Infrastructure Stop & Start Operational Procedures

Project Deliverable

Course B1AI

Class:

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

Infrastructure Stop & Start Operational Procedures

This runbook outlines the exact sequence and commands to start, stop, and verify each microservice in the Local Food AI environment.

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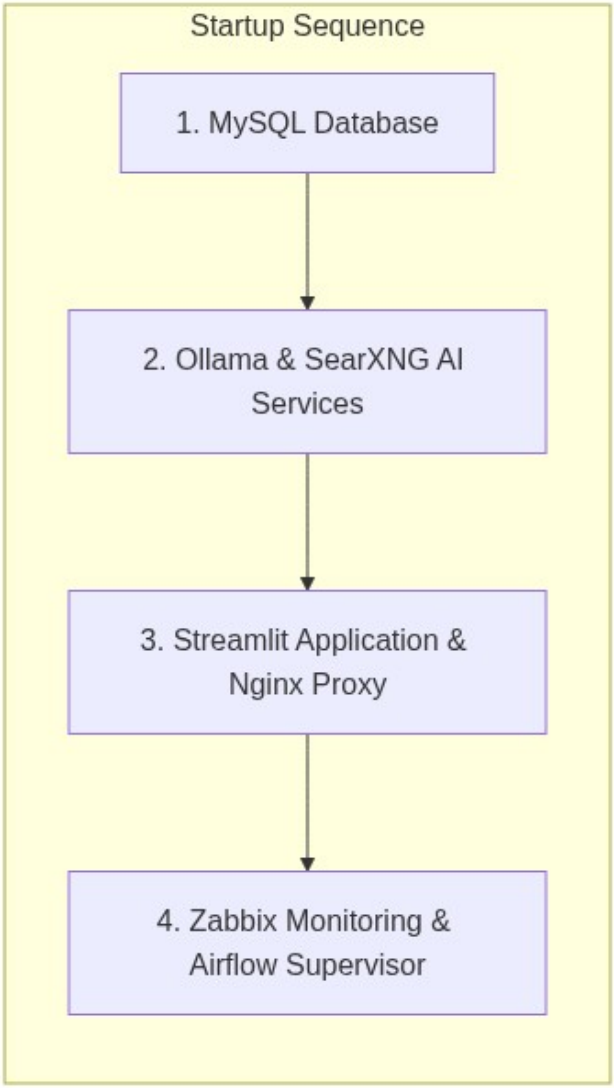
1. Sequence Priority Rules

Due to database socket requirements and network bindings, services **must** be started and stopped in the following order:



2. Startup Procedures

Step 2.1: Start the Core MySQL Database

Verify that the database service is up and listening on port 3307:

```
docker compose up -d mysql
# Verify database logs
docker compose logs -f mysql
```

Step 2.2: Start AI Engine & SearXNG Search

Deploy the AI components:

```
docker compose up -d ollama searxng
# Check that Ollama responds
curl http://localhost:11434/api/tags
```

Step 2.3: Start Streamlit App and Nginx Gateway

Bring up the frontend web interface and reverse proxy:

```
docker compose up -d app nginx
# Verify Web Interface status
curl -I http://localhost
```

Step 2.4: Start Zabbix Monitoring Suite

Deploy the monitoring server and agents:

```
docker compose up -d zabbix-server zabbix-web zabbix-agent
# Check dashboard availability
curl -I http://localhost:8081
```

3. Shutdown Procedures

To perform system maintenance or schema migration, stop services in reverse order to prevent lockups:

```
# 1. Stop Monitoring Components
docker compose stop zabbix-agent zabbix-web zabbix-server

# 2. Stop Web Frontend and Proxy Gateway
docker compose stop nginx app

# 3. Stop NLP and Search Services
docker compose stop searxng ollama

# 4. Stop Database Container gracefully
```

```
docker compose stop mysql
```

---

4. Status Verification Commands

Use these commands to verify container state and port bindings:

```
# List all running containers in the stack
docker compose ps

# Inspect raw container logs for error spikes
docker compose logs --tail=100

# Verify TCP socket listener binds
netstat -tulpn | grep -E "80|3307|8081|11434"
```

References

- **OpenFoodFacts Dataset & API Catalog**: Detailed food ingredients database. (https://world.openfoodfacts.org/)
- **Ollama Local LLM Inference Engine**: Lightweight instruction-following llama3.2 runtimes. (https://ollama.com/)
- **Zabbix Enterprise Telemetry and Monitoring**: System health and performance logging. (https://www.zabbix.com/)

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