

# Installation Guide with Azure (Advanced)

Step by step journey using Azure Virtual Machines Ubuntu 24.04

For this guide you need basic knowledge with Linux, SSH, Bash

- [Getting Started](#)
- [Register Azure Account](#)
- [Create Virtual Machine](#)
- [Install Finmars Platform](#)

# Getting Started

Hello!

Welcome to Finmars, below you will find guidance of how to Install Everything

We also recommend you to obtain [Finmars ID](#)

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Here is summary of what we will achieve during this tutorial

To complete this guide you will need **Mac** or **Linux**, it will require to use **Terminal**

- Register Azure account - [Link](#)
  - Create Virtual Machine (VM) - [Link](#)
  - Install Finmars Platform - [Link](#)
  - Get to know our [User Quick Start](#) guide for next steps
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If you have some troubles during Installation - reach for any support channel:

- Create a [Github Issue](#)
- Join our [Discord](#) Server
- Contact us at [support@finmars.com](mailto:support@finmars.com)

# Register Azure Account

Here is a simple, step-by-step guide to make an AWS account:

1. **Open your web browser**  
(for example: Chrome, Firefox, or Edge).
2. **Go to the AWS website**  
Type <https://azure.microsoft.com/en-us/> in the address bar and press Enter.
3. **Start the sign-up**  
Click the **“Get Started with Azure”** button at the top right.
4. Go to **Pay as you go** and press **Sign Up**
5. **Create new Microsoft Account or link Existing one**
  - Type your email address.
6. **Choose a password**
  - Make a password you can remember.
  - Re-type it to confirm.
7. **Fill in your contact details**
  - Select **“Professional”** or **“Personal”** account.
  - Type your full name, phone number, and address.
  - Click **“Continue”**.
8. **Add payment information**
  - AWS needs a credit or debit card to verify you.
  - Type your card number, month/year, and name on card.
  - Click **“Verify and Add”**.
9. **Confirm your phone number**
  - Choose your country code and type your phone number.
  - Click **“Send SMS”**.
  - You’ll get a text with a code. Type that code into the box.
10. **Pick a support plan**
  - You can choose the **Free Tier** plan (it has no monthly cost).
  - Click **“Continue”**.
11. **Finish and sign in**
  - After a few minutes, AWS will finish setting up.
  - Click **“Sign In to the Console”**.
  - Enter your email and password again.

You now have an Azure account! ☑

You can log into the Azure Portal and start using services.

Go to next step: [Register Domain Name](#)

# Create Virtual Machine

Sure! Let's make your Virtual Machine and name it **finmars-platform-vm**. Follow these steps:

- 1. Sign in to Azure**
  - Open your browser and go to <https://portal.azure.com/>.
  - Enter your Azure email and password or Log in with your Microsoft Account.
- 2. Open Virtual Machines**
  - At the top, click the search box and type **Virtual machines**.
  - Click **Virtual machines** under "Services."
- 3. Launch a new instance**
  - Click the **Create** button and pick **Virtual Machine**.
- 4. Pick your Resource Group (or create New One)**
- 5. Pick Region (or leave default)**
- 6. Name your instance**
  - In the **Virtual machine name** box, type **finmars-platform-vm**.
- 7. Choose Image (Ubuntu 24.04)**
  - Scroll or search for **Ubuntu Server 24.04 LTS**.
  - Pick 64-bit (x86) (should be default)
  - Click **Select**.
- 8. Select instance Size (2 vCPU, 8 GiB RAM)**
  - Find and click **B2ms** (it has 2 vCPU and 8 GiB).
- 9. Create or select key pair**
  - Choose **Username - azureuser**.
  - SSH public key source - Generate new key pair
  - Key pair name - **finmars-platform-vm-key** - **Do not Lose this file, if you lose it, you will not able to connect to your VM again**
- 10. Select Inbound Ports**
  - Turn on checkbox **SSH**
  - Turn on checkbox **HTTPS**
  - Turn on checkbox **HTTP**
  - Click **Next: Disks**
- 11. Add storage (256 GiB)**
  - Change the size from **8** to **256** in the root volume row. (OS disk size)
  - Keep the volume type as **Premium SSD**
  - Click **Next: Networking**
- 12. Networking**
  - Public IP: New Public IP **finmars-platform-vm-ip**
- 13. Review and Create**
  - Check all your settings.
  - Click **Review + Create**.
- 14. Wait for your VM**
  - Click **View Instances**.

