

<i>Data</i> 13.05.2020r.	<i>Grupa 05</i>
<i>Imię i nazwisko</i> Radosław Niestrój	

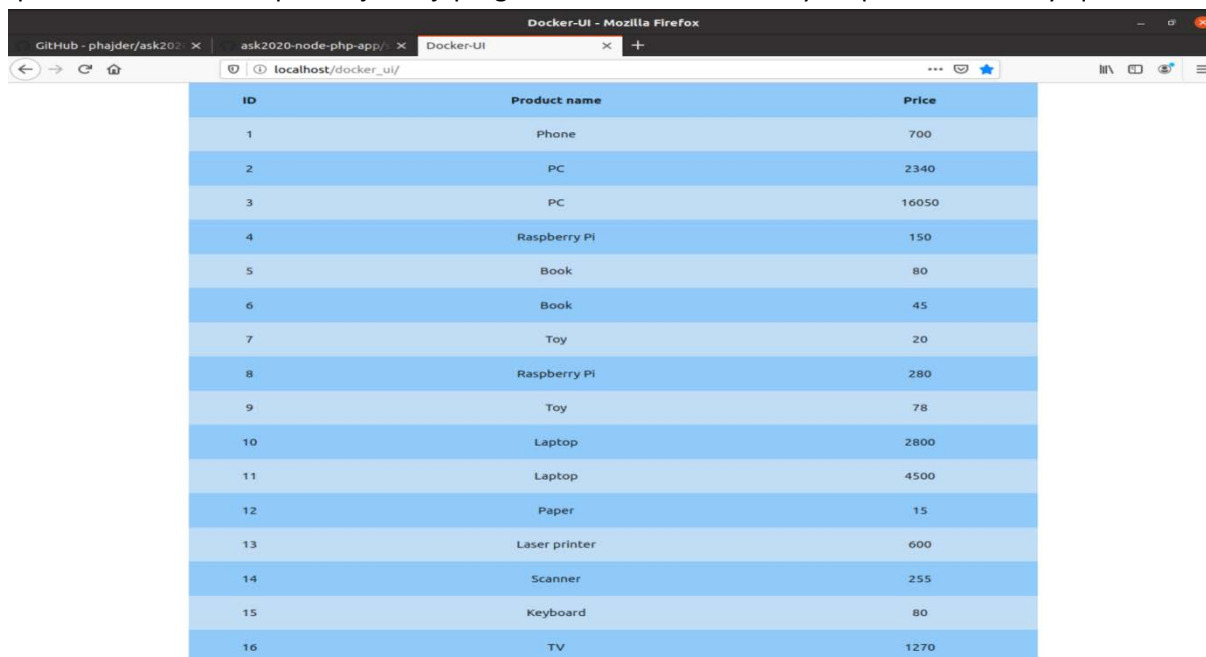
Opis ćwiczenia

Celem ćwiczenia było zapoznanie się z oprogramowaniem Docker i z jego wszechstronnymi zastosowaniami. Zadanie polegało na skonfigurowaniu trzech aplikacji: Mysql jako bazy danych, Node.js jako serwera i Apache jako klienta lokalnego. Pierwszą częścią zadania było skonfigurowanie aplikacji kontrolnej (bez użycia dockera) i wyświetlenie tabeli w postaci strony w przeglądarce. W następnym kroku przechodziło się do głównej części zadania. Jej celem było stworzenie tego samego efektu co w części kontrolnej, tylko przy użyciu dockera. Kolejnym elementem ćwiczenia było połączenie kontenerów i zawarcie ich w sieciach aby móc korzystać z ich nazw, zamiast adresów IP. Ostatnim elementem było utworzenie konfiguracji.

Przebieg ćwiczenia

I część – strona kontrolna, bez użycia dockera

Sprawdzenie działania próbnej wersji programu na serwerze lokalnym Apache i bazie Mysql.

