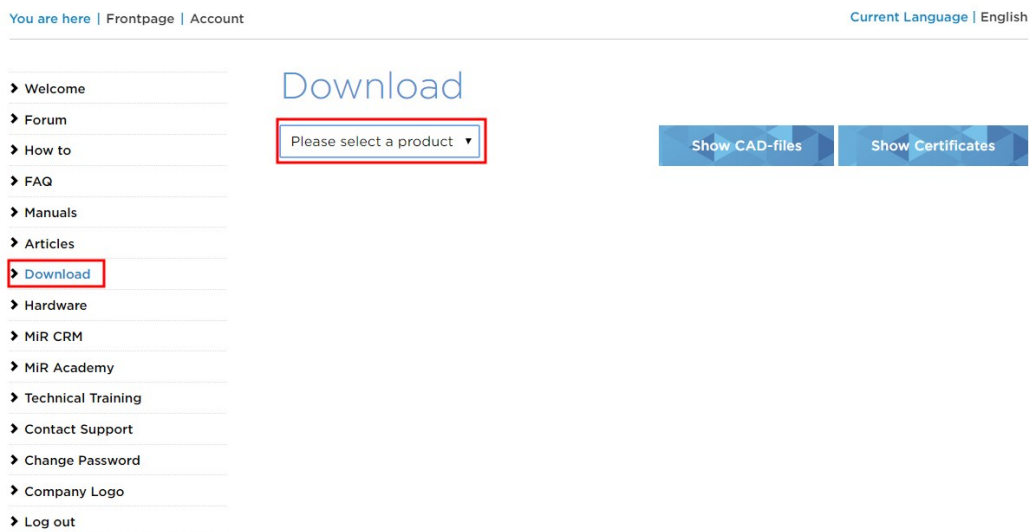
Before installing the MiRFleet, a few preparations are recommended. The first point, however, is mandatory.

1. Update the fleet robots to SW version 2.5.0 or newer. All robots in the fleet must run the same software version as MiRFleet. We recommend the newest available software.
2. Export site file from one of the fleet robots. The site file must be imported to the fleet before any robots are added.

2.1 Updating robot software

Follow the steps below to update your robot software:

1. Go to MiR Distributor site and sign in with your credentials.
2. Select **Download** and select your robot in the product drop down menu.



3. Download the latest version of MiR Software Robot / Hook / Fleet 2 version x.x.x.

Software

File	Last update	
MiR Software Robot / Hook / Fleet 2 version 2.8.0.3	19 Dec 2019	Download
MiRFleet 1 version 2.8.0	19 Dec 2019	Download
Known Product Issues Note 2.8.0	19 Dec 2019	Download
Product release note 2.8.0.pdf	19 Dec 2019	Download
MiR Fleet Server Solution 2.8.0	20 Dec 2019	Download

4. Connect your computer to the WiFi of the robot you would like to update.
5. Access the robot's interface by going to the website mir.com in your preferred web browser and sign in.
6. Navigate to **System > Software versions** and select **Upload software**

Software versions
Change the current software version

Filter: Write name to filter by... 45 item(s) found

Version	Upgraded from	State	Start time	Finished
2.7.2	2.7.1	Success	2019-07-08T15:31:33	2019-07-08T15:32:56
2.7.1	2.7.0	Success	2019-06-14T12:57:03	2019-06-14T12:58:37
UNKN OWN	UNKNOWN	Failed	2019-06-06T08:10:39	2019-06-06T08:10:50
2.7.0	2.7.0-130-gfc93763.MIRS-9890-timing-changes-causes-docking-mla	Success	2019-06-04T12:26:55	2019-06-04T12:28:40
2.7.0	2.7.0	Success	2019-06-04T12:22:53	2019-06-04T12:24:14

7. Locate and select the downloaded software package.
8. It may take a few minutes for the package to successfully upload.



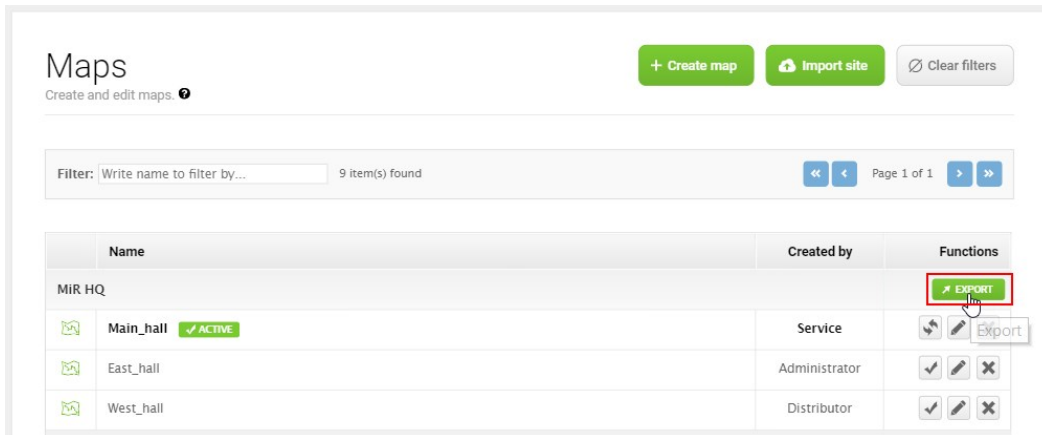
NOTICE

When updating a MiR robot with an attached MiRHook, the Hook software must be updated first to ensure that the robot is compatible with the hook when uploading the software. See MiRHook Operating guide on the MiR website.

2.2 Export site file

Follow the steps below to export your site file.

1. In a robot interface, go to **Setup > Maps**.
2. Select the site you want to use for the fleet and select **Export**.

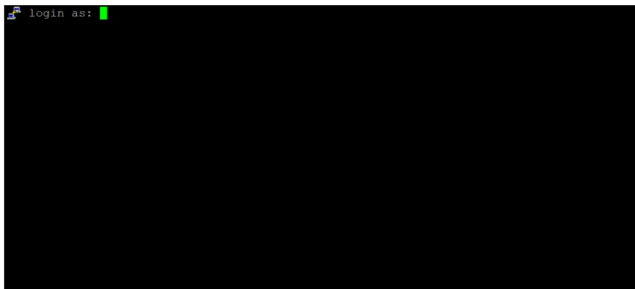


3. The site file is downloaded to your device and must be imported into the fleet later.

2.3 Finding your fleet's IP Address

To find the IP address of your MiRFleet, you must access the fleets Ubuntu operating system and follow the steps below.

