7 - Containers with Docker

Solutions for Module "Containers with Docker"

- docker run -it --privileged --pid=host debian nsenter -t 1 -m -u -n -i sh
- Installing AWS Cli Linux: https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2-linux.html
- Installing AWS CLI on MacOS: https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2-macOS.html
- Installing AWS CLI on Windows: https://docs.aws.amazon.com/cli/latest/userguide/install-cliv2-windows.html
- Configuring the AWS CLI: https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-configure.html

> Exercises for Module "Containers with Docker"

Use repository: https://gitlab.com/twn-devops-bootcamp/latest/07-docker/docker-exercises

Your team member has improved your previous static java application and added mysql database connection, to let users edit information and save the edited data.

They ask you to configure and run the application with Mysql database on a server using docker-compose.

▶ Solution 0:Clone Git repository and create your own

> EXERCISE 0: Clone Git repository and create your own You can check out the code changes and notice that we are using environment variables for the database and its credentials inside the application.

This is very important for 2 reasons:

- You don't want to expose the password to your database by hardcoding it into the app and checking it into the repository!
- These values may change based on the environment, so you want to be able to set them dynamically when deploying the application, instead of hardcoding them.

```
sgworker@MacBook-Pro-3.local /Users/sgworker
% git clone https://gitlab.com/twn-devops-bootcamp/latest/07-docker/docker-exercises
Klone nach 'docker-exercises'...
Warnung: Umleitung nach https://gitlab.com/twn-devops-bootcamp/latest/07-docker/docker-exercises.git/
remote: Enumerating objects: 187, done.
remote: Counting objects: 100% (76/76), done.
remote: Compressing objects: 100% (50/50), done.
remote: Total 187 (delta 26), reused 51 (delta 14), pack-reused 111
Empfange Objekte: 100% (187/187), 167.62 KiB | 5.99 MiB/s, fertig.
Löse Unterschiede auf: 100% (52/52), fertig.

sgworker@MacBook-Pro-3.local /Users/sgworker
% cd docker-exercises
```

```
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [master]
% rm -rf .git

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises
% git init
Leeres Git-Repository in /Users/sgworker/docker-exercises/.git/
initialisiert

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises
% git add *

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises
% git commit -m "inital commit"
[main (Root-Commit) 1a88667] inital commit
 12 files changed, 792 insertions(+)
 create mode 100644 README.md
 create mode 100644 build.gradle
 create mode 100644 gradle/wrapper/gradle-wrapper.jar
 create mode 100644 gradle/wrapper/gradle-wrapper.properties
 create mode 100755 gradlew
 create mode 100644 gradlew.bat
 create mode 100644 settings.gradle
 create mode 100644 src/main/java/com/example/AppController.java
 create mode 100644 src/main/java/com/example/Application.java
 create mode 100644 src/main/java/com/example/DatabaseConfig.java
 create mode 100644 src/main/resources/static/index.html
 create mode 100644 src/test/java/AppTest.java

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% git remote add origin https://github.com/Saban39/docker-exercises.git
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% git push
Schwerwiegend: Der aktuelle Branch main hat keinen Upstream-Branch.
Um den aktuellen Branch zu versenden und den Remote-Branch
als Upstream-Branch zu setzen, benutzen Sie

    git push --set-upstream origin main

Damit das automatisch für Branches ohne Upstream-Tracking passiert,
siehe 'push.autoSetupRemote' in 'git help config'.

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
%  git push --set-upstream origin main
Objekte aufzählen: 25, fertig.
Zähle Objekte: 100% (25/25), fertig.
Delta-Kompression verwendet bis zu 16 Threads.
Komprimiere Objekte: 100% (18/18), fertig.
Schreibe Objekte: 100% (25/25), 65.97 KiB | 13.19 MiB/s, fertig.
Gesamt 25 (Delta 0), Wiederverwendet 0 (Delta 0), Pack wiederverwendet 0
To https://github.com/Saban39/docker-exercises.git
 * [new branch]      main -> main
Branch 'main' folgt nun 'origin/main'.
```

▶ Solution 1: Start Mysql container

> EXERCISE 1: Start Mysql container

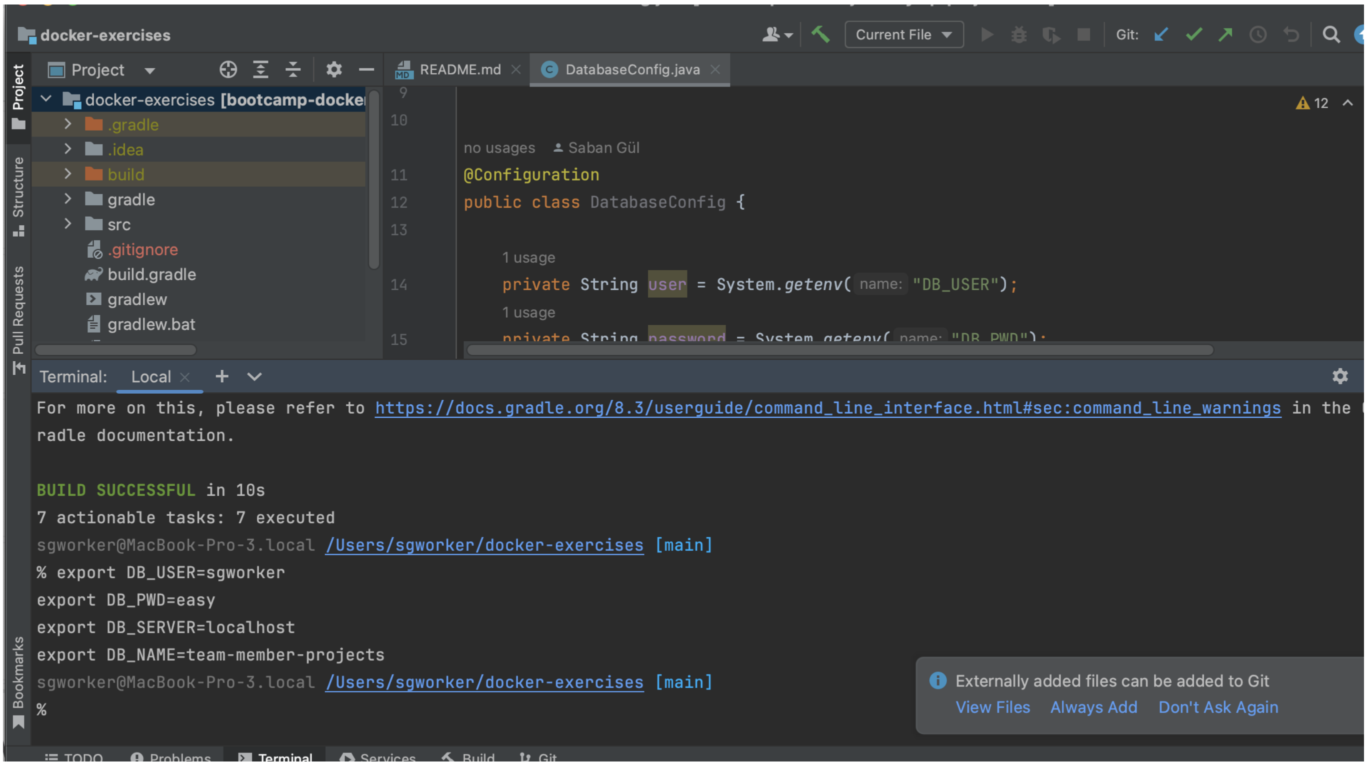
First you want to test the application locally with a mysql database. But you don't want to install Mysql, you want to get started fast, so you start it as a docker container:

- Start mysql container locally using the official Docker image.
- Set all needed environment variables.
- Export all needed environment variables for your application for connecting with the database (check variable names inside the code)
- Build a jar file and start the application. Test access from browser. Make some changes.

```
sgworker@MacBook-Pro-3.local /Users/sgworker
% docker run -p 3306:3306 \
--name mysql \
-e MYSQL_ROOT_PASSWORD=easy \
-e MYSQL_DATABASE=team-member-projects \
-e MYSQL_USER=sgworker \
-e MYSQL_PASSWORD=easy \
-d mysql mysqld --default-authentication-plugin=mysql_native_password
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
5262579e8e45: Pull complete
bfcc921068b5: Pull complete
072a02315ab1: Pull complete
711d47be56b4: Pull complete
755e67622a77: Pull complete
0080a11112d1: Pull complete
adc45022a9ad: Pull complete
67d814699860: Pull complete
f431d85cf61e: Pull complete
4bbba6dd5ce2: Pull complete
Digest:
sha256:44056c45e214c26c37b6f244534c6fb5f8a40eacbc28e870a2652b19d7a8a814
Status: Downloaded newer image for mysql:latest
c3e24b537350d4feecb7f30c7c2de4f7137c2573102433ff17398955f1e8f809
sgworker@MacBook-Pro-3.local /Users/sgworker
% docker ps
CONTAINER ID   IMAGE                    COMMAND                  CREATED
STATUS             PORTS                               NAMES
c3e24b537350   mysql                    "docker-entrypoint.s…"   6 seconds
ago       Up 4 seconds       0.0.0.0:3306->3306/tcp, 33060/tcp   mysql


sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% gradle build
Starting a Gradle Daemon (subsequent builds will be faster)

Deprecated Gradle features were used in this build, making it incompatible
```

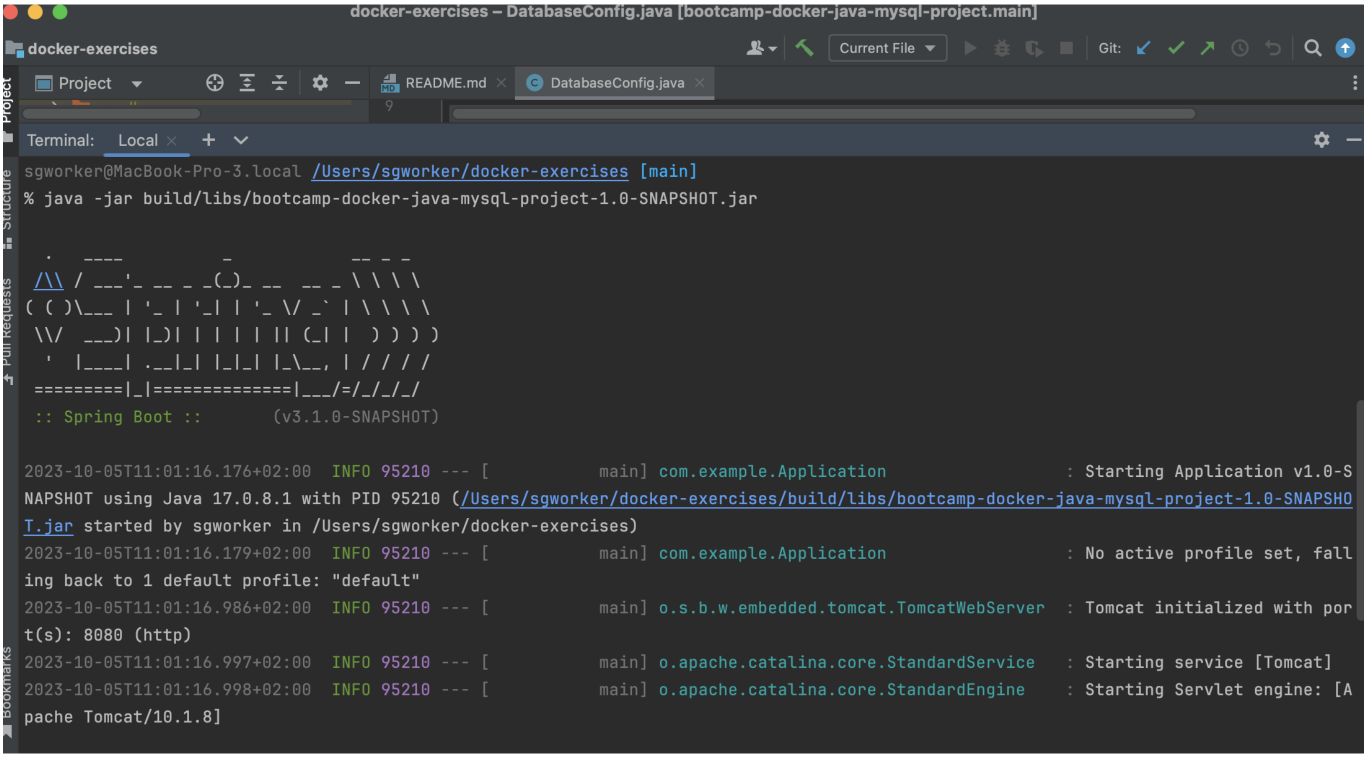
```
with Gradle 9.0.

You can use '--warning-mode all' to show the individual deprecation
warnings and determine if they come from your own scripts or plugins.

For more on this, please refer to
https://docs.gradle.org/8.3/userguide/command_line_interface.html#sec:comm
and_line_warnings in the Gradle documentation.

BUILD SUCCESSFUL in 10s
7 actionable tasks: 7 executed

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% java -jar build/libs/docker-exercises-project-1.0-SNAPSHOT.jar
Error: Unable to access jarfile build/libs/docker-exercises-project-1.0-
SNAPSHOT.jar

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% java -jar build/libs/bootcamp-docker-java-mysql-project-1.0-SNAPSHOT.jar

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% java -jar build/libs/bootcamp-docker-java-mysql-project-1.0-SNAPSHOT.jar

  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::       (v3.1.0-SNAPSHOT)

2023-10-05T11:01:16.176+02:00  INFO 95210 --- [           main]
com.example.Application                  : Starting Application v1.0-
SNAPSHOT using Java 17.0.8.1 with PID 95210 (/Users/sgworker/docker-
exercises/build/libs/bootcamp-docker-java-mysql-project-1.0-SNAPSHOT.jar
started by sgworker in /Users/sgworker/docker-exercises)
2023-10-05T11:01:16.179+02:00  INFO 95210 --- [           main]
com.example.Application                  : No active profile set, falling
back to 1 default profile: "default"
2023-10-05T11:01:16.986+02:00  INFO 95210 --- [           main]
o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized with
port(s): 8080 (http)
2023-10-05T11:01:16.997+02:00  INFO 95210 --- [           main]
o.apache.catalina.core.StandardService   : Starting service [Tomcat]
2023-10-05T11:01:16.998+02:00  INFO 95210 --- [           main]
o.apache.catalina.core.StandardEngine    : Starting Servlet engine:
[Apache Tomcat/10.1.8]
2023-10-05T11:01:17.071+02:00  INFO 95210 --- [           main] o.a.c.c.C.
[Tomcat].[localhost].[/]       : Initializing Spring embedded
WebApplicationContext
2023-10-05T11:01:17.073+02:00  INFO 95210 --- [           main]
w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext:
initialization completed in 847 ms
2023-10-05T11:01:17.407+02:00  INFO 95210 --- [           main]
```

```
com.example.Application                  : Java app started
2023-10-05T11:01:17.583+02:00  INFO 95210 --- [           main]
o.s.b.a.w.s.WelcomePageHandlerMapping    : Adding welcome page: class path
resource [static/index.html]
2023-10-05T11:01:17.677+02:00  INFO 95210 --- [           main]
o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat started on port(s): 8080
(http) with context path ''
2023-10-05T11:01:17.690+02:00  INFO 95210 --- [           main]
com.example.Application                  : Started Application in 1.857
seconds (process running for 2.219)
2023-10-05T11:02:06.257+02:00  INFO 95210 --- [nio-8080-exec-1] o.a.c.c.C.
[Tomcat].[localhost].[/]       : Initializing Spring DispatcherServlet
'dispatcherServlet'
2023-10-05T11:02:06.257+02:00  INFO 95210 --- [nio-8080-exec-1]
o.s.web.servlet.DispatcherServlet        : Initializing Servlet
'dispatcherServlet'
2023-10-05T11:02:06.258+02:00  INFO 95210 --- [nio-8080-exec-1]
o.s.web.servlet.DispatcherServlet        : Completed initialization in 1
ms
```

