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Практическая работа 3-1. Dockerfile

Направление подготовки/специальность
38.04.05 - Бизнес-информатика
Бизнес-аналитика и большие данные
(очная форма обучения)

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Введение

Цель: познакомиться с основными концепциями и командами Docker, научиться использовать Docker для автоматизации развертывания приложений в контейнерах

Задачи

1. Написать два Dockerfile – «хороший» и «плохой» две практики по использованию контейнеров
2. Проанализировать файлы
3. Произвести запуск

Основная часть

1. Docker был скачен и установлен с официального сайта по приложенному там гайду <https://docs.docker.com/desktop/install/linux/ubuntu/>
2. На виртуальной машине в директории Documents была создана директория Practika-3, где было создано 2 директории с Dockerfile “bad-docker” и “good-docker”

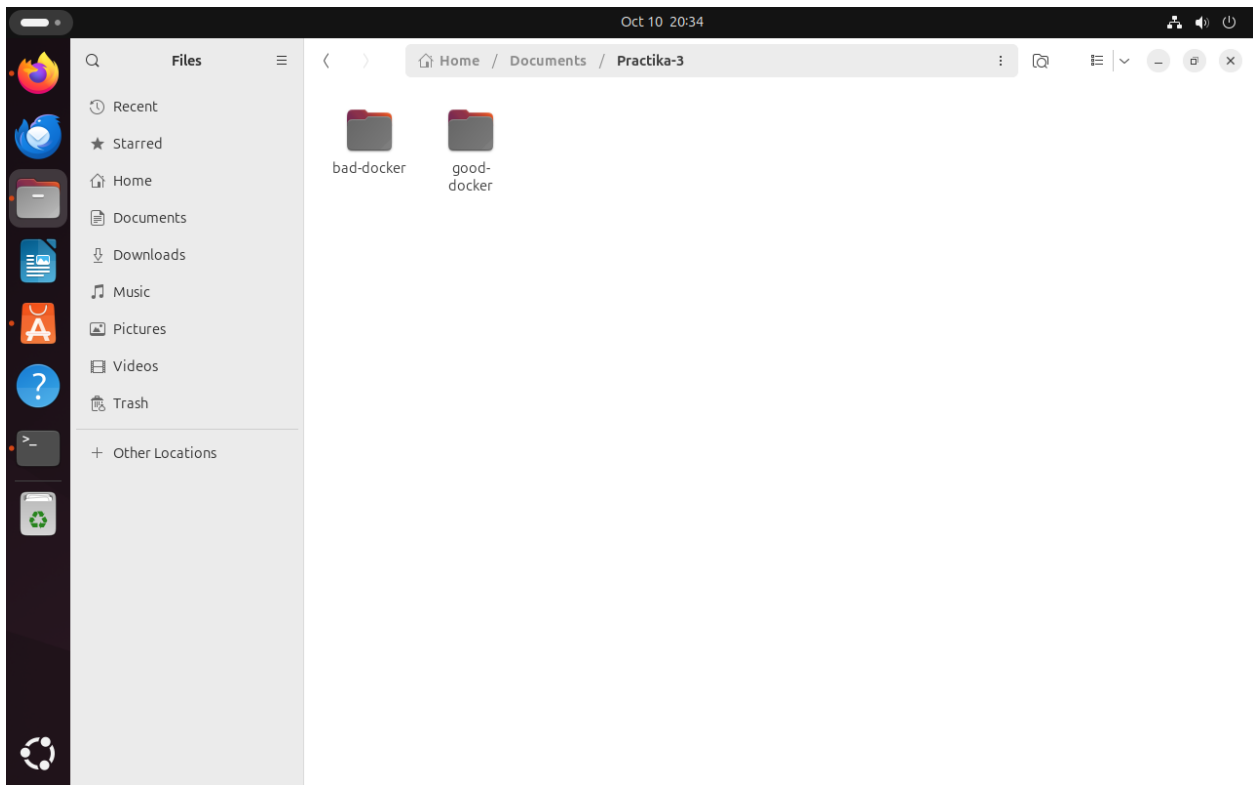


Figure 1 Practika-3

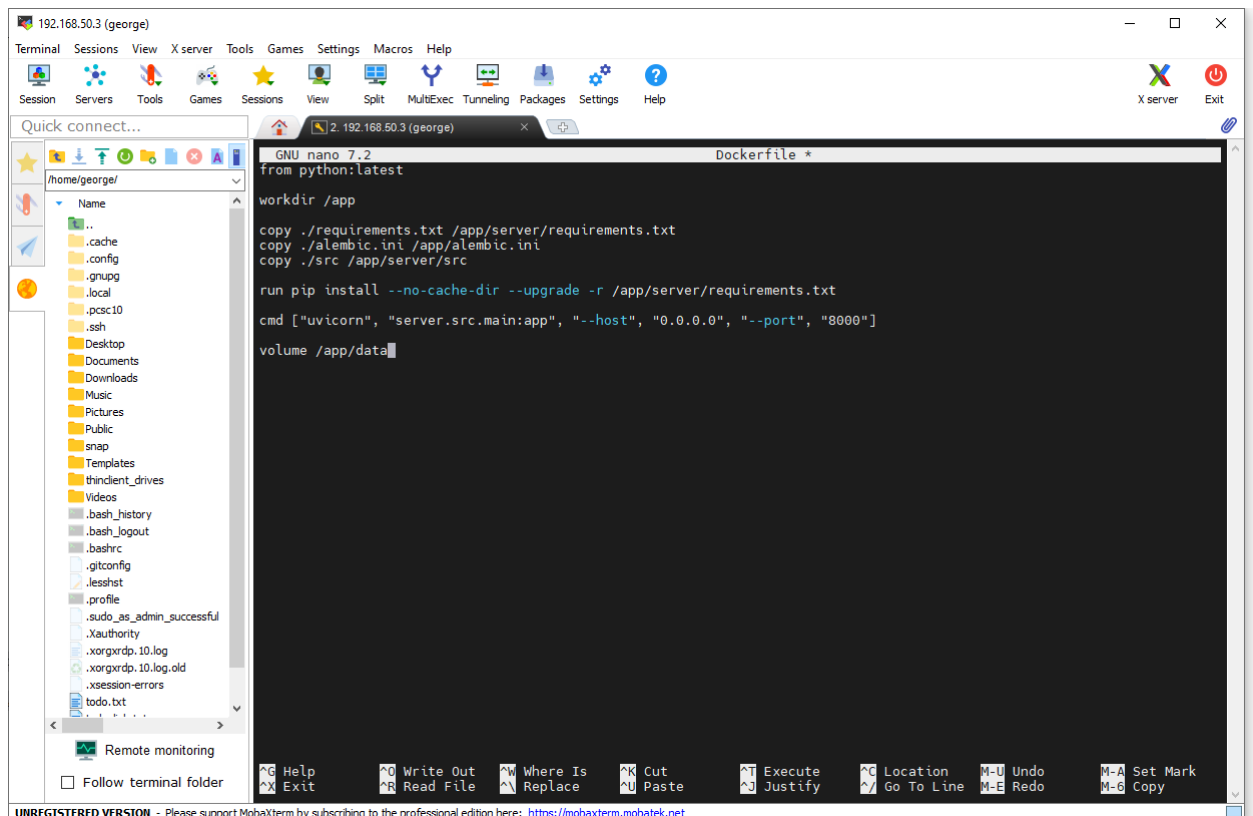


Figure 2 Содержание "плохого" Dockerfile

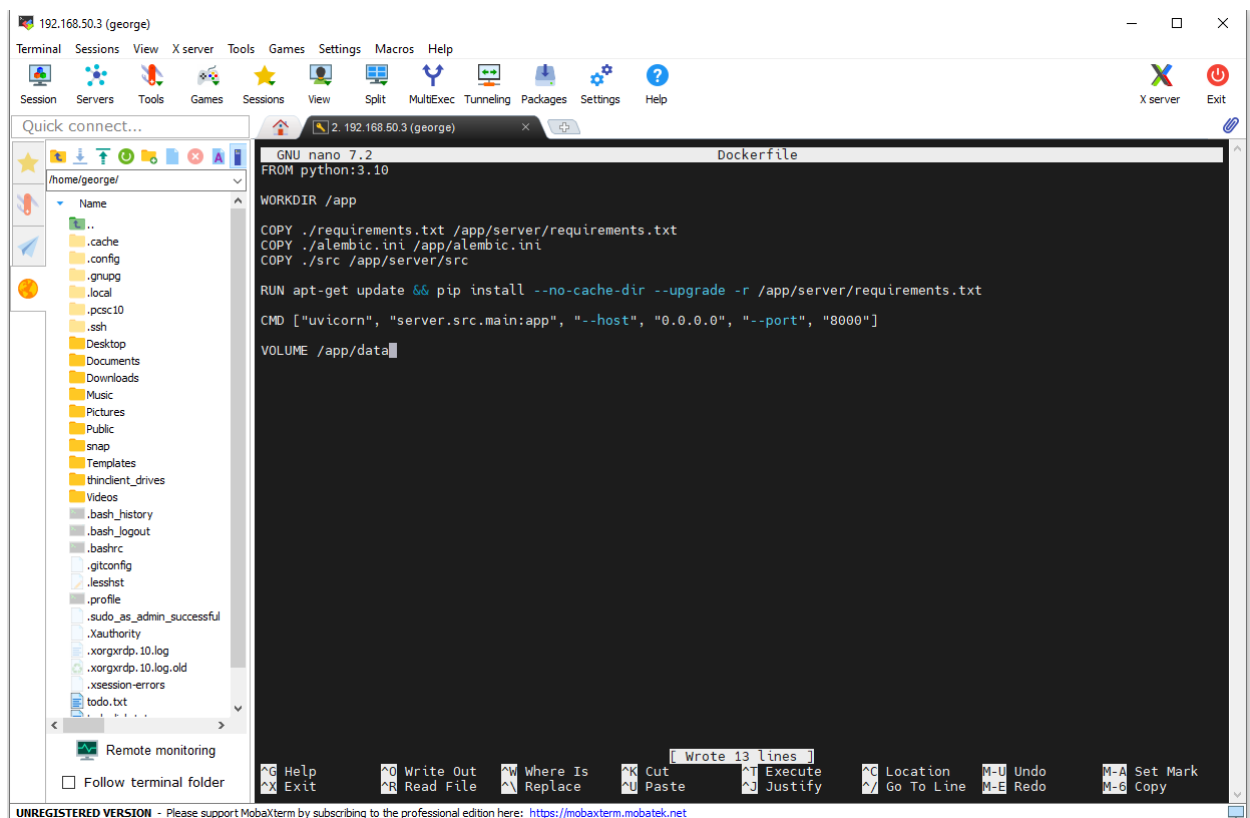


Figure 3 Содержание "хорошего" Dockerfile

3. Для того, чтобы в папке были все указанные файлы или каталоги в контексте сборки Docker-образа. Клонировал репозиторий DevOps-Technologies с GitHub. Недостающее содержимое из директории

“server” перенес в директории “bad-docker” и “good-docker” и добавил в них Dockerfile соответственно