1. Connect the NUC to a power socket, to your network via the Ethernet cable, to a screen, and to a keyboard.
2. You will be greeted by the following image:

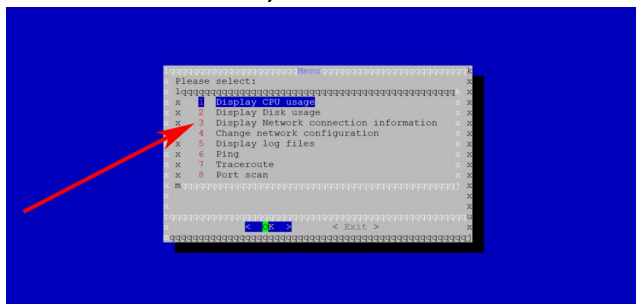


Login as: remote,
With the password: mirremote

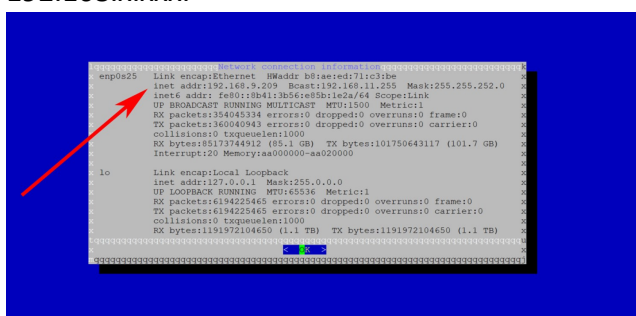
3. In the following frame, type: `mir_fleet_tool`.

```
## #####
## //|||'          -|||/-  /-  //|||/|||/:-,  ##
## //|||/          -|||/-  oo/  //|||/:|||/:-,  ##
## //|||/          -|||/-  oo+;  //|||  //|||  ##
## //||:/|||/      :|||/|||/-  +;  -|||/  -|||/-  ##
## //|||/-|||/-  '|||/|||/-|||/  -|||/  '|||/  ##
## //|||/-|||/-;|||/-  -|||/-  .:/  //|||:-|||/-  ##
## //|||/          -|||/-  -|||/  //|||/|||/|||/  ##
## //|||/          '|||/:-  -|||/  //|||/|||/|||/  ##
## //|||/          '|||/  -|||/  //|||/|||/|||/  ##
## //|||/          '|||/  -|||/  //|||/|||/|||/  ##
## //|||/          '|||/  -|||/  //|||/|||/|||/  ##
## //|||/          -|||/-  -|||/-  //|||/|||/|||/  ##
## //|||/          -|||/-  -|||/-  //|||/|||/|||/  ##
## #####
## SW version: 2.7.2
## OS: Ubuntu 16.04.2 LTS (4.15.0-38-generic)
## Time: Thu Jul 18 09:10:57 CEST 2019
## Uptime: 57 days 19 hours 29 minutes
## Load: 2.20 1.32 0.89
## ROS: Running
## MySQL: Running
## Apache: Running
## #####
## #####
## Last login: Thu Jul 18 09:09:16 2019 from 192.168.5.37
## $ mir_fleet_tool
```

4. A menu is displayed on a blue background. Choose **Display Network connection information** to see your MiRFleet's IP address.



5. Your MiR Fleet's IP address is written in the **inet addr** field, and are often in the format 192.168.x.xxx.



NOTICE

We recommend that you use static IP addresses for both MiRFleet and MiR robots. Assign the IP address to the hardware's MAC-address. Ask the distributor for further elaboration.

2.4 Logging in for the first time

You log in to MiRFleet by typing the fleet's IP address in a web browser on a computer on the same physical network as the robots and the fleet.

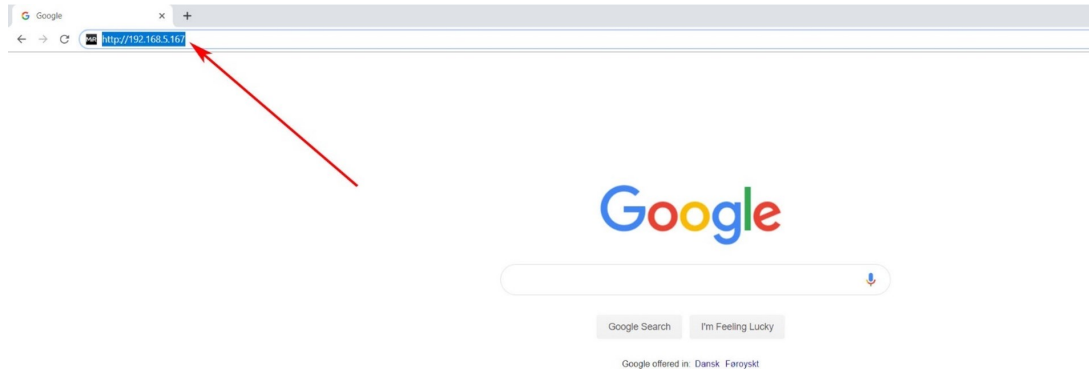


Figure 2.1. The example fleet IP address 192.168.5.167 is written in the browser to access the fleet interface log in page.

The first time you log in, you will be asked to provide your License ID and your License key. Both are provided to you by mail. To activate your license see [Install and activate your fleet below](#).

2.5 Install and activate your fleet

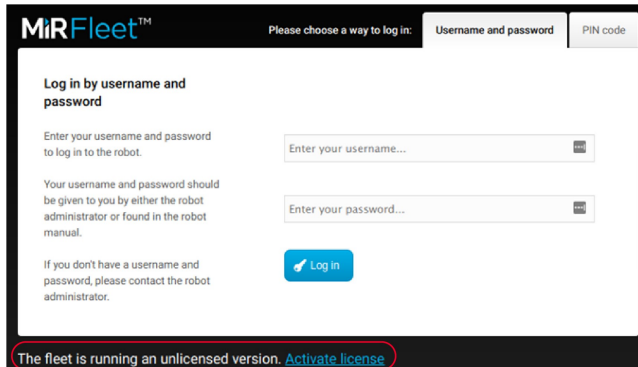
You are now ready to activate the MiRFleet interface. It is only necessary to activate your license the first time you log on to the MiR Fleet.