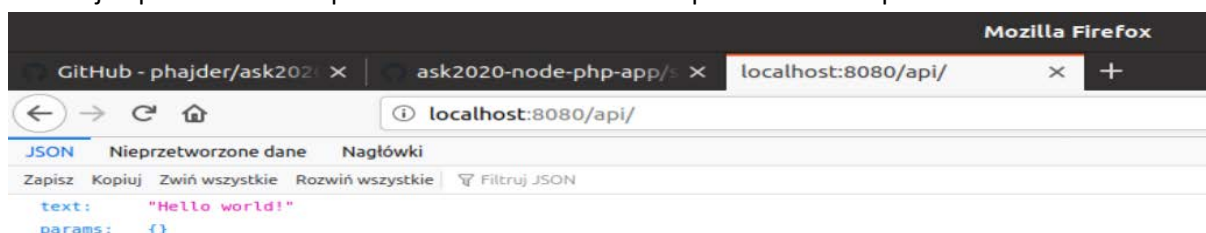


The screenshot shows a web browser window with the address bar displaying 'localhost/docker_ui/'. The page content is a table with three columns: 'ID', 'Product name', and 'Price'. The table contains 16 rows of product data.

ID	Product name	Price
1	Phone	700
2	PC	2340
3	PC	16050
4	Raspberry Pi	150
5	Book	80
6	Book	45
7	Toy	20
8	Raspberry Pi	280
9	Toy	78
10	Laptop	2800
11	Laptop	4500
12	Paper	15
13	Laser printer	600
14	Scanner	255
15	Keyboard	80
16	TV	1270

II część – strona postawiona przy użyciu dockera

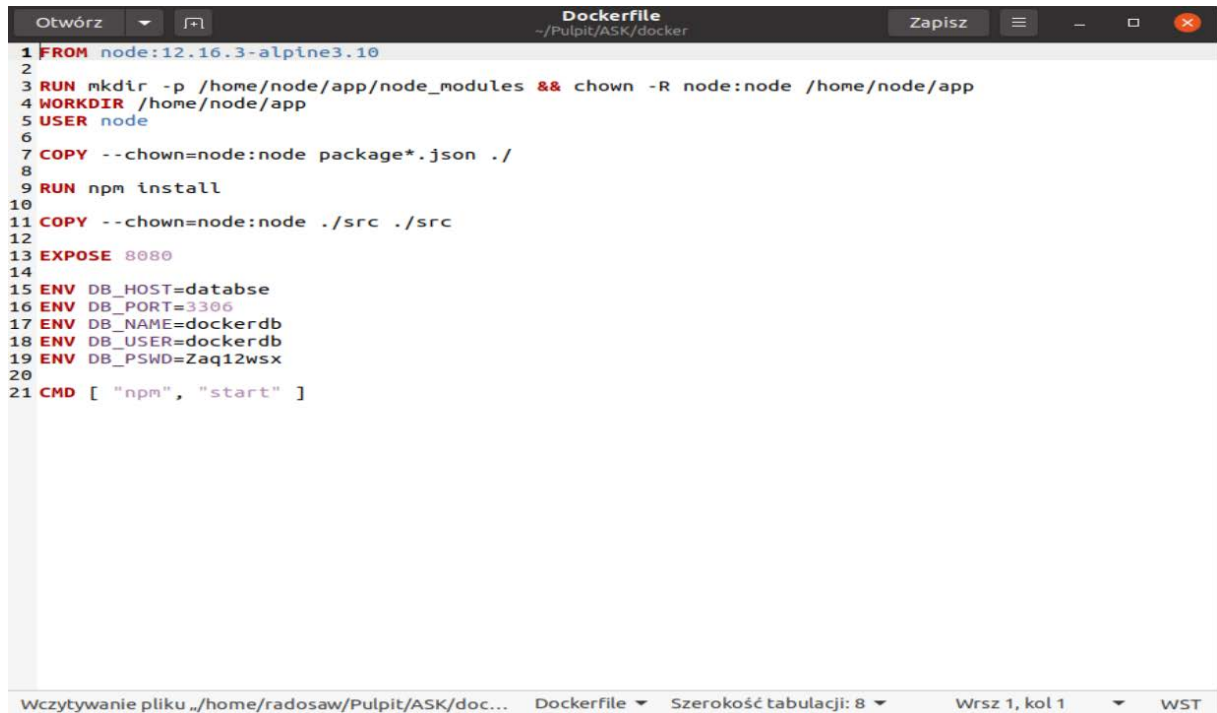
Instalacja npm install oraz sprawdzenie działania serwera po komendzie npm start.