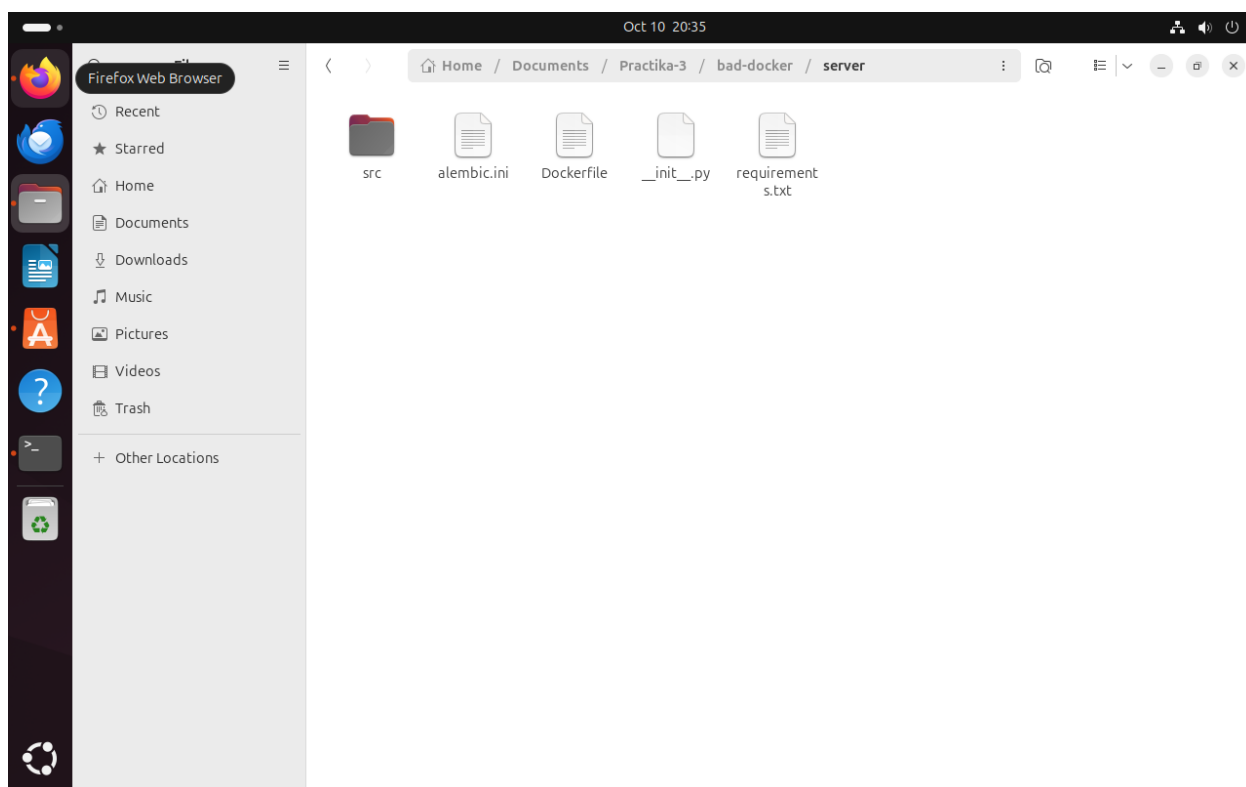


Figure 4 bad-docker

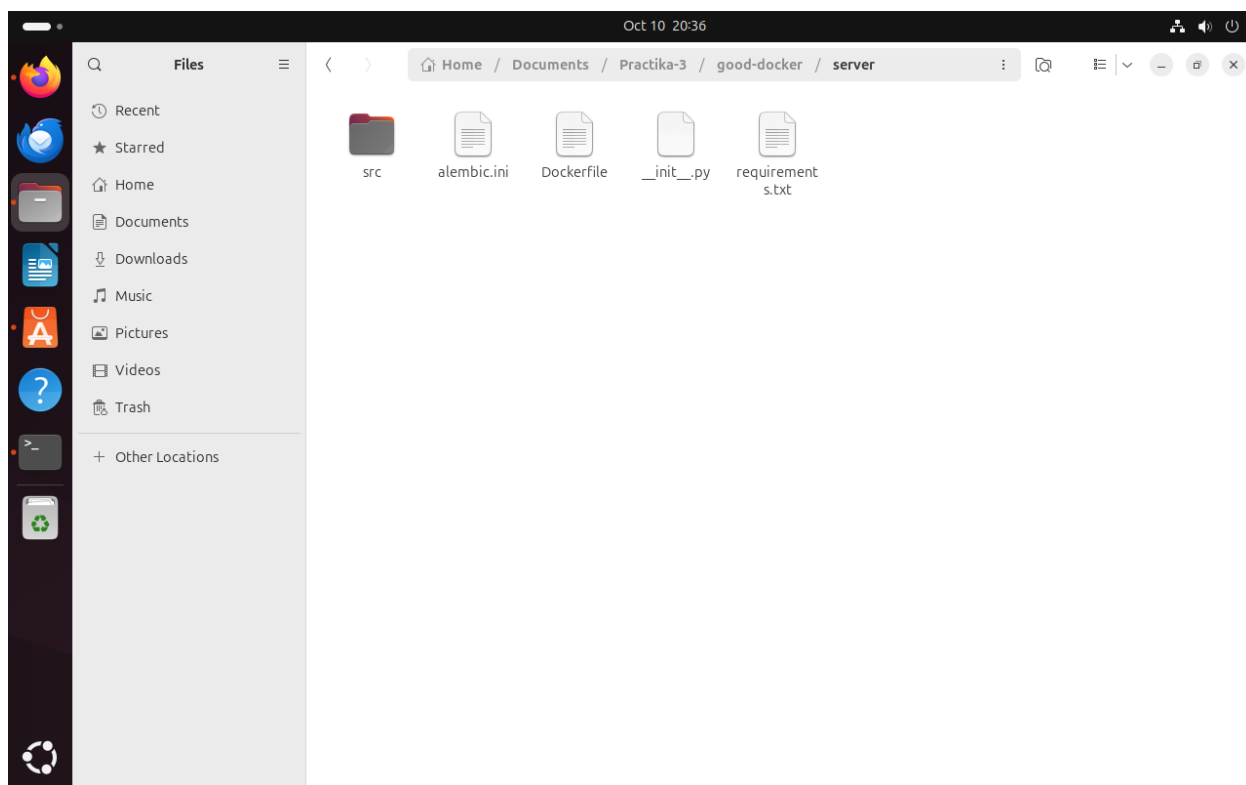


Figure 5 good-docker

4. Построение Docker-образа

bad-docker

cd bad-docker

cd server

docker build -t test_bad .

```
george@george-VirtualBox:~/Documents/Praktika-3/bad-docker$ cd server
george@george-VirtualBox:~/Documents/Praktika-3/bad-docker/server$ docker build -t test_bad .
[+] Building 65.3s (10/10) FINISHED                                docker:default
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 360B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/python:latest
=> [1/6] FROM docker.io/library/python:latest@sha256:45803c375b95ea33f482e53a461eca8f247617667d703660a06ccf5eb3d05326
=> => resolve docker.io/library/python:latest@sha256:45803c375b95ea33f482e53a461eca8f247617667d703660a06ccf5eb3d05326
=> => sha256:09aa001329f10fc6d784a1a48bba50815bc35bee2f31b6268a5557a9d78ae764 2.32kB / 2.32kB
=> => sha256:cdd2b139133c400a16f7a7b1b6555ba43802b2511c508f4a0a0b1975ff20e 49.50MB / 49.50MB
=> => sha256:a173f2aee8e962ea19db1e418a84a0c9f71480b51f768a19332dfa83d7722a5 64.39MB / 64.39MB
=> => sha256:45803c375b95ea33f482e53a461eca8f247617667d703660a06ccf5eb3d05326 9.72kB / 9.72kB
=> => sha256:07fcd6c4140abf3b395f559c4fa381e20fa3031fb56877c073f9af9e05507f 5.73kB / 5.73kB
=> => sha256:a4c7ff7f31e941e78bf63ca19f0811b675283e2c00dde10c5f778d93b2bc343 24.05MB / 24.05MB
=> => sha256:01272f8badbacc44afdb92994b31c40a151f4324ca392050d9e8d580927d32 211.27MB / 211.27MB
=> => sha256:e2451c50195ed9cea9f5e115387c359a87446d7c5930beb72864ce423acf38fa 6.16MB / 6.16MB
=> => extracting sha256:cdd62bf39133c498a16f7a7b1b6555ba43d02b2511c508f4a0a0b1975ff20e 3.55
=> => sha256:c3d017cfdde3ecb3a508c32d3f89f23f291015540af2df3ee87b69066def80b 25.70MB / 25.76MB
=> => extracting sha256:a4c7ff7f31e941e78bf63ca19f0811b675283e2c00dde10c5f778d93b2bc343 1.15
=> => sha256:21104ca25c011c6e2e708656224090241094ae0b588bad973435a6707f5a1c 250B / 250B
=> => extracting sha256:a173f2aee8e962ea19db1e418a84a0c9f71480b51f768a19332dfa83d7722a5 3.95
=> => extracting sha256:01272f8badbacc44afdb92994b31c40a151f4324ca392050d9e8d580927d32 9.65
=> => extracting sha256:e2451c50195ed9cea9f5e115387c359a87446d7c5930beb72864ce423acf38fa 0.55
=> => extracting sha256:c3d017cfdde3ecb3a508c32d3f89f23f291015540af2df3ee87b69066def80b 1.15
=> => extracting sha256:21104ca25c011c6e2e708656224090241094ae0b588bad973435a6707f5a1c 0.05
=> [internal] load build context
=> => transferring context: 35.40kB
=> [2/6] WORKDIR /app
=> [3/6] COPY ./requirements.txt /app/server/requirements.txt
=> [4/6] COPY ./alembic.ini /app/alembic.ini
=> [5/6] COPY ./src /app/server/src
=> ERROR [6/6] RUN pip install --no-cache-dir --upgrade -r /app/server/requirements.txt 18.6s
-----
> [6/6] RUN pip install --no-cache-dir --upgrade -r /app/server/requirements.txt:
1.470 Collecting alembic==1.12.1 (from -r /app/server/requirements.txt (line 1))
1.569 Downloading alembic-1.12.1-py3-none-any.whl.metadata (7.3 kB)
1.648 Collecting asyncpg==0.29.0 (from -r /app/server/requirements.txt (line 2))
1.675 Downloading asyncpg-0.29.0.tar.gz (620 kB)
1.778      820.5/820.5 kB 16.6 MB/s eta 0:00:00