- Wait until its status is **running** and checks pass.

## 15. Connect to your VM

- Select the instance named **finmars-platform-vm**.
- Click **Connect**.
- Follow the instructions, for example:

```
# Move your Download key file to secure folder (~/Downloads not recommended)

# if this first connect
chmod 400 "finmars-platform-vm.pem"
ssh -i ./finmars-platform-vm.pem ubuntu@<Public-IP>

# if this first connect
# Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
# yes
```

## 16. When your Virtual Machine is created, go to Virtual Machine Details Page in Azure Portal

- On Sidebar, go to **Networking**.
- Open **Network Settings**
- You should see **Network Security Group**
- Press **Create Port Rule** button (Inbound Port Rule)
- Follow this configuration:
  - Source: Any
  - Source Port Ranges: \*
  - Destination: Any
  - Service: Custom
  - Destination Port Ranges: **8888** This is important
  - Protocol: TCP
  - Action: Allow
  - Priority: 420
  - Name: Allow8888Inbound
- Then press **Add** button

Your Virtual Machine named **finmars-platform-vm** is ready! ☐☐

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Now you need to assign your Public IP of your freshly created VM to subdomain of your domain.

1. **Go to your DNS Provider**
2. **Create the first record**

- Click **“Create record.”**
  - In **Record name**, type `finmars` (so full name is `finmars.example.com`). - It is Record for Actual Finmars Platform
  - For **Record type**, choose **A - IPv4 address**.
  - In **Value**, type your VM public IP (for example, `203.0.113.25`). You can find it in VM details
  - Leave **TTL** as default (300).
  - Click **“Create records.”**
3. **Create the second record**
- Click **“Create record”** again.
  - In **Record name**, type `finmars-auth`(so full name is `finmars-auth.example.com`). - It is Record for Single-Sign-On (SSO) Finmars
  - For **Record type**, choose **A - IPv4 address**.
  - In **Value**, type the same VM public IP.
  - Click **“Create records.”**
4. **Wait a few minutes**
- DNS needs a little time to spread out. After about 5 minutes, both
- `finmars.example.com`
  - `finmars-auth.example.com`
- will go to your VM’s public IP.

That’s it! Now both sub-domains point to your **finmars-platform-vm** server.

You can verify it by run following command in Terminal (On Mac or Linux)

```
dig finmars.example.com
dig finmars-auth.example.com
```

Output should be like:

```
; <<>> DiG 9.10.6 <<>> finmars.example.com
;; global options: +cmd
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 39082
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:;; udp: 4096
;; QUESTION SECTION:
;finmars-platform-vm.finmars.com. IN A

;; ANSWER SECTION:
finmars.example.com. 300 IN A 203.0.113.25
```

```
;; Query time: 12 msec
;; SERVER: 192.168.178.1#53(192.168.178.1)
;; WHEN: Wed Jun 11 20:10:02 CEST 2025
;; MSG SIZE rcvd: 76
```

---

Now go to next step: [Install Finmars Platform](#)

# Install Finmars Platform

Here is a Full Guide to install Finmars on your Ubuntu VM:

Complete time of full installation is less than 30 minutes, by the end of it you will get a Finmars Platform Installed on your Linux Server

## 1. Connect to your VM

Example:

```
# if this first connect
chmod 400 finmars-platform-vm.pem

ssh -i ./finmars-platform-vm.pem ubuntu@<Public-IP>

# if this first connect
# Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
# yes
```

## 2. Install Docker

```
sudo apt update
sudo apt install -y ca-certificates curl gnupg lsb-release ntp

wget -q0- https://get.docker.com/ | sh

sudo usermod -aG docker $USER
newgrp docker
```

To check if Docker installed:

```
docker version
```

Should output:

```
Client: Docker Engine - Community
Version:           28.2.2
...
```

### 3. Install Make

```
sudo apt install -y make git
```

### 4. Create the finmars folder

```
sudo mkdir -p /opt/finmars
sudo chown $USER:$USER /opt/finmars
```

### 5. Clone the Finmars Platform Community Edition repository from Github

See <https://github.com/finmars-platform/finmars-community-edition> repository

```
cd /opt/finmars
git clone https://github.com/finmars-platform/finmars-community-edition.git .
```