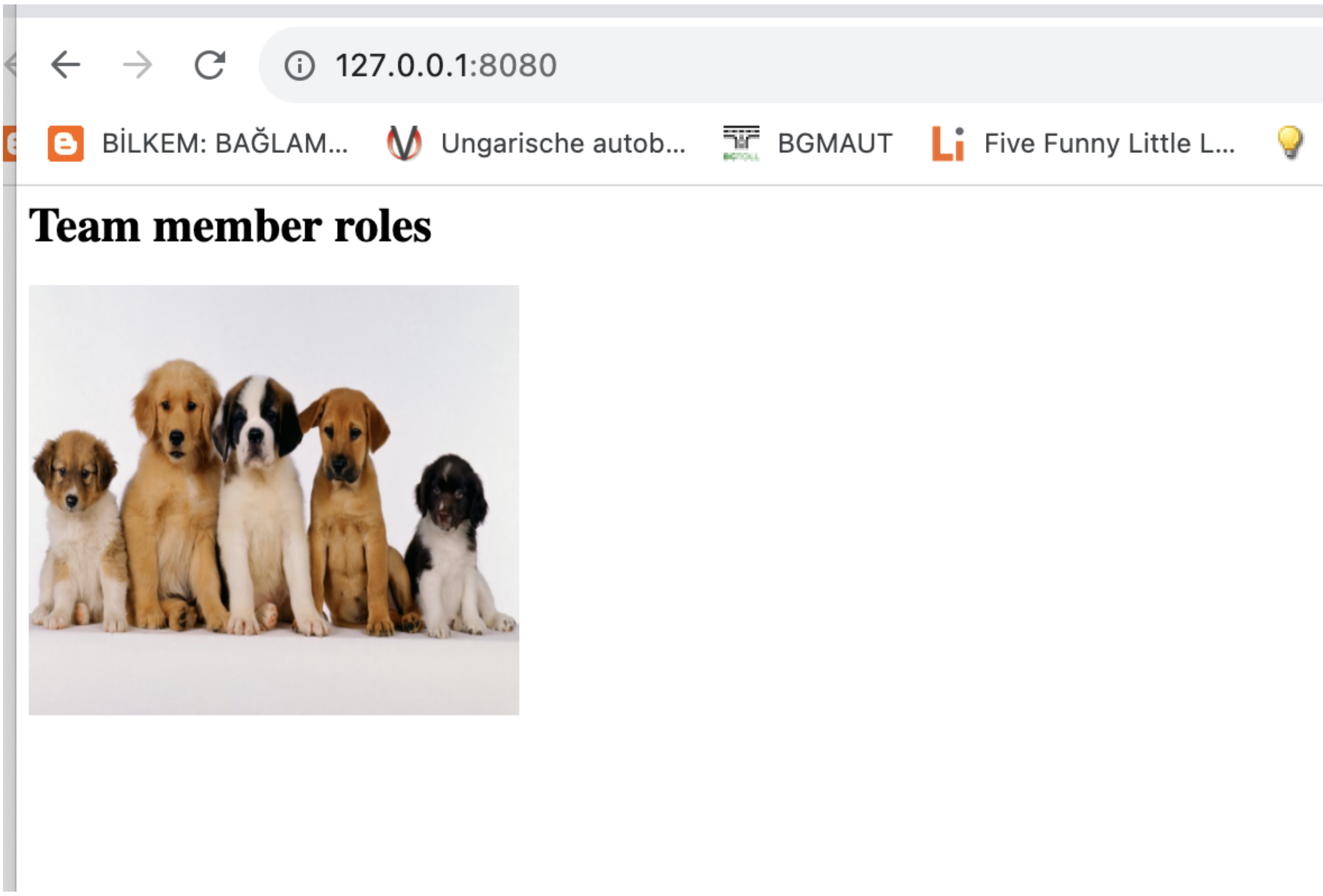


```
no usages   Saban Gül
@Configuration
public class DatabaseConfig {

    1 usage
    private String user = System.getenv( name: "DB_USER");
    1 usage
    private String password = System.getenv( name: "DB_PWD");
```

```
For more on this, please refer to https://docs.gradle.org/8.3/userguide/command_line_interface.html#sec:command_line_warnings in the 
radle documentation.

BUILD SUCCESSFUL in 10s
7 actionable tasks: 7 executed
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% export DB_USER=sgworker
export DB_PWD=easy
export DB_SERVER=localhost
export DB_NAME=team-member-projects
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
%
```



```
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% java -jar build/libs/bootcamp-docker-java-mysql-project-1.0-SNAPSHOT.jar

  .   ____          _            __ _ _
 /\\ / ___'_ __ _ _(_)_ __  __ _ \ \ \ \
( ( )\___ | '_ | '_| | '_ \/ _` | \ \ \ \
 \\/  ___)| |_)| | | | | || (_| |  ) ) ) )
  '  |____| .__|_| |_|_| |_\__, | / / / /
 =========|_|==============|___/=/_/_/_/
 :: Spring Boot ::       (v3.1.0-SNAPSHOT)

2023-10-05T11:01:16.176+02:00  INFO 95210 --- [           main] com.example.Application                  : Starting Application v1.0-S
NAPSHOT using Java 17.0.8.1 with PID 95210 (/Users/sgworker/docker-exercises/build/libs/bootcamp-docker-java-mysql-project-1.0-SNAPSHO
T.jar started by sgworker in /Users/sgworker/docker-exercises)
2023-10-05T11:01:16.179+02:00  INFO 95210 --- [           main] com.example.Application                  : No active profile set, fall
ing back to 1 default profile: "default"
2023-10-05T11:01:16.986+02:00  INFO 95210 --- [           main] o.s.b.w.embedded.tomcat.TomcatWebServer  : Tomcat initialized with por
t(s): 8080 (http)
2023-10-05T11:01:16.997+02:00  INFO 95210 --- [           main] o.apache.catalina.core.StandardService   : Starting service [Tomcat]
2023-10-05T11:01:16.998+02:00  INFO 95210 --- [           main] o.apache.catalina.core.StandardEngine    : Starting Servlet engine: [A
pache Tomcat/10.1.8]
```



Team member roles

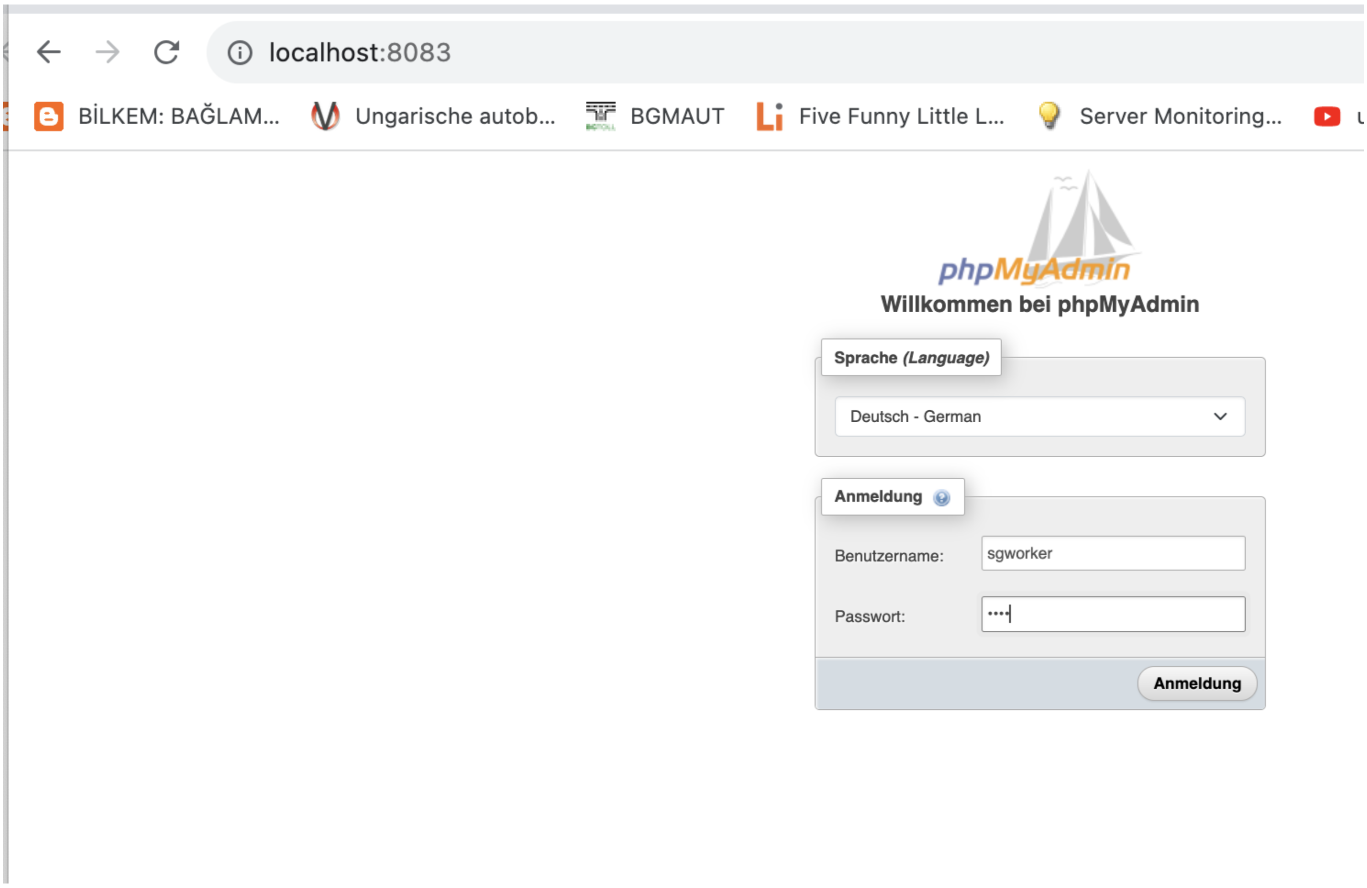
▶ Solution 2: Start Mysql GUI container

> EXERCISE 2: Start Mysql GUI container

Now you have a database, you want to be able to see the database data using a UI tool, so you decide to deploy phpmyadmin. Again, you don't want to install it locally, so you want to start it also as a docker container.

- Start phpmyadmin container using the official image.
- Access phpmyadmin from your browser and test logging in to your Mysql database

```
 sgworker@MacBook-Pro-3.local /Users/sgworker
% docker run -p 8083:80 \
--name phpmyadmin \
--link mysql:db \
-d phpmyadmin/phpmyadmin

Unable to find image 'phpmyadmin/phpmyadmin:latest' locally
latest: Pulling from phpmyadmin/phpmyadmin
faef57eae888: Pull complete
989a1d6c052e: Pull complete
0705c9c2f22d: Pull complete
621478e043ce: Pull complete
98246dcca987: Pull complete
bfed8c155cb6: Pull complete
7a7c2e908867: Pull complete
d176994b625c: Pull complete
2d8ace6a2716: Pull complete
c70df516383c: Pull complete
15e1b44fe4c7: Pull complete
65e50d44e95a: Pull complete
77f68910bc0a: Pull complete
605dd3a6e332: Pull complete
99ce27188f07: Pull complete
74d64e32c5d5: Pull complete
ef5fc9928b9f: Pull complete
163f3256e112: Pull complete
Digest:
sha256:67ba2550fd004399ab0b95b64021a88ea544011e566a9a1995180a3decb6410d
Status: Downloaded newer image for phpmyadmin/phpmyadmin:latest
fdf925c0f8b0db5a2aa64d518a0bda7e77acef6755a2d14794e30b043d0392a2
sgworker@MacBook-Pro-3.local /Users/sgworker
% docker ps
CONTAINER ID   IMAGE                   COMMAND                  CREATED
STATUS          PORTS                               NAMES
fdf925c0f8b0   phpmyadmin/phpmyadmin   "/docker-entrypoint.…"   6 seconds
ago    Up 5 seconds    0.0.0.0:8083->80/tcp                phpmyadmin
c3e24b537350   mysql                   "docker-entrypoint.s…"   29
minutes ago   Up 29 minutes   0.0.0.0:3306->3306/tcp, 33060/tcp   mysql
```



