

Kansai Medical University OMERO Server Construction

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Yasuhisa Motoyama, University Information Center

Yousuke Nakano, Center for Clinical Anatomy

Build an OMERO server on Mac Studio (M1 processor).

Describe the basic information and installation method in the construction.

◇Outline

In building the OMERO server on Mac Studio, there were few descriptions about installing it on MacOS, In addition, since Mac Studio uses the M1 processor, it was difficult to build the server using virtualization software such as UTM or VirtualBox due to architectural issues, so Docker was used to build the system.

Reference : OMERO Server Documentation

<https://hub.docker.com/r/openmicroscopy/omero-web-standalone>

<https://hub.docker.com/r/openmicroscopy/omero-server>

<https://github.com/ome/omero-web-docker/issues/27>

◇Prior information

- Contact the facility information officer for the following information.

IP address :

Subnet mask :

Default gateway :

DNS1 :

DNS2 :

Docker configuration (approximate)

Storage : 1 TB (max. 2 TB)

Memory : 112 GB (max. 128 GB)

CPU : 20 cores (max. 40 cores)

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◇Preparation for introduction

0. Environmental Preparation (Docker installation)

Download the application from the official Docker website.



©Docker installation

<https://www.docker.com/products/docker-desktop/>

Launch the Docker application.

Account linkage is required, so use any email address to link accounts.

Launch a terminal and start Docker.

©command

```
docker login
```

The “docker” command becomes available.

◇Construction of OMERO-Server

1. Creating a container for a postgres database

• Creating a postgres container

◎command

```
docker run -d --name postgres -e POSTGRES_PASSWORD=postgres postgres
```

2. Obtain an image of OMERO- SERVER

◎command

```
docker pull --platform linux/amd64 openmicroscopy/omero-server
```

3. Creation of OMERO-SERVER container

◎command (XXXX is set arbitrarily)

```
docker run -d --platform linux/amd64 --name omero-server --link postgres:db ¥
```

When “>” appears, enter the following

```
-e CONFIG_omero_db_user=postgres ¥
```

```
-e CONFIG_omero_db_pass=postgres ¥
```

```
-e CONFIG_omero_db_name=postgres ¥
```

```
-e ROOTPASS=XXXX ¥
```

```
-p 4063:4063 -p 4064:4064 ¥
```

```
openmicroscopy/omero-server
```

※important※

M1 processor (ARM64 architecture), so the platform must be specified as amd64 with “--platform linux/amd64”.

◇ Construction of OMERO-Web

1. Obtain an image of OMERO-WEB

◎command

```
docker pull openmicroscopy/omero-web-standalone --platform linux/amd64
```

2. Creation of OMERO-WEB container

◎command (XXXX is set arbitrarily)

```
docker run -d --name omero-web --platform linux/amd64 ¥
```

When “>” appears, enter the following

```
--link omero-server:omero ¥
```

```
-e OMEROHOST=XXXX ¥
```

```
-p 4080:4080 ¥
```

```
openmicroscopy/omero-web-standalone
```

• Confirmation of Container

◎command

```
docker ps -a --no-trunc
```

Ensure that three containers are created.

```
anatomy-macstudio@AnatomyMac-Studio: ~ % docker ps -a --no-trunc
CONTAINER ID        IMAGE                                     COMMAND                  CREATED            STATUS              PORTS                               NAMES
496531184ac0b98a8fa58e25c19ea69d65553fd39f58de274203a7d68f8ca7dc  openmicroscopy/omero-web-standalone  "/usr/local/bin/entrypoint.sh"  20 hours ago      Up 18 hours        0.0.0.0:4080->4080/tcp              omero-web
ff91b338bc6581a2421896ca1fe71d885b2ae5f61b0c67ee36e63bcefd4aed2  openmicroscopy/omero-server          "/usr/local/bin/entrypoint.sh"  40 hours ago      Up 18 hours        0.0.0.0:4063-4064->4063-4064/tcp    omero-server_omero-web_omero
37719b08cc2467e553f99ff84877c4379f98e88a0178aaa1892d759f0e081c2  postgres                              "docker-entrypoint.sh postgres"  40 hours ago      Up 18 hours        5432/tcp                            omero-server_db_postgres
```

