

FM SETUP INSTRUCTIONS

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FM Installation

FM installation prerequisites

1. Install docker
2. Install docker-compose
3. Works only on x86 arch

Setup FM

1. Clone fleet manager repository

```
git clone https://github.com/AtiMotors/fleet_manager
cd fleet_manager
git pull
git submodule update --init --recursive
```

2. Checkout to release/branch, update mule submodule.

```
git checkout <branch>
git submodule update --remote --merge
```

3. Setup cert files - You will need python installed in your machine to carry out this step

3.1 *Update all_server_ips, http_scheme in static/fleet_config/fleet_config.toml, add wireguard ip of the server as well if wg access is present*

```
for example:
all_server_ips=["192.168.6.11", "10.9.0.168", "127.0.0.1"]
http_scheme="https"
```

3.2 Install toml, cryptography in your machine(not server)- these packages are required to generate cert files

```
pip install toml cryptography
```

3.3 Upon successful installation of the above mentioned packages, run setup_certs.py to generate FM cert file

```
cd utils && python3 setup_certs.py  
..static/fleet_config/fleet_config.toml ..static
```

3.4 Copy the cert file(static/certs/fm_rev_proxy_cert.pem) to all the sherpas(/opt/ati/config/fm_rev_proxy_cert.pem)

4. Update static directory with map_files, sherpa_details

4.1 Add fleet names, customer details, server_ip to the static/fleet_config/fleet_config.toml

```
server_ip="xyz"  
fleet_names=["sample_fleet", "sample_fleet_1"]  
customer="xyz"  
site="xyz"  
location="xyz"
```

4.2. Add sherpa details of all the sherpas to the fleet_config following the sample given below- make sure sherpa names match hostname in the mule

```
[fleet_sherpas.<sherpa_name>]  
hwid="abc"  
api_key="qZhoteD9zOHn_wBoYW04vgeaiLSBIoWP_jaVy5TQLp0_T30-789PAI"  
fleet_name="sample_fleet"  
  
[fleet_sherpas.<sherpa_name>]  
hwid="xyz"  
api_key="ffZhoteD9zOHn_wBoYW04vgeaiLSBIoWP_jaVy5TQLp0_T30-789PAI"  
fleet_name="sample_fleet_1"
```

4.3. Create map folders, map_files.txt for all the fleet names present in fleet_config.toml. Make sure grid_map_attributes.json is present

```
mkdir static/sample_fleet/map/  
copy all the map files to sample_fleet/map/
```

```
cd sample_fleet/map/  
ls > map_files.txt
```

5. If server has internet, allows you to download open-source packages (Recommended to use step 6 instead of this step)

- a. If you want to setup fm on a remote location, run push_fm script to create all the docker images on the server

```
./scripts/push_fm.sh -WDi username@ip
```

- b. If you want to setup fm on your machine, run push_fm script to create all the docker images on your machine

```
./scripts/push_fm.sh -WD
```

6. If server doesn't have internet access, copy built docker images to the server from Ati server(data@192.168.10.21:/atidata/datasets/FM_v2.1_docker_images), run the following commands

- a. Load base images on server/localhost

```
ssh username@ip  
cd FM_v2.1_docker_images  
bash load_docker_images.sh  
exit
```

- b. If you want to setup fm on a remote location, run push_fm script from your machine to create all the docker images on the server

```
./scripts/push_fm.sh -WbDi username@ip
```

- c. If you want to setup fm on your machine, run push_fm script from your machine to create all the docker images on your machine

```
./scripts/push_fm.sh -WbD
```

7. [Setup plugins](#) if any.

8. [Setup sherpas](#).

Start or Restart FM

1. Modify timezone if required by setting environment variables TZ, PGTZ in services fleet_manager, db enlisted in static/docker-compose.yml.