localhost:8083

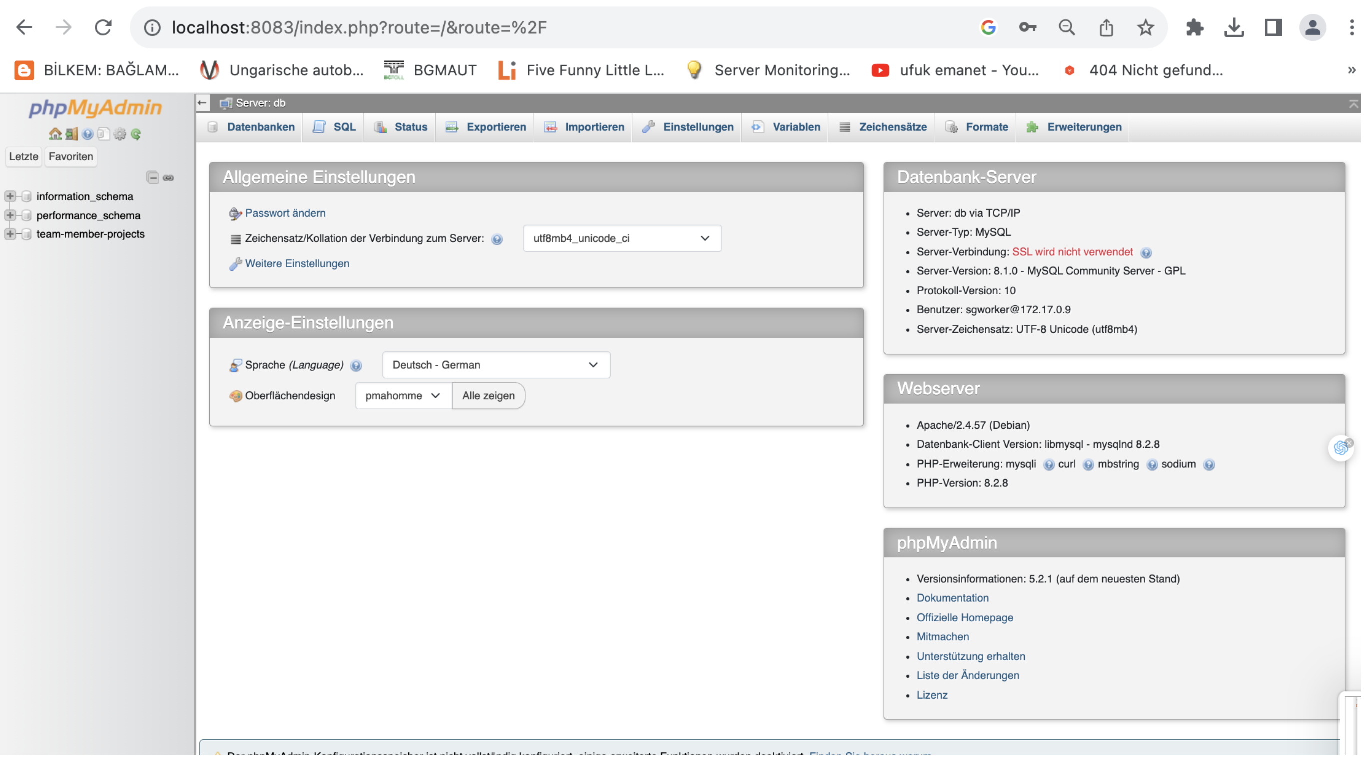
Willkommen bei phpMyAdmin

Sprache (*Language*): Deutsch - German

Anmeldung

Benutzername: sgworker

Passwort: ••••



localhost:8083/index.php?route=/&route=%2F

Server: db

Datenbanken | SQL | Status | Exportieren | Importieren | Einstellungen | Variablen | Zeichensätze | Formate | Erweiterungen

information_schema
performance_schema
team-member-projects

Allgemeine Einstellungen

Passwort ändern

Zeichensatz/Kollation der Verbindung zum Server: utf8mb4_unicode_ci

Weitere Einstellungen

Anzeige-Einstellungen

Sprache (*Language*): Deutsch - German

Oberflächendesign: pmahomme

Datenbank-Server

- Server: db via TCP/IP
- Server-Typ: MySQL
- Server-Verbindung: SSL wird nicht verwendet
- Server-Version: 8.1.0 - MySQL Community Server - GPL
- Protokoll-Version: 10
- Benutzer: sgworker@172.17.0.9
- Server-Zeichensatz: UTF-8 Unicode (utf8mb4)

Webserver

- Apache/2.4.57 (Debian)
- Datenbank-Client Version: libmysql - mysqlnd 8.2.8
- PHP-Erweiterung: mysqli curl mbstring sodium
- PHP-Version: 8.2.8

phpMyAdmin

- Versionsinformationen: 5.2.1 (auf dem neuesten Stand)
- Dokumentation
- Offizielle Homepage
- Mitmachen
- Unterstützung erhalten
- Liste der Änderungen
- Lizenz

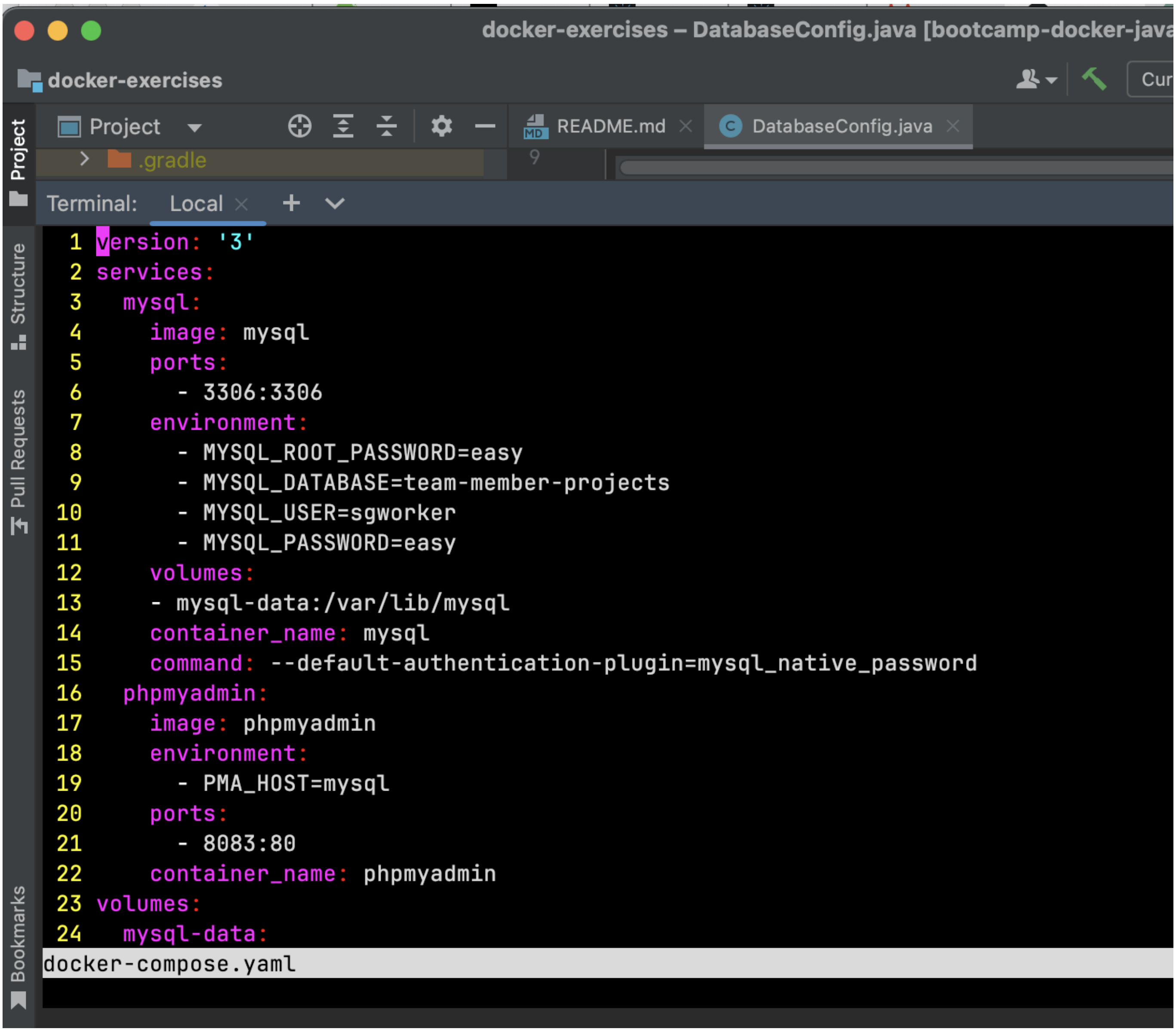
▶ Solution 3:Use docker-compose for Mysql and Phpmyadmin

> EXERCISE 3: Use docker-compose for Mysql and Phpmyadmin You have 2 containers your app needs and you don't want to start them separately all the time. So you configure a docker-compose file for both:

- Create a docker-compose file with both containers
- Configure a volume for your DB

- Test that everything works again

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main] % vim docker-compose.yaml

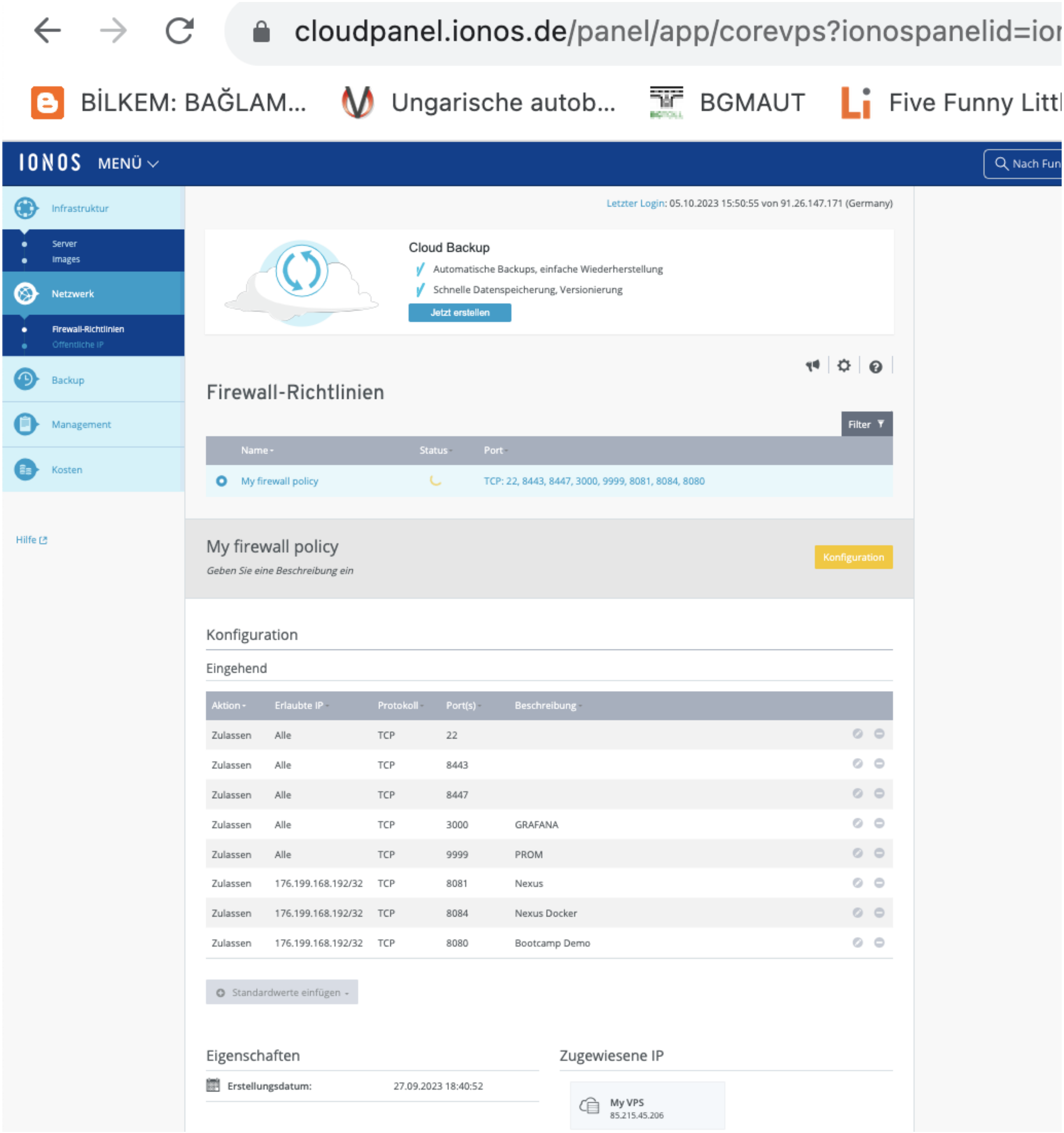


```
version: '3'
services:
  mysql:
    image: mysql
    ports:
      - 3306:3306
    environment:
      - MYSQL_ROOT_PASSWORD=easy
      - MYSQL_DATABASE=team-member-projects
      - MYSQL_USER=sgworker
      - MYSQL_PASSWORD=easy
    volumes:
    - mysql-data:/var/lib/mysql
    container_name: mysql
    command: --default-authentication-plugin=mysql_native_password
  phpmyadmin:
    image: phpmyadmin
    environment:
      - PMA_HOST=mysql
    ports:
      - 8083:80
    container_name: phpmyadmin
volumes:
  mysql-data:
docker-compose.yaml
```

```
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker-compose -f docker-compose.yaml up
[+] Running 19/19
 ✔ phpmyadmin 18 layers [⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿⣿]      0B/0B      Pulled
29.8s
   ✔ a803e7c4b030 Pull complete
12.1s
   ✔ 84313b8f4350 Pull complete
0.5s
   ✔ 94f42c54df3f Pull complete
16.9s
   ✔ fac86b32c028 Pull complete
1.4s
   ✔ e326747c51cb Pull complete
4.6s
   ✔ 2241eb3f28be Pull complete
```

```
5.1s
   ✔ 82dc7266c2a7 Pull complete
5.7s
   ✔ 282af1cdfe15 Pull complete
7.8s
   ✔ 08e95c38e747 Pull complete
8.3s
   ✔ 941f762c484e Pull complete
10.5s
   ✔ 6d95ce521328 Pull complete
11.0s
   ✔ 367da9bc7f8d Pull complete
11.6s
   ✔ 5acf0f9857c5 Pull complete
12.2s
   ✔ 4afb1ce72ff9 Pull complete
13.4s
   ✔ df6a6efb7e00 Pull complete
12.9s
   ✔ 61ecbd033237 Pull complete
15.6s
   ✔ bdc5b5488605 Pull complete
14.2s
   ✔ e40e4761e8d1 Pull complete
14.9s
[+] Running 2/1
 ✔ Network docker-exercises_default      Created
0.1s
 ✔ Volume "docker-exercises_mysql-data"  Created
0.0s
 ⠿ Container mysql                        Creating
0.0s
 ⠿ Container phpmyadmin                   Creating
0.0s
Error response from daemon: Conflict. The container name "/mysql" is
already in use by container
"c3e24b537350d4feecb7f30c7c2de4f7137c2573102433ff17398955f1e8f809". You
have to remove (or rename) that container to be able to reuse that name.
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker rm mysql
mysql
% docker rm phpmyadmin/phpmyadmin
phpmyadmin/phpmyadmin

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker-compose -f docker-compose.yaml up

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker-compose -f docker-compose.yaml up
[+] Running 3/3
 ✔ Network docker-exercises_default  Created
0.0s
 ✔ Container mysql                   Created
0.0s
```

```
 ✔ Container phpmyadmin              Created
0.0s
Attaching to mysql, phpmyadmin
mysql       | 2023-10-05 09:33:42+00:00 [Note] [Entrypoint]: Entrypoint
script for MySQL Server 8.1.0-1.el8 started.
phpmyadmin  | AH00558: apache2: Could not reliably determine the server's
fully qualified domain name, using 172.20.0.3. Set the 'ServerName'
directive globally to suppress this message
phpmyadmin  | AH00558: apache2: Could not reliably determine the server's
fully qualified domain name, using 172.20.0.3. Set the 'ServerName'
directive globally to suppress this message
```