The screenshot shows a web browser window with the address bar displaying 'localhost:8080/api/'. The page content shows JSON data in a viewer. The JSON object has two properties: 'text' with the value 'Hello world!' and 'params' with an empty object {}.

JSON	Nieprzetworzone dane	Nagłówki
Zapisz	Kopiuje	Zwiń wszystkie
Rozwiń wszystkie	Filtruj JSON	
text:	"Hello world!"	
params:	{}	

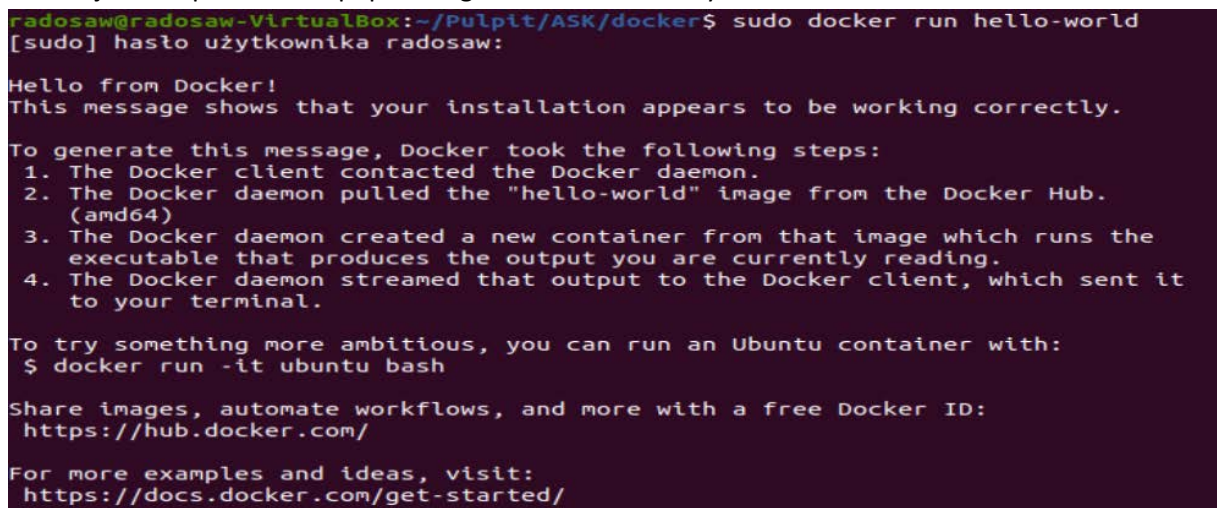
Stworzenie pliku Dockerfile.



```
1 FROM node:12.16.3-alpine3.10
2
3 RUN mkdir -p /home/node/app/node_modules && chown -R node:node /home/node/app
4 WORKDIR /home/node/app
5 USER node
6
7 COPY --chown=node:node package*.json ./
8
9 RUN npm install
10
11 COPY --chown=node:node ./src ./src
12
13 EXPOSE 8080
14
15 ENV DB_HOST=databse
16 ENV DB_PORT=3306
17 ENV DB_NAME=dockerdb
18 ENV DB_USER=dockerdb
19 ENV DB_PSWD=Zaq12wsx
20
21 CMD [ "npm", "start" ]
```

Wczytywanie pliku „/home/radosaw/Pulpit/ASK/doc... Dockerfile Szerokość tabulacji: 8 Wrsz 1, kol 1 WST

Instalacja oraz sprawdzenie poprawnego działania komendy docker.



```
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker run hello-world
[sudo] hasło użytkownika radosaw:

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/
```

