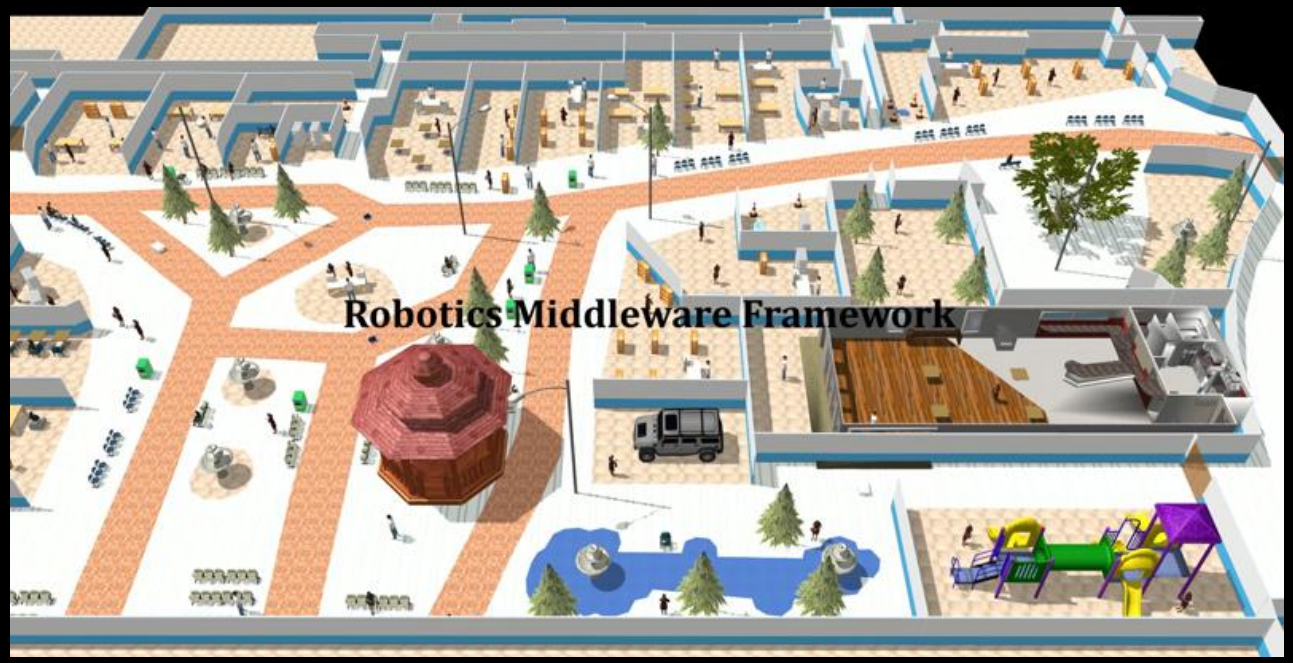
Open-RMF

A Common Language for Robot Interoperability



Lecture 7

정은빈

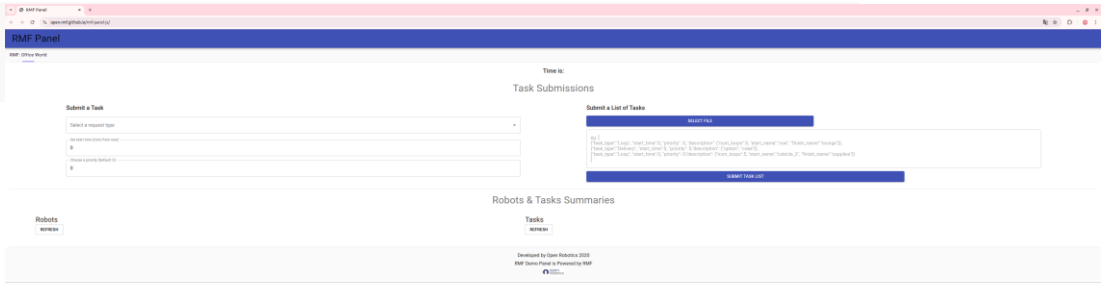
Contents

RMF Panel

RMF Panel

- RMF Panel이란?
  - 시각화 도구: 사용자에게 직관적으로 사용하기 쉬운 인터페이스 제공
  - 로봇 운영의 기본적인 상호작용 및 모니터링에 작업에 중점
  - 로봇의 현재 위치, 상태 예정된 경로 등 기본적인 정보 확인
  - RMF Panel 경로

https://open-rmf.github.io/rmf-panel-js/



RMF Panel

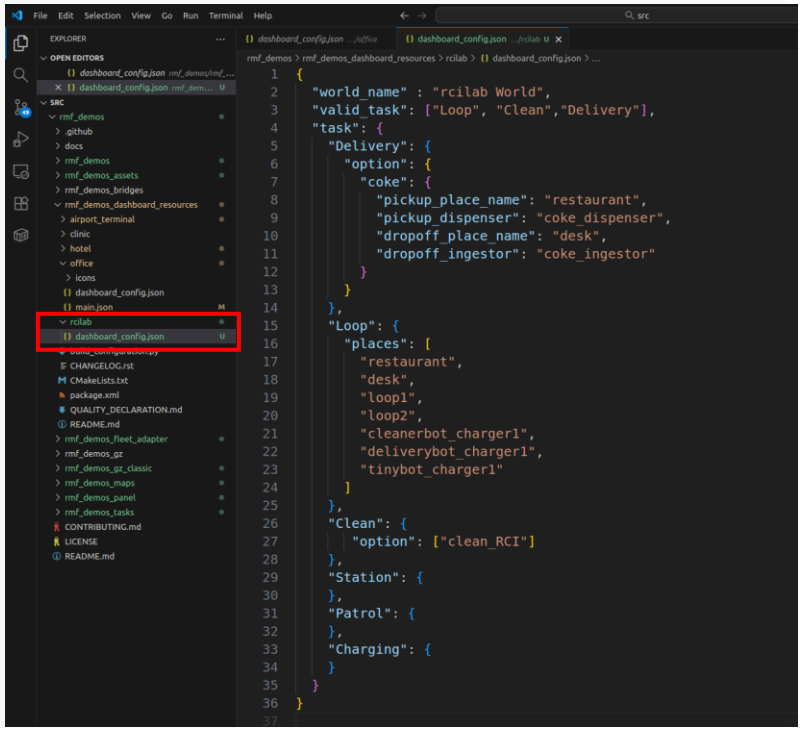
Dashboard 설정

rcilab 폴더 생성 및 dashboard_config.json 파일 생성

~/rmf_ws/src/rmf_demos/rmf_demos_dashboard_resources/rcilab/dashboard_config.json

dashboard_config.json 내용 작성

```
{
  "world_name" : "rcilab World",
  "valid_task": ["Loop", "Clean","Delivery"],
  "task": {
    "Delivery": {
      "option": {
        "coke": {
          "pickup_place_name": "restaurant",
          "pickup_dispenser": "coke_dispenser",
          "dropoff_place_name": "desk",
          "dropoff_ingestor": "coke_ingestor"
        }
      }
    },
    "Loop": {
      "places": [
        "restaurant",
        "desk",
        "loop1",
        "loop2",
        "cleanerbot_charger1",
        "deliverybot_charger1",
        "tinybot_charger1"
      ]
    },
    "Clean": {
       "option": ["clean_RCI"]
    },
    "Station": {
    },
    "Patrol": {
    },
    "Charging": {
    }
  }
}
```

