Langfuse Self-Hosting Setup Guide (Ubuntu VM)

This guide explains step-by-step how to deploy Langfuse for free on an Ubuntu VM. We will use Docker Compose to set up Langfuse, PostgreSQL, ClickHouse, and Redis. It will run on VM IP: 100.78.25.71, exposed on port 3030.

Step 1: Install Docker & Docker Compose

```
sudo apt update
sudo apt install -y docker.io docker-compose-plugin
sudo usermod -aG docker $USER
newgrp docker
```

Step 2: Create Project Folder & Files

```
mkdir ~/langfuse && cd ~/langfuse
nano docker-compose.yml    # paste content below
nano langfuse.env          # fill with generated values
```

docker-compose.yml

```
version: "3.9"

services:
  langfuse:
    image: ghcr.io/langfuse/langfuse:latest
    container_name: langfuse
    restart: unless-stopped
    env_file: langfuse.env
    ports:
      - "3030:3000"
    depends_on:
      - postgres
      - clickhouse
      - redis

  postgres:
    image: postgres:15-alpine
    container_name: langfuse-postgres
    restart: unless-stopped
    environment:
      POSTGRES_USER: ${POSTGRES_USER}
      POSTGRES_PASSWORD: ${POSTGRES_PASSWORD}
      POSTGRES_DB: ${POSTGRES_DB}
    volumes:
      - postgres_data:/var/lib/postgresql/data

  clickhouse:
    image: clickhouse/clickhouse-server:23.8-alpine
    container_name: langfuse-clickhouse
    restart: unless-stopped
    environment:
      CLICKHOUSE_DB: ${CLICKHOUSE_DB}
      CLICKHOUSE_USER: ${CLICKHOUSE_USER}
      CLICKHOUSE_PASSWORD: ${CLICKHOUSE_PASSWORD}
    volumes:
      - clickhouse_data:/var/lib/clickhouse
    ulimits:
```

```
      nofile:
        soft: 262144
        hard: 262144

  redis:
    image: redis:7-alpine
    container_name: langfuse-redis
    restart: unless-stopped
    volumes:
      - redis_data:/data

volumes:
  postgres_data:
  clickhouse_data:
  redis_data:
```

langfuse.env Template

```
# --- PostgreSQL ---
POSTGRES_USER=langfuse
POSTGRES_PASSWORD=ChangeThisPassword123
POSTGRES_DB=langfuse

# --- ClickHouse ---
CLICKHOUSE_DB=langfuse
CLICKHOUSE_USER=langfuse
CLICKHOUSE_PASSWORD=AnotherSecurePass456

# --- Langfuse Secrets ---
NEXTAUTH_SECRET=your_random_secret_key
ENCRYPTION_KEY=your_random_encryption_key

DATABASE_URL=postgresql://langfuse:ChangeThisPassword123@postgres:5432/langfuse
CLICKHOUSE_URL=http://langfuse:AnotherSecurePass456@clickhouse:8123
REDIS_URL=redis://redis:6379
```

Step 3: Generate Passwords & Secrets

```
# Run these commands to generate secure random values
openssl rand -base64 16   # for Postgres/ClickHouse passwords
openssl rand -base64 32   # for NEXTAUTH_SECRET and ENCRYPTION_KEY
```

Step 4: Start Langfuse

```
docker compose up -d
```

This will download images and start Langfuse, Postgres, ClickHouse, and Redis containers.

Step 5: Access Langfuse

Once started, open a browser and go to: **http://100.78.25.71:3030**. You will see Langfuse setup screen, where you can create the first admin user (email/password).

Note:

The variable $USER in the command 'sudo usermod -aG docker $USER' automatically uses your current Linux username. You do not need to replace it manually.

Summary

You have successfully deployed Langfuse on an Ubuntu VM for free. All usernames, passwords, and keys are chosen/generated by you locally. No license key or paid subscription is required.