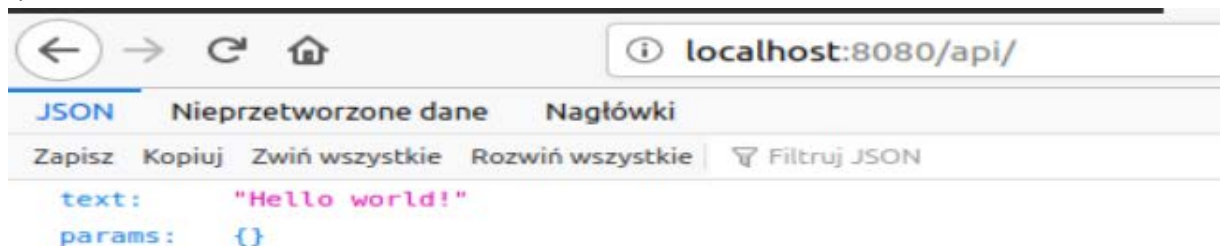
Zbudowanie obrazu na podstawie Dockerfile.

```
radosaw@radosaw-VirtualBox: ~/Pulpit/ASK/docker$ sudo docker build . -t docker-lecture-node
Sending build context to Docker daemon 17.54MB
Step 1/14 : FROM node:12.16.3-alpine3.10
----> 079fef2db96d
Step 2/14 : RUN mkdir -p /home/node/app/node_modules && chown -R node:node /home/node/app
----> Using cache
----> a9ed615bf034
Step 3/14 : WORKDIR /home/node/app
----> Using cache
----> 1d35e37a8cc3
Step 4/14 : USER node
----> Using cache
----> 89ea086db221
Step 5/14 : COPY --chown=node:node package*.json ./
----> Using cache
----> 77162807ad8d
Step 6/14 : RUN npm install
----> Using cache
----> c43883360502
Step 7/14 : COPY --chown=node:node ./src ./src
----> Using cache
----> 7139b352ea8d
Step 8/14 : EXPOSE 8080
----> Using cache
----> e74f342324bc
Step 9/14 : ENV DB_HOST=database
----> Using cache
----> 20cdc4d92b68
Step 10/14 : ENV DB_PORT=3306
----> Using cache
----> 0f65f198ef8d
Step 11/14 : ENV DB_NAME=dockerdb
----> Using cache
----> d572fd5b341f
Step 12/14 : ENV DB_USER=dockerdb
----> Using cache
----> 71dc494d7a20
Step 13/14 : ENV DB_PSWD=Zaq12wsx
----> Running in 9d29bc99b1d1
Removing intermediate container 9d29bc99b1d1
----> 33f2fab88338
Step 14/14 : CMD [ "npm", "start" ]
----> Running in 4dcd60b013a7
Removing intermediate container 4dcd60b013a7
----> 04ca2a6f070f
Successfully built 04ca2a6f070f
Successfully tagged docker-lecture-node:latest
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$
```

Zbudowanie i włączenie kontenera.

```
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker run -p 8080:8080 docker-lecture-node
> ask2020-node-server@1.0.0 start /home/node/app
> node .
App listening at http://undefined:8080 in development environment...
```

Sprawdzenie działania .