### 6. Create Storage folder

```
mkdir ./storage
sudo chown -R 1000:1000 ./storage
```

### 7. Configure env

```
make generate-env
```

### 8. (Optional) Check created env `cat .env`

```
REALM_CODE=realm00000
BASE_API_URL=space00000
SECRET_KEY=2e849ee2
JWT_SECRET_KEY=f0d51adba17320c742fb1f046122ce1a8e22ca679bf7c7df28aa873ed5ca3d7a
ENCRYPTION_KEY=a594c6607a48629884753fe0a6b5a907c6d8be8d63e4c274c67be040c276b1c4

DOMAIN_NAME=ap-finmars.finmars.com
CSRF_COOKIE_DOMAIN=ap-finmars.finmars.com
CSRF_TRUSTED_ORIGINS=https://ap-finmars.finmars.com

PROD_APP_HOST=https://ap-finmars.finmars.com
APP_HOST=https://ap-finmars.finmars.com
PROD_API_HOST=https://ap-finmars.finmars.com
```

API\_HOST=https://ap-finmars.finmars.com

KEYCLOAK\_REALM=finmars

KEYCLOAK\_SERVER\_URL=https://ap-finmars-auth.finmars.com

KEYCLOAK\_URL=https://ap-finmars-auth.finmars.com

PROD\_KEYCLOAK\_URL=https://ap-finmars-auth.finmars.com

NUXT\_APP\_BASE\_URL=/

DB\_HOST=db

DB\_PORT=5432

DB\_NAME=finmars\_dev

DB\_USER=finmars\_dev

DB\_PASSWORD=e21717b7ba0d4287dc292edc3c2164

KC\_DB\_URL\_HOST=db\_keycloak

KC\_DB\_PORT=5432

KC\_DB\_USERNAME=keycloak

KC\_DB\_PASSWORD=5de8131f84d79b68ba47d25a922dae92

KC\_DB\_URL\_DATABASE=keycloak

RABBITMQ\_HOST=rabbitmq

REDIS\_HOST=redis

USE\_FILESYSTEM\_STORAGE=True

SERVER\_TYPE=local

DEBUG=False

USE\_DEBUGGER=False

DJANGO\_LOG\_LEVEL=INFO

PROFILER=False

ENABLE\_DEV\_DOCUMENTATION=False

EDITION\_TYPE=community

ADMIN\_USERNAME=test

ADMIN\_PASSWORD=test

REDIRECT\_PATH="/realm00000/space00000/a/#!/dashboard"

```
MAIN_DOMAIN_NAME=ap-finmars.finmars.com
AUTH_DOMAIN_NAME=ap-finmars-auth.finmars.com
```

## 9. Release certs

```
make init-cert
```

You should see something like this as successful result:

```
[+] Running 2/2
 ✓ Network finmars_default      Created
 ✓ Container finmars-certbot-1  Created
Attaching to certbot-1
certbot-1 | Saving debug log to /var/log/letsencrypt/letsencrypt.log
certbot-1 | Account registered.
certbot-1 | Requesting a certificate for finmars-platform-vm.finmars.com and finmars-platform-vm-auth.finmars.com
certbot-1 |
certbot-1 | Successfully received certificate.
certbot-1 | Certificate is saved at: /etc/letsencrypt/live/finmars-platform-vm.finmars.com/fullchain.pem
certbot-1 | Key is saved at: /etc/letsencrypt/live/finmars-platform-vm.finmars.com/privkey.pem
certbot-1 | This certificate expires on 2025-09-09.
certbot-1 | These files will be updated when the certificate renews.
certbot-1 | NEXT STEPS:
certbot-1 | - The certificate will need to be renewed before it expires. Certbot can automatically renew the certificate in the
certbot-1 | ound, but you may need to take steps to enable that functionality. See https://certbot.org/renewal-setup for instructions.
certbot-1 |
certbot-1 | -----
certbot-1 | If you like Certbot, please consider supporting our work by:
certbot-1 | * Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
certbot-1 | * Donating to EFF: https://eff.org/donate-le
certbot-1 | -----
```

