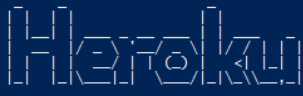


Homework 9 – Docker

Screenshot of completing section Run container after fixing Bug 1 out of 2 in the Dockerfile

```
use docker scan to run Snyk tests against images to find vulnerabilities and learn how to fix them
PS C:\Users\Michael\Documents\CS471\CS471-Assignments-Docker\part1> docker run -ti -p 5000:5000 hw_image_part1_webapp_and_db_bundle bash
root@1e3c974c3f0e:/java-getting-started# ls
LICENSE  README.md  docs  mvnw.cmd  src  system.properties
ProcFile  app.json  mvnw  pom.xml  start_inside_container.sh  target
root@1e3c974c3f0e:/java-getting-started# ./start_inside_container.sh
* Starting PostgreSQL 10 database server
Error: /usr/lib/postgresql/10/bin/pg_ctl: /usr/lib/postgresql/10/bin/pg_ctl start -D /var/lib/postgresql/10/main -l /var/log/postgresql/postgresql-10-main.log -s -o
2021-04-16 06:26:28.598 UTC [43] LOG:  listening on IPv6 address "127.0.0.1", port 5432
2021-04-16 06:26:28.598 UTC [43] LOG:  could not bind IPv6 address "::1": Cannot assign requested address
2021-04-16 06:26:28.598 UTC [43] HINT:  Is another postmaster already running on port 5432? If not, wait a few seconds and retry.
2021-04-16 06:26:28.855 UTC [43] LOG:  listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
2021-04-16 06:26:29.491 UTC [44] LOG:  database system was interrupted; last known up at 2021-04-16 06:00:46 UTC
pg_ctl: server did not start in time
[Fail]
```




```
:: Built with Spring Boot :: 2.1.6.RELEASE

2021-04-16 06:27:29.562 INFO --- [main] com.example.Main : Starting Main v1.0 on 1e3c974c3f0e with PID 52 (/java-getting-started)
2021-04-16 06:27:29.566 INFO --- [main] com.example.Main : The following profiles are active: production
2021-04-16 06:27:31.300 INFO --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 5000 (http)
2021-04-16 06:27:31.354 INFO --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2021-04-16 06:27:31.354 INFO --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.21]
2021-04-16 06:27:31.464 INFO --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2021-04-16 06:27:31.466 INFO --- [main] o.s.web.context.ContextLoader : Root WebApplicationContext: initialization completed in 1834 ms
dbUrl = jdbc:postgresql://localhost:5432/postgresondockerdb?user=postgresondockeruser&password=postgresondockerpassword
2021-04-16 06:27:32.095 INFO --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
```

Screenshot of completing section Run container after fixing Bug 2 out of 2 in the Dockerfile