1.838 Installing build dependencies: started
4.216 Installing build dependencies: finished with status 'done'
4.218 Getting requirements to build wheel: started
4.445 Getting requirements to build wheel: finished with status 'done'
4.446 Preparing metadata (pyproject.toml): started
4.653 Preparing metadata (pyproject.toml): finished with status 'done'
4.687 Collecting email-validator==2.1.0.post1 (from -r /app/server/requirements.txt (line 3))
4.712 Downloading email_validator-2.1.0.post1-py3-none-any.whl.metadata (25 kB)
4.787 Collecting fastapi==0.104.1 (from -r /app/server/requirements.txt (line 4))
4.811 Downloading fastapi-0.104.1-py3-none-any.whl.metadata (24 kB)
4.843 Collecting passlib==1.7.4 (from -r /app/server/requirements.txt (line 5))
4.866 Downloading passlib-1.7.4-py2.py3-none-any.whl.metadata (1.7 kB)
4.925 Collecting pre-commit==3.5.0 (from -r /app/server/requirements.txt (line 6))
4.950 Downloading pre_commit-3.5.0-py2.py3-none-any.whl.metadata (1.3 kB)
5.027 Collecting psycopg2-binary==2.9.9 (from -r /app/server/requirements.txt (line 7))
5.052 Downloading psycopg2-binary-2.9.9.tar.gz (384 kB)
5.129 Installing build dependencies: started
6.330 Installing build dependencies: finished with status 'done'
6.331 Getting requirements to build wheel: started
6.497 Getting requirements to build wheel: finished with status 'done'
6.499 Preparing metadata (pyproject.toml): started
6.668 Preparing metadata (pyproject.toml): finished with status 'done'
6.701 Collecting pydantic-settings==2.1.0 (from -r /app/server/requirements.txt (line 8))
6.726 Downloading pydantic_settings-2.1.0-py3-none-any.whl.metadata (2.9 kB)
6.757 Collecting python-jose==3.3.0 (from -r /app/server/requirements.txt (line 9))
6.781 Downloading python_jose-3.3.0-py2.py3-none-any.whl.metadata (5.4 kB)
7.026 Collecting sqlalchemy==2.0.23 (from -r /app/server/requirements.txt (line 10))
7.050 Downloading SQLAlchemy-2.0.23-py3-none-any.whl.metadata (9.6 kB)
7.107 Collecting uvicorn==0.23.2 (from -r /app/server/requirements.txt (line 11))
7.132 Downloading uvicorn-0.23.2-py3-none-any.whl.metadata (6.2 kB)
7.242 Collecting python-dotenv==1.0.0 (from -r /app/server/requirements.txt (line 12))
7.266 Downloading python_dotenv-1.0.0-py3-none-any.whl.metadata (21 kB)
7.308 Collecting Mako (from alembic==1.12.1->-r /app/server/requirements.txt (line 1))
7.332 Downloading Mako-1.3.5-py3-none-any.whl.metadata (2.9 kB)
7.367 Collecting typing-extensions==4.12.2 (from alembic==1.12.1->-r /app/server/requirements.txt (line 1))
7.391 Downloading typing_extensions-4.12.2-py3-none-any.whl.metadata (3.0 kB)
7.426 Collecting dnspython==2.0.0 (from email-validator==2.1.0.post1->-r /app/server/requirements.txt (line 3))
7.452 Downloading dnspython-2.0.0-py3-none-any.whl.metadata (5.8 kB)
7.486 Collecting idna==3.10 (from email-validator==2.1.0.post1->-r /app/server/requirements.txt (line 3))
7.511 Downloading idna-3.10-py3-none-any.whl.metadata (10 kB)
7.549 Collecting anyio==4.0.0 (from fastapi==0.104.1->-r /app/server/requirements.txt (line 4))
7.575 Downloading anyio-3.7.1-py3-none-any.whl.metadata (4.7 kB)
```