2. Restart FM

```
cd static  
docker-compose -p fm down  
docker-compose -p fm up
```

3. Use FM through UI, if running FM on localhost use ip as 127.0.0.1

```
https://<ip>/login  
username: admin  
password: 1234
```

3. Induct all the sherpas that you want to use

- a. Press enable for trips button from sherpa card
- b. Only those sherpas that has been enabled for trips will get assigned with a trip

Run FM Simulator

- a. Follow [Setup FM](#) , steps 1-2

- b. Set simulate in static/fleet_config/fleet_config.toml

```
simulate=true  
http_scheme="http"
```

- c. Make sure all the station below mentioned tags in grid_map_attributes.json pertaining to all the fleets(<fleet_name>/map/grid_map_attributes.json). Tags like conveyor, auto_hitch, auto_unhitch doesn't work in simulator mode.

```
"station_tags": [  
    "parking",  
    "dispatch_not_reqd"  
]
```

- d. Follow [Setup FM](#), steps 3-5

Setup sherpas

a. Copy fm cert file(fm_rev_proxy_cert.pem) generated in [Setup FM](#) step 3 to sherpa's /opt/ati/config directory

b. Add this patch to /opt/ati/config/config.toml in the mule

```
[fleet]
api_key = " "
chassis_number = " "
data_url = "https://<fm_ip_address>:443/api/static"
fm_ip = "https://<fm_ip_address>:443"
ws_url = "wss://<fm_ip_address>:443/ws/api/v1/sherpa/"
fm_cert_file="/app/config/fm_rev_proxy_cert.pem"
```

c. Setup/update ati_mule_maintenance service

```
git clone https://github.com/AtiMotors/system

copy latest mmits_utils.sh, ati_mule_maintenance.sh from ati_core folder to
/etc/systemd directory in sherpa
copy ati_mule_maintenance.service from ati_core folder to
/etc/systemd/system directory in sherpa

#stop the ati_mule_maintenance service and delete maintenance fifo file
ssh into mule
sudo systemctl stop ati_mule_maintenance
sudo systemctl disable ati_mule_maintenance
sudo rm /opt/ati/run/maintenance_req_fifo

#start maintenance service
ssh into mule
cd /etc/systemd
sudo chmod ugo+rwx mmits_utils.sh
sudo chmod ugo+rwx ati_mule_maintenance.sh
sudo systemctl enable ati_mule_maintenance
sudo systemctl start ati_mule_maintenance

#enable 443 port
sudo ufw allow 443
```

d. Setup mule nginx container (if not already present)

1. Check if mule nginx container is running: (below command should show container running)

```
ssh into mule
docker ps | grep mule_nginx
```

2. Build container (if nginx container is not present):

- Make a new folder, shell_scripts

```
cd /opt/ati  
mkdir shell_scripts
```

- Copy load_mule_nginx.sh file from server(data@192.168.10.21:/atidata/datasets/FM_v2.1_docker_images/load_mule_nginx.sh) to mule (/opt/ati/shell_scripts). (DO NOT copy this script to /opt/ati folder on mule)
- Run load_mule_nginx.sh

```
cd /opt/ati/shell_scripts  
bash load_mule_nginx.sh
```

- Restart mule docker

```
docker restart mule
```

Setup Plugin

a. [Setup IES](#)

b. [Setup conveyor booking](#)

Setup IES

a. Add IES plugin to static/fleet_config/plugin_config.toml

```
all_plugins=["ies"]
```

b. Modify static/plugin_ies/locationID_station_mapping.json file. Map IES station names to corresponding ati station names as the template indicates.

```
{  
  "Warehouse_Pick": "ECFA start",  
  "HP02_FA02": "ECFA-2",  
  ...}
```

```
"HP03_FA01": "ECFA-1",  
}
```

Setup conveyor booking

- a. Add conveyor plugin to static/fleet_config/plugin_config.toml

```
all_plugins=["conveyor"]
```

- b. Modify static/plugin_conveyor/api_key_conveyor_mapping.json. Map api keys to conveyor station names, also specify the nearest chute station.

```
{  
  
"E2bKHiYNMk5kCvSKZf0VThr5t8oUQ_8mrot36QVrk9E_CONV1": {"name": "Conveyor1",  
"nearest_chute": "Meeting Room 1"},  
  
"B2bKHiYNMk5kCvSKZf0VThr5t8oUQ_8mrot36QVrk9K_CONV2": {"name": "Conveyor2",  
"nearest_chute": "Meeting Room 2"}  
  
}
```