```
graph TD
    subgraph Startup Sequence
        direction TB
        A[1. MySQL Database] --> B[2. Ollama & SearXNG AI Services]
        B --> C[3. Streamlit Application & Nginx Proxy]
        C --> D[4. Zabbix Monitoring & Airflow Supervisor]
    end
```

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

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

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

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

```
# 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
```

```
# 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"
```