After activation, the license is tied to the hardware of the host and can only run on that host. If you want to change the host, the license can be deactivated from its current host and re-activated on a new one. Please contact MiR Support for assistance.

You can activate the license both online and offline by following these steps:

1. On the login page, select **Activate license**.



MiRFleet™ Please choose a way to log in: Username and password PIN code

Log in by username and password

Enter your username and password to log in to the robot.

Your username and password should be given to you by either the robot administrator or found in the robot manual.

If you don't have a username and password, please contact the robot administrator.

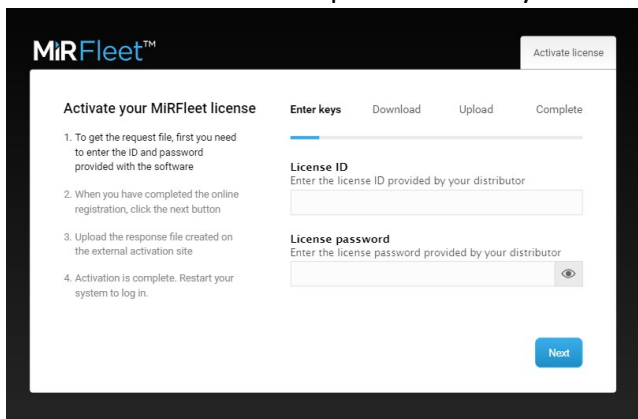
Enter your username...

Enter your password...

Log in

The fleet is running an unlicensed version. [Activate license](#)

2. Enter the License ID and password that you have received from MiR.



MiRFleet™ Activate license

Activate your MiRFleet license

Enter keys Download Upload Complete

1. To get the request file, first you need to enter the ID and password provided with the software

2. When you have completed the online registration, click the next button

3. Upload the response file created on the external activation site

4. Activation is complete. Restart your system to log in.

License ID
Enter the license ID provided by your distributor

License password
Enter the license password provided by your distributor

Next

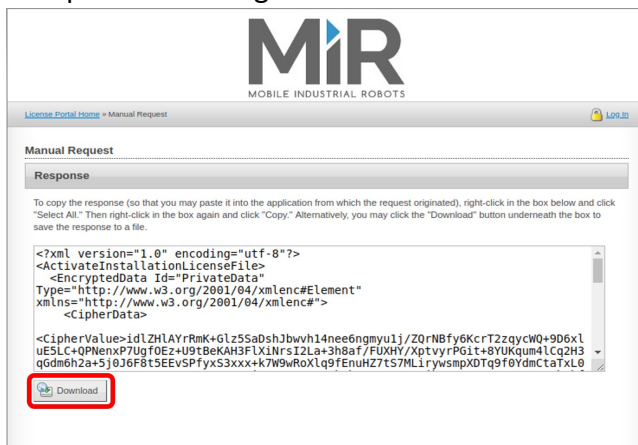
3. Wait while the system attempts to activate the license.
4. If you work online, you are finished activating your license, and can continue to step 8. If you work offline, the attempt to activate the license will fail, and you are directed to a page from where you can download a request file. If the download does not start automatically, then select the link **Download it here**.

5. Transfer the request file to a computer with internet access, for example via a USB pen. In a browser, go to <https://secure.softwarekey.com/solo/customers/ManualRequest.aspx> and upload the request file.



The screenshot shows the 'Manual Request' page of the MiR website. The page has a header with the MiR logo and 'MOBILE INDUSTRIAL ROBOTS'. Below the header, there's a navigation bar with 'License Portal Home' and 'Manual Request'. The main content area is titled 'Manual Request' and contains two sections: 'Copy and Paste Request' and 'Upload Request File'. The 'Upload Request File' section is highlighted with a red box. It contains a 'Choose File' button, a text input field with 'request.xml', and a 'Submit' button. The 'Copy and Paste Request' section has a large text area for pasting the request content and a 'Submit' button.

6. The web page now generates a response file. Select **Download** and save the file on a USB pen. Then bring it back to MiRFleet.



The screenshot shows the 'Manual Request' page of the MiR website, specifically the 'Response' section. The page has the same header and navigation bar as the previous screenshot. The main content area is titled 'Manual Request' and contains a 'Response' section. This section contains a large text area displaying an XML response. Below the XML text, there is a 'Download' button highlighted with a red box. The XML text is as follows:

```
<?xml version="1.0" encoding="utf-8"?>
<ActivateInstallationLicenseFile>
  <EncryptedData Id="PrivateData"
    Type="http://www.w3.org/2001/04/xmlenc#Element"
    xmlns="http://www.w3.org/2001/04/xmlenc#">
    <CipherData>
      <CipherValue>idLZH1AYrRmK+Glz5SaDshJbvvh14nee6ngmyu1j/Z0rNBfy6KcrT2zqycwQ+9D6x1
uE5LC+qPNeNxp7Ugf0Ez+U9tBeKAH3FLX1NrsI2La+3h8af/FUXHY/XptvyrPG1t+8YUKqum4lCq2H3
qGdm6h2a+5j0J6F8t5EEvSPfyxS3xxx+k7W9wRoXLq9fEnuHZ7ts7MLirywsmPXDTq9f0YdmCtaTxL0
```


7. If you are still on the Download page, then select **Next** to go to the Upload page. Upload the response file to MiRFleet and select **Next**.

8. Your MiRFleet license is now successfully activated. Select **Go to login**.

9. Enter a username and password. The default usernames and passwords are the same as for robots.

You can find the default usernames and passwords in the MiR folder you received with the Fleet USB pen.

3. Commissioning

This section describes how you import robots into the MiRFleet interface and set up the parameters that will get your fleet up and running.

Before adding the first robot, the site file retrieved earlier should be imported to the fleet. The site file includes:

- Maps, including positions, markers, walls, floors and all types of zones
- Missions and Mission groups
- Users and User groups
- Paths
- User-created sounds
- I/O modules
- Carts, cart types and calibrations
- Shelf types

The features that must be configured in the fleet are:

1. Import site
2. Add robots to the fleet
3. Set up elevators
4. Set up Fleet dashboard(s)
5. Configure auto-charging and staging
6. Configure collision avoidance

3.1 MiRFleet interface

The MiRFleet interface is very similar to the robot interface. *Figure 3.1* shows what is synchronized between fleet and robots in the **Setup** menu (green frame) and what is not synchronized (red frame). The items in the red frame are fleet specific and must be set up in the fleet interface.