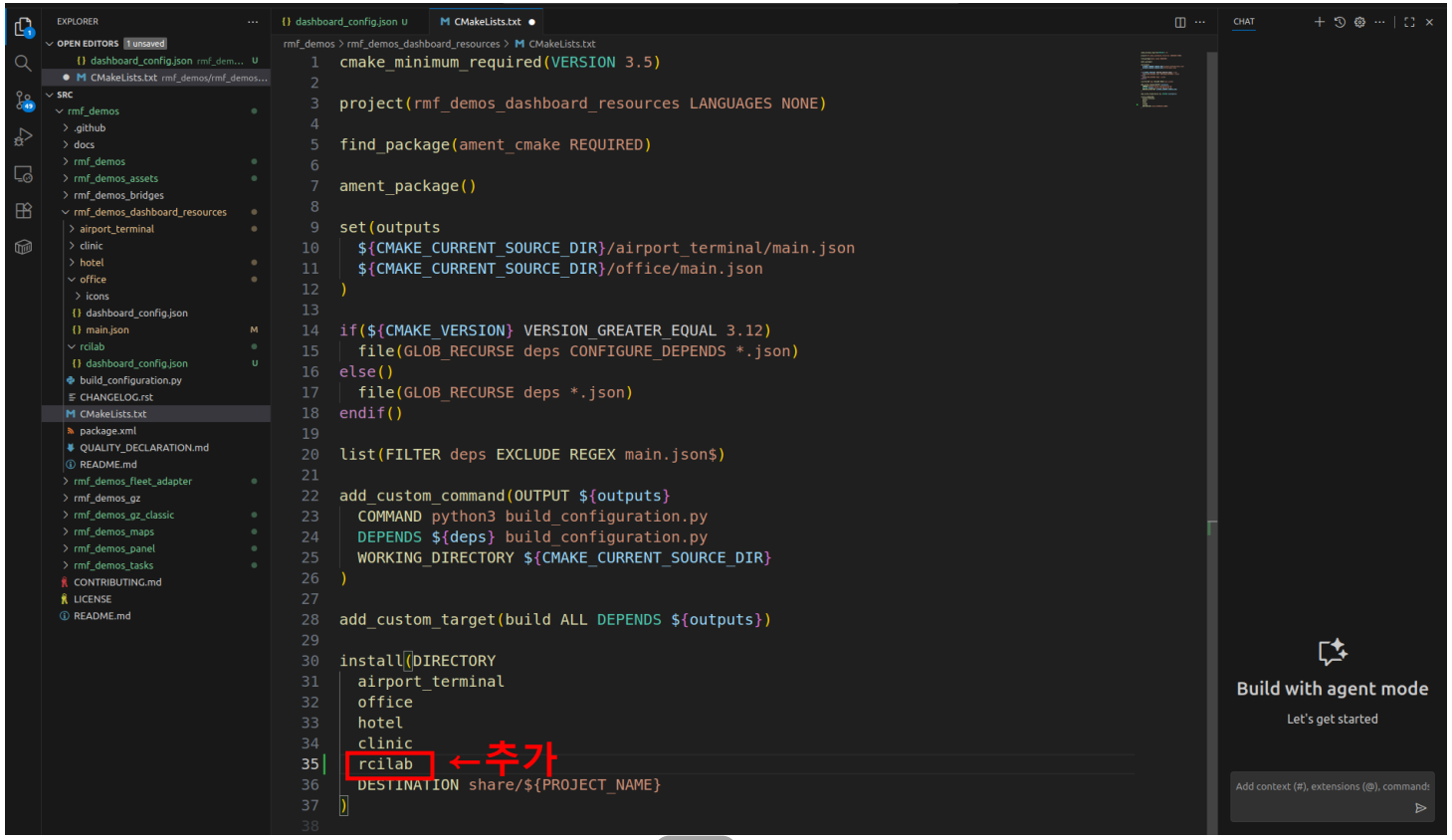


RMF Panel

Dashboard 설정

CMakeLists.txt 내용 수정

/rmf_ws/src/rmf_demos/rmf_demos_dashboard_resources/CMakeLists.txt



RMF Panel

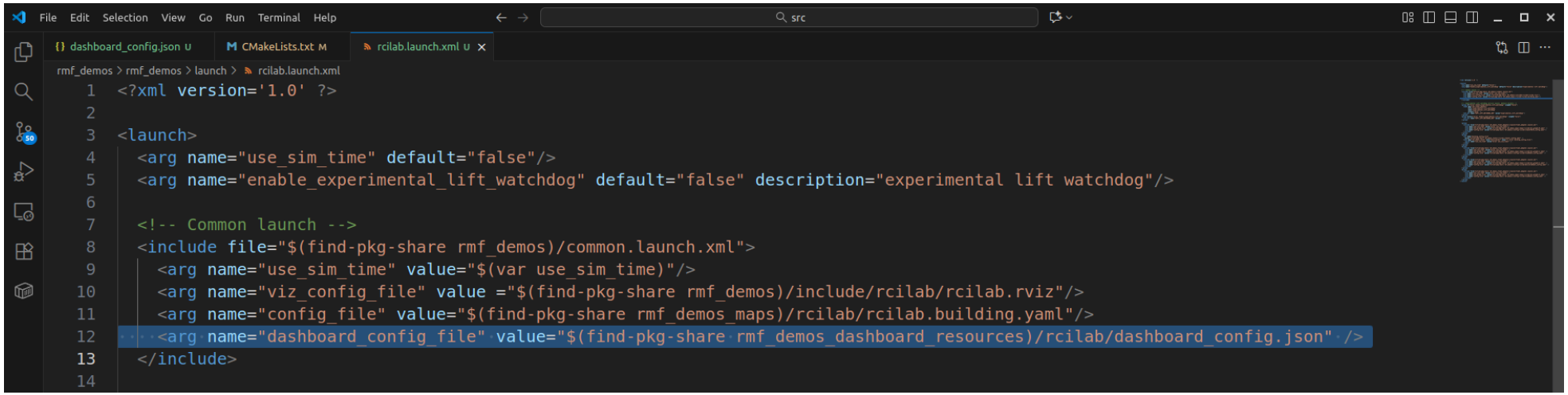
Dashboard 설정

rcilab.launch.xml 파일 수정

~/rmf_ws/src/rmf_demos/rmf_demos/launch/rcilab.launch.xml

rcilab.launch.xml 추가 내용

<arg name="dashboard_config_file" value="$(find-pkg-share rmf_demos_dashboard_resources)/rcilab/dashboard_config.json" />