## 10. Init keycloak

```
make init-keycloak
```

You should see something like this as successful result:

```
[+] Running 3/3
 ✓ Container finmars-db_keycloak-1 Running
 ✓ Container finmars-keycloak-1 Started
 ⏱ Waiting for Keycloak to be ready...
Waiting for Keycloak to be ready...
Keycloak is ready!
 ✓ Configuring admin credentials...
Logging into http://localhost:8080 as user admin of realm master
+ Creating user admin...
Created new user with id '7d11f9ff-a9e2-4ec7-b141-b57665a9303d'
+ Setting password for user admin...
[+] Running 4/4
 ✓ Container finmars-keycloak-1 Removed
 ✓ Container finmars-certbot-1 Removed
 ✓ Container finmars-db_keycloak-1 Removed
 ✓ Network finmars_default Removed
 ✓ Done!
ubuntu@ip-172-31-26-65: /opt/finmars$
```

## 11. Run database migrations

```
make migrate
```

You should see something like this as successful result:

```
Applying workflow.0016_alter_schedule_options_alter_space_options_and_more... OK
Applying workflow.0017_workflow_finished_at... OK
Applying workflow.0018_workflow_parent... OK
Applying workflow.0019_alter_task_status... OK
Applying workflow.0020_delete_repeated_workflow_templates... OK
Applying workflow.0021_alter_workflowtemplate_options_and_more... OK
Applying workflow.0022_add_export_backend_historical_records_crontab_task... OK
[local] [realm00000] [workflow] [INFO] [2025-06-11 18:52:41,221] [MainProcess] [workflow] [apps:46] - Bootstrapping Workflow Application
[local] [realm00000] [workflow] [INFO] [2025-06-11 18:52:41,221] [MainProcess] [workflow] [apps:50] - bootstrap: Current search path: space00000
[local] [realm00000] [workflow] [INFO] [2025-06-11 18:52:41,225] [MainProcess] [workflow] [apps:79] - bootstrap: creating_new_space: space00000
[local] [realm00000] [workflow] [INFO] [2025-06-11 18:52:41,228] [MainProcess] [workflow] [apps:90] - Finmars bot created User matching query does not exist.
[+] Running 3/3
 ✓ Container finmars-redis-1 Removed
 ✓ Container finmars-db-1 Removed
 ✓ Network finmars_default Removed
 ✓ Done!
ubuntu@ip-172-31-26-65: /opt/finmars$
```

## 12. Start all services

make up

You should see something like this and other logs as successful result:

```
ms. Creating cluster as coordinator
keycloak-1 | 2025-06-11 18:58:03,804 INFO [org.infinispan.CLUSTER] (keycloak-cache-init-523312-42008|0) (1) [38c884523312-42008]
keycloak-1 | 2025-06-11 18:58:03,831 INFO [org.infinispan.CLUSTER] (keycloak-cache-init-523312-42008|0) (1) [38c884523312-42008]
keycloak-1 | 2025-06-11 18:58:03,854 WARN [io.quarkus.agroal.runtime.DataSources] (main) Unable to enable transaction recovery by setting quarkus.transaction-manager.enable-recovery abruptly
keycloak-1 | 2025-06-11 18:58:03,853 WARN [org.infinispan.CONFIG] (keycloak-cache-init-523312-42008|0) (1) [38c884523312-42008] Global state enabled
keycloak-1 | 2025-06-11 18:58:05,217 INFO [org.keycloak.broker.provider.AbstractIdentityBroker.mappersync.ConfigSyncEventListener]
keycloak-1 | 2025-06-11 18:58:05,263 INFO [org.keycloak.connections.infinispan.DefaultInfinispanConnection] Site name: null
keycloak-1 | 2025-06-11 18:58:06,382 INFO [org.keycloak.exportimport.dir.DirImportProvider] port
keycloak-1 | 2025-06-11 18:58:06,382 INFO [org.keycloak.services] (main) KC-SERVICES00
keycloak-1 | 2025-06-11 18:58:06,975 INFO [org.keycloak.exportimport.util.ImportUtils]
keycloak-1 | 2025-06-11 18:58:06,983 INFO [org.keycloak.services] (main) KC-SERVICES00
keycloak-1 | 2025-06-11 18:58:07,130 INFO [io.quarkus] (main) Keycloak 24.0.3 on JVM (0.0.0.0:8080)
```