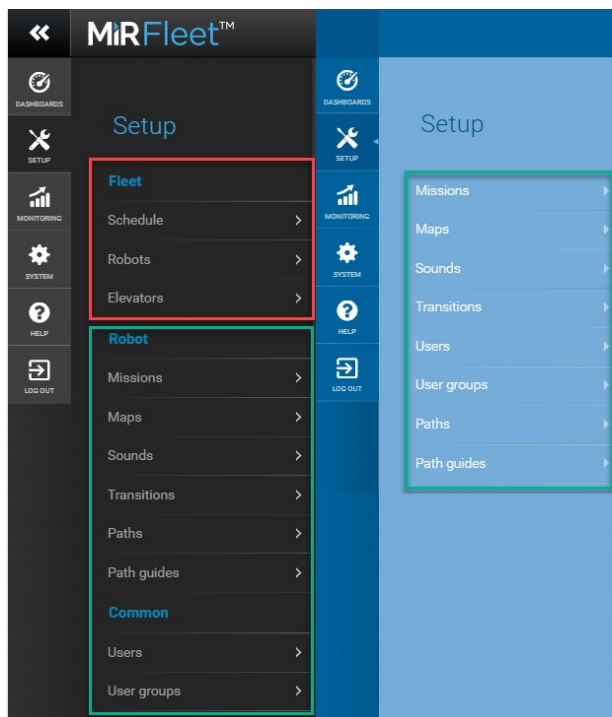
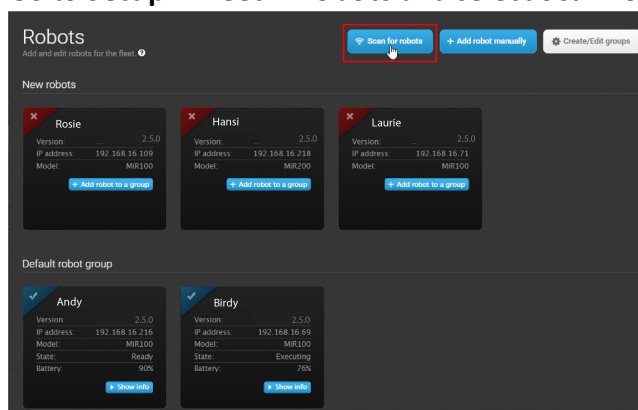


Figure 3.1. The items that are boxed in green are synchronized between the robots through the fleet. The items boxed in red are not synchronized and are specific to the fleet.

3.2 Add robots to the fleet

Follow these steps to add robots to the MiRFleet.

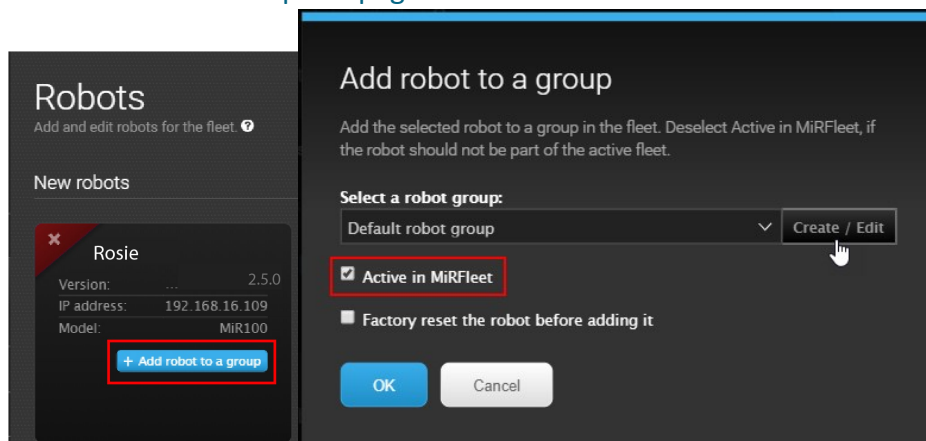
1. Go to **Setup > Fleet > Robots** and select **Scan for robots**.





If one or more robots are not found through the scanning, you can add them by selecting **Add robot manually** and entering the IP address of the robot(s).

- To activate a new robot, select **Add robot to a group** and select **Active in MiRFleet**. You can use the default robot group or create new groups for different types of robots. See more in section [Groups on page 22](#).



We recommend that you select **Factory reset the robot** before adding it for all robots except for the first one that you activate. The first one is used to synchronize sites with the fleet.

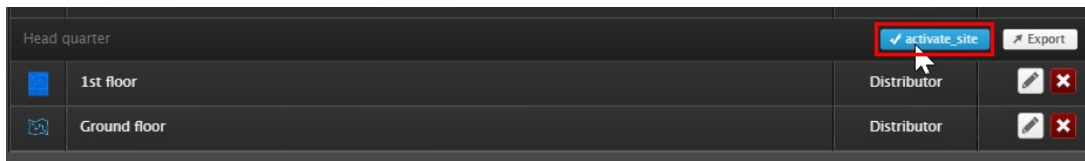


NOTICE

Be aware that all user settings on the robot are erased when you select the **Factory reset option**. This ensures that all robots are running with the same information as the fleet.

3.3 Activate site

Even though all robot settings are synchronized, you must activate the site you want to use for the fleet. In robot interfaces, you activate individual maps, but in MiRFleet you must activate a whole site. To do this, navigate to **Setup > Maps**, find the site you want to activate, and select the activate site icon.

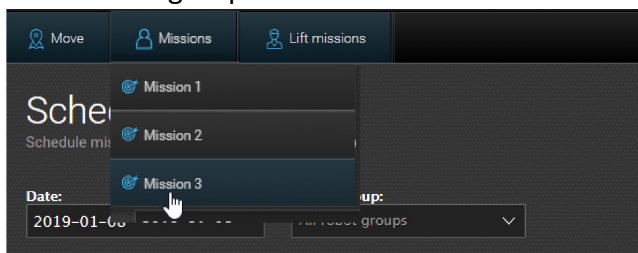


User group permissions apply to this action. You may need to log in as a higher level user to change this.