Stworzenie kontenera odpowiedzialnego za bazę danych.

```

2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: sudo docker run -p 3306:3306 -e MYSQL_ROOT_PASSWORD=Zag12wax mysql:latest
2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.20-1debian10 started.
2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.20-1debian10 started.
2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: Initializing database files
2020-05-12:20:30:43:66:14622 0 [Warning] [MY-01070] [Server] 'Disabling symbolic links using --skip-symbolic-links (or equivalent) is the default. Consider not using this option as it is deprecated and will be removed in a future release.'
2020-05-12:20:30:43:67:1032 1 [System] [MY-013167] [Server] /usr/sbin/mysqld (mysqld 8.0.20) initializing of server in progress as process 42
2020-05-12:20:30:43:67:17032 1 [System] [MY-013576] [InnoDB] InnoDB initialization has started.
2020-05-12:20:30:43:67:17032 1 [System] [MY-013577] [InnoDB] InnoDB initialization has ended.
2020-05-12:20:30:43:68:49:15972 0 [Warning] [MY-010453] [Server] root@localhost is created with an empty password ! Please consider switching off the --initialize-insecure option.
2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: Database files initialized
2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: Starting temporary server
2020-05-12:20:30:43:54:56:49262 0 [Warning] [MY-01070] [Server] 'Disabling symbolic links using --skip-symbolic-links (or equivalent) is the default. Consider not using this option as it is deprecated and will be removed in a future release.'
2020-05-12:20:30:43:54:56:48112 0 [System] [MY-010116] [Server] /usr/sbin/mysqld (mysqld 8.0.20) starting as process 89
2020-05-12:20:30:43:56:4:2626202 1 [System] [MY-013576] [InnoDB] InnoDB initialization has started.
2020-05-12:20:30:43:56:37:8000157 1 [System] [MY-013577] [InnoDB] InnoDB initialization has ended.
2020-05-12:20:30:43:56:5:88001572 0 [System] [MY-013123] [Server] X Plugin ready for connections. Socket: '/var/run/mysqld/mysqld.sock'
2020-05-12:20:30:43:56:1952262 0 [Warning] [MY-010106] [Server] CA certificate ca.pem is self signed.
2020-05-12:20:30:43:56:1952262 0 [Warning] [MY-011810] [Server] Insecure configuration for --pid-file: Location '/var/run/mysqld/' in the path is accessible to all OS users. Consider choosing a different directory.
2020-05-12 20:30:43:00:00 [Note] [Entrypoint]: MySQL init process done. Ready for start up.
2020-05-12 20:30:43:00:00 [System] [MY-010931] [Server] /usr/sbin/mysqld: ready for connections. Version: '8.0.20' socket: '/var/run/mysqld/mysqld.sock' port: 0 MySQL Community Server - GPL.
2020-05-12 20:30:56:00:00 [Note] [Entrypoint]: Temporary server started.
Warning: Unable to load '/usr/share/zoneinfo/iso3166.tab' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/leap-seconds.list' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/zone.tab' as time zone. Skipping it.
Warning: Unable to load '/usr/share/zoneinfo/zone1970.tab' as time zone. Skipping it.
2020-05-12 20:37:00:00:00 [Note] [Entrypoint]: Stopping temporary server
2020-05-12:20:37:00:00:8283942 10 [System] [MY-013172] [Server] Received SHUTDOWN from user root. Shutting down mysqld (Version: 8.0.20).
2020-05-12:20:37:03:00:00:00 0 [System] [MY-010106] [Server] /usr/sbin/mysqld: Shutdown complete (mysqld 8.0.20) MySQL Community Server - GPL.
2020-05-12 20:37:03:00:00:00 [Note] [Entrypoint]: Temporary server stopped
2020-05-12 20:37:03:00:00:00 [Note] [Entrypoint]: MySQL init process done. Ready for start up.
2020-05-12:20:37:03:04:1239512 0 [Warning] [MY-01070] [Server] 'Disabling symbolic links using --skip-symbolic-links (or equivalent) is the default. Consider not using this option as it is deprecated and will be removed in a future release.'
2020-05-12:20:37:03:04:1:16622 0 [System] [MY-010116] [Server] /usr/sbin/mysqld (mysqld 8.0.20) starting as process 1
2020-05-12:20:37:03:04:1:16622 1 [System] [MY-013576] [InnoDB] InnoDB initialization has started.
2020-05-12:20:37:03:04:1:5998842 1 [System] [MY-013577] [InnoDB] InnoDB initialization has ended.
2020-05-12:20:37:03:04:1:161822 0 [System] [MY-013123] [Server] X Plugin ready for connections. Socket: '/var/run/mysqld/mysqld.sock' bind-address: '::' port: 33060
2020-05-12:20:37:03:04:1:017942 0 [Warning] [MY-010608] [Server] CA certificate ca.pem is self signed.
2020-05-12:20:37:03:04:1:0161912 0 [Warning] [MY-011810] [Server] Insecure configuration for --pid-file: Location '/var/run/mysqld/' in the path is accessible to all OS users. Consider choosing a different directory.
2020-05-12 20:37:03:00:00 [System] [MY-010931] [Server] /usr/sbin/mysqld: ready for connections. Version: '8.0.20' socket: '/var/run/mysqld/mysqld.sock' port: 3306 MySQL Community Server - GPL.