RMF Panel

rcilab world RMF Panel 확인

Build

```
cd ~/rmf_ws
colcon build
```

rcilab.launch.xml 실행

```
cd ~/rmf_ws && source install/setup.bash
```

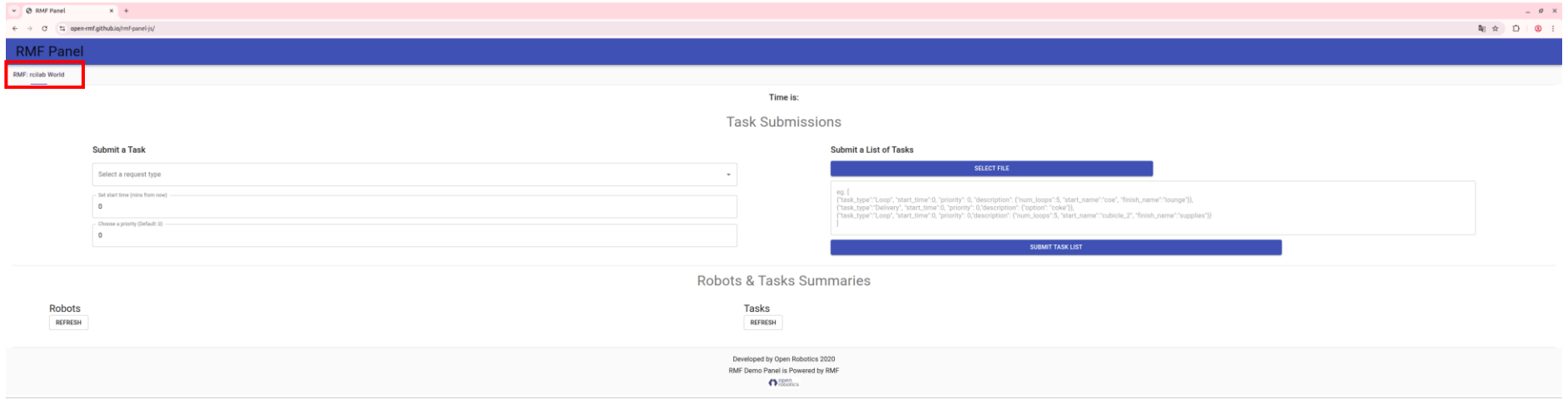
```
ros2 launch rmf_demos_gz_classic rcilab.launch.xml server_uri:="ws://localhost:7878"
```