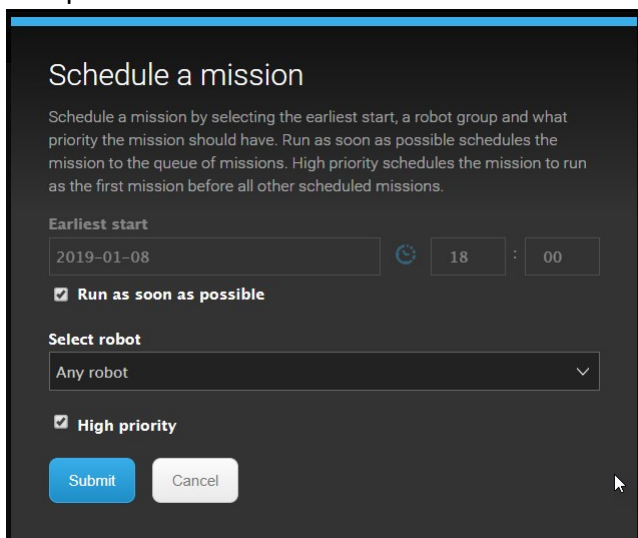
3.4 Set up schedules

Missions are set up and monitored from the Schedule page. Follow these steps to schedule a mission:

1. Go to **Setup > Fleet > Schedule**. Available missions are shown in the top bar. Select one of the robot groups and select a mission from the list.



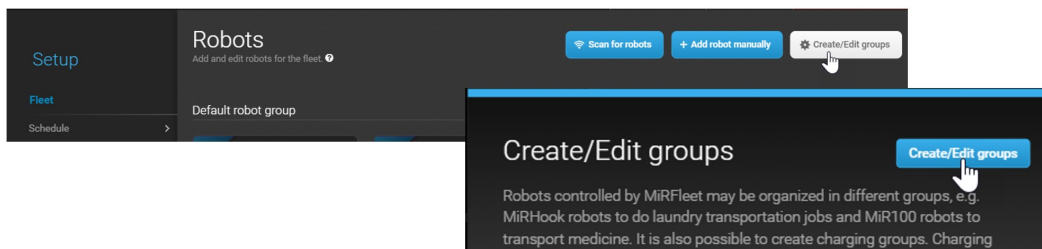
2. Set the mission parameters to specify which robot group should run the mission and at what time the mission should be initiated. High priority puts the mission to the front of the queue.



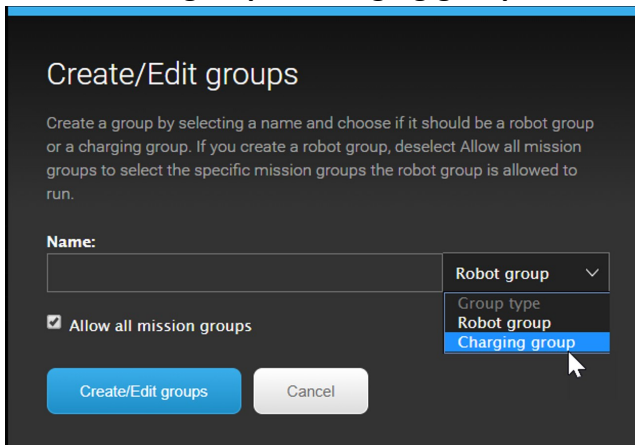
3.5 Groups

In MiRFleet, robot groups can be matched with mission groups, which gives you even more control of your fleet flow. An example could be a group of MiRHook robots that are restricted to perform Cart pick-up and drop-off missions only. The efficiency of the robot groups / mission groups setup depends on how you have set up missions and mission groups (**Setup > Missions**). Follow these steps to set up groups of robots and missions.

1. Go to **Setup > Robots** and select **Create/Edit groups**. Select **Create/Edit groups** again in the next window



2. Select **Robot group** or **Charging group**.



- When you create a **Robot group**, you get the extra option **Allow all mission groups**. To match a robot group with one or more mission groups, deselect this option, and then select the mission group(s) you want to match the robot group with.



NOTICE

We discourage the use of robot interface for robots in MiRFleet.

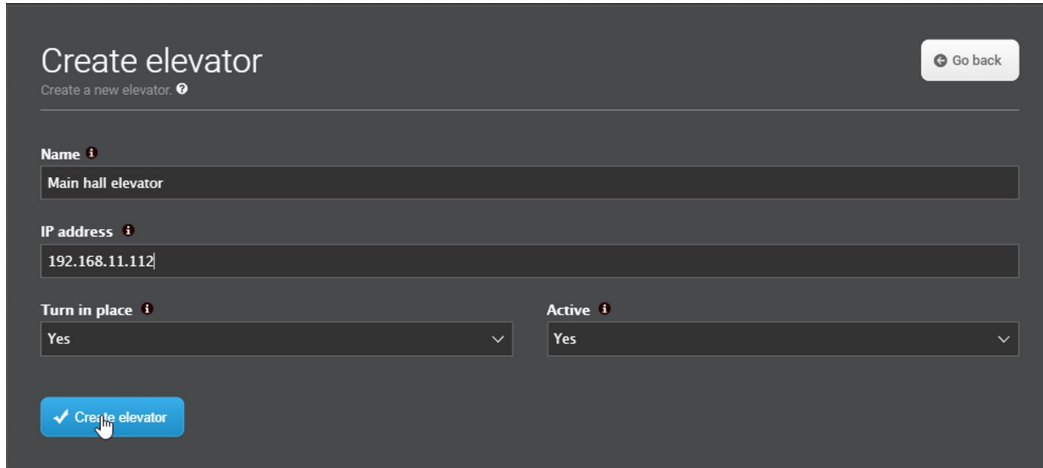
- All missions should go through the mission scheduler in the fleet. The user should not issue independent robot missions.
- Don't manipulate map components on the robot unless you are napping or detecting markers, use the fleet interface instead.

3.6 Set up elevators

Elevators must be set up with a specific robot control with its own IP-address to work with MiRFleet. Contact your distributor for further information.