```

Import bazy do kontenera.

```

mysql: [Warning] Using a password on the command line interface can be insecure.
root@31fd2391d551:~/ask2020# /PulpIt/ASK/ask2020-mode-php-app/db/db.sql
root@31fd2391d551:/# mysql -u root -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 18
Server version: 8.0.20 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> mysql tables;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'mysql tables' at line 1
mysql> mysql databases;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'mysql databases' at line 1
mysql> show databases;
+-----+
| Database |
+-----+
| dockerdb |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.35 sec)

mysql> exit
bye
root@31fd2391d551:/#

```

Poprawa pliku Dockerfile na odpowiednie IP kontenera z MySQL.

```
*Dockerfile
~/Pulpit/ASK/docker

1 FROM node:12.16.3-alpine3.10
2
3 RUN mkdir -p /home/node/app/node_modules && chown -R node:node /home/node/app
4 WORKDIR /home/node/app
5 USER node
6
7 COPY --chown=node:node package*.json ./
8
9 RUN npm install
10
11 COPY --chown=node:node ./src ./src
12
13 EXPOSE 8080
14
15 ENV DB_HOST=172.17.0.2
16 ENV DB_PORT=3306
17 ENV DB_NAME=dockerdb
18 ENV DB_USER=dockerdb
19 ENV DB_PSWD=Zaq12wsx
20
21 CMD [ "npm", "start" ]
22
```


Ponowne stworzenie obrazu i kontenera.

```
radosaw@radosaw-VirtualBox: ~/Pulpit/ASK/docker x radosaw@radosaw-VirtualBox: ~/Pulpit/ASK/docker x radosaw@radosaw-VirtualBox: ~/Pulpit/ASK/docker$ sudo docker run -p 8080:8080 docker-lecture-node
> ask2020-node-server@1.0.0 start /home/node/app
> node .
App listening at http://undefined:8080 in development environment...
Executing (default): SELECT `product_id` AS `id`, `product_name` AS `productName`, `price` FROM `product` AS `product`;
```

Działanie obydwu kontenerów.

```
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED            STATUS              PORTS                               NAMES
fe19496ac19b       docker-lecture-node "docker-entrypoint.s..." 5 minutes ago      Up 9 minutes       0.0.0.0:8080->8080/tcp              hardcore_wescoff
31fd2391d551       mysql:latest       "docker-entrypoint.s..." About an hour ago  Up About an hour   0.0.0.0:3306->3306/tcp, 33060/tcp   competent_gagarin
```

Sprawdzenie działania.

ID	Product name	Price
1	Phone	700
2	PC	2340
3	PC	16050
4	Raspberry Pi	150
5	Book	80
6	Book	45
7	Toy	20
8	Raspberry Pi	280
9	Toy	78
10	Laptop	2800
11	Laptop	4500
12	Paper	15
13	Laser printer	600
14	Scanner	255
15	Keyboard	80
16	TV	1270

III część – ulepszenie działania systemu poprzez dodanie kontenerów do sieci

Utworzenie sieci.

```
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker network create ask
e36224d6061aaa7c6b9de1898b8bb3022993a2852502b2ee3752afafbff25d1a
```

Z powodu problemów z siecią usunięto wszystkie stare kontenery i utworzono nowe z własnymi, nie automatycznie generowanymi nazwami.