RMF Panel 접속

```
https://open-rmf.github.io/rmf-panel-js/
```

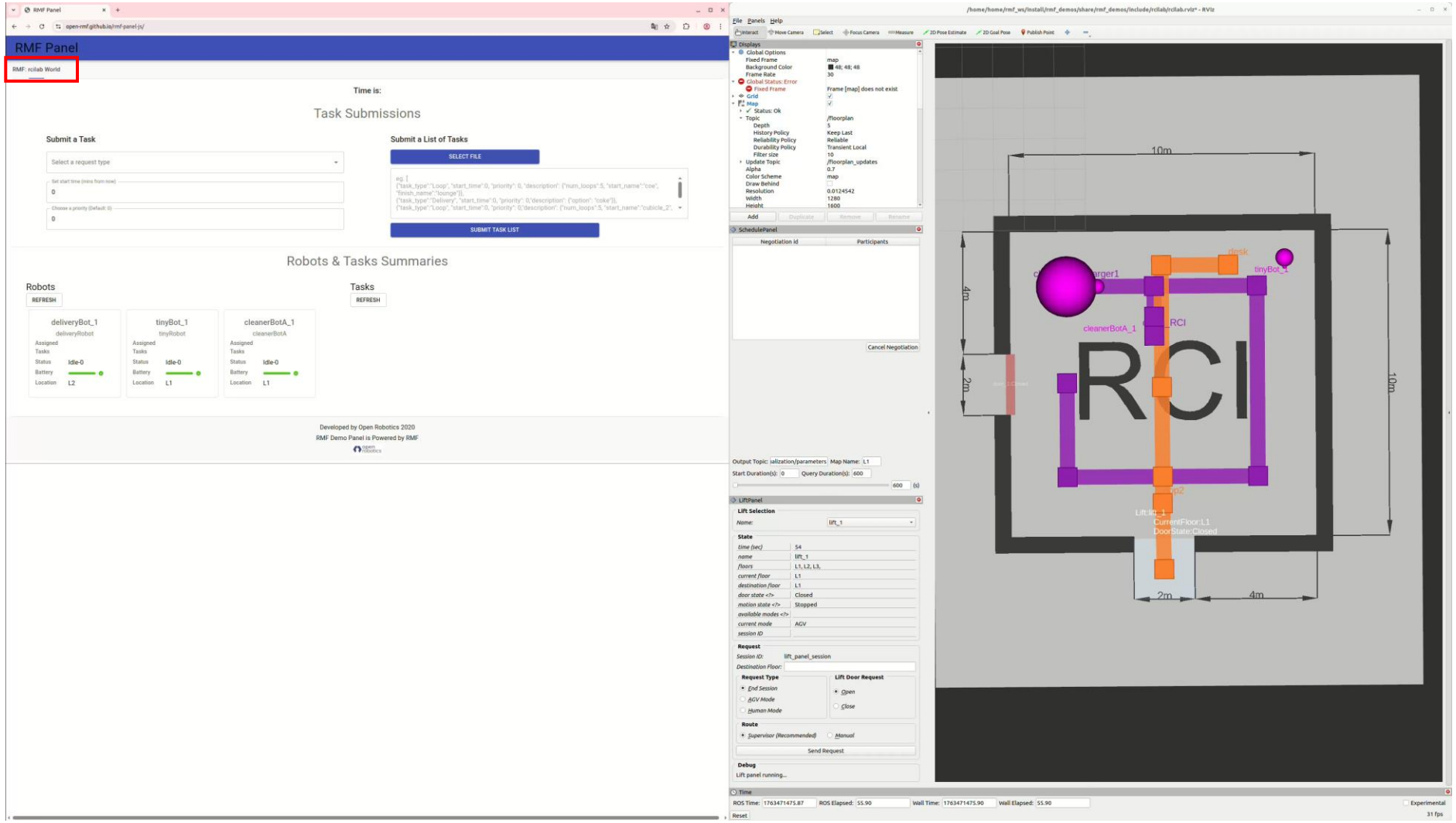
RMF Panel

- rcilab world RMF Panel 확인



RMF Panel

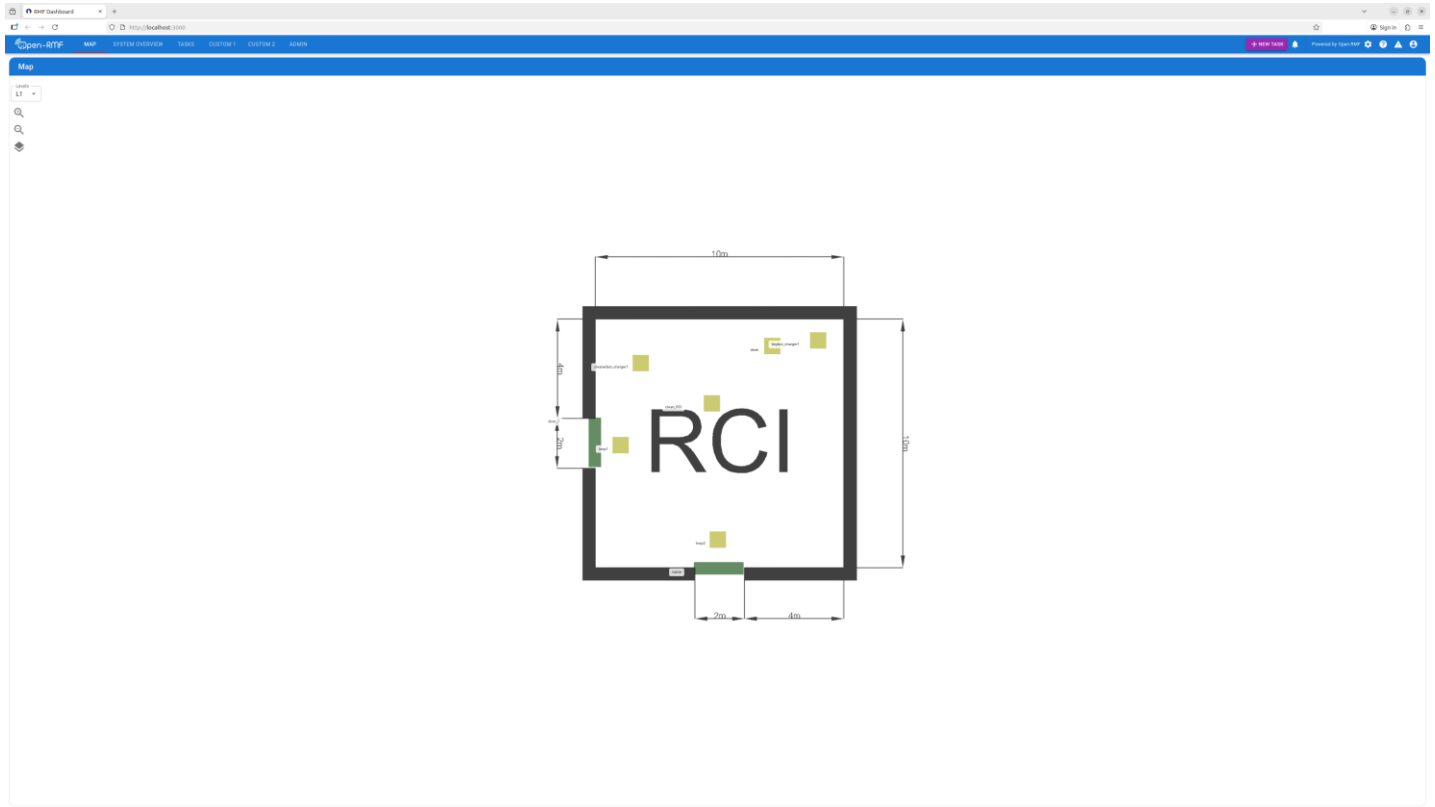
- rcilab world RMF Panel에서 Clean Task 명령 생성



RMF-Web

RMF-Web

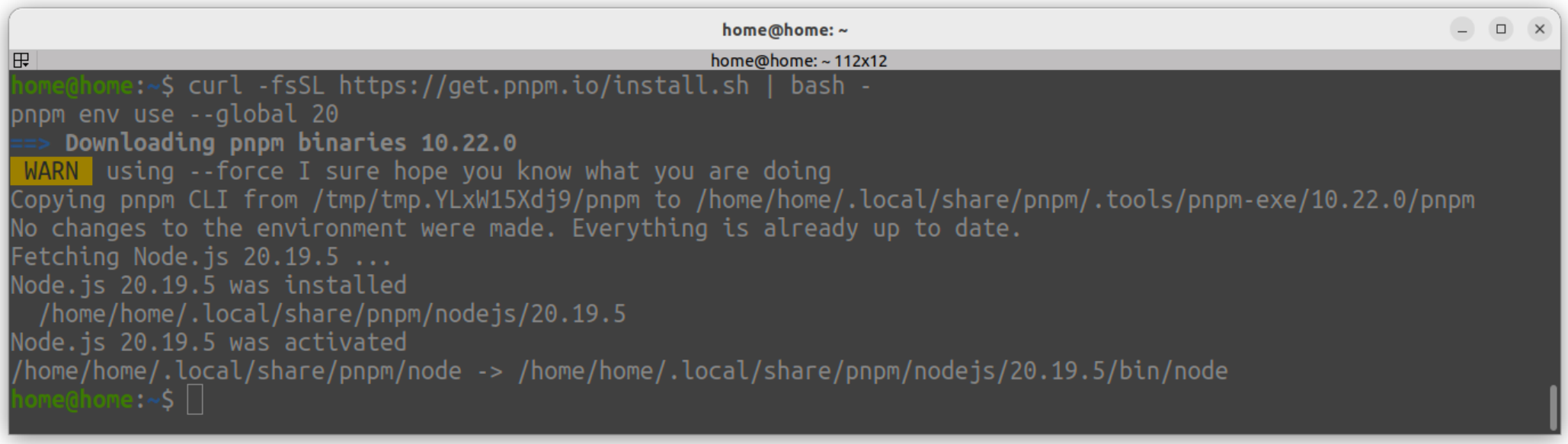
- RMF-Web이란?
  - 웹 기반 인터페이스: Open RFM의 모든 측면 시각화
  - RMF Panel보다 많은 기능을 제공(상위 호환)



RMF-Web

RMF-Web 설치

```
curl -fsSL https://get.pnpm.io/install.sh | bash -
pnpm env use --global 20
```



RMF-Web

RMF-Web 설치

```
curl -fsSL https://get.pnpm.io/install.sh | bash -
pnpm env use --global 20
```

```
pip3 install pipenv
```

```
sudo apt install python3-venv
```