Letzter Login: 05.10.2023 15:50:55 von 91.26.147.171 (Germany)

Firewall-Richtlinien

Name	Status	Port
○ My firewall policy		TCP: 22, 8443, 8447, 3000, 9999, 8081, 8084, 8080

My firewall policy

Geben Sie eine Beschreibung ein

Konfiguration

Eingehend

Aktion	Erlaubte IP	Protokoll	Port(s)	Beschreibung
Zulassen	Alle	TCP	22	
Zulassen	Alle	TCP	8443	
Zulassen	Alle	TCP	8447	
Zulassen	Alle	TCP	3000	GRAFANA
Zulassen	Alle	TCP	9999	PROM
Zulassen	176.199.168.192/32	TCP	8081	Nexus
Zulassen	176.199.168.192/32	TCP	8084	Nexus Docker
Zulassen	176.199.168.192/32	TCP	8080	Bootcamp Demo

Eigenschaften

Erstellungsdatum: 27.09.2023 18:40:52

Zugewiesene IP

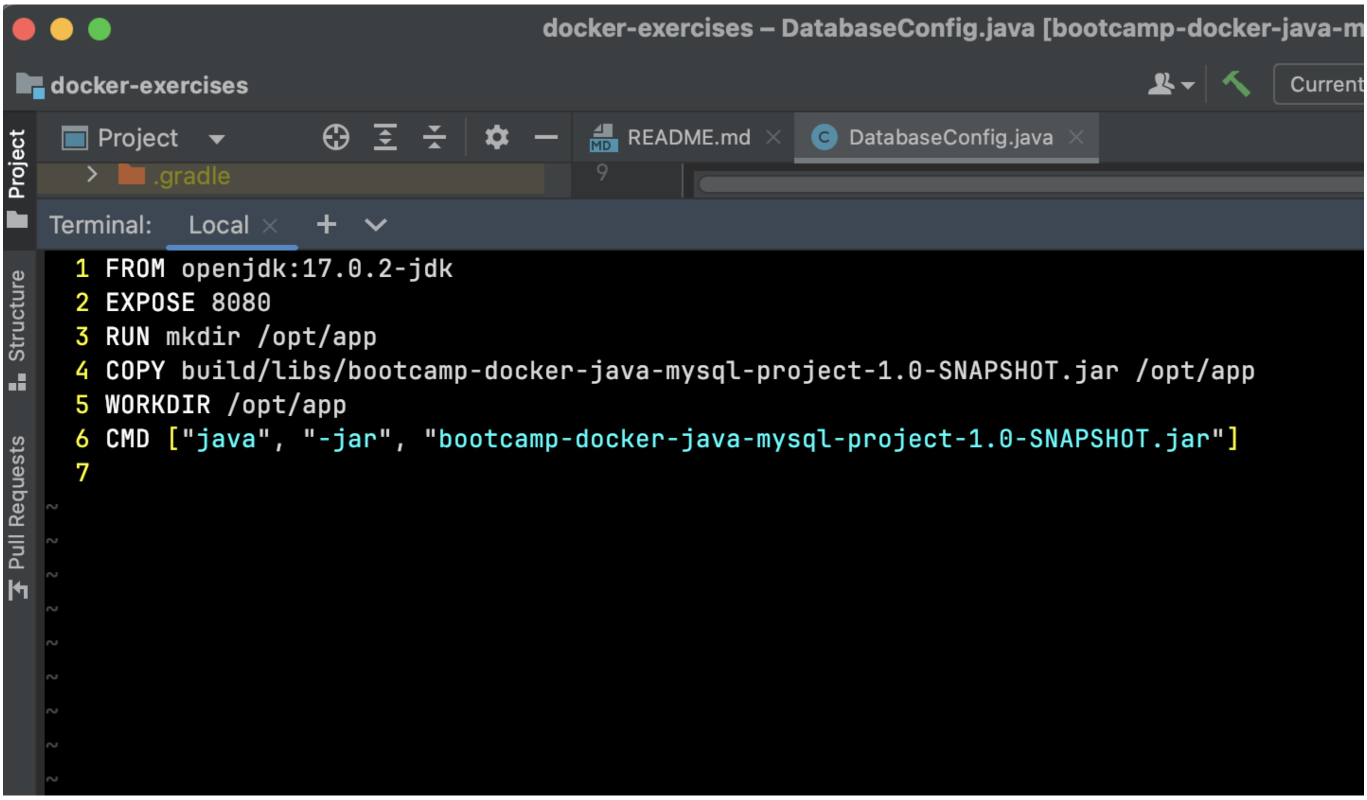
My VPS
85.215.45.206

▶ Solution 4: Dockerize your Java Application

> EXERCISE 4: Dockerize your Java Application Now you are done with testing the application locally with Mysql database and want to deploy it on the server to make it accessible for others in the team, so they can edit information. And since your DB and DB UI are running as docker containers, you want to make your app also run as a docker container. So you can all start them using 1 docker-compose file on the server. So you do the following:

- Create a Dockerfile for your java application

```
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% vim Dockerfile
```



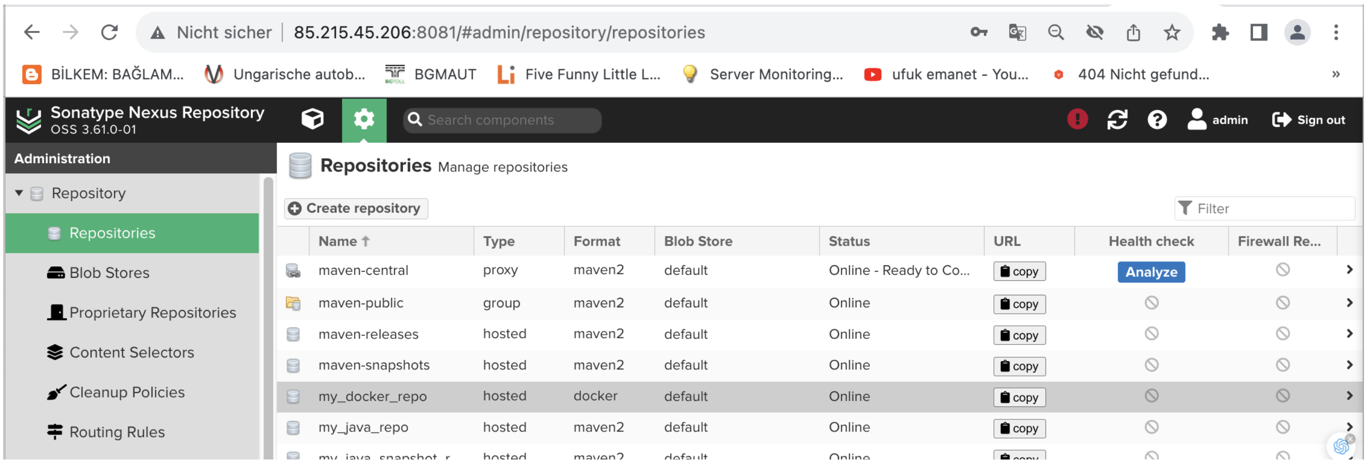
```
FROM openjdk:17.0.2-jdk
EXPOSE 8080
RUN mkdir /opt/app
COPY build/libs/bootcamp-docker-java-mysql-project-1.0-SNAPSHOT.jar /opt/app
WORKDIR /opt/app
CMD ["java", "-jar", "bootcamp-docker-java-mysql-project-1.0-SNAPSHOT.jar"]

```

▶ Solution 5: Build and push Java Application Docker Image

> EXERCISE 5: Build and push Java Application Docker Image

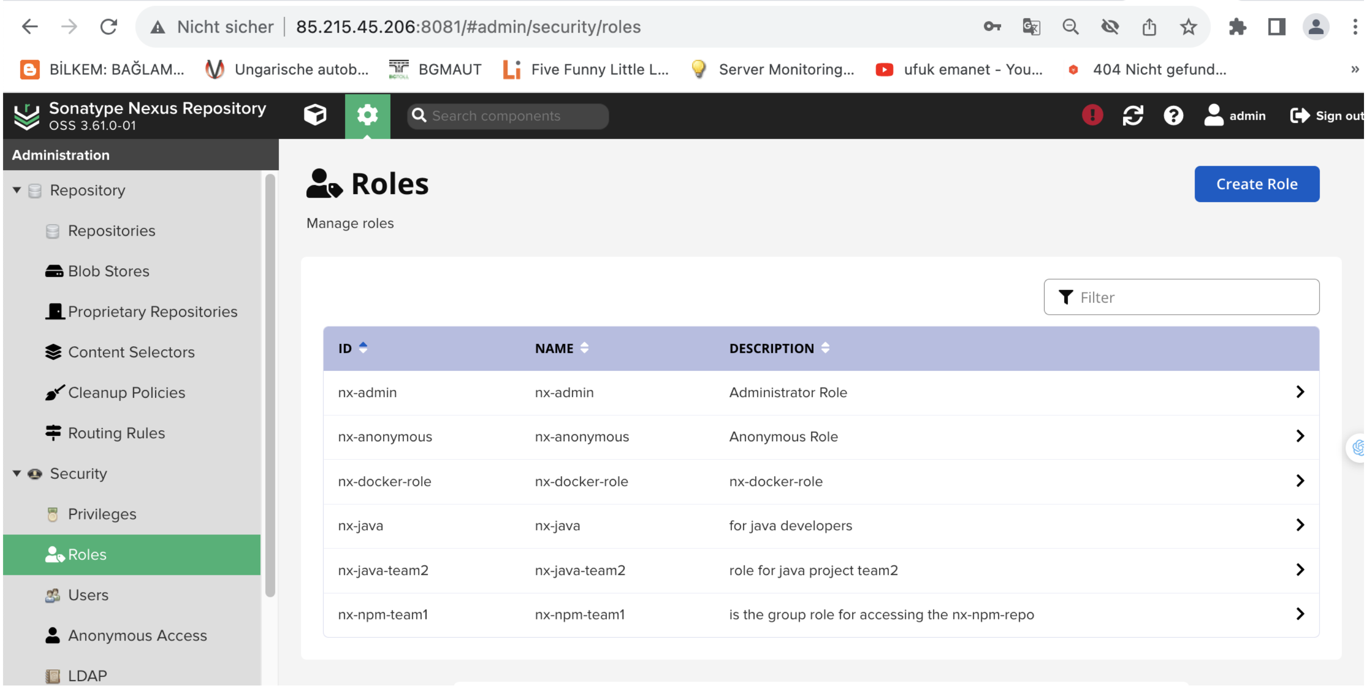
Now for you to be able to run your java app as a docker image on a remote server, it must be first hosted on a docker repository, so you can fetch it from there on the server. Therefore, you have to do the following:

- Create a docker hosted repository on Nexus
- Build the image locally and push to this repository


Nicht sicher | 85.215.45.206:8081/#admin/repository/repositories
BİLKEM: BAĞLAM... Ungarische autob... BGMAUT Five Funny Little L... Server Monitoring... ufuk emanet - You... 404 Nicht gefund...
Sonatype Nexus Repository OSS 3.61.0-01
Search components
admin Sign out
Administration
Repository
Repositories
Blob Stores
Proprietary Repositories
Content Selectors
Cleanup Policies
Routing Rules
Create repository
Filter

Repositories Manage repositories

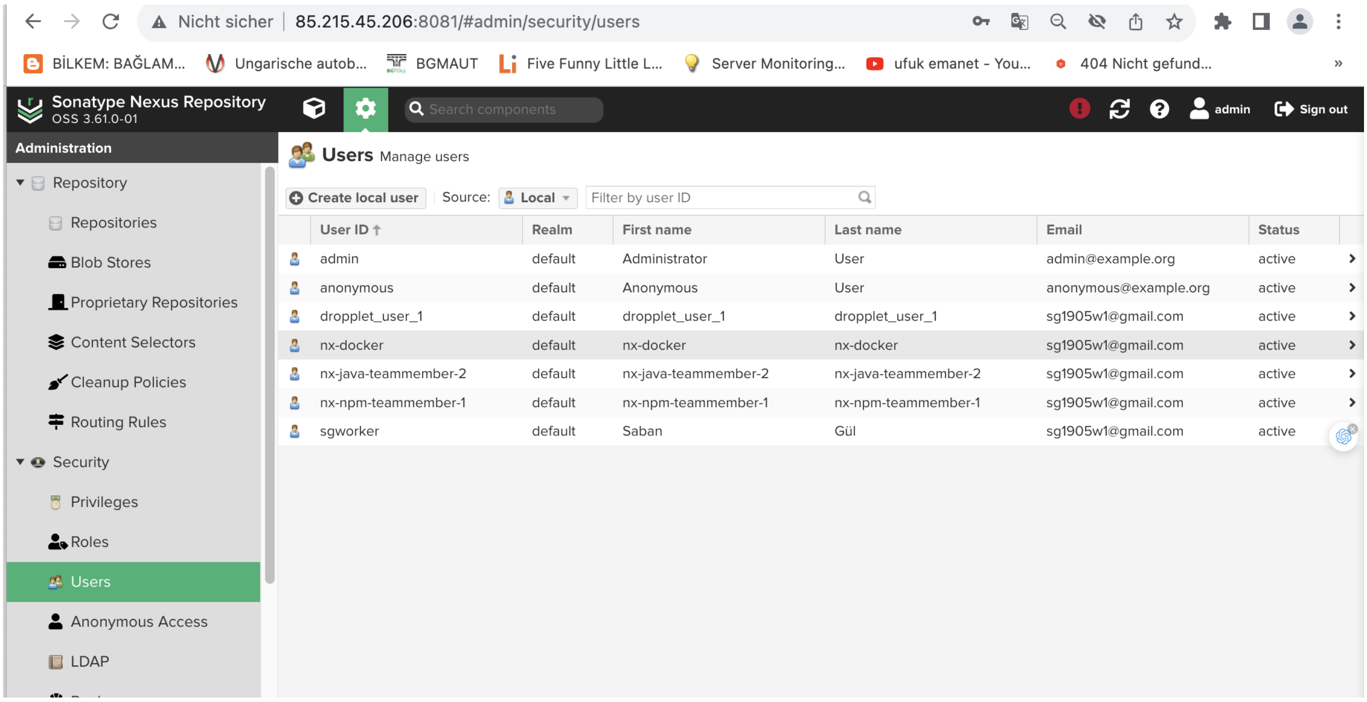
Name ↑	Type	Format	Blob Store	Status	URL	Health check	Firewall Re...
maven-central	proxy	maven2	default	Online - Ready to Co...	copy	Analyze	⃠
maven-public	group	maven2	default	Online	copy	⃠	⃠
maven-releases	hosted	maven2	default	Online	copy	⃠	⃠
maven-snapshots	hosted	maven2	default	Online	copy	⃠	⃠
my_docker_repo	hosted	docker	default	Online	copy	⃠	⃠
my_java_repo	hosted	maven2	default	Online	copy	⃠	⃠
my_java_snapshot_r	hosted	maven2	default	Online	copy	⃠	⃠