Kontener z bazą danych.

```
radosaw@radosaw-VirtualBox:~$ sudo docker run --name=mysqldb --env="MYSQL_ROOT_PASSWORD=root" --publish 3306:3306 mysql
2020-05-14 09:55:37+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.20-1debian10 started.
2020-05-14 09:55:37+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
2020-05-14 09:55:37+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.0.20-1debian10 started
```

Import do kontenera bazy danych

```
radosaw@radosaw-VirtualBox:~$ sudo docker exec -l mysqldb mysql -uroot -proot < /home/radosaw/Pulpit/ASK/ask2020-node-php-app/db/db.sql
mysql: [Warning] Using a password on the command line interface can be insecure.
radosaw@radosaw-VirtualBox:~$ sudo docker exec -it mysqldb /bin/bash
root@7b5b44d677d7:/# mysql
ERROR 1045 (28000): Access denied for user 'root'@'localhost' (using password: NO)
root@7b5b44d677d7:/# mysql -uroot -proot
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.0.20 MySQL Community Server - GPL

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases
+-----+
| Database |
+-----+
| dockerdb |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.06 sec)

mysql>
```

Dokonanie zmian w pliku Dockerfile, zmiana DB_HOST z IP kontenera z bazą MySQL na jego nazwę.

```
Otwórz Dockerfile Zapisz
~/Pulpit/ASK/docker

1 FROM node:12.16.3-alpine3.10
2
3 RUN mkdir -p /home/node/app/node_modules && chown -R node:node /home/node/app
4 WORKDIR /home/node/app
5 USER node
6
7 COPY --chown=node:node package*.json ./
8
9 RUN npm install
10
11 COPY --chown=node:node ./src ./src
12
13 ENV DB_HOST=mysqldb
14 ENV DB_PORT=3306
15 ENV DB_NAME=dockerdb
16 ENV DB_USER=dockerdb
17 ENV DB_PSWD=Zaq12wsx
18
19 CMD [ "npm", "start" ]

Wczytywanie pliku „/home/radosaw/Pulpit/ASK/doc... Dockerfile Szerokość tabulacji: 8 Wrsz 13, kol 20 WST
```

Zbudowanie obrazu i utworzenie na jego podstawie kontenera.

```
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker build . -t app
Sending build context to Docker daemon 17.54MB
Step 1/13 : FROM node:12.16.3-alpine3.10
--> 079fef2db96d
Step 2/13 : RUN mkdir -p /home/node/app/node_modules && chown -R node:node /home/node/app
--> Using cache
--> a9ed615bf034
Step 3/13 : WORKDIR /home/node/app
--> Using cache
--> 1d35e37a8cc3
Step 4/13 : USER node
--> Using cache
--> 89ea086db221
Step 5/13 : COPY --chown=node:node package*.json ./
--> Using cache
--> 77162807ad8d
Step 6/13 : RUN npm install
--> Using cache
--> c43883360502
Step 7/13 : COPY --chown=node:node ./src ./src
--> Using cache
--> 7139b352ea8d
Step 8/13 : ENV DB_HOST=mysqlldb
--> Running in 22ed37fd837b
Removing intermediate container 22ed37fd837b
--> 564ef98303de
Step 9/13 : ENV DB_PORT=3306
--> Running in 083c0e465520
Removing intermediate container 083c0e465520
--> 5aaf90a30298
Step 10/13 : ENV DB_NAME=dockerdb
--> Running in 56df28e98867
Removing intermediate container 56df28e98867
--> 518dff4a773a
Step 11/13 : ENV DB_USER=dockerdb
--> Running in f56739e1f038
Removing intermediate container f56739e1f038
--> 32017c40de66
Step 12/13 : ENV DB_PSWD=Zaq12wsx
--> Running in 155f4cdf43ed
Removing intermediate container 155f4cdf43ed
--> dd428124b606
Step 13/13 : CMD [ "npm", "start" ]
--> Running in 4da8f88eb3aa
Removing intermediate container 4da8f88eb3aa
--> bb570081dde9
Successfully built bb570081dde9
Successfully tagged app:latest
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
app                  latest             bb570081dde9       7 seconds ago      107MB
docker-lecture-node latest             c090ffbb4453       36 hours ago       107MB
node                 12.16.3-alpine3.10 079fef2db96d       2 weeks ago        88.4MB
mysql                latest             a7a67c95e831       2 weeks ago        541MB
hello-world          latest             bf756fb1ae65       4 months ago       13.3kB
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$

radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker run --name=appcon -p 8080:8080 app
> ask2020-node-server@1.0.0 start /home/node/app
> node .

App listening at http://undefined:8080 in development environment...
```