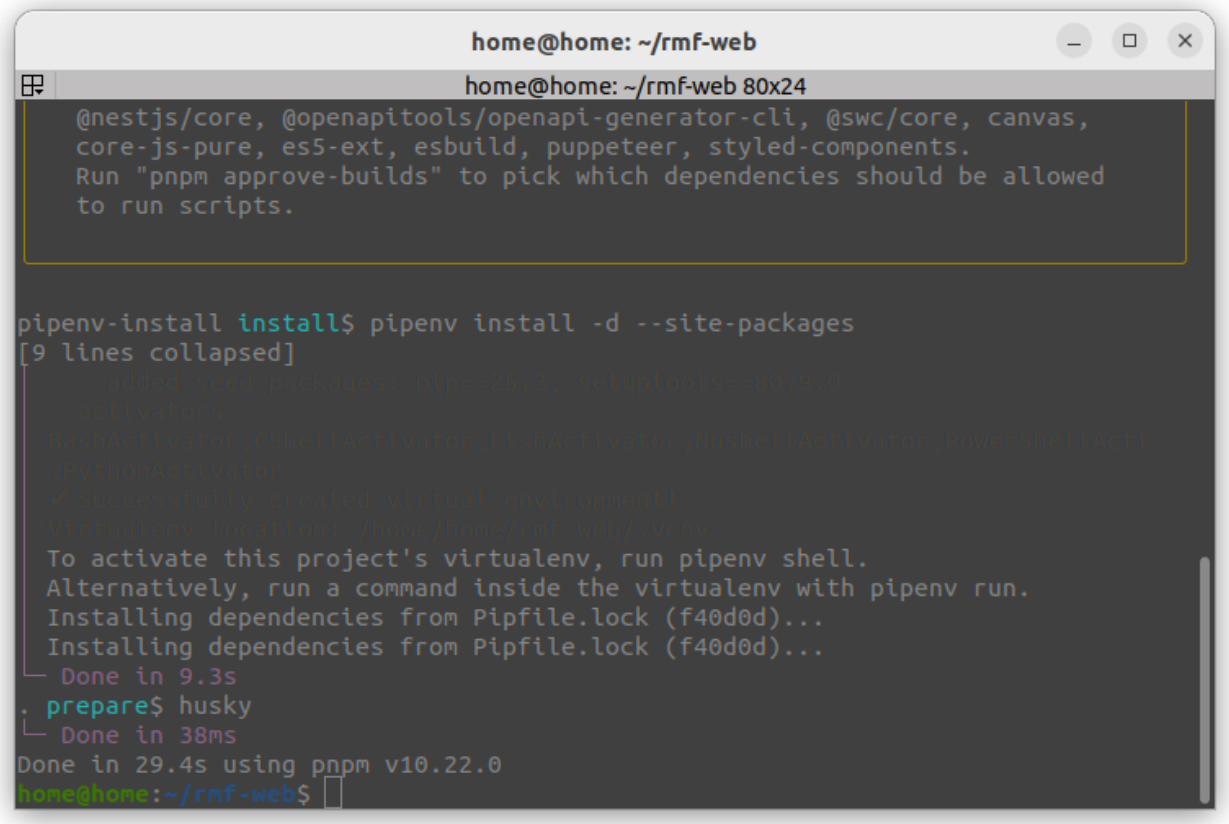
```
cd ~
git clone https://github.com/open-rmf/rmf-web.git -b humble
```

```
cd rmf-web/
pnpm install
```

RMF-Web

RMF-Web 설치

```
cd rmf-web/
pnpm install
```



RMF-Web

- RMF-Web server

```
source /opt/ros/humble/setup.bash
source ~/rmf_ws/install/setup.bash
```

```
cd ~/rmf-web/packages/dashboard
```

```
pnpm start
```