Figure 6 docker build -t test_bad .

```

2.192.168.50.3 (george)
7.549 Collecting anyio<4.0.0,>=3.7.1 (from fastapi==0.104.1->-r /app/server/requirements.txt (line 4))
7.575 Downloading anyio-3.7.1-py3-none-any.whl.metadata (4.7 kB)
7.714 Collecting pydantic!=1.8,!1.8.1,!2.0.0,!2.0.1,!2.1.0,<3.0.0,>=1.7.4 (from fastapi==0.104.1->-r /app/server/requireme
nts.txt (line 4))
7.739 Downloading pydantic-2.9.2-py3-none-any.whl.metadata (149 kB)
7.794 Collecting starlette<0.28.0,>=0.27.0 (from fastapi==0.104.1->-r /app/server/requirements.txt (line 4))
7.821 Downloading starlette-0.27.0-py3-none-any.whl.metadata (5.8 kB)
7.855 Collecting cfgv>=2.0.0 (from pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
7.878 Downloading cfgv-3.4.0-py2.py3-none-any.whl.metadata (8.5 kB)
7.949 Collecting identify>=1.0.0 (from pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
7.976 Downloading identify-2.6.1-py2.py3-none-any.whl.metadata (4.4 kB)
8.009 Collecting nodeenv>=0.11.1 (from pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
8.033 Downloading nodeenv-1.9.1-py2.py3-none-any.whl.metadata (21 kB)
8.064 Collecting pyyaml>=5.1 (from pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
8.120 Downloading PyYAML-6.0.2-cp313-cp313-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (2.1 kB)
8.207 Collecting virtualenv>=20.10.0 (from pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
8.232 Downloading virtualenv-20.26.6-py3-none-any.whl.metadata (4.5 kB)
8.284 Collecting ecdsa!=0.15 (from python-jose==3.3.0->-r /app/server/requirements.txt (line 9))
8.309 Downloading ecdsa-0.19.0-py2.py3-none-any.whl.metadata (29 kB)
8.344 Collecting rsa (from python-jose==3.3.0->-r /app/server/requirements.txt (line 9))
8.367 Downloading rsa-4.9-py3-none-any.whl.metadata (4.2 kB)
8.407 Collecting pyasn1 (from python-jose==3.3.0->-r /app/server/requirements.txt (line 9))
8.432 Downloading pyasn1-0.6.1-py3-none-any.whl.metadata (8.4 kB)
8.556 Collecting greenlet!=0.4.17 (from sqlalchemy==2.0.23->-r /app/server/requirements.txt (line 10))
8.582 Downloading greenlet-3.1.1-cp313-cp313-manylinux_2_24_x86_64.manylinux_2_28_x86_64.whl.metadata (3.8 kB)
8.619 Collecting click>=7.0 (from uvicorn==0.23.2->-r /app/server/requirements.txt (line 11))
8.643 Downloading click-8.1.7-py3-none-any.whl.metadata (3.0 kB)
8.671 Collecting h11>=0.8 (from uvicorn==0.23.2->-r /app/server/requirements.txt (line 11))
8.694 Downloading h11-0.14.0-py3-none-any.whl.metadata (8.2 kB)
8.727 Collecting sniffio>=1.1 (from anyio<4.0.0,>=3.7.1->fastapi==0.104.1->-r /app/server/requirements.txt (line 4))
8.752 Downloading sniffio-1.3.1-py3-none-any.whl.metadata (3.9 kB)
8.783 Collecting six>=1.9.0 (from ecdsa!=0.15->python-jose==3.3.0->-r /app/server/requirements.txt (line 9))
8.809 Downloading six-1.16.0-py2.py3-none-any.whl.metadata (1.8 kB)
8.838 Collecting annotated-types>=0.6.0 (from pydantic!=1.8,!1.8.1,!2.0.0,!2.0.1,!2.1.0,<3.0.0,>=1.7.4->fastapi==0.104.1->-r /app/server/requirements.txt (line 4))
8.863 Downloading annotated_types-0.7.0-py3-none-any.whl.metadata (15 kB)
9.302 Collecting pydantic-core==2.23.4 (from pydantic!=1.8,!1.8.1,!2.0.0,!2.0.1,!2.1.0,<3.0.0,>=1.7.4->fastapi==0.104.1->-r /app/server/requirements.txt (line 4))
9.331 Downloading pydantic_core-2.23.4-cp313-cp313-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (6.6 kB)
9.374 Collecting distlib<1,>=0.3.7 (from virtualenv==20.10.0->pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
9.398 Downloading distlib-0.3.9-py2.py3-none-any.whl.metadata (5.2 kB)
9.438 Collecting filelock<4,>=3.12.2 (from virtualenv==20.10.0->pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
9.464 Downloading filelock-3.16.1-py3-none-any.whl.metadata (2.9 kB)
9.502 Collecting platformdirs>=3.9.1 (from virtualenv==20.10.0->pre-commit==3.5.0->-r /app/server/requirements.txt (line 6))
9.527 Downloading platformdirs-4.3.6-py3-none-any.whl.metadata (11 kB)
9.591 Collecting MarkupSafe>=0.9.2 (from Mako->alembic==1.12.1->-r /app/server/requirements.txt (line 1))
9.616 Downloading MarkupSafe-3.0.1-cp313-cp313-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (4.0 kB)
9.652 Downloading alembic-1.12.1-py3-none-any.whl (226 kB)
9.692 Downloading email_validator-2.1.0-post1-py3-none-any.whl (32 kB)
9.717 Downloading fastapi-0.104.1-py3-none-any.whl (92 kB)
9.743 Downloading passlib-1.7.4-py2.py3-none-any.whl (525 kB)
9.767 525.6/525.6 kB 31.2 MB/s eta 0:00:00
9.791 Downloading pre_commit-3.5.0-py2.py3-none-any.whl (203 kB)
9.824 Downloading pydantic_settings-2.1.0-py3-none-any.whl (11 kB)
9.847 Downloading python_jose-3.3.0-py2.py3-none-any.whl (33 kB)
9.884 Downloading SQLAlchemy-2.0.23-py3-none-any.whl (1.9 MB)
10.03 1.9/1.9 MB 12.2 MB/s eta 0:00:00
10.05 Downloading uvicorn-0.23.2-py3-none-any.whl (59 kB)
10.08 Downloading python_dotenv-1.0.0-py3-none-any.whl (19 kB)
10.11 Downloading anyio-3.7.1-py3-none-any.whl (80 kB)
10.14 Downloading cfgv-3.4.0-py2.py3-none-any.whl (7.2 kB)
10.16 Downloading click-8.1.7-py3-none-any.whl (97 kB)
10.21 Downloading dnspython-2.7.0-py3-none-any.whl (313 kB)
10.27 Downloading ecdsa-0.19.0-py2.py3-none-any.whl (149 kB)
10.31 Downloading greenlet-3.1.1-cp313-cp313-manylinux_2_24_x86_64.manylinux_2_28_x86_64.whl (615 kB)
10.39 615.6/615.6 kB 7.8 MB/s eta 0:00:00
10.42 Downloading h11-0.14.0-py3-none-any.whl (58 kB)
10.45 Downloading identify-2.6.1-py2.py3-none-any.whl (98 kB)
10.48 Downloading idna-3.10-py3-none-any.whl (70 kB)
10.51 Downloading nodeenv-1.9.1-py2.py3-none-any.whl (22 kB)
10.53 Downloading pydantic-2.9.2-py3-none-any.whl (434 kB)
10.62 Downloading pydantic_core-2.23.4-cp313-cp313-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (2.1 MB)
10.86 2.1/2.1 MB 8.4 MB/s eta 0:00:00
10.89 Downloading PyYAML-6.0.2-cp313-cp313-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (759 kB)
10.97 759.5/759.5 kB 8.2 MB/s eta 0:00:00
11.00 Downloading starlette-0.27.0-py3-none-any.whl (66 kB)
11.03 Downloading typing_extensions-4.12.2-py3-none-any.whl (37 kB)
11.05 Downloading virtualenv-20.26.6-py3-none-any.whl (6.0 MB)
11.63 6.0/6.0 MB 10.4 MB/s eta 0:00:00
11.66 Downloading Mako-1.3.5-py3-none-any.whl (78 kB)
11.69 Downloading pyasn1-0.6.1-py3-none-any.whl (83 kB)
11.71 Downloading rsa-4.9-py3-none-any.whl (34 kB)