Follow these steps to set up an elevator:

1. Go to **Fleet > Elevators** and select **Create elevator**.
2. Start by setting up the elevator: name, IP address, if the robot should turn inside the elevator, and if you want to activate the elevator right away. Finish by selecting **Create elevator**.



The screenshot shows a web interface for creating a new elevator. The title is "Create elevator" with a subtitle "Create a new elevator" and a "Go back" button. The form contains the following fields:

- Name:** A text input field containing "Main hall elevator".
- IP address:** A text input field containing "192.168.11.112".
- Turn in place:** A dropdown menu with "Yes" selected.
- Active:** A dropdown menu with "Yes" selected.
- Create elevator:** A blue button with a checkmark icon, which is being clicked by a mouse cursor.

3. Now select **Add floor** to set up the first floor.

4. Select settings for each floor. Positions and missions must have been setup previously in the map editor (**Setup > Maps > Create map / Edit map**).
 - **Floor:** Enter a floor number.
 - **Map:** The map must have been created in a robot and include two elevator positions that will enable the switching from one map to another.
 - **Position in the elevator:** This position represents the robot's position inside the elevator.
 - **Position in front of elevator:** The position in front of the elevator where the robot waits for the elevator to arrive and the door to open.
 - **Entry mission:** An entry mission is not mandatory. An example of an entry mission could be a sound as the robot enters the elevator. An entry mission must include a Move action with a variable position.
 - **Exit mission:** An exit mission is not mandatory. An example of an entry mission could be a sound as the robot leaves the elevator.
 - **Door:** Select 1 if the elevator has one door and 2 if the elevator has two doors and you want the robot to leave through the opposite door.

Select **Update elevator**

Floor	Map	Position In The El...	Position In Front ...	Entry Mission	Exit Mission	Door	
1	ConfigurationMa	Test	Test	Mission 1	Mission 2	2	✕

Turn in place: Yes | Active: Yes

+ Add floor

✓ Update elevator

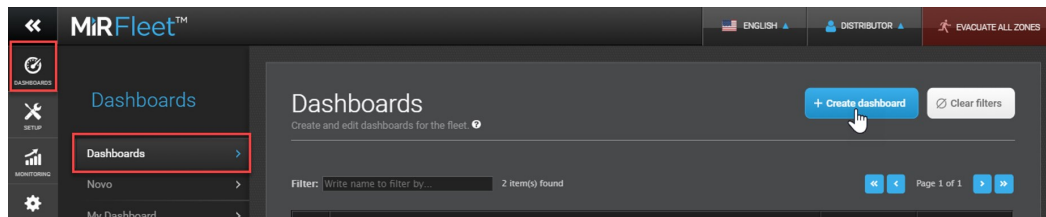
5. Keep adding floors until you have the required number for your building.

3.7 Set up fleet dashboards

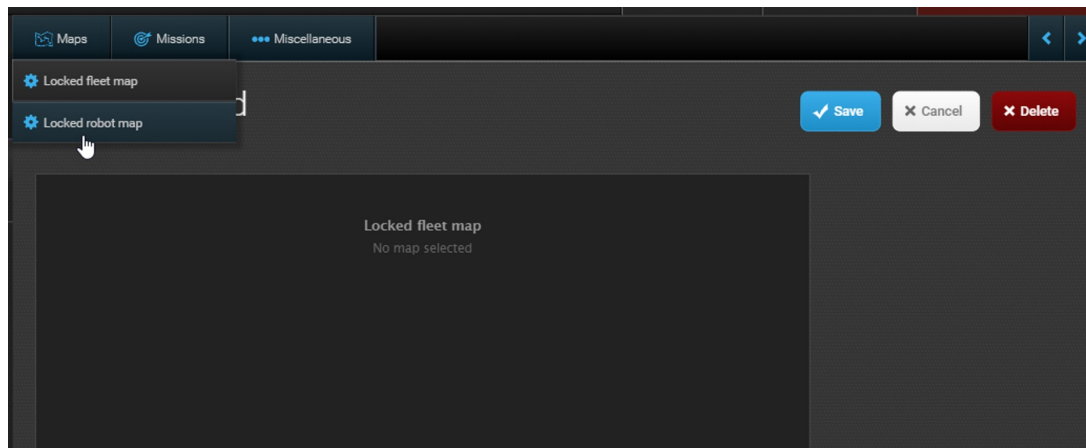
Dashboards are set up the same way as in the robot interface, though with a different set of available widgets.

Follow these steps to set up a dashboard:

1. Go to **Dashboards > Dashboards** and select **Create dashboard**. Give the dashboard a name and select **Create dashboard**.



2. Available widgets are shown in the top bar. Select one of the widget groups and select a widget. Keep adding widgets, until you have the wanted dashboard.
You can move the widgets around and resize them as needed. Select **Save** when you are done editing the dashboard. The dashboard is now accessible from the Dashboards menu.

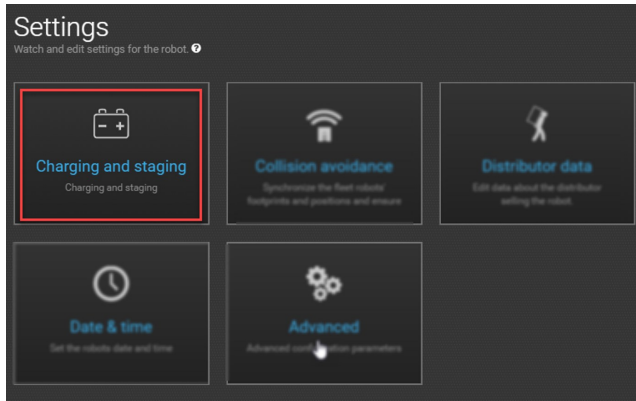


The only fleet specific widget is the one named Locked fleet map. It corresponds to the Locked robot map known from the robot interface, but it shows all fleet robots that are on the selected map.