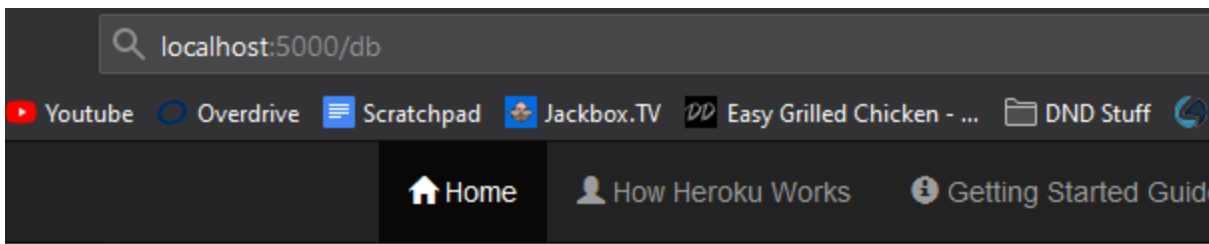
```
PS C:\Users\Michael\Documents\CS471\CS471-Assignments-Docker\part1> docker run -ti -p 5000:5000 hw_image_part1_webapp_and_db_bundle_with_entrypoint
* Starting PostgreSQL 10 database server
Error: /usr/lib/postgresql/10/bin/pg_ctl: /usr/lib/postgresql/10/bin/pg_ctl start -D /var/lib/postgresql/10/main -l /var/log/postgresql/postgresql-10-main.log -s -o
2021-04-16 06:38:19.567 UTC [33] LOG:  listening on IPv4 address "127.0.0.1", port 5432
2021-04-16 06:38:19.567 UTC [33] LOG:  could not bind IPv6 address "::1": Cannot assign requested address
2021-04-16 06:38:19.567 UTC [33] HINT:  Is another postmaster already running on port 5432? If not, wait a few seconds and retry.
2021-04-16 06:38:19.698 UTC [33] LOG:  listening on Unix socket "/var/run/postgresql/.s.PGSQL.5432"
2021-04-16 06:38:19.974 UTC [34] LOG:  database system was interrupted; last known up at 2021-04-16 06:00:46 UTC
pg_ctl: server did not start in time
[Fail]
```



```
:: Built with Spring Boot :: 2.1.6.RELEASE

2021-04-16 06:39:20.669 INFO --- [main] com.example.Main : Starting Main v1.0 on a3229e53c31f with PID 42 (/java-getting-started)
2021-04-16 06:39:20.675 INFO --- [main] com.example.Main : The following profiles are active: production
2021-04-16 06:39:22.584 INFO --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 5000 (http)
2021-04-16 06:39:22.632 INFO --- [main] o.apache.catalina.core.StandardService : Starting service [Tomcat]
2021-04-16 06:39:22.632 INFO --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.21]
2021-04-16 06:39:22.751 INFO --- [main] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring embedded WebApplicationContext
2021-04-16 06:39:22.751 INFO --- [main] o.s.web.context.ContextLoader : Root WebApplicationContext: initialization completed in 2025 ms
dbUrl = jdbc:postgresql://localhost:5432/postgresondockerdb?user=postgresondockeruser&password=postgresondockerpassword
2021-04-16 06:39:23.354 INFO --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
```

Screenshot of completing section Verify Local Deployment - Part 1



Database Output

- Read from DB: 2021-04-16 07:39:48.392689
- Read from DB: 2021-04-16 07:41:53.162911
- Read from DB: 2021-04-16 07:41:54.715304

Screenshot or copy/pasted output of completing section Verify Local Deployment - Part 2

```
PS C:\Users\Michael\Documents\CS471\CS471-Assignments-Docker\part3> docker-compose -f .\docker-compose.yml up
Docker Compose is now in the Docker CLI, try 'docker compose up'

Creating network "part3_default" with the default driver
Pulling adminer-database-management (adminer):...
latest: Pulling from library/adminer
540db60ca938: Pull complete
933cf2f4a68f: Pull complete
93c5cc202a60: Pull complete
74403cd16157d: Pull complete
13f951463155: Pull complete
13703f5b0141: Pull complete
7ef0daa84b76: Pull complete
763a785ab53e: Pull complete
82a4dd2c14c0: Pull complete
66ebdf28d5fe: Pull complete
7093f60b015e: Pull complete
5ba6f2aad781: Pull complete
c6b3a6ee19bc: Pull complete
93ae1ad79c29: Pull complete
acdb13ed0e73: Pull complete
Digest: sha256:370c04eb26f585c408986d89d1d9c5e62f387d4afdds49aa13f7c5f53790262
Status: Downloaded newer image for adminer:latest
Creating part3_web-app3_1 ... done
Creating part3_postgres-db-container_1 ... done
Creating part3_web-app1_1 ... done
Creating part3_web-app2_1 ... done
Creating part3_adminer-database-management_1 ... done
Attaching to part3_web-app2_1, part3_adminer-database-management_1, part3_web-app3_1, part3_web-app1_1, part3_postgres-db-container_1
adminer-database-management_1 | [Fri Apr 16 07:15:46 2021] PHP 7.4.16 Development Server (http://[::]:8080) started
postgres-db-container_1 | The files belonging to this database system will be owned by user "postgres".
postgres-db-container_1 | This user must also own the server process.
postgres-db-container_1 |
postgres-db-container_1 | The database cluster will be initialized with locale "en_US.utf8".
postgres-db-container_1 | The default database encoding has accordingly been set to "UTF8".
postgres-db-container_1 | The default text search configuration will be set to "english".
postgres-db-container_1 |
postgres-db-container_1 | Data page checksums are disabled.
postgres-db-container_1 |
postgres-db-container_1 | fixing permissions on existing directory /var/lib/postgresql/data ... ok
postgres-db-container_1 | creating subdirectories ... ok
postgres-db-container_1 | selecting dynamic shared memory implementation ... posix
postgres-db-container_1 | selecting default max_connections ... 100
postgres-db-container_1 | selecting default shared_buffers ... 128MB
postgres-db-container_1 | selecting default time zone ... Etc/UTC
postgres-db-container_1 | creating configuration files ... ok

Heroku

:: Built with Spring Boot :: 2.1.6.RELEASE

2021-04-16 07:15:44.763 INFO 7 --- [main] com.example.Main : Starting Main v1.0 on 2ed9bff7ee9a with PID 7 (/java-getting-starte
2021-04-16 07:15:44.767 INFO 7 --- [main] com.example.Main : The following profiles are active: production
2021-04-16 07:15:46.220 INFO 7 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat initialized with port(s): 5000 (http)

Heroku

:: Built with Spring Boot :: 2.1.6.RELEASE

2021-04-16 07:15:47.405 INFO 8 --- [main] com.example.Main : Starting Main v1.0 on d94d71e156cf with PID 8 (/java-getting-starte
```