Nicht sicher | 85.215.45.206:8081/#admin/security/roles
BİLKEM: BAĞLAM... Ungarische autob... BGMAUT Five Funny Little L... Server Monitoring... ufuk emanet - You... 404 Nicht gefund...
Sonatype Nexus Repository OSS 3.61.0-01
Search components
admin Sign out
Administration
Repository
Repositories
Blob Stores
Proprietary Repositories
Content Selectors
Cleanup Policies
Routing Rules
Security
Privileges
Roles
Users
Anonymous Access
LDAP
Create Role
Filter

Roles

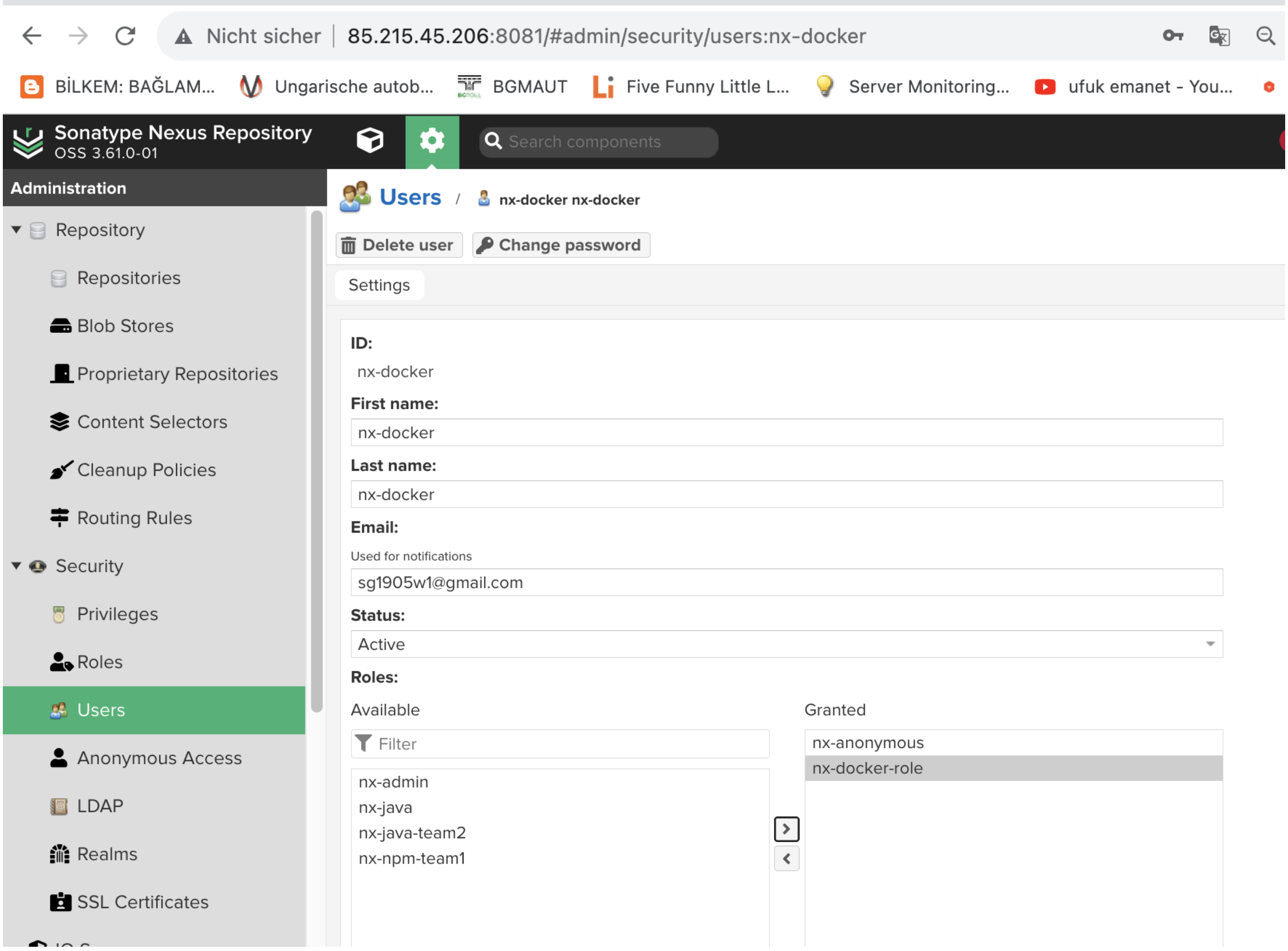
Manage roles

ID	NAME	DESCRIPTION
nx-admin	nx-admin	Administrator Role
nx-anonymous	nx-anonymous	Anonymous Role
nx-docker-role	nx-docker-role	nx-docker-role
nx-java	nx-java	for java developers
nx-java-team2	nx-java-team2	role for java project team2
nx-npm-team1	nx-npm-team1	is the group role for accessing the nx-npm-repo



Users Manage users

User ID ↑	Realm	First name	Last name	Email	Status
admin	default	Administrator	User	admin@example.org	active
anonymous	default	Anonymous	User	anonymous@example.org	active
dropplet_user_1	default	dropplet_user_1	dropplet_user_1	sg1905w1@gmail.com	active
nx-docker	default	nx-docker	nx-docker	sg1905w1@gmail.com	active
nx-java-teammember-2	default	nx-java-teammember-2	nx-java-teammember-2	sg1905w1@gmail.com	active
nx-npm-teammember-1	default	nx-npm-teammember-1	nx-npm-teammember-1	sg1905w1@gmail.com	active
sgworker	default	Saban	Gül	sg1905w1@gmail.com	active



ID:
nx-docker

First name:
nx-docker

Last name:
nx-docker

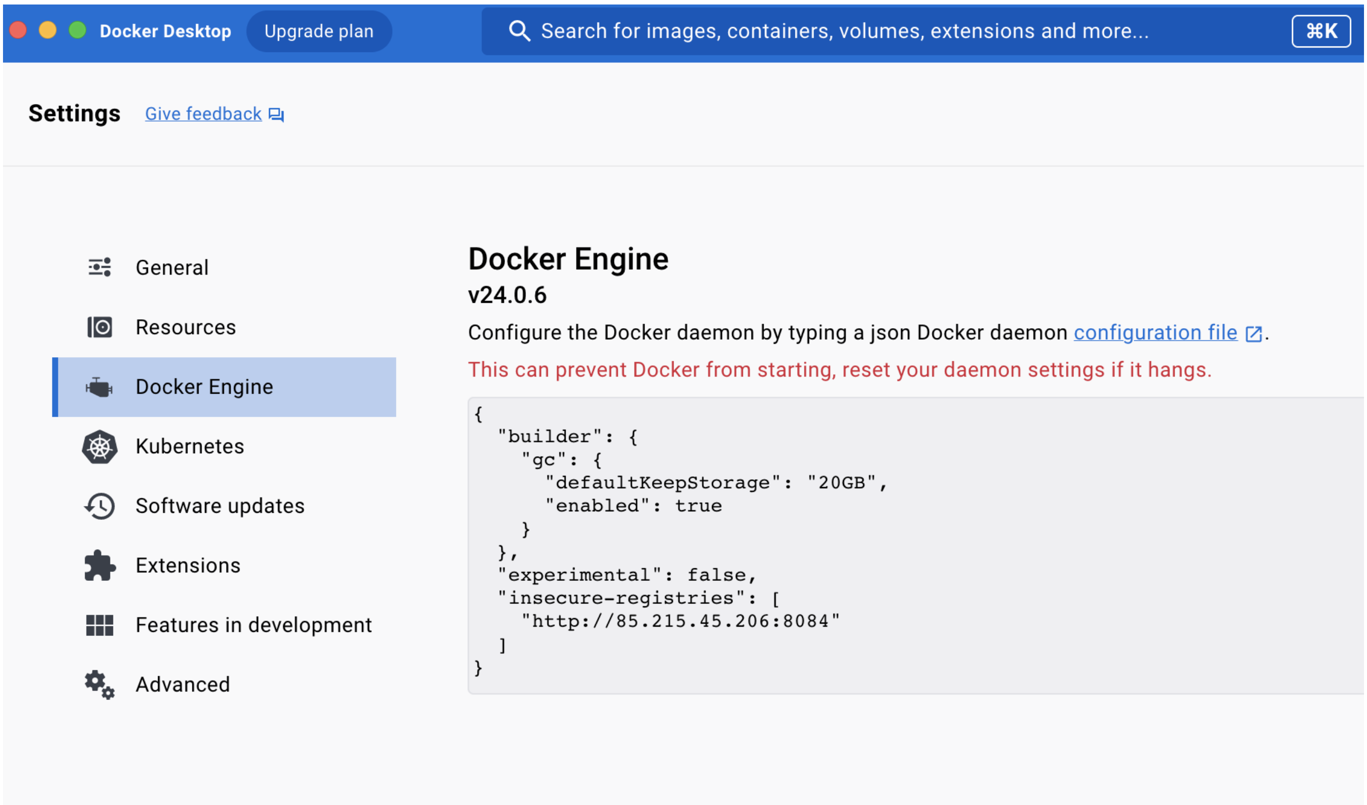
Email:
Used for notifications
sg1905w1@gmail.com

Status:
Active

Roles:

Available
Filter
nx-admin
nx-java
nx-java-team2
nx-npm-team1

Granted
nx-anonymous
nx-docker-role



Docker Engine
v24.0.6
Configure the Docker daemon by typing a json Docker daemon configuration file.
This can prevent Docker from starting, reset your daemon settings if it hangs.

```
{
  "builder": {
    "gc": {
      "defaultKeepStorage": "20GB",
      "enabled": true
    }
  },
  "experimental": false,
  "insecure-registries": [
    "http://85.215.45.206:8084"
  ]
}
```

```
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker login http://85.215.45.206:8084
Username: nx-docker
```

```
Password:
Login Succeeded

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker build  -t my-docker-repo/java-app:1.0-SNAPSHOT .
[+] Building 26.4s (10/10) FINISHED
docker:desktop-linux
 => [internal] load build definition from Dockerfile
0.0s
 => => transferring dockerfile: 265B
0.0s
 => [internal] load .dockerignore
0.0s
 => => transferring context: 2B
0.0s
 => [internal] load metadata for docker.io/library/openjdk:17.0.2-jdk
1.8s
 => [auth] library/openjdk:pull token for registry-1.docker.io
0.0s
 => [1/4] FROM docker.io/library/openjdk:17.0.2-
jdk@sha256:528707081fdb9562eb819128a9f85ae7fe000e2fbaeaf9f87662e7b3f38cb7d
8     23.4s
 => => resolve docker.io/library/openjdk:17.0.2-
jdk@sha256:528707081fdb9562eb819128a9f85ae7fe000e2fbaeaf9f87662e7b3f38cb7d
8      0.0s
 => =>
sha256:528707081fdb9562eb819128a9f85ae7fe000e2fbaeaf9f87662e7b3f38cb7d8
1.04kB / 1.04kB                                    0.0s
 => =>
sha256:98f0304b3a3b7c12ce641177a99d1f3be56f532473a528fda38d53d519cafb13
954B / 954B                                        0.0s
 => =>
sha256:5e28ba2b4cdb3a7c3bd0ee2e635a5f6481682b77eabf8b51a17ea8bfe1c05697
4.45kB / 4.45kB                                    0.0s
 => =>
sha256:38a980f2cc8accf69c23deae6743d42a87eb34a54f02396f3fcfd7c2d06e2c5b
42.11MB / 42.11MB                                  7.9s
 => =>
sha256:de849f1cfbe60b1c06a1db83a3129ab0ea397c4852b98e3e4300b12ee57ba111
13.53MB / 13.53MB                                  2.4s
 => =>
sha256:a7203ca35e75e068651c9907d659adc721dba823441b78639fde66fc988f042f
187.53MB / 187.53MB                               19.6s
 => => extracting
sha256:38a980f2cc8accf69c23deae6743d42a87eb34a54f02396f3fcfd7c2d06e2c5b
2.7s
 => => extracting
sha256:de849f1cfbe60b1c06a1db83a3129ab0ea397c4852b98e3e4300b12ee57ba111
0.6s
 => => extracting
sha256:a7203ca35e75e068651c9907d659adc721dba823441b78639fde66fc988f042f
3.6s
 => [internal] load build context
0.3s
```

```
 => => transferring context: 21.96MB
0.2s
 => [2/4] RUN mkdir /opt/app
0.8s
 => [3/4] COPY build/libs/bootcamp-docker-java-mysql-project-1.0-
SNAPSHOT.jar /opt/app                                           0.1s
 => [4/4] WORKDIR /opt/app
0.0s
 => exporting to image
0.2s
 => => exporting layers
0.2s
 => => writing image
sha256:9f6b3002be9c307cd9a1ca11f461b3f1acbe32ecfee7b0e6cfe6b06a1250bbfe
0.0s
 => => naming to docker.io/my-docker-repo/java-app:1.0-SNAPSHOT
0.0s

What's Next?
  View a summary of image vulnerabilities and recommendations → docker
scout quickview

% docker scout quickview
INFO New version 1.0.8 available (installed version is 0.24.1) at
https://github.com/docker/scout-cli
    ✓ SBOM of image already cached, 173 packages indexed

  Your image  my-docker-repo/java-app:1.0-SNAPSHOT  │    0C    44H   110M
10L
  Base image  openjdk:17                            │    0C    34H    94M
11L
  Updated base image  openjdk:22-slim               │    0C     0H     0M
19L
                                                    │          -34    -94
+8

What's Next?
  Learn more about vulnerabilities → docker scout cves my-docker-
repo/java-app:1.0-SNAPSHOT
  Learn more about base image update recommendations → docker scout
recommendations my-docker-repo/java-app:1.0-SNAPSHOT

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
%

docker tag  my-docker-repo/java-app:1.0-SNAPSHOT  85.215.45.206:8084/java-
app:1.0-SNAPSHOT

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker tag  my-docker-repo/java-app:1.0-SNAPSHOT
85.215.45.206:8084/java-app:1.0-SNAPSHOT
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker push 85.215.45.206:8084/java-app:1.0-SNAPSHOT
The push refers to repository [85.215.45.206:8084/java-app]
```

```
5f70bf18a086: Pushed
ee39b87422db: Pushed
a5275d2e0ea0: Pushed
dc9fa3d8b576: Pushed
27ee19dc88f2: Pushed
c8dd97366670: Pushed
1.0-SNAPSHOT: digest:
sha256:e1f35e5a441322d985f7876a371b39d9503bcb25e6a125159e46ae19b7df8ced
size: 1579
```

