

Lab 7: Docker Compose

CSI403 - Full Stack Development

Faculty of Information Technology

Sripatum University

Weight: 3.75%

Objectives

- ✓ Clone Advanced-RAG-Docker
- ✓ Run 6 services with Docker Compose
- ✓ Verify all services

Repository: <https://github.com/amornpan/Advanced-RAG-Docker>

Task 1: Clone Repository

```
git clone https://github.com/amornpan/Advanced-RAG-Docker.git  
cd Advanced-RAG-Docker
```

Task 2: Study docker-compose.yml

Service	Port	Description
opensearch_container	9200	Vector database
embedding_container	-	Embedding service
search_api_container	8005	Search API
backend_container	8006	Backend API
frontend_container	8501	Streamlit UI
ollama_container	11434	Local LLM

Task 3: Start Services

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

-d flag runs containers in detached mode
(background process)

Task 4: Check Status

```
docker-compose ps
```

All services should show:

- State: Up
- Ports mapped correctly

Task 5: View Logs

```
# View all logs
```

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

```
# View specific service
```

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

Press Ctrl+C to exit log view.

Task 6: Test Application

Open in browser:

<http://localhost:8501>

- Test the complete RAG application
- All services communicate via Docker network

Task 7: Stop Services

```
docker-compose down
```

Options:

- `docker-compose down` - Stop and remove containers
- `docker-compose down -v` - Also remove volumes

Deliverables

Item	Check
All 6 services running	<input type="checkbox"/>
Application accessible	<input type="checkbox"/>
Screenshots of docker ps	<input type="checkbox"/>
Document observations	<input type="checkbox"/>

Deadline: Sunday 23:59