```

Figure 7: docker build -t test_bad.

```

11.69 Downloading pyasn1-0.6.1-py3-none-any.whl (83 kB)
11.71 Downloading rsa-4.9-py3-none-any.whl (34 kB)
11.74 Downloading annotated_types-0.7.0-py3-none-any.whl (13 kB)
11.76 Downloading distlib-0.3.9-py2.py3-none-any.whl (468 kB)
11.82 Downloading filelock-3.16.1-py3-none-any.whl (16 kB)
11.85 Downloading MarkupSafe-3.0.1-cp313-cp313-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (23 kB)
11.89 Downloading platformdirs-4.3.6-py3-none-any.whl (18 kB)
11.90 Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
11.92 Downloading sniffio-1.3.1-py3-none-any.whl (10 kB)
12.02 Building wheels for collected packages: asyncpg, psycopg2-binary
12.02 Building wheel for asyncpg (pyproject.toml): started
12.83 Building wheel for asyncpg (pyproject.toml): finished with status 'error'
12.84 error: subprocess-exited-with-error
12.84
12.84 x Building wheel for asyncpg (pyproject.toml) did not run successfully.
12.84 | exit code: 1
12.84 | [218 lines of output]
12.84 | running bdist_wheel
12.84 | running build
12.84 | running build_py
12.84 | creating build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/types.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/_version.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/connection.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/cursor.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/_asyncio_compat.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/pool.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/serverversion.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/utills.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/connect_utils.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/cluster.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/introspection.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/transaction.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/_init_.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/prepared_stmt.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/connection.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | copying asyncpg/compat.py -> build/lib.linux-x86_64-cpython-313/asyncpg
12.84 | creating build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/_init_.py -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | creating build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/types.py -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/_init_.py -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | creating build/lib.linux-x86_64-cpython-313/asyncpg/exceptions
12.84 | copying asyncpg/exceptions/_base.py -> build/lib.linux-x86_64-cpython-313/asyncpg/exceptions
12.84 | copying asyncpg/exceptions/_init_.py -> build/lib.linux-x86_64-cpython-313/asyncpg/exceptions
12.84 | creating build/lib.linux-x86_64-cpython-313/asyncpg/_testbase
12.84 | copying asyncpg/_testbase/fuzzer.py -> build/lib.linux-x86_64-cpython-313/asyncpg/_testbase
12.84 | copying asyncpg/_testbase/_init_.py -> build/lib.linux-x86_64-cpython-313/asyncpg/_testbase
12.84 | creating build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codecs
12.84 | copying asyncpg/protocol/codecs/_init_.py -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codecs
12.84 | running egg_info
12.84 | writing asyncpg.egg-info/PKG-INFO
12.84 | writing dependency_links to asyncpg.egg-info/dependency_links.txt
12.84 | writing requirements to asyncpg.egg-info/requirements.txt
12.84 | writing top-level names to asyncpg.egg-info/top_level.txt
12.84 | reading manifest file 'asyncpg.egg-info/SOURCES.txt'
12.84 | reading manifest template 'MANIFEST.in'
12.84 | warning: no files found matching '*.py' under directory 'examples'
12.84 | adding license file 'LICENSE'
12.84 | adding license file 'AUTHORS'
12.84 | writing manifest file 'asyncpg.egg-info/SOURCES.txt'
12.84 | copying asyncpg/protocol/consts.pxi -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/coreproto.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/coreproto.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/cpythontx.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/encodings.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/pgtypes.pxi -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/prepared_stmt.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/prepared_stmt.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/protocol.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/protocol.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/scram.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/scram.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/settings.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/protocol/settings.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol
12.84 | copying asyncpg/pgproto/_init_.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/buffer.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/consts.pxi -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/cpythontx.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/debug.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/frb.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 | copying asyncpg/pgproto/frb.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto

```

Figure 8 docker build -t test_bad.


```

12.84 copying asyncpg/pgproto/cpython.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/debug.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/frb.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/frb.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/hton.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/pgproto.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/pgproto.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/tohex.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 copying asyncpg/pgproto/uuid.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 creating build/lib.linux-x86_64-cpython-313/asyncpg/protocol/record
12.84 copying asyncpg/protocol/record/_init_.pyd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/record
12.84 copying asyncpg/protocol/codes/array.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codes
12.84 copying asyncpg/protocol/codes/base.pxd -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codes
12.84 copying asyncpg/protocol/codes/base.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codes
12.84 copying asyncpg/protocol/codes/pgproto.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codes
12.84 copying asyncpg/protocol/codes/range.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codes
12.84 copying asyncpg/protocol/codes/record.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codes
12.84 copying asyncpg/protocol/codes/textutils.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/protocol/codes
12.84 creating build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/_init_.pyd -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/bits.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/bytea.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/context.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/datetime.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/float.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/geometry.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/hstore.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/int.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/json.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/jsonpath.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/misc.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/network.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/numeric.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/pg_snapshot.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/text.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/tid.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 copying asyncpg/pgproto/codes/uuid.pyx -> build/lib.linux-x86_64-cpython-313/asyncpg/pgproto/codes
12.84 running build_ext
12.84 building 'asyncpg/pgproto/pgproto' extension
12.84 creating build/temp.linux-x86_64-cpython-313/asyncpg/pgproto
12.84 gcc -fno-strict-overflow -Wsign-compare -DNDEBUG -g -O3 -Wall -fPIC -I/usr/local/include/python3.13 -c asyncpg/pgproto/pgproto.c -o build/temp.linux-x86_64-cpython-313/asyncpg/pgproto/pgproto.o -D-fsigned-char -Wall -Wsign-compare -Wconversion
12.84 asyncpg/pgproto/pgproto.c:864:1: warning: 'Py_UNICODE' is deprecated [-Wdeprecated-declarations]
12.84 864 | static CYTHON_INLINE size_t _Pyx_Py_UNICODE_strlen(const Py_UNICODE *u) {
12.84 | ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_Py_UNICODE_strlen':
12.84 asyncpg/pgproto/pgproto.c:865:5: warning: 'Py_UNICODE' is deprecated [-Wdeprecated-declarations]
12.84 865 |     const Py_UNICODE *u_end = u;
12.84 |     ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_init_assertions_enabled':
12.84 asyncpg/pgproto/pgproto.c:1667:39: warning: implicit declaration of function '_PyInterpreterState_GetConfig'; did you mean 'PyInterpreterState_GetID'? [-Wimplicit-function-declaration]
12.84 1667 |     __pyx_assertions_enabled_flag = ! _PyInterpreterState_GetConfig(__Pyx_PyThreadState_Current->interp)->
12.84 optimization_level:
12.84 | ^~~~~~
12.84 asyncpg/pgproto/pgproto.c:1667:105: error: invalid type argument of '-' (>) (have 'int')
12.84 1667 |     __pyx_assertions_enabled_flag = ! _PyInterpreterState_GetConfig(__Pyx_PyThreadState_Current->interp)->
12.84 optimization_level:
12.84 | ^~
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyUnicode_Join':
12.84 asyncpg/pgproto/pgproto.c:38932:13: warning: implicit declaration of function '_PyUnicode_FastCopyCharacters'; did you mean 'PyUnicode_CopyCharacters'? [-Wimplicit-function-declaration]
12.84 38932 |     PyUnicode_FastCopyCharacters(result_uval, char_pos, uval, 0, ulength);
12.84 |     ^~~~~~
12.84 PyUnicode_CopyCharacters
12.84 In file included from /usr/local/include/python3.13/internal/pycore_code.h:12,
12.84 from /usr/local/include/python3.13/internal/pycore_frame.h:13,
12.84 from asyncpg/pgproto/pgproto.c:41520:
12.84 /usr/local/include/python3.13/internal/pycore_backoff.h: In function 'make_backoff_counter':
12.84 /usr/local/include/python3.13/internal/pycore_backoff.h:60:20: warning: conversion from 'uint16_t' {aka 'short unsigned int'} to 'short unsigned int':12' may change value [-Wconversion]
12.84 60 |     result.value = value;
12.84 |     ^~~~~~
12.84 /usr/local/include/python3.13/internal/pycore_backoff.h:61:22: warning: conversion from 'uint16_t' {aka 'short unsigned int'} to 'unsigned char':4' may change value [-Wconversion]
12.84 61 |     result.backoff = backoff;
12.84 |     ^~~~~~
12.84 /usr/local/include/python3.13/internal/pycore_backoff.h: In function 'restart_backoff_counter':
12.84 /usr/local/include/python3.13/internal/pycore_backoff.h:78:66: warning: conversion from 'int' to 'uint16_t' {aka 'short unsigned int'} may change value [-Wconversion]
12.84 78 |     return make_backoff_counter((1 << (counter.backoff + 1)) - 1, counter.backoff + 1);

```

Figure 9 docker build -t test_bad .

```

short unsigned int') may change value [-Wconversion]
12.84 78 |         return make_backoff_counter((1 << (counter.backoff + 1)) - 1, counter.backoff + 1);
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_int':
12.84 asyncpg/pgproto/pgproto.c:41809:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 41809 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 In file included from /usr/local/include/python3.13/longobject.h:107,
12.84 |                  from /usr/local/include/python3.13/Python.h:81,
12.84 |                  from asyncpg/pgproto/pgproto.c:33:
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_int64_t':
12.84 asyncpg/pgproto/pgproto.c:42043:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 42043 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_int32_t':
12.84 asyncpg/pgproto/pgproto.c:42239:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 42239 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_long':
12.84 asyncpg/pgproto/pgproto.c:42435:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 42435 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_unsigned_char':
12.84 asyncpg/pgproto/pgproto.c:42745:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 42745 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_int16_t':
12.84 asyncpg/pgproto/pgproto.c:43055:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43055 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_char':
12.84 asyncpg/pgproto/pgproto.c:43289:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43289 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_int8_t':
12.84 asyncpg/pgproto/pgproto.c:43485:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43485 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_uint32_t':
12.84 asyncpg/pgproto/pgproto.c:43719:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43719 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: In function '_Pyx_PyInt_As_uint64_t':
12.84 asyncpg/pgproto/pgproto.c:43915:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43915 |         int ret = _PyLong_AsByteArray((PyLongObject *)v,
12.84 |                                     ~~~~~^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 |                                     ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c: At top level:
12.84 asyncpg/pgproto/pgproto.c:23994:18: warning: '_pyx_f_7asyncpg_7pgproto_7pgproto_json_decode' defined but not used
12.84 [-Wunused-function]
12.84 23994 | static PyObject * _pyx_f_7asyncpg_7pgproto_7pgproto_json_decode(struct __pyx_obj_7asyncpg_7pgproto_7pgprot
12.84 | o.CodecContext * __pyx_v_settings, struct __pyx_t_7asyncpg_7pgproto_7pgproto_FRBuffer * __pyx_v_buf) {
12.84 | ~~~~~^~~~~~
12.84
12.84 asyncpg/pgproto/pgproto.c:23886:18: warning: '_pyx_f_7asyncpg_7pgproto_7pgproto_json_encode' defined but not used