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main] % docker tag my-docker-repo/java-app:1.0-SNAPSHOT 85.215.45.206:8084/java-app:1.0-SNAPSHOT sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main] % docker push 85.215.45.206:8084/java-app:1.0-SNAPSHOT The push refers to repository [85.215.45.206:8084/java-app] 5f70bf18a086: Pushed ee39b87422db: Pushed a5275d2e0ea0: Pushed dc9fa3d8b576: Pushed 27ee19dc88f2: Pushed c8dd97366670: Pushed 1.0-SNAPSHOT: digest: sha256:e1f35e5a441322d985f7876a371b39d9503bcb25e6a125159e46ae19b7df8ced size: 1579

▶ Solution 6: Add application to docker-compose

> EXERCISE 6: Add application to docker-compose

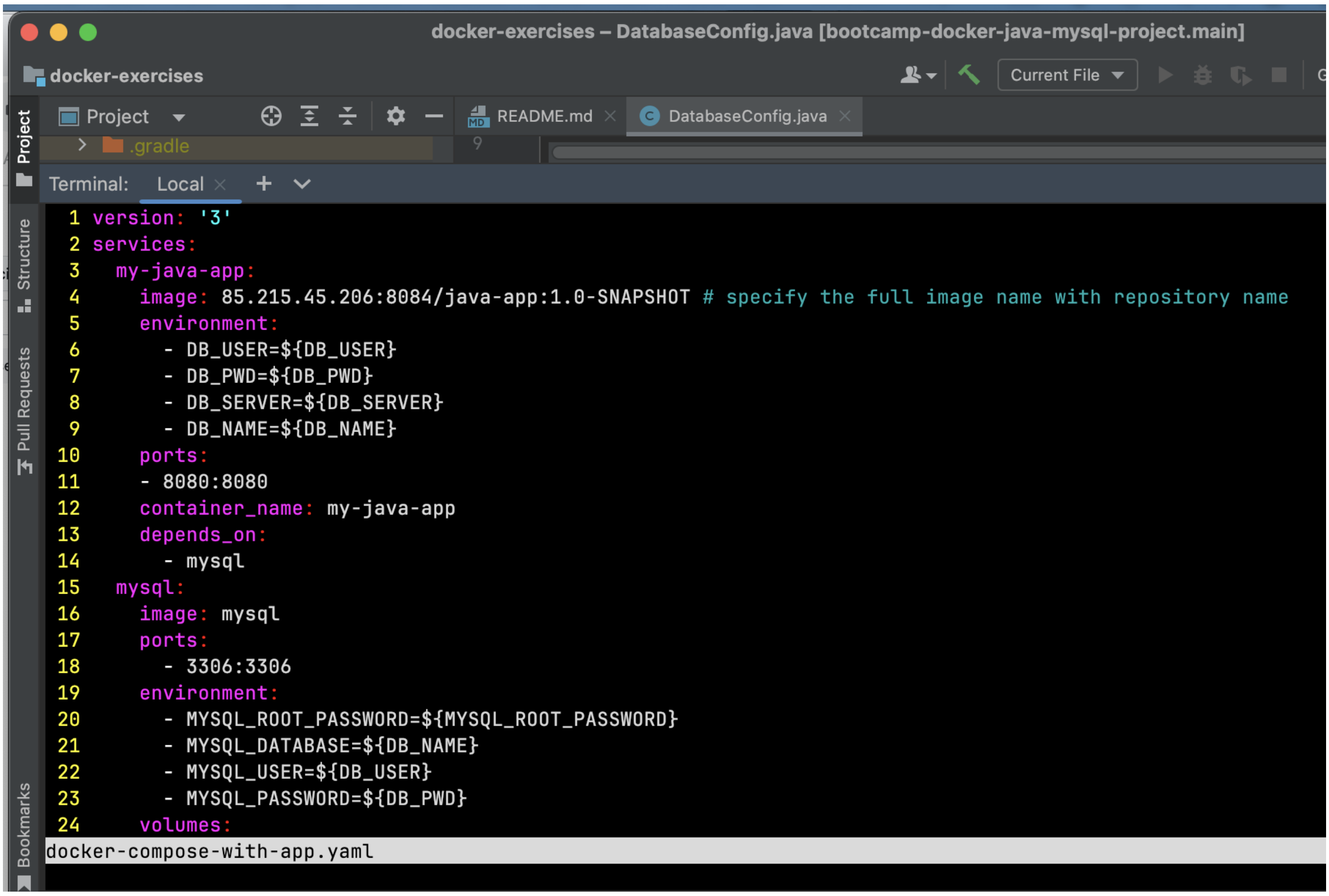
- Add your application's docker image to docker-compose. Configure all needed env vars.

Now your app and Mysql containers in your docker-compose are using environment variables.

> Make all these environment variable values configurable, by setting them on the server when deploying.

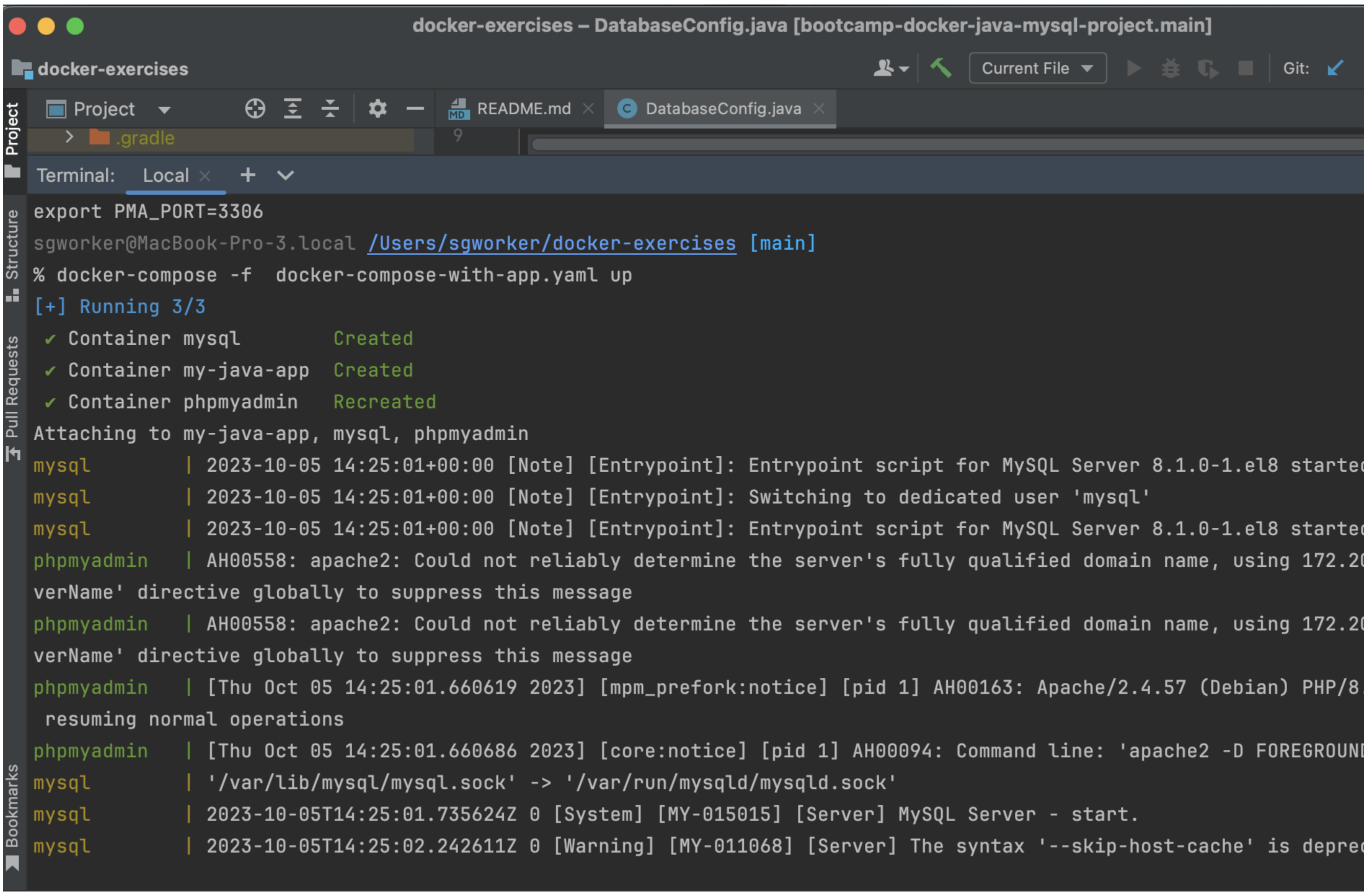
> INFO: Again, since docker-compose is part of your application and checked in to the repo, it shouldn't contain any sensitive data. But also allow configuring these values from outside based on an environment

```
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% vim docker-compose-with-app.yaml
```

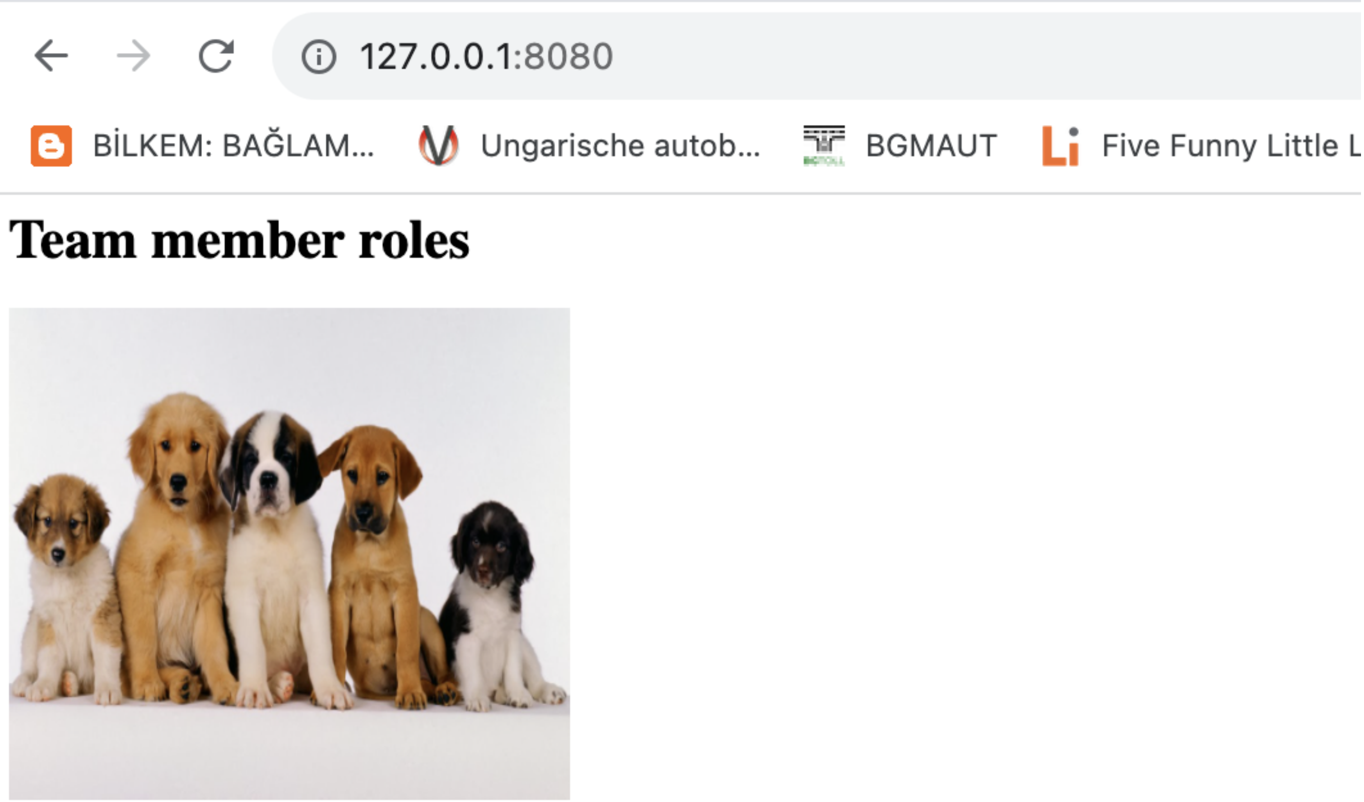


```yaml
version: '3'
services:
  my-java-app:
    image: 85.215.45.206:8084/java-app:1.0-SNAPSHOT # specify the full image name with repository name
    environment:
      - DB_USER=${DB_USER}
      - DB_PWD=${DB_PWD}
      - DB_SERVER=${DB_SERVER}
      - DB_NAME=${DB_NAME}
    ports:
    - 8080:8080
    container_name: my-java-app
    depends_on:
      - mysql
  mysql:
    image: mysql
    ports:
      - 3306:3306
    environment:
      - MYSQL_ROOT_PASSWORD=${MYSQL_ROOT_PASSWORD}
      - MYSQL_DATABASE=${DB_NAME}
      - MYSQL_USER=${DB_USER}
      - MYSQL_PASSWORD=${DB_PWD}
    volumes:
docker-compose-with-app.yaml
```

```sh
# set all needed environment variables
export DB_USER=sgworker
export DB_PWD=easy
export DB_SERVER=mysql
export DB_NAME=team-member-projects

export MYSQL_ROOT_PASSWORD=easy

export PMA_HOST=mysql
export PMA_PORT=3306
```



```
export PMA_PORT=3306
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker-compose -f  docker-compose-with-app.yaml up
[+] Running 3/3
 ✔ Container mysql         Created
 ✔ Container my-java-app   Created
 ✔ Container phpmyadmin    Recreated
Attaching to my-java-app, mysql, phpmyadmin
mysql         | 2023-10-05 14:25:01+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.1.0-1.el8 startec
mysql         | 2023-10-05 14:25:01+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql'
mysql         | 2023-10-05 14:25:01+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.1.0-1.el8 startec
phpmyadmin    | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.2(
verName' directive globally to suppress this message
phpmyadmin    | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.2(
verName' directive globally to suppress this message
phpmyadmin    | [Thu Oct 05 14:25:01.660619 2023] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.57 (Debian) PHP/8
 resuming normal operations
phpmyadmin    | [Thu Oct 05 14:25:01.660686 2023] [core:notice] [pid 1] AH00094: Command line: 'apache2 -D FOREGROUNI
mysql         | '/var/lib/mysql/mysql.sock' -> '/var/run/mysqld/mysqld.sock'
mysql         | 2023-10-05T14:25:01.735624Z 0 [System] [MY-015015] [Server] MySQL Server - start.
mysql         | 2023-10-05T14:25:02.242611Z 0 [Warning] [MY-011068] [Server] The syntax '--skip-host-cache' is deprec
```

