

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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In this tutorial, we will learn about

- **Docker Compose and its uses**



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In this tutorial, we will learn about

- Docker Compose and its uses
- 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**



System Requirements

To record this tutorial, I am using

- 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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- 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**

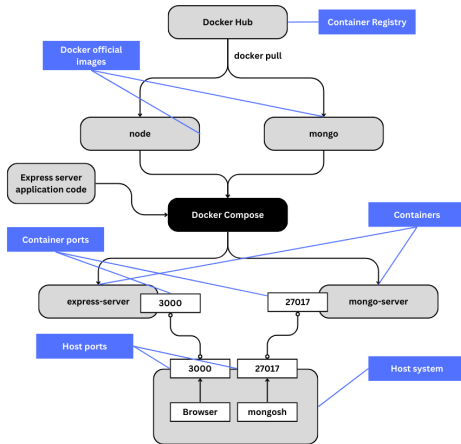


YAML

- **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



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$
```

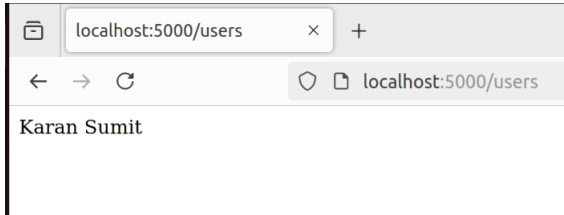


Assignment - Observation

```
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
- 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



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