```

Figure 10 docker build -t test_bad.

```

12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '__Pyx_PyInt_As_unsigned_char':
12.84 asyncpg/pgproto/pgproto.c:42745:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 42745 | int ret = _PyLong_AsByteArray((PyLongObject *)v),
12.84 ^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '__Pyx_PyInt_As_int16_t':
12.84 asyncpg/pgproto/pgproto.c:43055:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43055 | int ret = _PyLong_AsByteArray((PyLongObject *)v),
12.84 ^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '__Pyx_PyInt_As_char':
12.84 asyncpg/pgproto/pgproto.c:43289:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43289 | int ret = _PyLong_AsByteArray((PyLongObject *)v),
12.84 ^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '__Pyx_PyInt_As_int8_t':
12.84 asyncpg/pgproto/pgproto.c:43485:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43485 | int ret = _PyLong_AsByteArray((PyLongObject *)v),
12.84 ^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '__Pyx_PyInt_As_uint32_t':
12.84 asyncpg/pgproto/pgproto.c:43719:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43719 | int ret = _PyLong_AsByteArray((PyLongObject *)v),
12.84 ^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: In function '__Pyx_PyInt_As_uint64_t':
12.84 asyncpg/pgproto/pgproto.c:43915:27: error: too few arguments to function '_PyLong_AsByteArray'
12.84 43915 | int ret = _PyLong_AsByteArray((PyLongObject *)v),
12.84 ^~~~~~
12.84 /usr/local/include/python3.13/cpython/longobject.h:111:17: note: declared here
12.84 111 | PyAPI_FUNC(int) _PyLong_AsByteArray(PyLongObject* v,
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c: At top level:
12.84 asyncpg/pgproto/pgproto.c:23994:18: warning: '__pyx_f_7asyncpg_7pgproto_7pgproto_json_decode' defined but not used
12.84 [-Wunused-function]
12.84 23994 | static PyObject * __pyx_f_7asyncpg_7pgproto_7pgproto_json_decode(struct __pyx_obj_7asyncpg_7pgproto_7pgproto
12.84 o_CodecContext * __pyx_v_settings, struct __pyx_t_7asyncpg_7pgproto_7pgproto_FRBuffer * __pyx_v_buf) {
12.84 ^~~~~~
12.84 asyncpg/pgproto/pgproto.c:23886:18: warning: '__pyx_f_7asyncpg_7pgproto_7pgproto_json_encode' defined but not used
12.84 [-Wunused-function]
12.84 23886 | static PyObject * __pyx_f_7asyncpg_7pgproto_7pgproto_json_encode(struct __pyx_obj_7asyncpg_7pgproto_7pgproto
12.84 o_CodecContext * __pyx_v_settings, struct __pyx_obj_7asyncpg_7pgproto_7pgproto_WriteBuffer * __pyx_v_buf, PyObject * __pyx_v_obj)
12.84 {
12.84 ^~~~~~
12.84 error: command '/usr/bin/gcc' failed with exit code 1
12.84 [end of output]

note: This error originates from a subprocess, and is likely not a problem with pip.
ERROR: Failed building wheel for asyncpg
Building wheel for psycopg2-binary (pyproject.toml): started
Building wheel for psycopg2-binary (pyproject.toml): finished with status 'done'
18.18 Created wheel for psycopg2-binary: filename=psycopg2_binary-2.9.9-cp313-cp313-linux_x86_64.whl size=520904 sha256=56d0
ba0635fb8db81e19b64096ea9d8f42859bd3c03a84005272a2bbff5b2690
18.18 Stored in directory: /tmp/pip-ephem-wheel-cache-0lv95llj/wheels/03/34/cf/71a53a0a7ee50c85943f826ea7225cb94fde84b15f8be
3da89
18.19 Successfully built psycopg2-binary
18.19 Failed to build asyncpg
18.34 ERROR: Failed to build installable wheels for some pyproject.toml based projects (asyncpg)
-----
Dockerfile:9
-----
7 | copy ./src /app/server/src
8 |
9 | >>> run pip install --no-cache-dir --upgrade -r /app/server/requirements.txt
10 |
11 | cmd ["uvicorn", "server.src.main:app", "--host", "0.0.0.0", "--port", "8000"]
-----
ERROR: failed to solve: process "/bin/sh -c pip install --no-cache-dir --upgrade -r /app/server/requirements.txt" did not com
lete successfully: exit code: 1
george@george-VirtualBox:~/Documents/Practika-3/bad-docker/server$

```

Figure 11 docker build -t test_bad.

В результате запуска команды было получены ошибки, связанные с недостаточными зависимостями и версиями Python

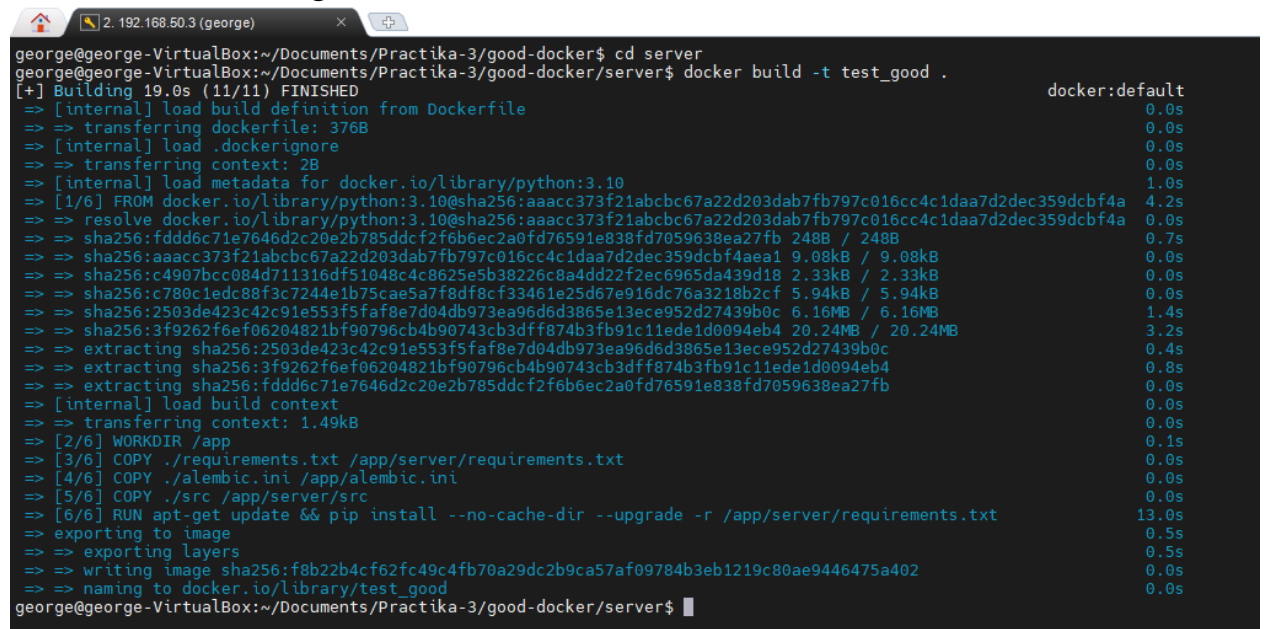
good-docker

cd ..