To Verify that is everything running

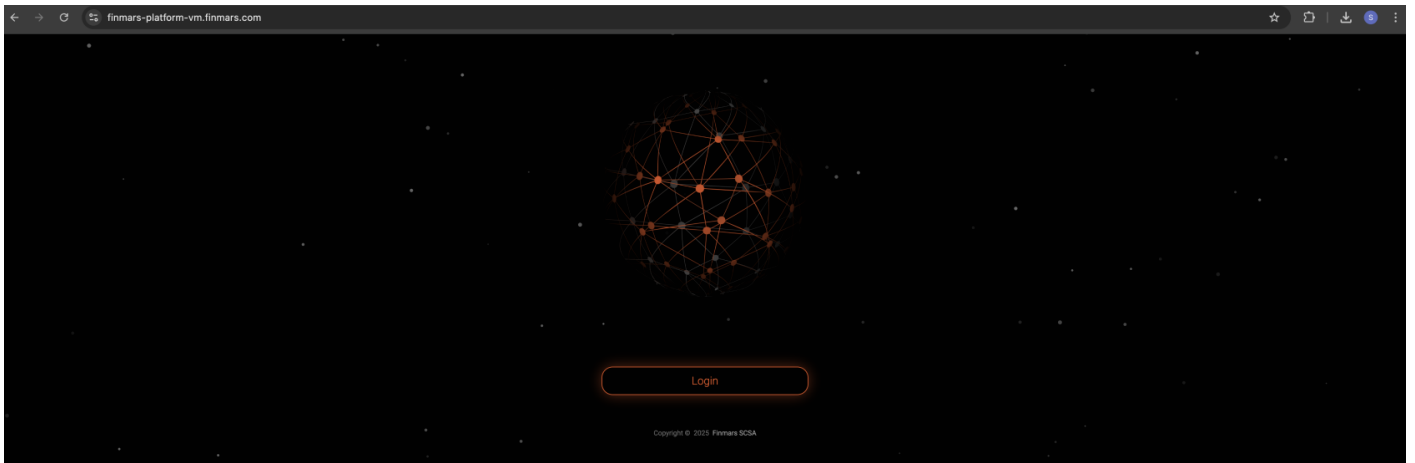
```
docker ps
```

And you should see something like:

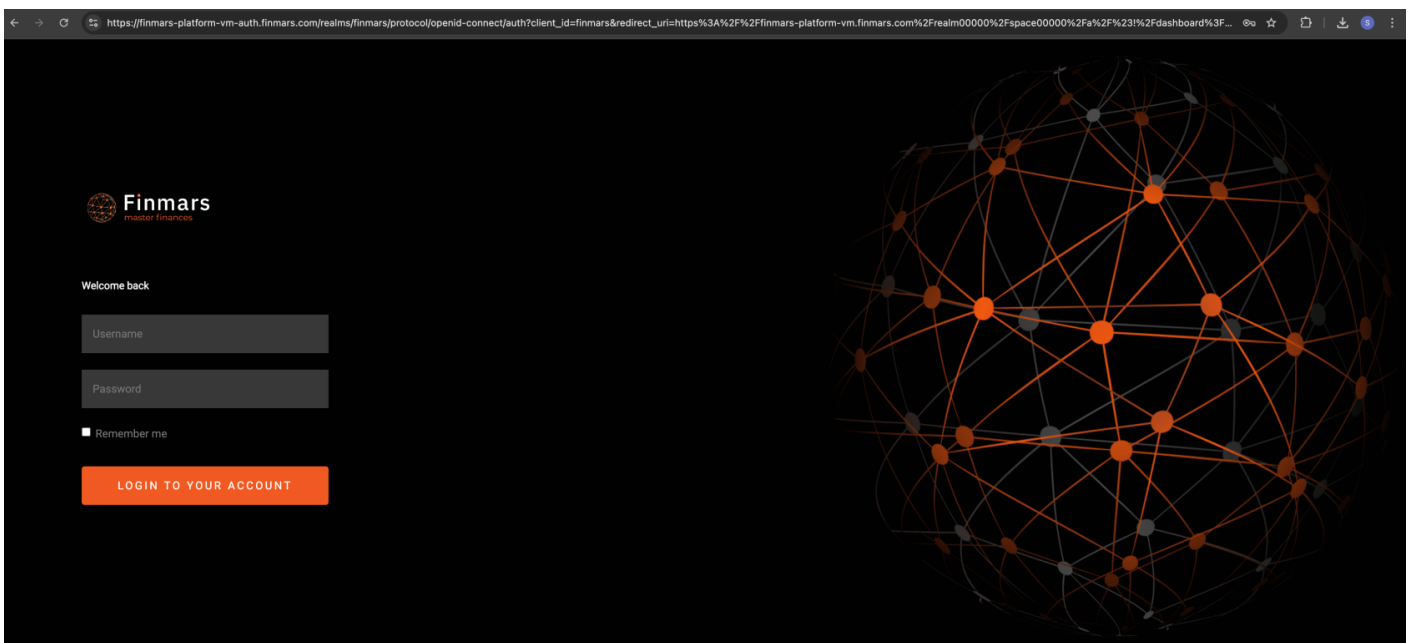
```
ubuntu@ip-172-31-26-65:/opt/finmars$ docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED   STATUS    PORTS                               NAMES
976d35622995   finmars/finmars-core:1.19.0-stable  "/docker-entrypoint..." 9 minutes ago Up 3 seconds 0.0.0.0:80->80/tcp, [::]:80->80/tcp, 0.0.0.0:443->443/tcp, [::]:443->443/tcp  finmars-nginx-1
c3797844983   finmars/finmars-workflow:1.19.0-stable  "gunicorn poms_app.W..." 9 minutes ago Up 4 seconds 8080/tcp  finmars-core-1
f89c317119e8   finmars/finmars-workflow:1.19.0-stable  "gunicorn workflow_a..." 9 minutes ago Up 4 seconds 8080/tcp  finmars-workflow-worker-1
9a6114148228   finmars/finmars-core:1.19.0-stable     "/docker-entrypoint..." 9 minutes ago Up 4 seconds 8080/tcp  finmars-workflow-1
6a50e4d3b26c   finmars/finmars-workflow:1.19.0-stable  "gunicorn poms_app.W..." 9 minutes ago Up 4 seconds 8080/tcp  finmars-core-worker-1
38c884523312   quay.io/keycloak/keycloak:24.0.3      "/opt/keycloak/bin/k..." 9 minutes ago Up 4 seconds 8443/tcp, 0.0.0.0:8084->8080/tcp, [::]:8084->8080/tcp  finmars-keycloak-1
318cfe4448f   postgres:13-alpine                  "docker-entrypoint.s..." 9 minutes ago Up 5 seconds 5432/tcp  finmars-db-1
99a9f0856807   finmars/finmars-portal:1.19.0-stable   "docker-entrypoint.s..." 9 minutes ago Up 5 seconds 0.0.0.0:8080->8080/tcp, [::]:8080->8080/tcp  finmars-portal-1
80b91e5082d0   finmars/finmars-workflow-portal:1.19.1-rc  "/var/www/finmars/do..." 9 minutes ago Up 5 seconds 8080/tcp  finmars-workflow-portal-1
31b64c7511c7   finmars/finmars-start-page:1.19.0-stable  "node ./server.js"      9 minutes ago Up 5 seconds 8080/tcp  finmars-fimars-start-page-1
02d022181a20   rabbitmq                              "docker-entrypoint.s..." 9 minutes ago Up 5 seconds 4369/tcp, 5671/tcp, 15691-15692/tcp, 25672/tcp, 0.0.0.0:5672->5672/tcp, [::]:5672->5672/tcp  finmars-rabbitmq-1
12ed037f4a84   finmars/finmars-vue-portal:1.19.1-rc   "/var/www/finmars/do..." 9 minutes ago Up 5 seconds 8080/tcp  finmars-vue-portal-1
9dc7ecee5531   postgres:13-alpine                  "docker-entrypoint.s..." 9 minutes ago Up 5 seconds 5432/tcp  finmars-db-keycloak-1
f18cf9684d8c   redis                                 "docker-entrypoint.s..." 9 minutes ago Up 5 seconds 0.0.0.0:6379->6379/tcp, [::]:6379->6379/tcp  finmars-redis-1
ubuntu@ip-172-31-26-65:/opt/finmars$
```

It means all the Docker Containers are running.