http://localhost:3000/로 자동 접속

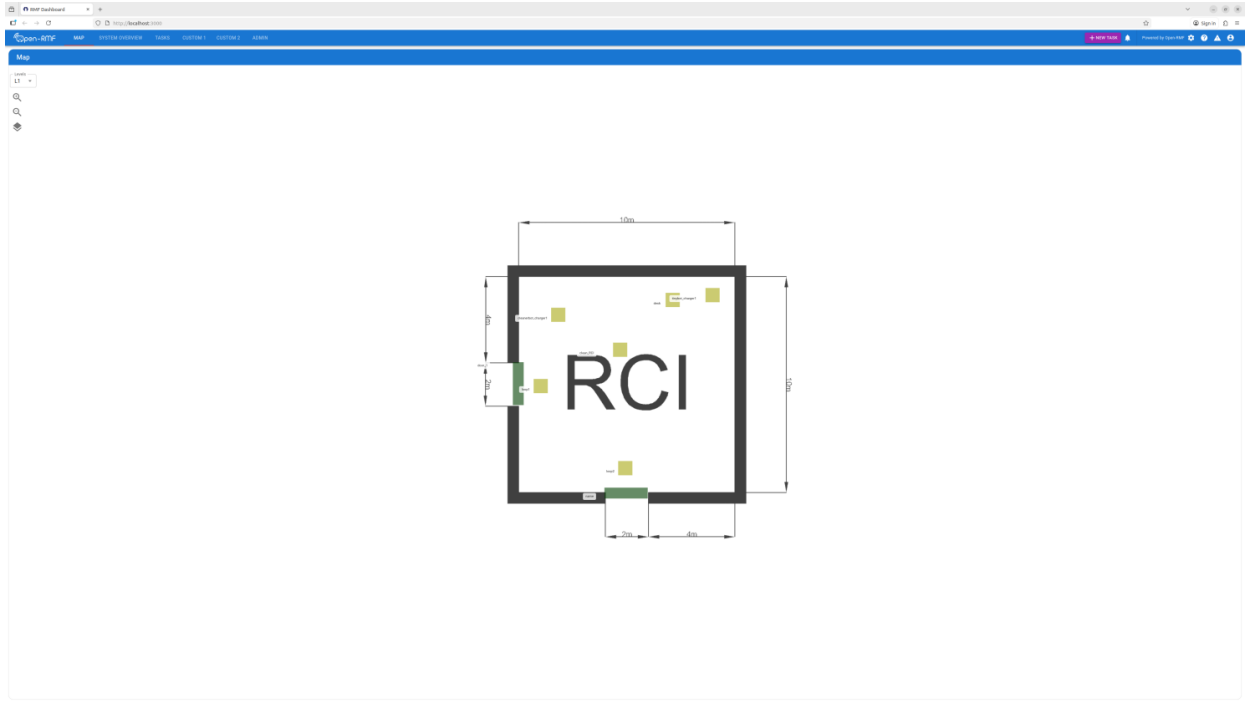
RMF-Web

RMF-Web server

rcilab.launch.xml 실행

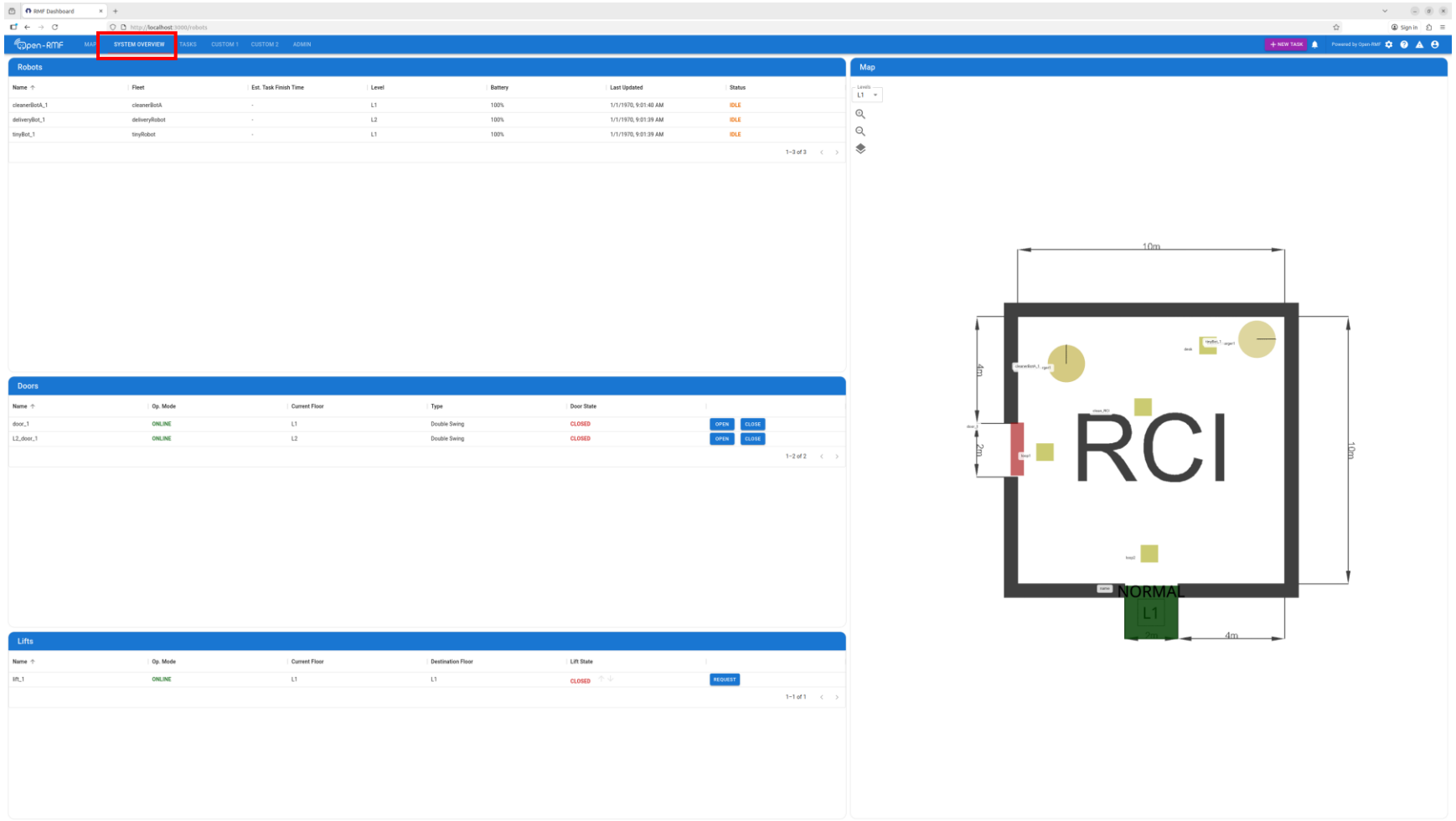
```
cd ~/rmf_ws && source install/setup.bash
```

```
ros2 launch rmf_demos_gz_classic rcilab.launch.xml server_uri:="http://localhost:8000/_internal"
```



