

# Docker Compose

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

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# Learning Objectives

In this tutorial, we will learn about



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- **Docker Compose and its uses**



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- Running multiple Docker images using Docker Compose



# System Requirements

To record this tutorial, I am using



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- **Ubuntu Linux OS 22.04**



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- Ubuntu Linux OS 22.04
- Docker 27.0.2



# Pre-requisites

To follow this tutorial,



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To follow this tutorial,

- You must have basic knowledge of using Linux terminal



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To follow this tutorial,

- You must have basic knowledge of using Linux terminal
- For pre-requisite Linux tutorials, please visit <https://www.spoken-tutorial.org/>



# Code Files

- The files used in this tutorial are provided in the Code files link



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- The files used in this tutorial are provided in the Code files link
- Please download and extract the files



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- The files used in this tutorial are provided in the Code files link
- Please download and extract the files
- Make a copy and then use them while practicing



# Docker Compose

- Docker Compose is a tool for managing containers



# Docker Compose

- Docker Compose is a tool for managing containers
- It is used for coordinating and running multiple containers together



# Docker Compose

- Docker Compose is a tool for managing containers
- It is used for coordinating and running multiple containers together
- It uses **YAML files for configuring the containers**



# YAML

- **YAML stands for** **YAML Ain't Markup Language**



# YAML

- **YAML stands for** YAML Ain't Markup Language
- **It is a data serialisation format**

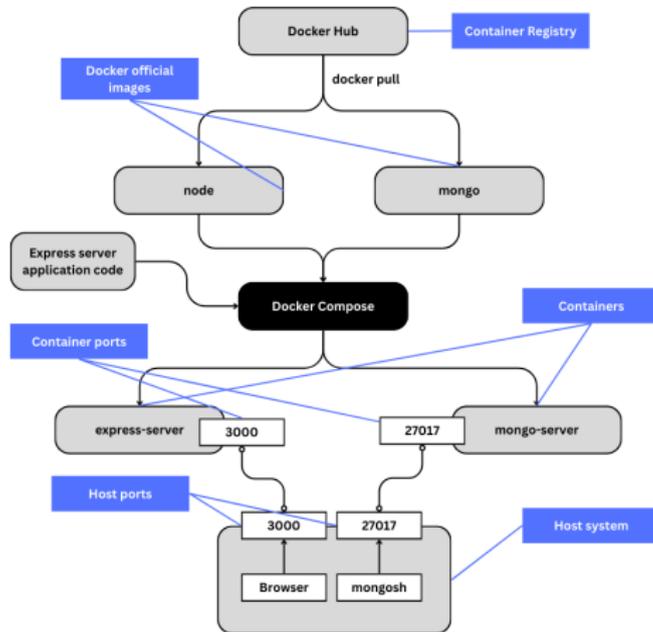


# YAML

- **YAML stands for** YAML Ain't Markup Language
- **It is a data serialisation format**
- **It is used for configuration files and defining structure of the data**



# Flowchart



# Summary

In this tutorial, we have learnt about

- Docker Compose and its uses
- Running multiple Docker images using Docker Compose



# Assignment

As an assignment, please do the following

- Download the assignment source code from the code files link
- There are two files: `app.py` and `docker-compose.yaml`
- The `docker-compose.yaml` file creates two services



# Assignment

- **The first service runs Python Flask web server**
- **The second service runs mongodb database**
- **The Flask server connects to the mongodb database**



# Assignment

Follow the same steps as shown in this tutorial and do the following

- Run the `docker-compose.yaml` file
- Add data to the `mongodb` database
- Go to this URL in the browser to view the inserted data

[localhost:5000/users](http://localhost:5000/users)



# Assignment - Observation

```
karthik@lenovo-ubuntu:~/Documents/flask-mongo$ sudo docker compose -f docker-compose
.yaml up -d
[sudo] password for karthik:
[+] Running 3/3
 ✓ Network flask-mongo_default Created 0.2s
 ✓ Container flask-container Started 1.9s
 ✓ Container mongo-container Started 2.0s
karthik@lenovo-ubuntu:~/Documents/flask-mongo$
```

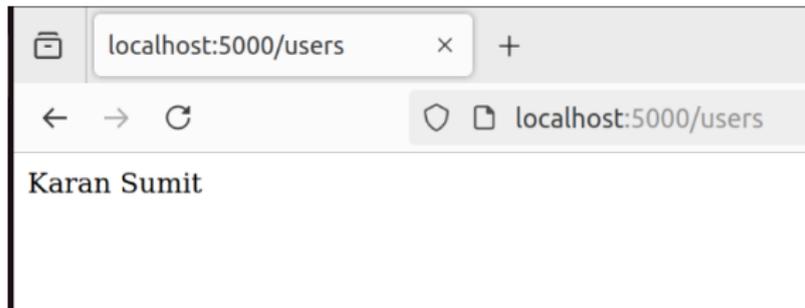


# Assignment - Observation

```
test> db.users.insertMany([{name:"Karan", age:24}, {name:"Sumit", age:33}]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('669b3a3619ec2a2fa6a5bb8d'),
    '1': ObjectId('669b3a3619ec2a2fa6a5bb8e')
  }
}
test> █
```



# Assignment - Observation



# About the Spoken Tutorial Project

- Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Answers for THIS spoken tutorial

- Questions in THIS Spoken Tutorial
- Please Visit <https://forums.spoken-tutorial.org>
- Choose the minute and second where you have the question
- Explain your question briefly
- The Spoken Tutorial project will ensure an answer
- You will have to register to ask questions



# FOSSEE Forum

- For any general or technical questions on Docker, visit the FOSSEE forum and post your question <https://forums.fossee.in/>



# Acknowledgement

- **Spoken Tutorial Project was established by the Ministry of Education, Government of India**



# Thank you

- This is Karthik Chandrasekhar, a FOSSEE Semester Long Intern 2024, IIT Bombay