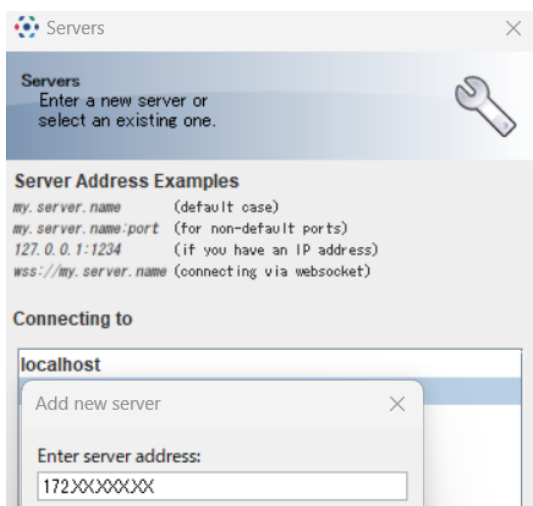
◇ Confirmation of OMERO start-up

1. Confirmation of OMERO.insight activation

- Launch OMERO.insight



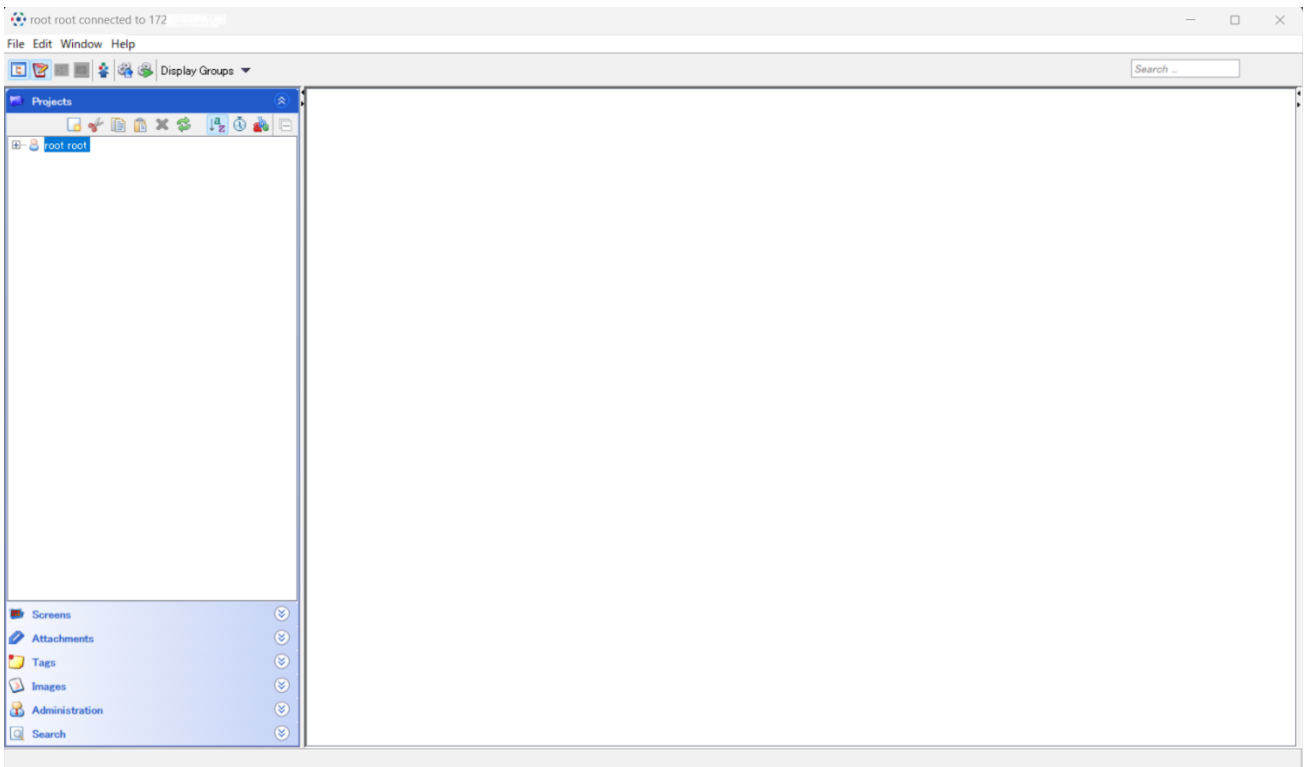
Expand the setting screen from  and click, Specify the IP address of the host terminal from .



- Log in with the root account specified when creating the container.



- If you can log in with OMERO client, it's OK.



2. Confirmation of OMERO.web activation

- Access to OMERO.web

Start a web browser and enter “http://XXX.XXX.XXX.XXX:4080” in the URL to access the site.

“XXX.XXX.XXX.XXX.XXX” is the IP address of the host terminal.

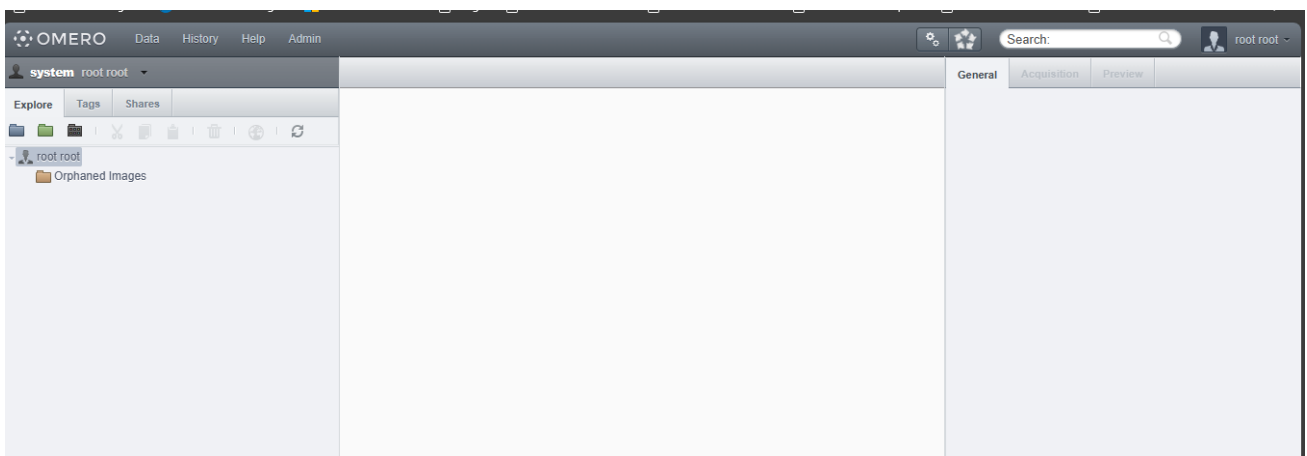


```
セキュリティ保護なし | 172.17.0.2:4080/webclient/loaded
```

If the following page is displayed, success.



Confirm that you can log in.



Completed