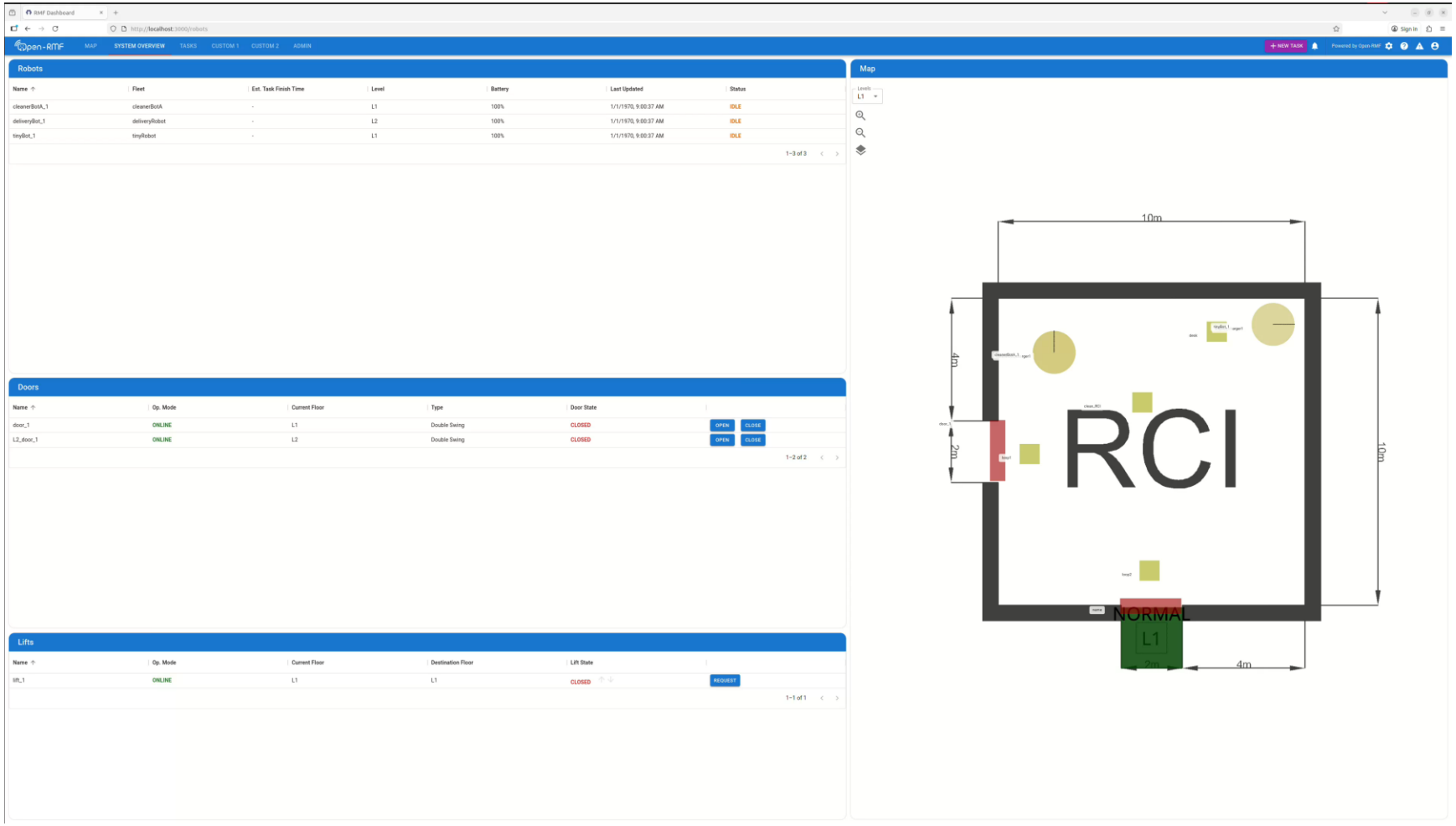
RMF-Web

- RMF-Web server
  - System overview



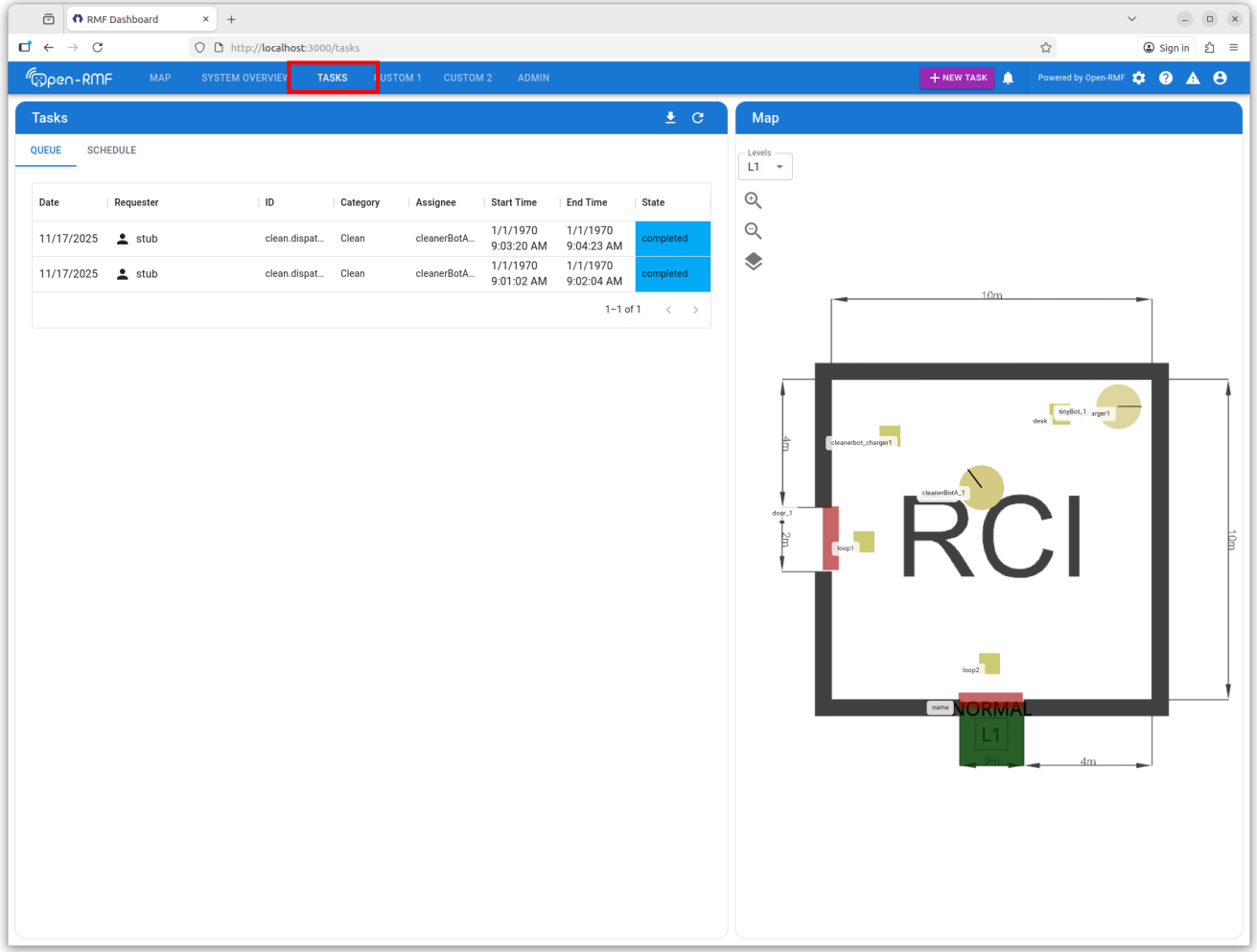
RMF-Web

- RMF-Web server
  - Clean 명령 생성



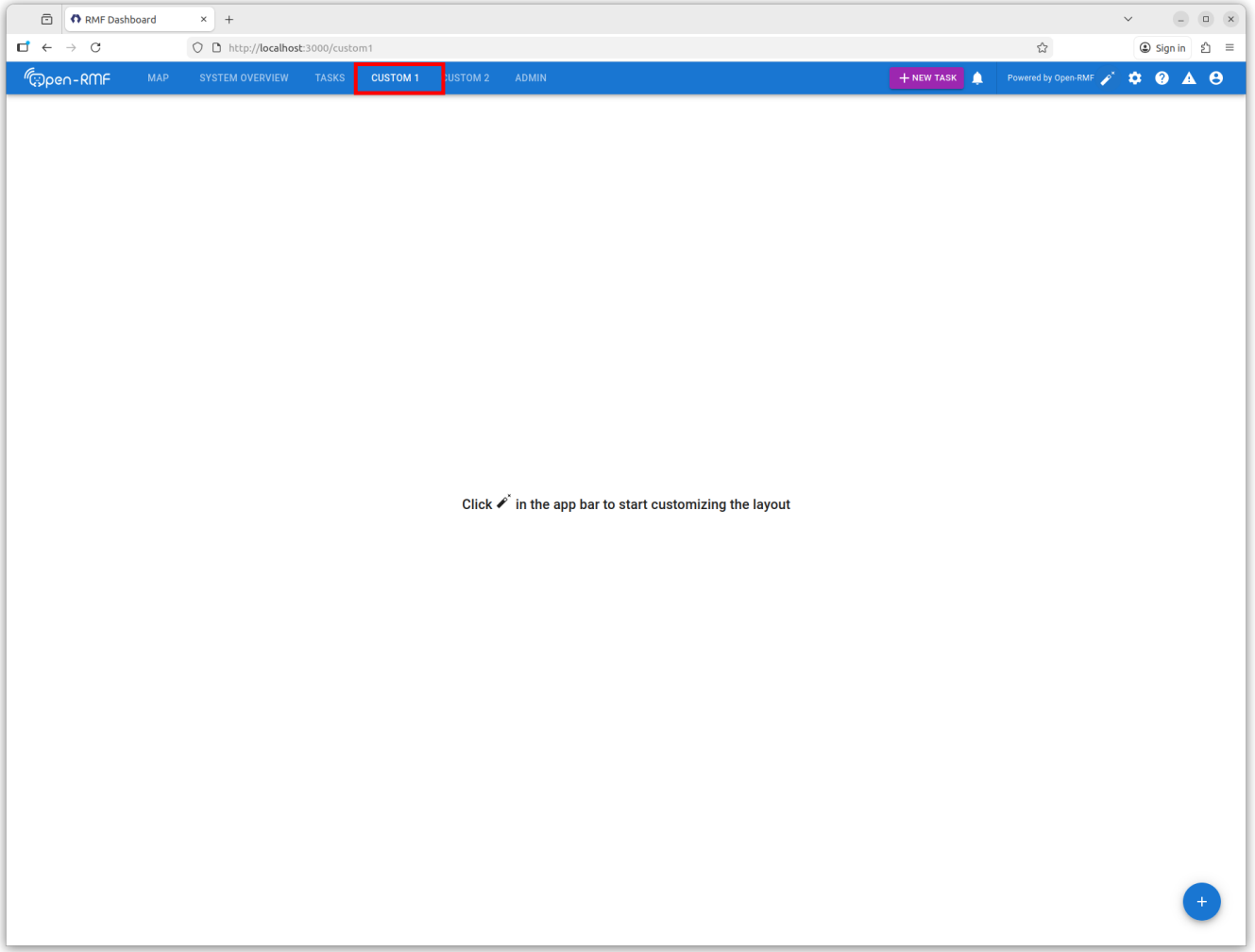
RMF-Web