When all is done, you can Open Web Browser at **finmars.example.com** and you should see **Finmars Welcome Page**

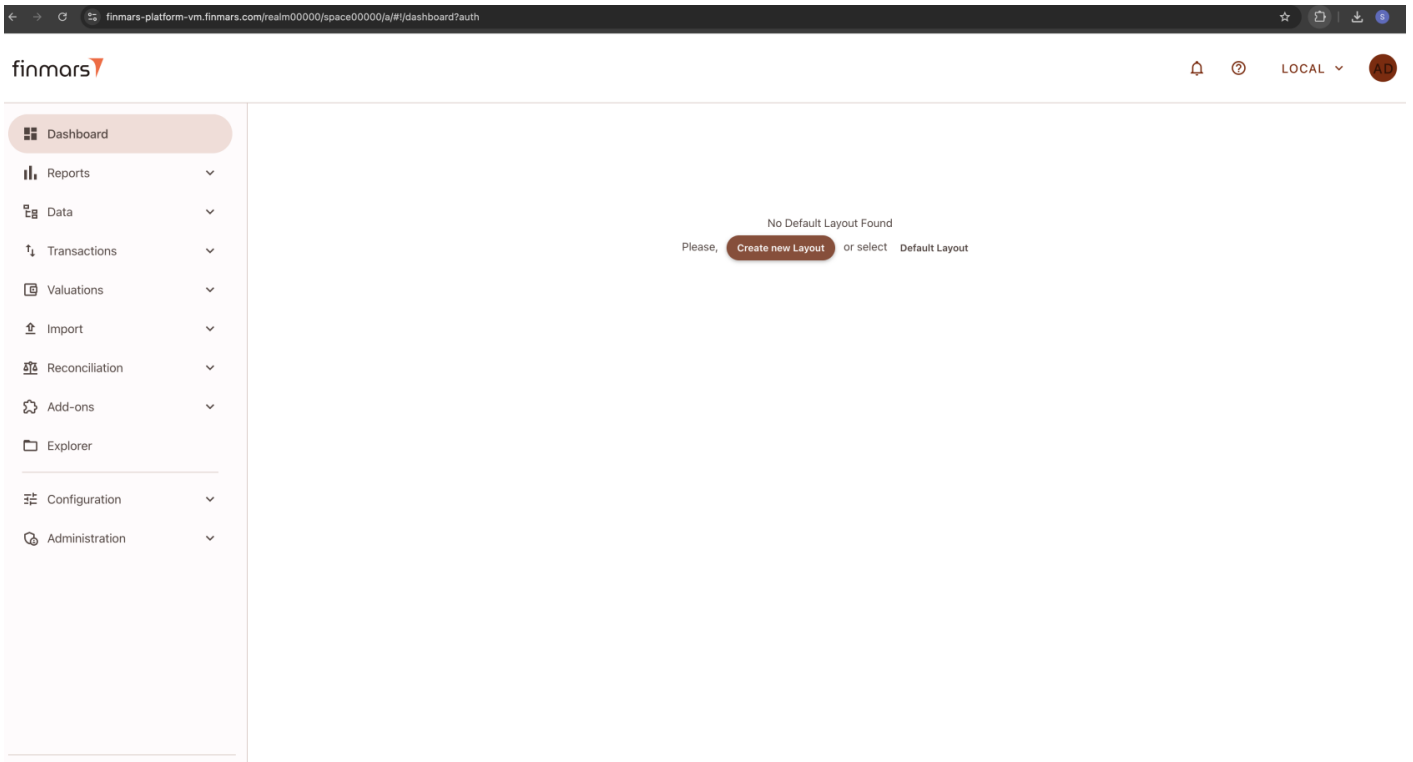


After you press **Login** you will be redirected to **Finmars Single-Sign-On (SSO)** to **finmars-auth.example.com**



Login with your Credentials that you provided in 6) **Configure env** step. It should be yours `ADMIN_USERNAME` and `ADMIN_PASSWORD`

After Login you will be redirected to **Dashboard page** in **Finmars Platform**



Congratulations you finished your **Finmars Platform** Installation **Successfully!** Well Done!

Get to know our [User Quick Start](#) guide for next steps

If you have some troubles during Installation - reach for any support channel:

- Create a [Github Issue](#)
- Join our [Discord](#) Server
- Contact us at [support@finmars.com](mailto:support@finmars.com)