Dodanie kontenerów do sieci.

```
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker network create ask
33122c0d93760dca42f0cb15ec55a2acdafb7c237b6bfdad6977a96c10acbf71
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker network connect ask mysqlldb
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker network connect ask appcon
radosaw@radosaw-VirtualBox:~/Pulpit/ASK/docker$ sudo docker network inspect ask
[
  {
    "Name": "ask",
    "Id": "33122c0d93760dca42f0cb15ec55a2acdafb7c237b6bfdad6977a96c10acbf71",
    "Created": "2020-05-14T12:09:58.263113051+02:00",
    "Scope": "local",
    "Driver": "bridge",
    "EnableIPv6": false,
    "IPAM": {
      "Driver": "default",
      "Options": {},
      "Config": [
        {
          "Subnet": "172.18.0.0/16",
          "Gateway": "172.18.0.1"
        }
      ]
    },
    "Internal": false,
    "Attachable": false,
    "Ingress": false,
    "ConfigFrom": {
      "Network": ""
    },
    "ConfigOnly": false,
    "Containers": {
      "7b5b44d67d7f0f7c9ec49cb2fdb0aabsf5f50d3939169b041c89cd95bff0760": {
        "Name": "mysqlldb",
        "EndpointID": "de062b6eb8b1bbcd9d2eed5e8ba7f9f9bfa895aead12b60edff7e0bba6b6ca2",
        "MacAddress": "02:42:ac:12:00:02",
        "IPv4Address": "172.18.0.2/16",
        "IPv6Address": ""
      },
      "9b4372d6ead5740b56255b114f17e6e202d5e1a08e387fab92646d4872df2e2": {
        "Name": "appcon",
        "EndpointID": "9079ac495adc1cd11f79d7122e4e407081dc323c9fdc14e200083b6b4b49113a",
        "MacAddress": "02:42:ac:12:00:03",
        "IPv4Address": "172.18.0.3/16",
        "IPv6Address": ""
      }
    },
    "Options": {},
    "Labels": {}
  }
]
```

Wynik działania w postaci wyświetlonej tabeli.



The screenshot shows a web browser window with the address bar displaying 'localhost/docker_ui/'. The browser interface includes standard navigation buttons (back, forward, refresh, home) and a search bar. The main content area displays a table with three columns: 'ID', 'Product name', and 'Price'. The table contains 16 rows of product data, alternating between light blue and white background colors for each row.

ID	Product name	Price
1	Phone	700
2	PC	2340
3	PC	16050
4	Raspberry Pi	150
5	Book	80
6	Book	45
7	Toy	20
8	Raspberry Pi	280
9	Toy	78
10	Laptop	2800
11	Laptop	4500
12	Paper	15
13	Laser printer	600
14	Scanner	255
15	Keyboard	80
16	TV	1270

IV część – uruchomienie kontenerów za pomocą docker-compose up

Utworzenie i uzupełnienie pliku docker-compose.yml.

Uruchomienie komendy docker-compose up.

Wynik działania.

Podsumowanie

Docker jest wszechstronnym i uniwersalnym narzędziem często stosowanym w praktyce. Jest często używany w firmach zajmujących się developmentem. Pozwala na między innymi utrzymanie na jednej maszynie kilku projektów działających na podstawie różnych wersji języka. Bez użycia Dockera konieczne byłoby zmienianie wersji języka na komputerze przy przechodzeniu na inny projekt.

Pracuję jako Junior PHP Developer w firmie Gallinago i mam przyjemność używać Dockera na codzień.