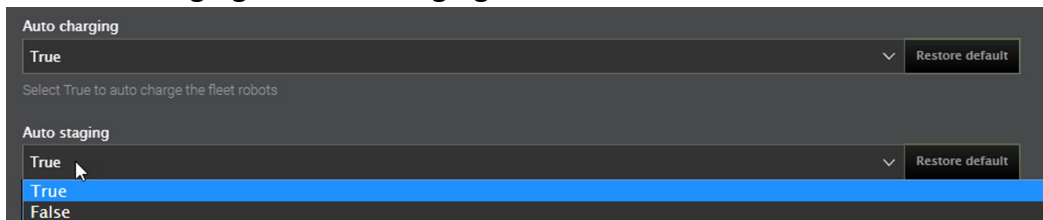
3.8 Set up the fleet robots for automatic charging and staging

MiR Fleet is able to automatically send robots to charging stations when they begin to reach low power, and send them to stage positions to park when not in use. Follow these steps to set up the fleet robots for auto charging and auto staging:

1. Go to **System > Settings** and select **Charging and staging**.



2. Set **Auto charging** and **Auto staging** to true.



MiRFleet will now handle charging and staging automatically, using the default settings. If you want to change any other settings for **Charging and staging**, see the following description of the various parameters you can change.

- **Threshold at charging position**
Distance in meters between a robot and a charging station when the robot moves away before another robot can use the charging station.
- **Auto charging**
Select **True** to auto charge the fleet robots.
- **Auto staging**
Select **True** to auto stage the fleet robots. This feature requires a staging position for every robot.
- **Idle time**
Minimum of minutes a robot must idle before it is sent to a charging station.
- **Minimum battery percentage for charging**
The robot's minimum battery percentage before it can receive a new order.
- **Minimum battery percentage for release**
The minimum battery percentage the robot should be charged
- **Minimum time at charging station**
Minimum number of minutes the robot should charge in a charging station

Charging and staging

Charging and staging

Go back

Auto charging

True Restore default

Select True to auto charge the fleet robots

Threshold at charging position

0.9 Restore default

Distance in meters between a robot and a charging station, when the robot moves away before another robot can use the charging station

Minimum time at charging station

5 Restore default

Minimum of minutes the robot should charge in a charging station when there is more than one robot connected to the fleet

Minimum battery percentage for orders

30 Restore default

The robot's minimum battery percentage before it can receive a new order

Minimum battery percentage for release

60 Restore default

The minimum battery percentage the robot should be charged

Minimum battery percentage for charging

75 Restore default

The lowest battery percentage a robot can have, before the fleet can send it to charge

Time unassigned

10 Restore default

The robot can not go to charge, if there is less than the indicated minutes left until its next job

Idle time

0.25 Restore default

Minimum number of minutes a robot must idle, before it is sent to a charging station or staging position

Auto staging

True Restore default

Select True to auto stage the fleet robots

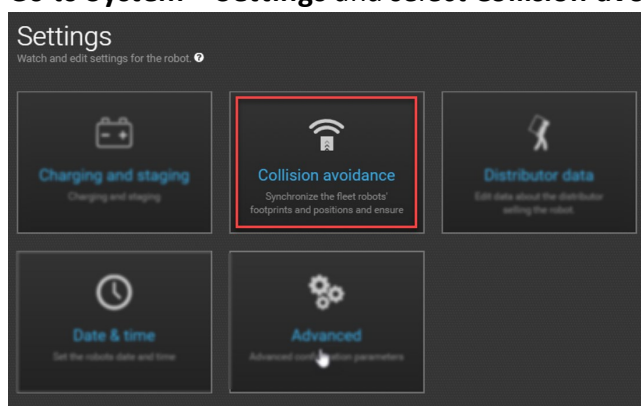
Save changes Cancel

Figure 3.2. Parameters that can be set in **Charging and staging**.

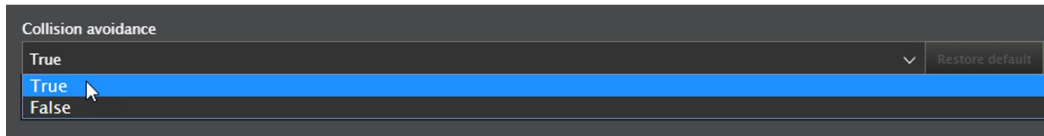
3.9 Set up the fleet robots for collision avoidance

Enabling collision avoidance synchronizes the footprints and positions of the robots connected to fleet. This ensures that the robots will not collide with each other. Follow these steps to set up the fleet robots for collision avoidance:

1. Go to **System > Settings** and select **Collision avoidance**.

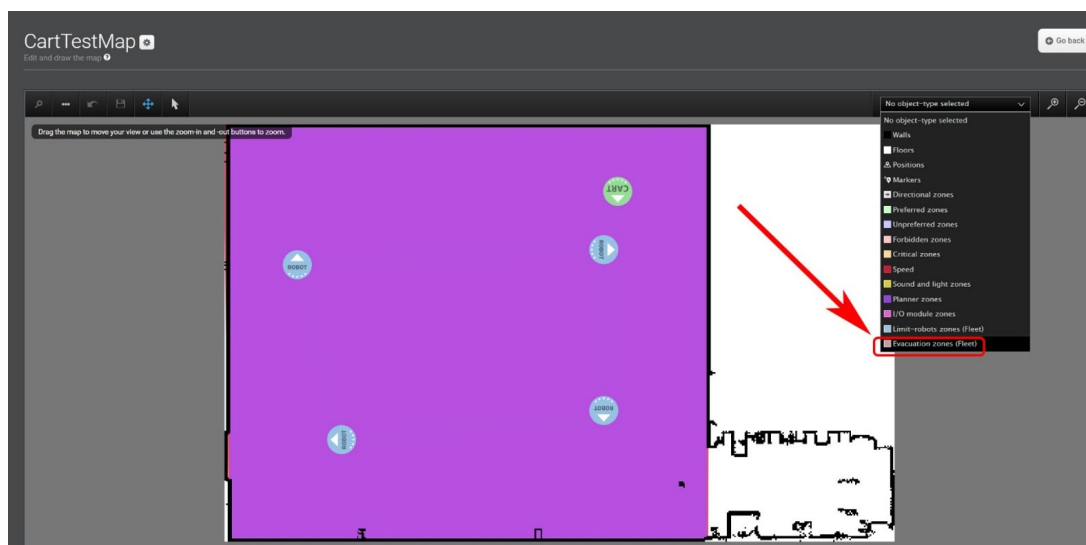


2. Check that **Collision avoidance** is set to **True**.



3.10 Evacuation zones

By adding evacuation zones and positions to a map you can clear an area of robots from the MiRFleet interface. Evacuation zones may be used in connection with for example, fire alarms.