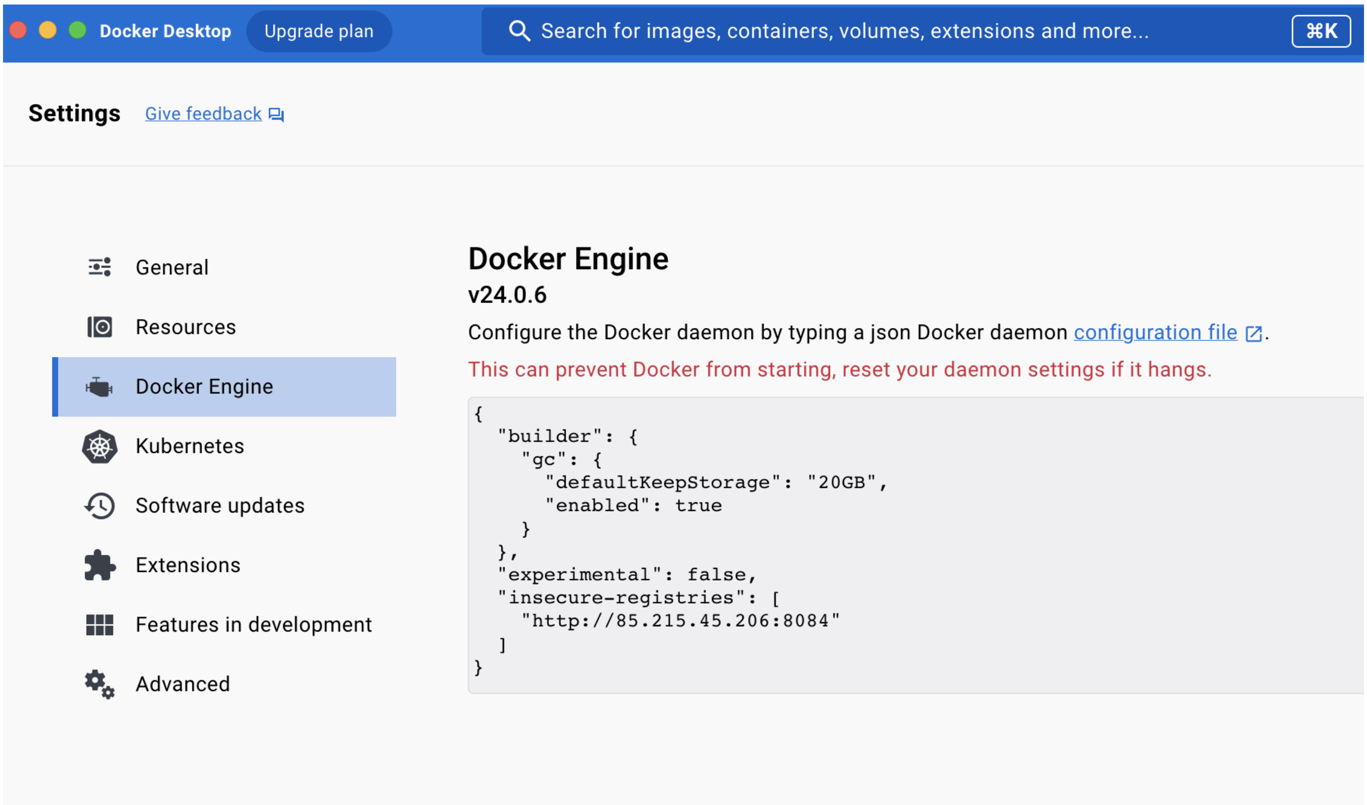


Team member roles

▶ Solution 7: Run application on server with docker-compose

> EXERCISE 7: Run application on server with docker-compose Finally your docker-compose file is completed and you want to run your application on the server with docker-compose. For that you need to do the following:

- Set insecure docker repository on server, because Nexus uses http
- Run docker login on the server to be allowed to pull the image
- Your application index.html has a hardcoded localhost as a HOST to send requests to the backend. You need to fix that and set the server IP address instead, because the server is going to be the host when you deploy the application on a remote server. (Don't forget to rebuild and push the image and if needed adjust the docker-compose file)
- Copy docker-compose.yaml to the server
- Set the needed environment variables for all containers in docker-compose
- Run docker-compose to start all 3 containers



Docker Engine

v24.0.6

Configure the Docker daemon by typing a json Docker daemon configuration file.

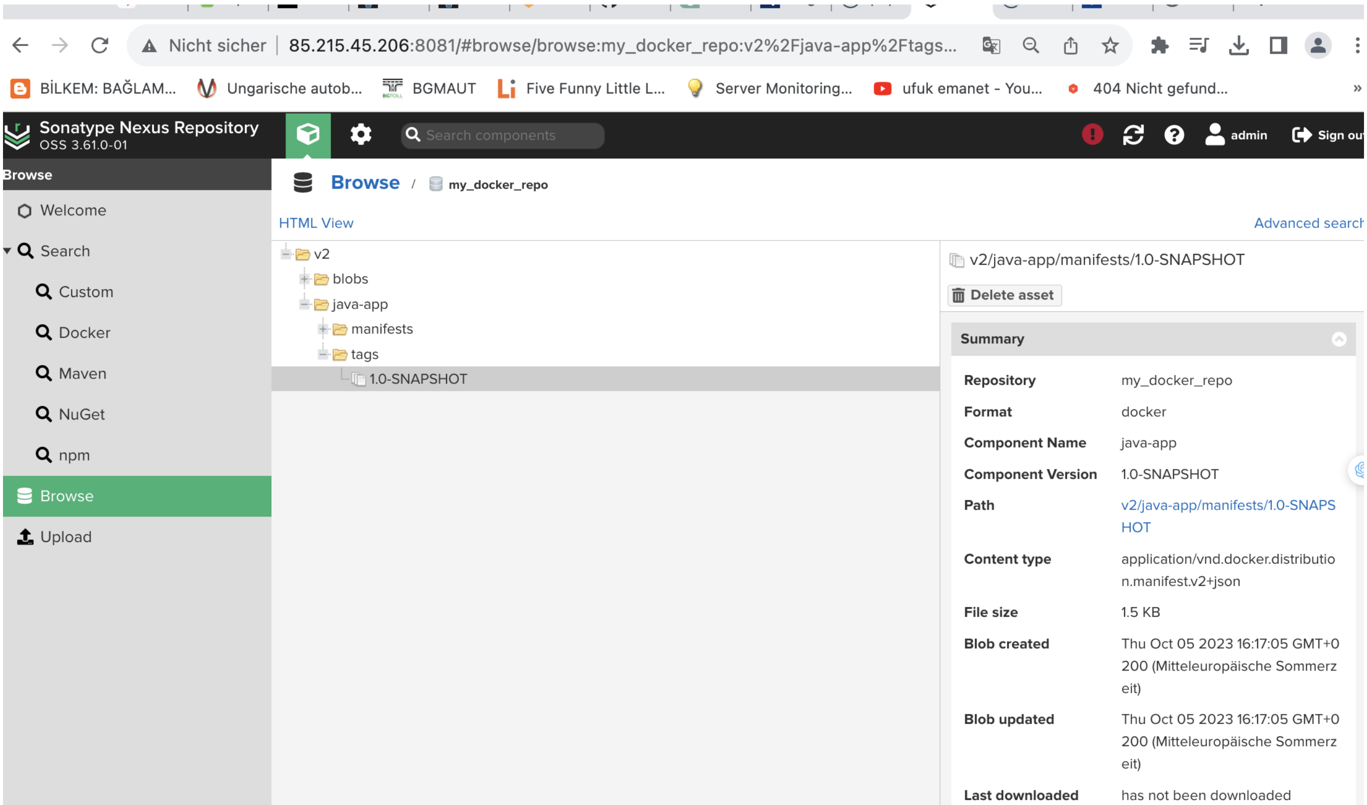
This can prevent Docker from starting, reset your daemon settings if it hangs.

```
{
  "builder": {
    "gc": {
      "defaultKeepStorage": "20GB",
      "enabled": true
    }
  },
  "experimental": false,
  "insecure-registries": [
    "http://85.215.45.206:8084"
  ]
}
```

```
sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% docker login http://85.215.45.206:8084

Authenticating with existing credentials...
Login Succeeded

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% gradle build

Deprecated Gradle features were used in this build, making it incompatible
with Gradle 9.0.

You can use '--warning-mode all' to show the individual deprecation
warnings and determine if they come from your own scripts or plugins.
```

```
For more on this, please refer to
https://docs.gradle.org/8.3/userguide/command_line_interface.html#sec:comm
and_line_warnings in the Gradle documentation.

BUILD SUCCESSFUL in 1s
7 actionable tasks: 7 up-to-date

%  docker build -t  85.215.45.206:8084/java-app:1.0-SNAPSHOT .
[+] Building 1.2s (10/10) FINISHED
docker:desktop-linux
 => [internal] load build definition from Dockerfile
0.0s
 => => transferring dockerfile: 265B
0.0s
 => [internal] load .dockerignore
0.0s
 => => transferring context: 2B
0.0s
 => [internal] load metadata for docker.io/library/openjdk:17.0.2-jdk
1.2s
 => [auth] library/openjdk:pull token for registry-1.docker.io
0.0s
 => [1/4] FROM docker.io/library/openjdk:17.0.2-
jdk@sha256:528707081fdb9562eb819128a9f85ae7fe000e2fbaeaf9f87662e7b3f38cb7d
8      0.0s
 => [internal] load build context
0.0s
 => => transferring context: 141B
0.0s
 => CACHED [2/4] RUN mkdir /opt/app
0.0s
 => CACHED [3/4] COPY build/libs/bootcamp-docker-java-mysql-project-1.0-
SNAPSHOT.jar /opt/app                                    0.0s
 => CACHED [4/4] WORKDIR /opt/app
0.0s
 => exporting to image
0.0s
 => => exporting layers
0.0s
 => => writing image
sha256:9f6b3002be9c307cd9a1ca11f461b3f1acbe32ecfee7b0e6cfe6b06a1250bbfe
0.0s
 => => naming to 85.215.45.206:8084/java-app:1.0-SNAPSHOT
0.0s

What's Next?
  View a summary of image vulnerabilities and recommendations → docker
scout quickview


% docker push  85.215.45.206:8084/java-app:1.0-SNAPSHOT
The push refers to repository [85.215.45.206:8084/java-app]
5f70bf18a086: Layer already exists
ee39b87422db: Layer already exists
```

```
a5275d2e0ea0: Layer already exists
dc9fa3d8b576: Layer already exists
27ee19dc88f2: Layer already exists
c8dd97366670: Layer already exists
1.0-SNAPSHOT: digest:
sha256:e1f35e5a441322d985f7876a371b39d9503bcb25e6a125159e46ae19b7df8ced
size: 1579

sgworker@MacBook-Pro-3.local /Users/sgworker/docker-exercises [main]
% scp docker-compose-with-app.yaml t360docker:/home/sguel
docker-compose-with-app.yaml
```



Repository	my_docker_repo
Format	docker
Component Name	java-app
Component Version	1.0-SNAPSHOT
Path	v2/java-app/manifests/1.0-SNAPSHOT
Content type	application/vnd.docker.distribution.manifest.v2+json
File size	1.5 KB
Blob created	Thu Oct 05 2023 16:17:05 GMT+0200 (Mitteleuropäische Sommerzeit)
Blob updated	Thu Oct 05 2023 16:17:05 GMT+0200 (Mitteleuropäische Sommerzeit)
Last downloaded	has not been downloaded

on the remote server:

sguel@t360-ionosmonitoring:~$ sguel@t360-ionosmonitoring:~$ ls -a . .bash_history .bashrc .local .ssh docker-compose-with-app.yaml .. .bash_logout .config .profile backups

sguel@t360-ionosmonitoring:~$ docker-compose -f docker-compose-with-app.yaml up WARNING: The DB_USER variable is not set. Defaulting to a blank string. WARNING: The DB_PWD variable is not set. Defaulting to a blank string. WARNING: The DB_SERVER variable is not set. Defaulting to a blank string. WARNING: The DB_NAME variable is not set. Defaulting to a blank string. WARNING: The MYSQL_ROOT_PASSWORD variable is not set. Defaulting to a blank string. WARNING: The PMA_HOST variable is not set. Defaulting to a blank string. WARNING: The PMA_PORT variable is not set. Defaulting to a blank string. ERROR: Couldn't connect to Docker daemon at http+docker://localhost - is it running?

