

# Week 8: Docker Compose (6 Services)

## Full Stack RAG with Local LLM

Semester 2/2568

# Agenda

- 1 Docker Compose
- 2 6 Services
- 3 Quiz 3 + Lab 7

# What is Docker Compose?

## Multi-Container Orchestration

- Define multiple services
- One command to start all
- Manage networks/volumes
- Production ready

```
version: '3.8'
services:
  opensearch_container:
    image: opensearchproject/opensearch:2.11.1
    ports:
      - "9200:9200"

  frontend_container:
    build: ./frontend
    ports:
      - "8501:8501"
```

| Service    | Description    | Port  |
|------------|----------------|-------|
| opensearch | Vector DB      | 9200  |
| embedding  | Doc Processing | -     |
| search_api | Search Service | 8005  |
| backend    | Main API       | 8006  |
| frontend   | Streamlit      | 8501  |
| ollama     | Local LLM      | 11434 |

# Commands

*# Start all*

```
docker-compose up -d
```

*# View logs*

```
docker-compose logs -f
```

*# Stop all*

```
docker-compose down
```

## Quiz 3 (5%)

**Topics:** Embeddings, RAG, LLM, Streamlit

## Lab 7: Docker Compose (3.75%)

### Tasks:

- 1 Clone Advanced-RAG-Docker
- 2 Run docker-compose
- 3 Verify 6 services
- 4 Test application



Questions? Good luck on Quiz 3!