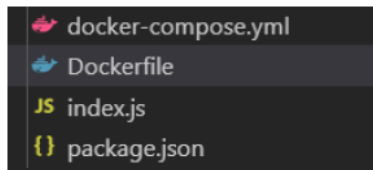


Task 2 Description:

Create a dockerfile, docker-compose file which when executed must display your basic details in the website.

We need 4 files require to containerize.



Running docker containerization using Amazon EC2 instance.

Creating Dockerfile

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ cat dockerfile
FROM node:latest
WORKDIR /app
COPY package*.json ./
RUN npm install
COPY . .
CMD [ "npm" , "start" ]
```

Creating Index.js

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ cat index.html
<!-- index.html -->
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Hello Docker</title>
</head>
<body>
  <h1>Hello, Docker Its is my Website!</h1>
  <p>This is a simple static page served by Nginx.</p>
</body>
</html>
[ec2-user@ip-172-31-22-49 dockerfolder]$ touch index.js
[ec2-user@ip-172-31-22-49 dockerfolder]$ vi index.js
[ec2-user@ip-172-31-22-49 dockerfolder]$ cat index.js
const express = require('express');
const app = express();
const PORT = 3000;

//your personal details
const details = {
  name: "Un Jilani",
  profession: "Security Engineer",
  description: "A extraordinary guy with full of energy"
};

// Route to display your details
app.get('/', (req, res) => {
  res.send(`
    <h1>Personal Details</h1>
    <p><strong>Name:</strong> ${details.name}</p>
    <p><strong>Profession:</strong> ${details.profession}</p>
  `);
});
```

Creating Package.json

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ cat package.json
{
  "name": "personal-details-app",
  "version": "1.0.0",
  "description": "A sample json application displays personal details",
  "main": "index.js",
  "scripts": {
    "start": "node index.js"
  },
  "dependencies": {
    "express": "4.21.1"
  },
  "devDependencies": {},
  "keywords": [],
  "author": "Umer Jilani",
  "license": "ISC"
}
[ec2-user@ip-172-31-22-49 dockerfolder]$
```

Creating Docker-compose.yml

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ cat docker-compose.yml
version: '3.8'

services:
  web:
    build: .
    ports:
      - "3000:3000"
[ec2-user@ip-172-31-22-49 dockerfolder]$
```

Building docker image

```
$ docker build -t dockerassignment2 .
[+] Building 4.0s (11/11) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile                0.1s
=> => transferring dockerfile: 138B                                0.0s
=> [internal] load metadata for docker.io/library/node:latest      0.1s
=> [internal] load .dockerignore                                    0.0s
=> => transferring context: 2B                                       0.0s
=> [1/5] FROM docker.io/library/node:latest@sha256:840dad0077213cadd2d734d542ae11cd0f648200be29504eb1b6e2c995d2b75a 2.0s
=> => resolve docker.io/library/node:latest@sha256:840dad0077213cadd2d734d542ae11cd0f648200be29504eb1b6e2c995d2b75a 1.9s
=> [internal] load build context                                    0.0s
=> => transferring context: 932B                                       0.0s
=> [auth] library/node:pull token for registry-1.docker.io         0.0s
=> CACHED [2/5] WORKDIR /app                                         0.0s
=> CACHED [3/5] COPY package*.json ./                                0.0s
=> CACHED [4/5] RUN npm install                                       0.0s
=> [5/5] COPY . .                                                    0.1s
=> exporting to image                                                1.3s
=> => exporting layers                                                0.4s
=> => exporting manifest sha256:48105fa16eda603ba1195addbf416d0cc3e2fe02c20bdd96d390896a95bcc44 0.0s
=> => exporting config sha256:44c362ad5bdb1abbd9dc3889381d190a6b569672a1d7765360ebb8bf937b63f1 0.0s
=> => exporting attestation manifest sha256:30abb3c88f18f4efa16bae68ce8b8dfcee684f60e9cac63ba03b57f5ac71d7bd 0.1s
=> => exporting manifest list sha256:fb139b7dba8be75f1d381480567433666db83f40b00863787fd8d29ca015a469 0.1s
=> => naming to docker.io/library/dockerassignment2:latest          0.0s
=> => unpacking to docker.io/library/dockerassignment2:latest       0.5s
```

Docker images verification

```
$ docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
dockerassignment2   latest       fb139b7dba8b     About a minute ago  1.63GB
docker-python-app   latest       ba0156687454     8 days ago       1.47GB
```