- RMF-Web server
  - Task 확인



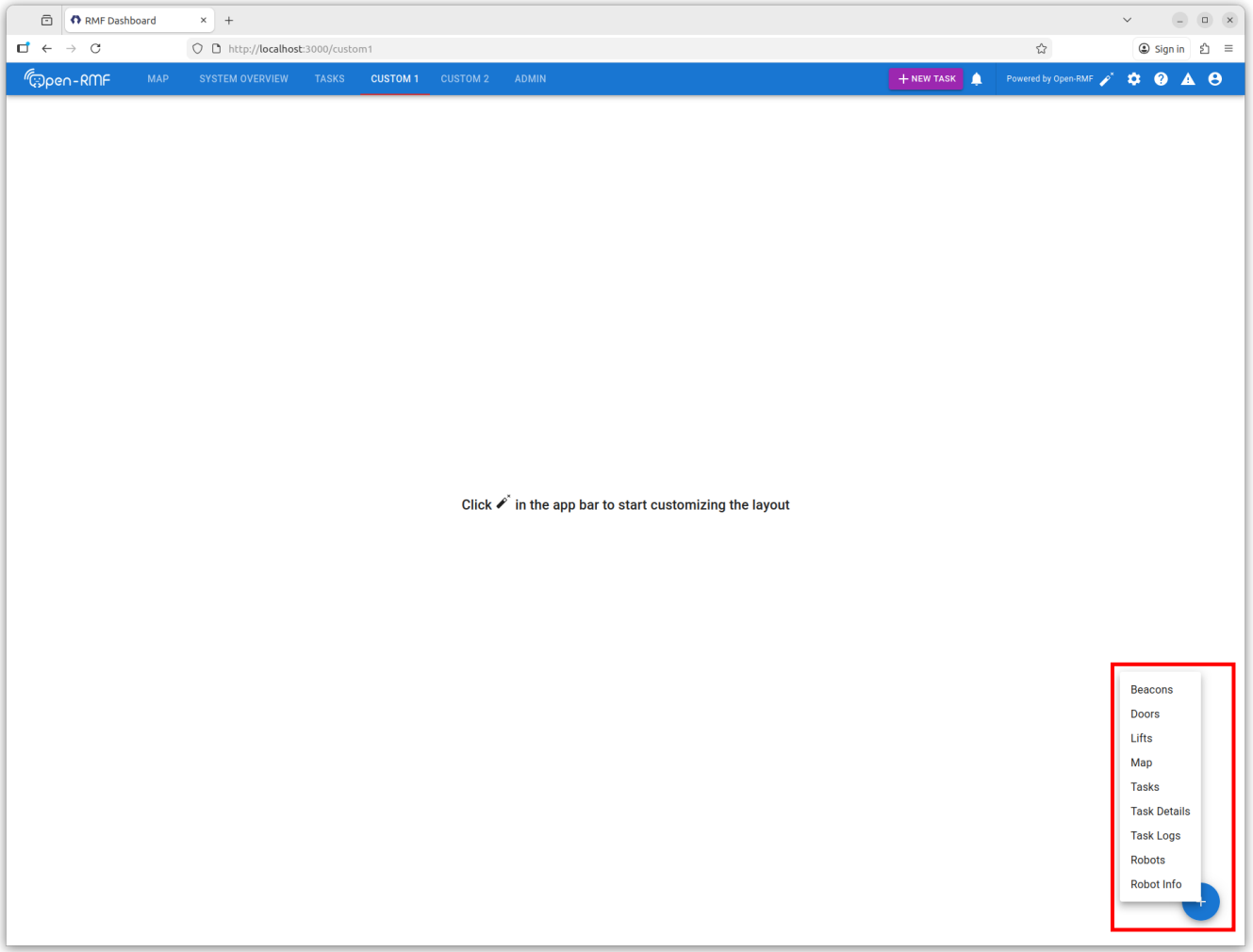
RMF-Web

- RMF-Web server
  - Custom



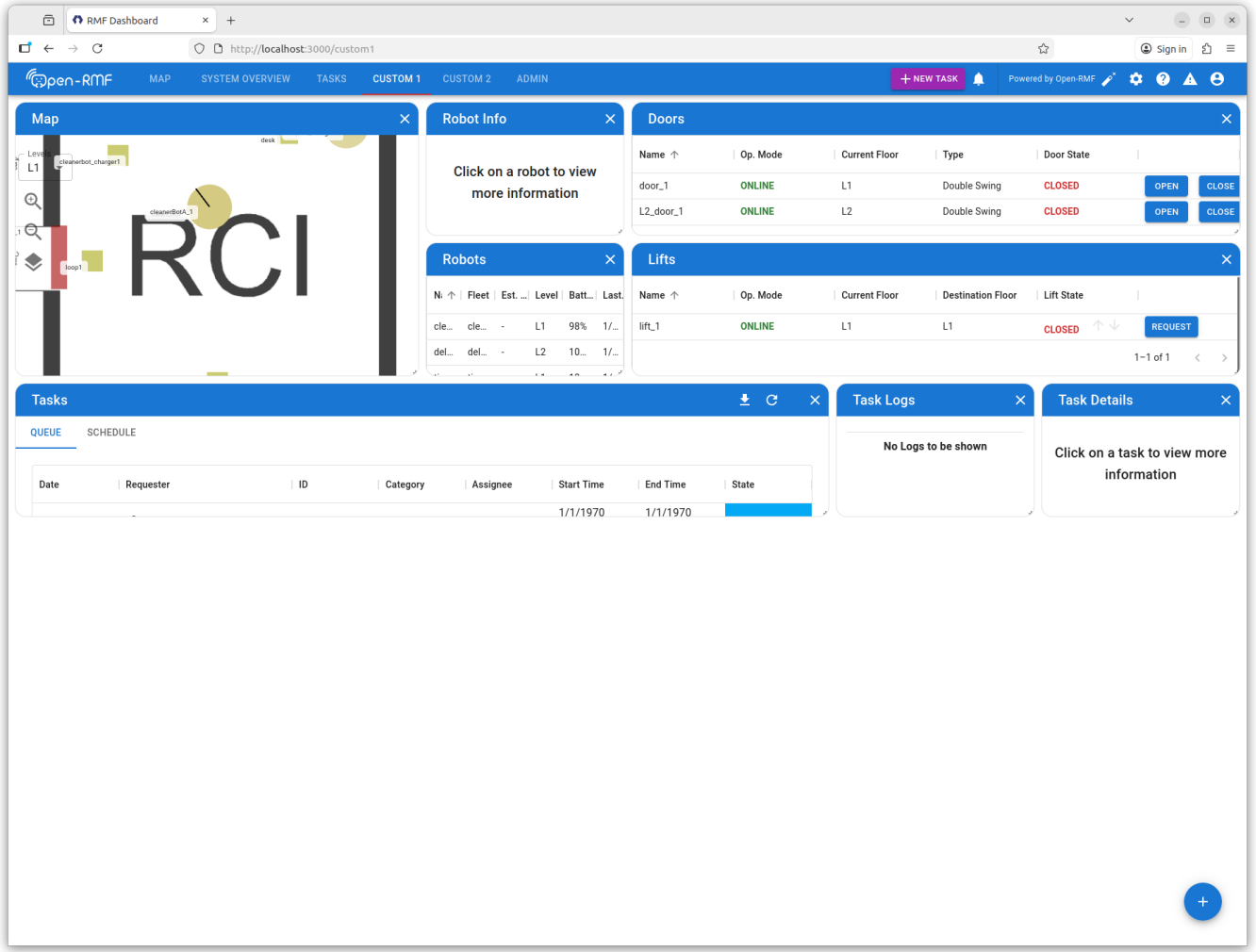
RMF-Web

- RMF-Web server
  - Custom



RMF-Web

- RMF-Web server
  - Custom



감사합니다