For more information about Evacuation zones, see the How to guide **How to set up evacuation zones and fire alarms** on the Distributor site.

4. MiRFleet API

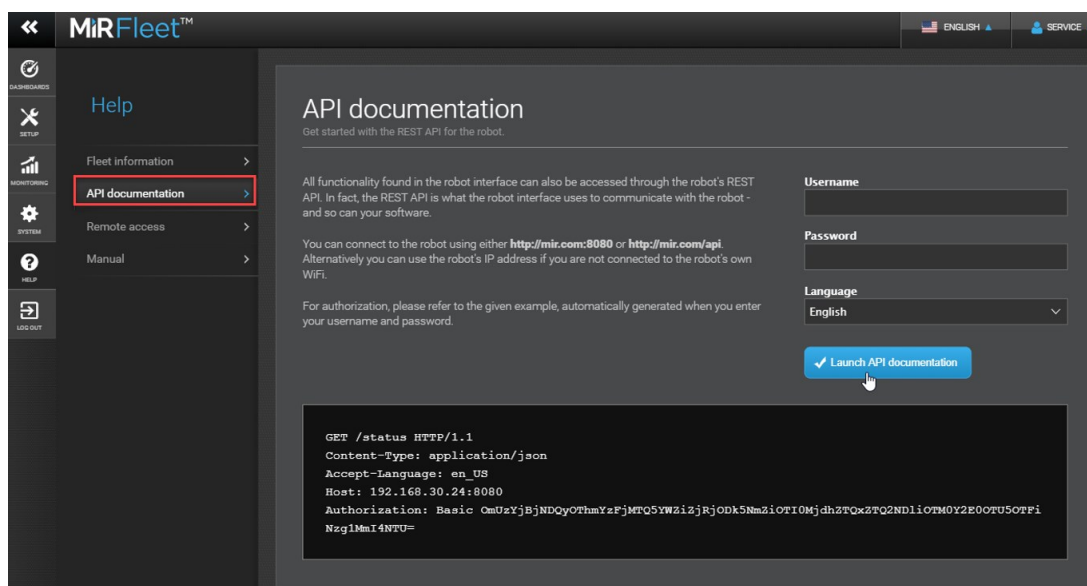
The MiRFleet API is completely integrated with the robot API. This includes the request authentication and a large number of API endpoints.

For additional information see:

- The How to guide **Use MiR v2.0.0 REST Interface using Postman or ARC** that describes how to use REST API.
- The Reference guides for the REST API of each product. These can be found on the Distributor site under **Manuals**.

In general, the MiRFleet API has possibilities for integration directly through the API, and you can try the API calls directly from the MiRFleet interface help menu, like you know it from the robot interface. Make sure to check the parameters in the API documentation.

To open the API documentation, go to **Help > API documentation** and then select **Launch API documentation**.



MiRFleet™ 2.7.1-622-g2de5951.release-2.7.2 FLEET REST API 2.7.1-622-g2de5951.release-2.7.2 [Base URL: 192.168.5.167/api/v2.0.0]		
Positions ▾		
GET	/positions/{parent_guid}/helper_positions	GET /positions/{parent_guid}/helper_positions
GET	/positions/{pos_id}/docking_offsets	GET /positions/{pos_id}/docking_offsets
GET	/positions/{guid}	GET /positions/{guid}
PUT	/positions/{guid}	PUT /positions/{guid}
DELETE	/positions/{guid}	DELETE /positions/{guid}
GET	/resources/positions	GET /resources/positions
GET	/path_guides/{path_guide_guid}/positions	GET /path_guides/{path_guide_guid}/positions
POST	/path_guides/{path_guide_guid}/positions	POST /path_guides/{path_guide_guid}/positions
GET	/positions	GET /positions
POST	/positions	POST /positions
GET	/path_guides/{path_guide_guid}/positions/{guid}	GET /path_guides/{path_guide_guid}/positions/{guid}
PUT	/path_guides/{path_guide_guid}/positions/{guid}	PUT /path_guides/{path_guide_guid}/positions/{guid}
DELETE	/path_guides/{path_guide_guid}/positions/{guid}	DELETE /path_guides/{path_guide_guid}/positions/{guid}
GET	/resources/positions/{guid}	GET /resources/positions/{guid}
GET	/maps/{map_id}/positions	GET /maps/{map_id}/positions



NOTICE

The MiR Fleet API requires authentication. See [Authentication below](#).

4.1 Authentication

To authenticate REST requests in the MiRFleet API a basic authentication must be included in the header similar to the robot API. It consists of a base64 encoded string and is formed by the username followed by a colon and a sha-256-encoded password. Ex: BASE64 (<username>:SHA-256(<password>)).

For example, a header could look like this:

```
Content-Type:application/json
```

```
authorization:Basic
```

```
ZG1zdHJpYnV0b3I6NjJmMmYwZjFlZmYxMGQzMtUyYzk1ZjZmMDU5NjU3NmU0ODJiYjh1NDQ4MDY0MzNmNGNmOT  
I5NzkyODM0YjAxNA==
```

When you are determining your authentication header the links below can be used to encode your user name and password information.

SHA-256 encoder: <http://www.xorbin.com/tools/sha256-hash-calculator>

Base64 encoder: <https://www.base64encode.org/>



The following How to guide provides additional information regarding the use of REST API: <https://www.mobile-industrial-robots.com/en/account/how-to/software/use-mir-v200-rest-interface-using-postman-or-arc/>.

5. Maintenance of MiR Fleet PC

5.1 Docker

For maintenance lifecycle of Docker see <https://success.docker.com/article/maintenance-lifecycle>.

5.2 MiR Fleet

The MiR Fleet PC software can be updated in two ways:

1. Update software from the MiRFleet user interface using a .mir file.
 - Only the MiRFleet software is updated to the new version.
 - See the MiRFleet reference guide.
2. Update software and containers using a MiR Fleet PC installer file.
 - The MiRFleet software is updated to the newest version. The packages and configuration in the containers are updated to the latest versions.

5.3 Updating robots

Robots and fleet share the same software file, so you only need to download one software file when updating robot and fleet software.

When you update the software in either a robot or a fleet, the software distinguishes between the two, which means that you cannot upload the wrong file, as long as you make sure to run the same software version on both MiRFleet and all robots on the fleet.