Docker-compose up - building the container with App services

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ docker-compose up
Creating network "dockerfolder_default" with the default driver
Building web
Step 1/6 : FROM node:latest
latest: Pulling from library/node
7d98d813d54f: Pull complete
da802df85c96: Pull complete
7aad5092c3b: Pull complete
ad1c7cfc347f: Pull complete
31756e86da1f: Pull complete
0cbcaed71716: Pull complete
6ffdeb0303bd: Pull complete
9eda819a4f16: Pull complete
Digest: sha256:840dad0077213cadd2d734d542ae11cd0f648200be29504eb1b6e2c995d2b75a
Status: Downloaded newer image for node:latest
---> f7dc0beaca7e
Step 2/6 : WORKDIR /app
---> Running in 22925af29548
---> Removed intermediate container 22925af29548
---> e45d1867d400
Step 3/6 : COPY package*.json ./
---> 4c639d30350d
Step 4/6 : RUN npm install
---> Running in d0abb1baaa76
```

```

added 65 packages, and audited 66 packages in 5s

13 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
---> Removed intermediate container d0abb1baaa76
---> 6cfc593f721a
Step 5/6 : COPY . .
---> cc156725f558
Step 6/6 : CMD [ "npm", "start" ]
---> Running in 1bbeab22460b
---> Removed intermediate container 1bbeab22460b
---> 25ff305989ee

Successfully built 25ff305989ee
Successfully tagged dockerfolder_web:latest
WARNING: Image for service web was built because it did not already exist. To rebuild this image you must use `docker-compose build` or `docker-compose up --build`.
Creating dockerfolder_web_1 ... done
Attaching to dockerfolder_web_1
web_1 |
web_1 | > personal-details-app@1.0.0 start
web_1 | > node index.js
web_1 |
web_1 | Server is running on http://localhost:3000

```

Docker ps – verify the container is running for Web application

```

[ec2-user@ip-172-31-22-49 ~]$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
1b64faa0c176   dockerfolder_web  "docker-entrypoint.s..." 3 minutes ago  Up 3 minutes  0.0.0.0:3000->3000/tcp, :::3000->3000/tcp  dockerfolder_web_1

```

Docker-compose up – list the container

```

[ec2-user@ip-172-31-22-49 dockerfolder]$ docker-compose ps

```

Name	Command	State	Ports
dockerfolder_web_1	docker-entrypoint.sh npm start	Up	0.0.0.0:3000->3000/tcp, :::3000->3000/tcp

```

[ec2-user@ip-172-31-22-49 dockerfolder]$

```

To display my details I can access App via curl command and is working.

```

[ec2-user@ip-172-31-22-49 dockerfolder]$ curl -i http://localhost:3000
HTTP/1.1 200 OK
X-Powered-By: Express
Content-Type: text/html; charset=utf-8
Content-Length: 229
ETag: W/"e5-LlSJfeOniIr5ElA2dc61VNmRORw"
Date: Wed, 06 Nov 2024 20:46:33 GMT
Connection: keep-alive
Keep-Alive: timeout=5

<h1>Personal Details</h1>
<p><strong>Name:</strong> Un Jilani</p>
<p><strong>Profession:</strong> Security Engineer</p>
<p><strong>Description:</strong> A extraordinary guy with full of energy</p>[ec2-user@ip-172-31-22-49 dockerfolder]$
[ec2-user@ip-172-31-22-49 dockerfolder]$

```

Docker-compose down – docker down

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ docker-compose down
Removing dockerfolder_web_1 ... done
Removing network dockerfolder_default
[ec2-user@ip-172-31-22-49 dockerfolder]$ docker-compose ps
Name      Command      State      Ports
-----

```

Docker Containerize using Docker

Creating docker-compose.yml file

```
$ cat docker-compose.yml
version: '3.8'

services:
  web:
    build: .
    ports:
      - "3000:3000"
```

Creating dockerfile

```
$ cat Dockerfile
FROM node:latest
WORKDIR /app
COPY package*.json ./
RUN npm install
COPY . .
CMD [ "npm" , "start" ]
```

Creating index.js file

```
$ cat index.js
const express = require('express');
const app = express();
const PORT = 3000;

//your personal details
const details = {
  name: "Umer Jilani",
  profession: "Security Engineer",
  description: "A extraordinary guy with full of energy"
};

// Route to display your details
app.get('/', (req, res) => {
  res.send(`
    <h1>Personal Details</h1>
    <p><strong>Name:</strong> ${details.name}</p>
    <p><strong>Profession:</strong> ${details.profession}</p>
    <p><strong>Description:</strong> ${details.description}</p>`);
});

//start the server
app.listen(PORT, () => {
  console.log(`Server is running on http://localhost:${PORT}`);
});
```

