

```
The current version is #ident
"@(#)$Format:LocalFoodAI_lanfr144:generate_docs.py:Francois
Lange:lanfr144@school.lu:2026/06/16 21:48:22:Francois
Lange:lanfr144@school.lu:2026/06/16
21:48:22:2a8ed056889f3b796f9266feda591b12b72f3b96:HEAD -> main, origin/main:$"
```

# Local Food AI - Detailed Installation and Deployment Guide

This guide describes how to provision the host hypervisor, install Docker on Ubuntu, clone the repository, check out the correct branch, and launch the application.

## 1. WSL2 Ubuntu Instance Setup

To create a dedicated WSL2 environment for the application, execute the following command in an Administrator PowerShell window:

```
wsl --install -d Ubuntu-22.04 --name Dopro1
```

During initialization, configure the default Unix user and password as prompted:

```
Create a default Unix user account: lanfr144
New password:
Retype new password:
passwd: password updated successfully
```

**[!WARNING] WSL Filesystem Mounts:** By default, launching WSL may place you in a Windows filesystem mount (e.g. `/mnt/d/...`). To prevent performance degradation and permission bugs, navigate to your WSL home directory immediately:

```
cd ~
```

## 2. Docker & Docker Compose Installation inside WSL Ubuntu

To install Docker directly inside your WSL Ubuntu instance (without Docker Desktop):

### Step 2.1: Clean Existing Docker Versions

```
sudo apt remove -y docker.io docker-compose docker-compose-v2 docker-doc podman-docker containerd runc
```

### Step 2.2: Add Docker's Official GPG Key & Repository and Install Docker

```

sudo apt update
sudo apt install -y ca-certificates curl
sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/
keyrings/docker.asc
echo "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/
docker.asc] https://download.docker.com/linux/ubuntu jammy stable" | sudo tee /
etc/apt/sources.list.d/docker.list > /dev/null
sudo apt-get update
sudo apt-get install -y docker-ce docker-ce-cli containerd.io docker-buildx-
plugin docker-compose-plugin
  
```

## Step 2.3: Start and Enable Docker Daemon

```

sudo systemctl start docker
sudo systemctl enable docker
  
```

## Step 2.4: Add User to the Docker Group

Ensure you can execute Docker commands without `sudo`:

```

grep "^docker:" /etc/group || sudo addgroup docker
sudo usermod -aG docker $USER
  
```

## Step 2.5: Reboot the WSL Instance

To reboot the WSL instance, you must shutdown and restart WSL. You can choose one of the following methods:

### Option A: Restart from Windows Host (Recommended & Safest)

- Close your Ubuntu terminal.
- Open Windows PowerShell or Command Prompt.
- Run the shutdown command:

```
wsl --shutdown
```

- Re-open your Ubuntu terminal.

**Option B: Restart from inside WSL Terminal** If you prefer to trigger the reboot directly from the WSL terminal:

```

bash
cd /mnt/c/ && cmd.exe /c start "rebooting WSL" cmd /c "timeout 5 && wsl -d
Ubuntu-22.04" && wsl.exe --terminate Ubuntu-22.04
  
```

Upon reconnecting, verify Docker is running by starting the hello-world container:

```

bash
docker run hello-world
  
```

## 3. Network Configuration & Performance Tuning

### Step 3.1: Switch to Legacy IPTables

Ubuntu 22.04 uses `nftables` by default. Switch to legacy iptables to ensure Docker network NAT rules match correctly:

```
bash
sudo update-alternatives --config iptables
# Select option 1 (iptables-legacy)
```

### Step 3.2: Configure DNS Settings

To ensure reliable package downloads and LLM registry calls:

```
bash
echo '1,$ s/^/#/'
$ a
nameserver 1.1.1.1
.
w
q' | sudo ed /etc/resolv.conf

echo '$ a
# Added these 2 lines:
[network]
generateResolvConf = false
.
w
q' | sudo ed /etc/wsl.conf
```

## 4. Repository Clones & Branch Governance

There are two repositories configured for this project:

- Primary Git Repository: [https://git.btshub.lu/lanfr/LocalFoodAI\\_lanfr144.git](https://git.btshub.lu/lanfr/LocalFoodAI_lanfr144.git)
- Alternative Git Repository (Worldwide Access - Clone): [https://github.com/lanfr144/LocalFoodAI\\_lanfr144.git](https://github.com/lanfr144/LocalFoodAI_lanfr144.git)

Clone the primary repository inside your home directory:

```
bash
cd ~
git clone https://git.btshub.lu/lanfr/LocalFoodAI_lanfr144.git
cd LocalFoodAI_lanfr144
```

### Step 4.1: List Available Branches

Inspect both local and remote branches on the server:

```
bash
git branch -a
```

(Shows available branches like *remotes/origin/main* or *remotes/origin/dev*)

## Step 4.2: Track and Check Out the Right Branch

Select the main production branch and extract it:

```
bash
git checkout main
```

(If the repository uses a master branch, replace 'main' with 'master')

## Step 4.3: Set Default Branch (Optional)

To set the default tracking branch for your local copy:

```
bash
git remote set-head origin main
```

# 5. Launching the App

Ensure the runbooks and sync scripts have executable permissions:

```
bash
chmod +x data_sync.sh backup_db.sh manage_services.sh scripts/manage_models.sh
```

Follow the standard runbook to initialize credentials and launch services:

```
bash
# 1. Create a local [.env file](../.env) based on the [Environment Variables
Configuration Runbook](Env_Configuration.pdf) guidelines
# 2. Run the service manager to spin up containers
./manage_services.sh start
```