Screenshot of the first page of output of the docker-compose command using the specifications defined in Verify Local Deployment - Part 3

```
PS C:\Users\Michael> cd C:\Users\Michael\Documents\CS471\CS471-Assignments-Docker\part2
PS C:\Users\Michael\Documents\CS471\CS471-Assignments-Docker\part2> docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS
adc955151910   hw_image_part2_webapp_only          "./start_inside_cont..." 56 seconds ago Up 55 seconds 0.0.0.0:50
03->5000/tcp   web-app3
321ab35856c1   hw_image_part2_webapp_only          "./start_inside_cont..." About a minute ago Up 59 seconds 0.0.0.0:50
02->5000/tcp   web-app2
e95264fc46e1   hw_image_part2_webapp_only          "./start_inside_cont..." About a minute ago Up About a minute 0.0.0.0:50
01->5000/tcp   web-app1
6535be1265da   postgres                             "docker-entrypoint.s..." 4 minutes ago   Up 4 minutes   5432/tcp
postgres-db-container
PS C:\Users\Michael\Documents\CS471\CS471-Assignments-Docker\part2> docker network inspect network_webapp_and_db
[
  {
    "Name": "network_webapp_and_db",
    "Id": "041909b1fe881411476b5e3f19b6da3c64d584a97cd8432888f8b7f3da596e6b",
    "Created": "2021-04-16T07:02:11.1217211Z",
    "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": {
      "321ab35856c14da37b82c75ff60e515ffdb02af01023b1efac65914cf90b2a4c": {
        "Name": "web-app2",
        "EndpointID": "3d95b2fa9d7545a4a34964d1b26973fcdaf8f9eb06a024786d1dbed98daa2300",
        "MacAddress": "02:42:ac:12:00:04",
        "IPv4Address": "172.18.0.4/16"
      }
    }
  }
]
```

Screenshot of a browser page after successfully logging in to the database created in Part 3 through adminer, using the specifications defined in Verify Local Deployment - Part 3

← → ↺ 🏠

localhost:8080/?pgsql=postgres-db-container&username=postgresondockeruser

Work Stuff Work Archive Youtube Overdrive Scratchpad Jackbox.TV Easy Grilled Chicken - ... DND Stuff ASP.net hosting Strange Stuff

Language: English

PostgreSQL » postgres-db-container

Adminer 4.8.0

DB:

SQL command Import Export

Select database

Create database Process list Variables

PostgreSQL version: 13.2 (Debian 13.2-1.pgdg100+1) through PHP extension PDO_PgSQL

Logged as: postgresondockeruser

	Database - Refresh	Collation	Tables	Size - Compute
<input type="checkbox"/>	postgres	en_US.utf8	?	?
<input type="checkbox"/>	postgresondockerdb	en_US.utf8	?	?
<input type="checkbox"/>	template0	en_US.utf8	?	?
<input type="checkbox"/>	template1	en_US.utf8	?	?

Selected (0)

Drop