Creating package.json file

```
jiilani@jiilani:~/Documents/DevOps/Classes/ExampleProjects/Assignment-Bookey-Complete$ cat package.json
{
  "name": "personal-details-app",
  "version": "1.0.0",
  "description": "A sample json application displays personal details",
  "main": "index.js",
  "scripts": {
    "start": "node index.js"
  },
  "dependencies": {
    "express": "4.21.1"
  },
  "devDependencies": {},
  "keywords": [],
  "author": "Umer Jilani",
  "license": "ISC"
}
```

Building images






```
$ docker build -t dockerassignment2 .
[+] Building 4.0s (11/11) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile                0.1s
=> => transferring dockerfile: 138B                                0.0s
=> [internal] load metadata for docker.io/library/node:latest     0.1s
=> [internal] load .dockerignore                                  0.0s
=> => transferring context: 2B                                     0.0s
=> [1/5] FROM docker.io/library/node:latest@sha256:840dad0077213cadd2d734d542ae11cd0f648200be29504eb1b6e2c995d2b75a 2.0s
=> => resolve docker.io/library/node:latest@sha256:840dad0077213cadd2d734d542ae11cd0f648200be29504eb1b6e2c995d2b75a 1.9s
=> [internal] load build context                                  0.0s
=> => transferring context: 932B                                    0.0s
=> [auth] library/node:pull token for registry-1.docker.io        0.0s
=> CACHED [2/5] WORKDIR /app                                       0.0s
=> CACHED [3/5] COPY package*.json ./                             0.0s
=> CACHED [4/5] RUN npm install                                    0.0s
=> [5/5] COPY . .                                                 0.1s
=> exporting to image                                              1.3s
=> => exporting layers                                             0.4s
=> => exporting manifest sha256:48105fa16eda603ba1195addbf416d0cc3e2fe02c20bdd96d390896a95bcc44 0.0s
=> => exporting config sha256:44c362ad5bdb1abbd9dc3889381d190a6b569672a1d7765360ebb8bf937b63f1 0.0s
=> => exporting attestation manifest sha256:30abb3c88f18f4efa16bae68ce8b8df6ee684f60e9cac63ba03b57f5ac71d7bd 0.1s
=> => exporting manifest list sha256:fb139b7dba8be75f1d381480567433666db83f40b00863787fd8d29ca015a469 0.1s
=> => naming to docker.io/library/dockerassignment2:latest       0.0s
=> => unpacking to docker.io/library/dockerassignment2:latest    0.5s
```

Image verification

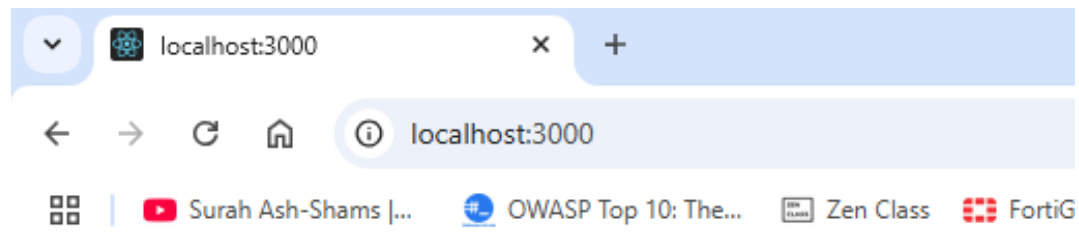
```
$ docker images
REPOSITORY          TAG          IMAGE ID          CREATED          SIZE
dockerassignment2   latest       fb139b7dba8b     About a minute ago 1.63GB
docker-python-app   latest       be0156687454     8 days ago      1.47GB
```

Docker compose up

```
$ docker compose up
time="2024-11-08T23:03:36+03:00" level=warning msg="D:\\DevOps-Classes\\ExampleProjects\\Assignment Docker Compose-Task\\docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 1/0
 ✓ Container assignmentdockercompose-task-web-1 Created          0.0s
Attaching to web-1
web-1 |
web-1 | > personal-details-app@1.0.0 start
web-1 | > node index.js
web-1 |
web-1 | Server is running on http://localhost:3000
```

<input type="checkbox"/>	▼		assignmentdockercompose-task	Runnir (1/1)	0%	41.73MB / 7.64GB		:	
<input type="checkbox"/>			web-1 ca00d89195a6 	assignmentdockercompose-task-web:<none>	Runnir 3000:3000 	0%	41.73MB / 7.64GB		:

The application displays my details in browser



Personal Details

Name: Umer Jilani

Profession: Security Engineer

Description: A extraordinary guy with full of energy