If it's at a non-standard location, specify the URL with the DOCKER_HOST environment variable.

sguel@t360-ionosmonitoring:~$ sudo export DB_USER=sgworker sudo export DB_PWD=easy sudo export DB_SERVER=mysql sudo export DB_NAME=team-member-projects sudo export MYSQL_ROOT_PASSWORD=easy

sudo export PMA_HOST=mysql sudo export PMA_PORT=3306

sguel@t360-ionosmonitoring:~$ sudo docker-compose -f docker-compose-with-app.yaml up WARNING: The DB_USER variable is not set. Defaulting to a blank string. WARNING: The DB_PWD variable is not set. Defaulting to a blank string. WARNING: The DB_SERVER variable is not set. Defaulting to a blank string. WARNING: The DB_NAME variable is not set. Defaulting to a blank string. WARNING: The MYSQL_ROOT_PASSWORD variable is not set. Defaulting to a blank string. WARNING: The PMA_HOST variable is not set. Defaulting to a blank string. WARNING: The PMA_PORT variable is not set. Defaulting to a blank string. Creating network "sguel_default" with the default driver Creating volume "sguel_mysql-data" with local driver Pulling mysql (mysql:)... latest: Pulling from library/mysql 5262579e8e45: Pull complete bfcc921068b5: Pull complete 072a02315ab1: Pull complete 711d47be56b4: Pull complete 755e67622a77: Pull complete 0080a11112d1: Pull complete adc45022a9ad: Pull complete 67d814699860: Pull complete f431d85cf61e: Pull complete 4bbba6dd5ce2: Pull complete Digest: sha256:44056c45e214c26c37b6f244534c6fb5f8a40eacbc28e870a2652b19d7a8a814 Status: Downloaded newer image for mysql:latest Pulling my-java-app (85.215.45.206:8084/java-app:1.0-SNAPSHOT)... ERROR: Get "https://85.215.45.206:8084/v2/": http: server gave HTTP response to HTTPS client

added following content into /etc/docker/daemon.json file

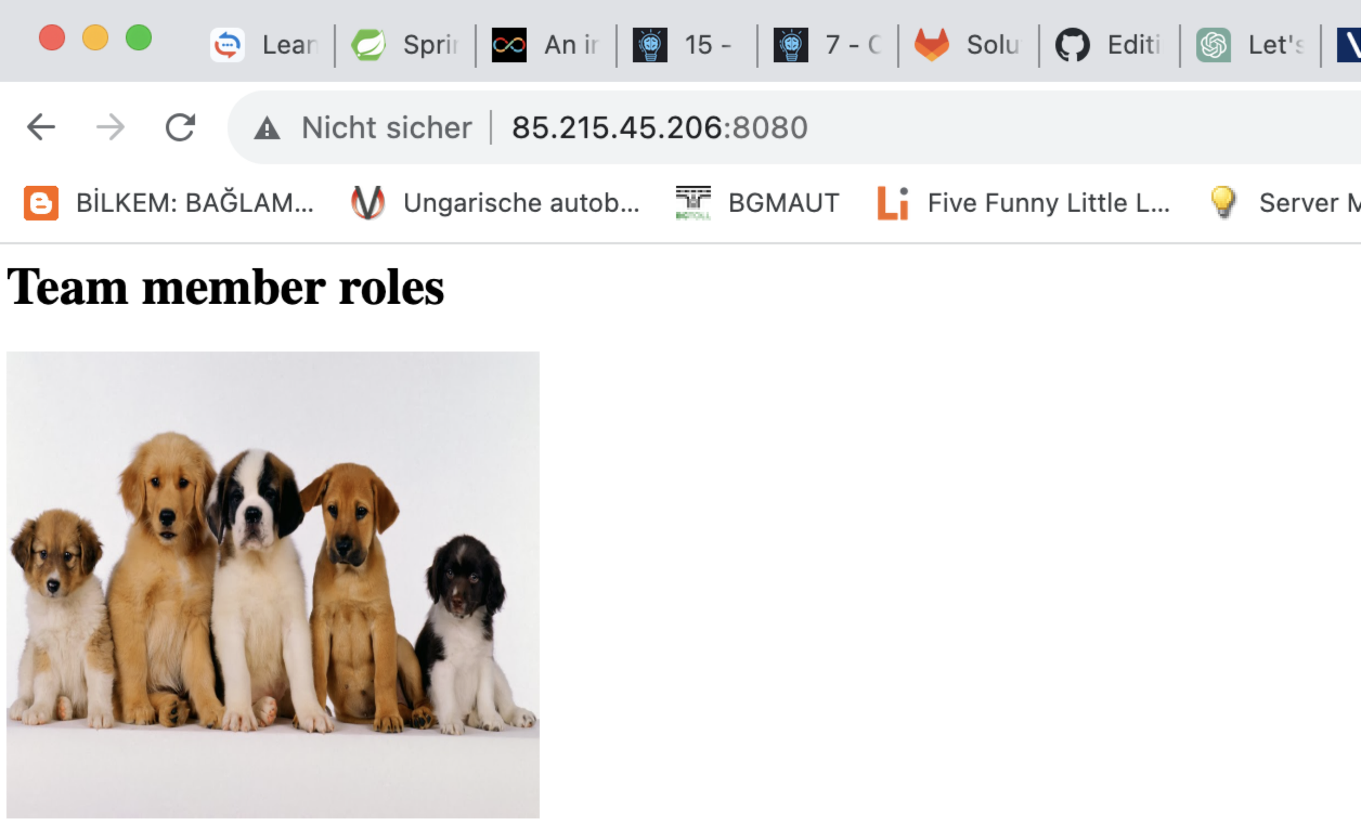
root@t360-ionosmonitoring:/etc/docker# systemctl restart docker

root@t360-ionosmonitoring:/etc/docker# docker login http://85.215.45.206:8084 Username: nx-docker Password: WARNING! Your password will be stored unencrypted in /root/.docker/config.json. Configure a credential helper to remove this warning. See https://docs.docker.com/engine/reference/commandline/login/#credentials-store

Login Succeeded

sguel@t360-ionosmonitoring:~$ sudo -E docker-compose -f docker-compose-with-app.yaml up Starting mysql ... done Recreating my-java-app ... done Starting phpmyadmin ... done Attaching to mysql, my-java-app, phpmyadmin mysql | 2023-10-05 14:57:43+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.1.0-1.el8 started. mysql | 2023-10-05 14:57:43+00:00 [Note] [Entrypoint]: Switching to dedicated user 'mysql' mysql | 2023-10-05 14:57:43+00:00 [Note] [Entrypoint]: Entrypoint script for MySQL Server 8.1.0-1.el8 started. mysql | '/var/lib/mysql/mysql.sock' -> '/var/run/mysqld/mysqld.sock' phpmyadmin | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.18.0.3. Set the 'ServerName' directive globally to suppress this message phpmyadmin | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.18.0.3. Set the 'ServerName' directive globally to suppress this message mysql | 2023-10-05T14:57:44.247008Z 0 [System] [MY-015015] [Server] MySQL Server - start. mysql | 2023-10-05T14:57:44.505337Z 0 [Warning] [MY-011068] [Server] The syntax '--skip-host-cache' is deprecated and will be removed in a future release. Please use SET GLOBAL host_cache_size=0 instead. mysql | 2023-10-05T14:57:44.506377Z 0 [Warning] [MY-010918] [Server] 'default_authentication_plugin' is deprecated and will be removed in a future release. Please use authentication_policy instead. mysql | 2023-10-05T14:57:44.506399Z 0 [System] [MY-010116] [Server] /usr/sbin/mysqld (mysqld 8.1.0) starting as process 1 mysql | 2023-10-05T14:57:44.513712Z 1 [System] [MY-013576] [InnoDB] InnoDB initialization has started. phpmyadmin | [Thu Oct 05 14:57:44.543817 2023] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.57 (Debian) PHP/8.2.11

```
configured -- resuming normal operations phpmyadmin | [Thu Oct 05 14:57:44.544452 2023] [core:notice]
[pid 1] AH00094: Command line: 'apache2 -D FOREGROUND' mysql | 2023-10-05T14:57:44.769460Z 1
[System] [MY-013577] [InnoDB] InnoDB initialization has ended. mysql | 2023-10-05T14:57:45.051700Z 0
[Warning] [MY-010068] [Server] CA certificate ca.pem is self signed. mysql | 2023-10-
05T14:57:45.051810Z 0 [System] [MY-013602] [Server] Channel mysql_main configured to support TLS.
Encrypted connections are now supported for this channel. mysql | 2023-10-05T14:57:45.057221Z 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. mysql | 2023-10-
05T14:57:45.100870Z 0 [System] [MY-011323] [Server] X Plugin ready for connections. Bind-address: '::'
port: 33060, socket: /var/run/mysqld/mysqlx.sock mysql | 2023-10-05T14:57:45.102459Z 0 [System] [MY-
010931] [Server] /usr/sbin/mysqld: ready for connections. Version: '8.1.0' socket:
'/var/run/mysqld/mysqld.sock' port: 3306 MySQL Community Server - GPL. my-java-app | my-java-app | .
____ _ __ _ _ my-java-app | /\ / '__ _ () __ __ _ \ \ \
my-java-app | ( ( )__ | '_ | '/ / ' / ` / \ \ \
my-java-app | \/ )/ /)/ / / / / / // (/ / ) ) ) ) my-java-app | ' // .__// /\/ /_, / / / / / my-java-app |
=========/|==============|/=////| my-java-app | :: Spring Boot :: (v3.1.0-SNAPSHOT) my-java-app |
my-java-app | 2023-10-05T14:57:46.085Z INFO 1 --- [ main] com.example.Application : Starting
Application v1.0-SNAPSHOT using Java 17.0.2 with PID 1 (/opt/app/bootcamp-docker-java-mysql-project-
1.0-SNAPSHOT.jar started by root in /opt/app) my-java-app | 2023-10-05T14:57:46.097Z INFO 1 --- [ main]
com.example.Application : No active profile set, falling back to 1 default profile: "default" my-java-app |
2023-10-05T14:57:47.260Z INFO 1 --- [ main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat
initialized with port(s): 8080 (http) my-java-app | 2023-10-05T14:57:47.274Z INFO 1 --- [ main]
o.apache.catalina.core.StandardService : Starting service [Tomcat] my-java-app | 2023-10-
05T14:57:47.275Z INFO 1 --- [ main] o.apache.catalina.core.StandardEngine : Starting Servlet engine:
[Apache Tomcat/10.1.8] my-java-app | 2023-10-05T14:57:47.372Z INFO 1 --- [ main] o.a.c.c.C.[Tomcat].
[localhost].[/] : Initializing Spring embedded WebApplicationContext my-java-app | 2023-10-
05T14:57:47.375Z INFO 1 --- [ main] w.s.c.ServletWebServerApplicationContext : Root
WebApplicationContext: initialization completed in 1182 ms mysql | 2023-10-05T14:57:47.572386Z 8
[Warning] [MY-013360] [Server] Plugin mysql_native_password reported: ''mysql_native_password' is
deprecated and will be removed in a future release. Please use caching_sha2_password instead' my-java-
app | 2023-10-05T14:57:47.906Z INFO 1 --- [ main] com.example.Application : Java app started my-java-
app | 2023-10-05T14:57:48.227Z INFO 1 --- [ main] o.s.b.a.w.s.WelcomePageHandlerMapping : Adding
welcome page: class path resource [static/index.html] my-java-app | 2023-10-05T14:57:48.409Z INFO 1 --
- [ main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8080 (http) with context
path '' my-java-app | 2023-10-05T14:57:48.430Z INFO 1 --- [ main] com.example.Application : Started
Application in 3.141 seconds (process running for 4.103)
```

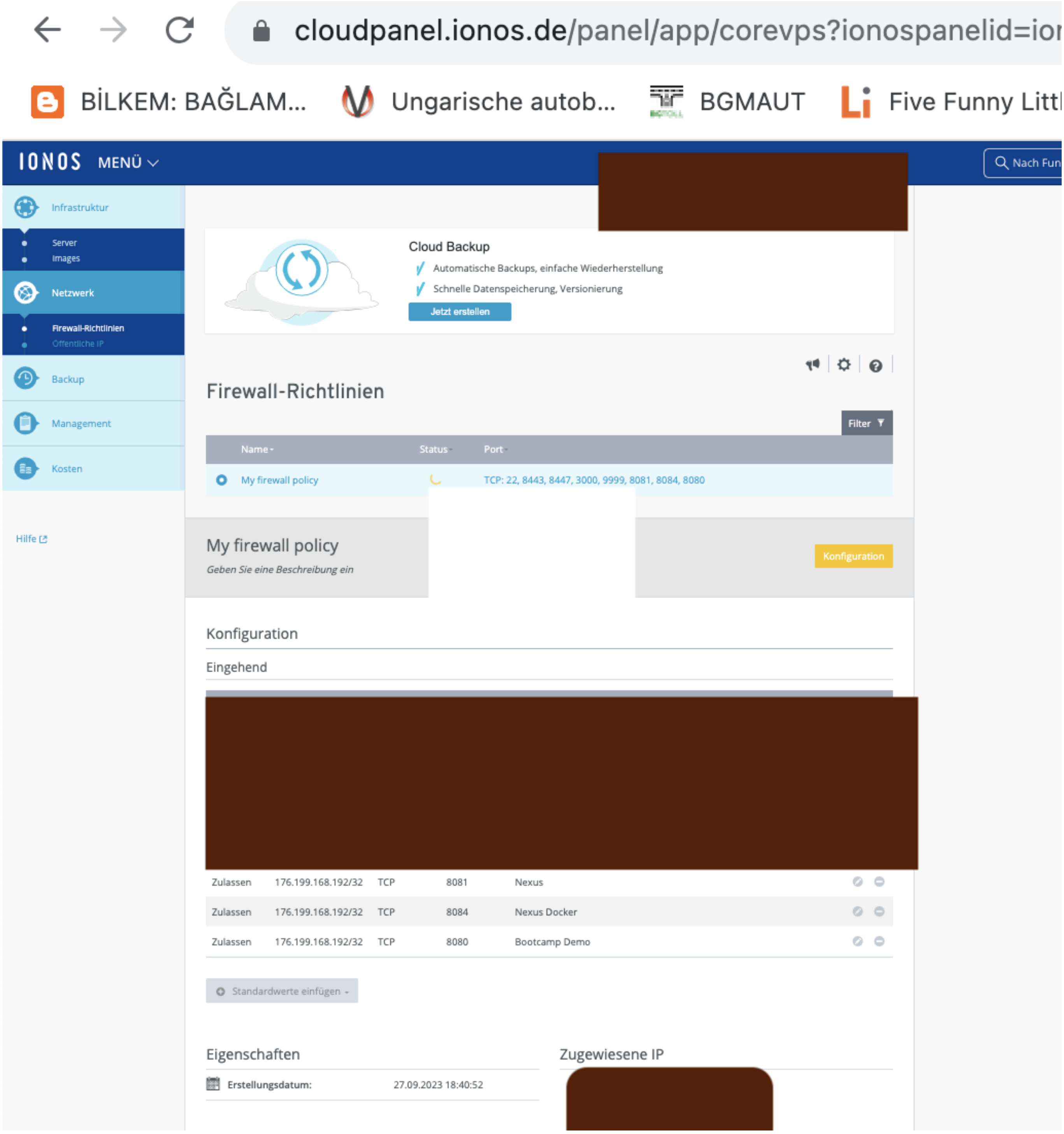


Team member roles

▶ Solution 8: Open ports

> EXERCISE 8: Open ports Congratulations! Your application is running on the server, but you still can't access the application from the browser. You know you need to configure firewall settings. So do the following:

- Open the necessary port on the server firewall and
- Test access from the browser



[redacted]

Cloud Backup

- Automatische Backups, einfache Wiederherstellung
- Schnelle Datenspeicherung, Versionierung

Jetzt erstellen

Firewall-Richtlinien

Filter

Name	Status	Port
● My firewall policy		TCP: 22, 8443, 8447, 3000, 9999, 8081, 8084, 8080

My firewall policy

Geben Sie eine Beschreibung ein

Konfiguration

Konfiguration

Eingehend

[redacted]

Zulassen	176.199.168.192/32	TCP	8081	Nexus
Zulassen	176.199.168.192/32	TCP	8084	Nexus Docker
Zulassen	176.199.168.192/32	TCP	8080	Bootcamp Demo

Standardwerte einfügen

Eigenschaften

Erstellungsdatum: 27.09.2023 18:40:52

Zugewiesene IP

[redacted]