cd good-docker

cd server

docker build -t test_good .



```
george@george-VirtualBox:~/Documents/Practika-3/good-docker$ cd server
george@george-VirtualBox:~/Documents/Practika-3/good-docker/server$ docker build -t test_good .
[+] Building 19.0s (11/11) FINISHED
=> [internal] load build definition from Dockerfile                                docker:default
=> => transferring dockerfile: 376B                                              0.0s
=> [internal] load .dockerignore                                                  0.0s
=> => transferring context: 2B                                                    0.0s
=> [internal] load metadata for docker.io/library/python:3.10                  1.0s
=> [1/6] FROM docker.io/library/python:3.10@sha256:aaacc373f21abcbc67a22d203dab7fb797c016cc4c1daa7d2dec359dcbf4a 4.2s
=> => resolve docker.io/library/python:3.10@sha256:aaacc373f21abcbc67a22d203dab7fb797c016cc4c1daa7d2dec359dcbf4a 0.0s
=> => sha256: fddd6c71e7646d2c20e2b785ddcf2f6b6ec2a0fd76591e838fd7059638ea27fb 248B / 248B 0.7s
=> => sha256: aaacc373f21abcbc67a22d203dab7fb797c016cc4c1daa7d2dec359dcbf4aea1 9.08kB / 9.08kB 0.0s
=> => sha256: c4907bcc084d711316df51048c4c8625e5b38226c8a4dd22f2ec6965da439d18 2.33kB / 2.33kB 0.0s
=> => sha256: c780c1edc88f3c7244e1b75cae5a7f8df8cf33461e25d67e916dc76a3218b2cf 5.94kB / 5.94kB 0.0s
=> => sha256: 2503de423c42c91e553f5faf8e7d04db973ea96d6d3865e13ece952d27439b0c 6.16MB / 6.16MB 1.4s
=> => sha256: 3f9262f6ef06204821bf90796cb4b90743cb3dff874b3fb91c11ede1d0094eb4 20.24MB / 20.24MB 3.2s
=> => extracting sha256: 2503de423c42c91e553f5faf8e7d04db973ea96d6d3865e13ece952d27439b0c 0.4s
=> => extracting sha256: 3f9262f6ef06204821bf90796cb4b90743cb3dff874b3fb91c11ede1d0094eb4 0.8s
=> => extracting sha256: fddd6c71e7646d2c20e2b785ddcf2f6b6ec2a0fd76591e838fd7059638ea27fb 0.0s
=> [internal] load build context                                                0.0s
=> => transferring context: 1.49kB                                              0.0s
=> [2/6] WORKDIR /app                                                         0.1s
=> [3/6] COPY ./requirements.txt /app/server/requirements.txt                0.0s
=> [4/6] COPY ./alembic.ini /app/alembic.ini                                  0.0s
=> [5/6] COPY ./src /app/server/src                                           0.0s
=> [6/6] RUN apt-get update && pip install --no-cache-dir --upgrade -r /app/server/requirements.txt 13.0s
=> => exporting to image                                                         0.5s
=> => exporting layers                                                         0.5s
=> => writing image sha256: f8b22b4cf62fc49c4fb70a29dc2b9ca57af09784b3eb1219c80ae9446475a402 0.0s
=> => naming to docker.io/library/test_good                                   0.0s
george@george-VirtualBox:~/Documents/Practika-3/good-docker/server$
```

Figure 12 docker build -t test_good .

Все прошло успешно, что подтверждает необходимость правильного составления Dockerfile

5. Запуск

docker run -d --name test_name -p 8000:8000 test_good

docker ps

ip addr (для подключения с «основной машины»)

```

2. 192.168.50.3 (george)
george@george-VirtualBox:~/Documents/Practika-3/good-docker$ cd server
george@george-VirtualBox:~/Documents/Practika-3/good-docker/server$ docker build -t test_good .
[+] Building 19.0s (11/11) FINISHED                                docker:default
=> [internal] load build definition from Dockerfile                0.0s
=> transferring dockerfile: 376B                                   0.0s
=> [internal] load .dockerignore                                  0.0s
=> transferring context: 2B                                         0.0s
=> [internal] load metadata for docker.io/library/python:3.10     1.0s
=> [1/6] FROM docker.io/library/python:3.10@sha256:aaacc373f21abcb67a22d203dab7fb797c016cc4c1daa7d2dec359dcbf4a 4.2s
=> resolve docker.io/library/python:3.10@sha256:aaacc373f21abcb67a22d203dab7fb797c016cc4c1daa7d2dec359dcbf4a 0.0s
=> sha256:fdddc671e7646d2c20e2b785ddcf2f6b6ec2a0fd76591e838fd7059638ea27fb 248B / 248B 0.7s
=> sha256:aaacc373f21abcb67a22d203dab7fb797c016cc4c1daa7d2dec359dcbf4a 9.08kB / 9.08kB 0.0s
=> sha256:c4907bcc084d711316df51048c4c8625e5b38226c8a4dd22f2ec6965da439d18 2.33kB / 2.33kB 0.0s
=> sha256:c780c1edc88f3c7244e1b75cae5a7f8df8cf33461e25d67e916dc76a3218b2cf 5.94kB / 5.94kB 0.0s
=> sha256:2503de423c42c91e553f5faf8e7d04db973ea96d6d3865e13ece952d27439b0c 6.16MB / 6.16MB 1.4s
=> sha256:3f9262f6ef06204821bf90796cb4b90743cb3df874b3fb01c11ede1d0094eb4 20.24MB / 20.24MB 3.2s
=> extracting sha256:2503de423c42c91e553f5faf8e7d04db973ea96d6d3865e13ece952d27439b0c 0.4s
=> extracting sha256:3f9262f6ef06204821bf90796cb4b90743cb3df874b3fb01c11ede1d0094eb4 0.8s
=> extracting sha256:fdddc671e7646d2c20e2b785ddcf2f6b6ec2a0fd76591e838fd7059638ea27fb 0.0s
=> [internal] load build context                                   0.0s
=> transferring context: 1.49kB                                    0.0s
=> [2/6] WORKDIR /app                                              0.1s
=> [3/6] COPY ./requirements.txt /app/server/requirements.txt     0.0s
=> [4/6] COPY ./alembic.ini /app/alembic.ini                      0.0s
=> [5/6] COPY ./src /app/server/src                               0.0s
=> [6/6] RUN apt-get update && pip install --no-cache-dir --upgrade -r /app/server/requirements.txt 13.0s
=> exporting to image                                              0.5s
=> exporting layers                                                0.5s
=> writing image sha256:f8b22b4cf62fc49c4fb70a29dc2b9ca57af09784b3eb1219c80ae9446475a402 0.0s
=> naming to docker.io/library/test_good                          0.0s
george@george-VirtualBox:~/Documents/Practika-3/good-docker/server$ docker run -d --name test_name -p 8000:8000 test_good
4153d2c33e6b34f27fb80453c1b8352cfe7d03f7388bf9f80c285b04850b613c
george@george-VirtualBox:~/Documents/Practika-3/good-docker/server$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
NAMES
4153d2c33e6b  test_good     "uvicorn server.src:..." 30 seconds ago Up 29 seconds 0.0.0.0:8000->8000/tcp, :::8000->8000/tcp
test_name
george@george-VirtualBox:~/Documents/Practika-3/good-docker/server$ ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid lft forever preferred lft forever
    inet6 ::1/128 scope host noprefixroute
        valid lft forever preferred lft forever
2: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:31:92:39 brd ff:ff:ff:ff:ff:ff
    inet 192.168.50.5/24 brd 192.168.50.255 scope global dynamic noprefixroute enp0s3
        valid lft 82788sec preferred lft 82788sec
3: docker0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:e9:6c:70:c6 brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.1/16 brd 172.17.255.255 scope global docker0
        valid lft forever preferred lft forever
    inet6 fe80::42:e9ff:fe6c:70c6/64 scope link
        valid lft forever preferred lft forever
11: vethece5cea@if10: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue master docker0 state UP group default
    link/ether c2:50:e2:da:26:4d brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet6 fe80::c050:e2ff:feda:264d/64 scope link
        valid lft forever preferred lft forever
george@george-VirtualBox:~/Documents/Practika-3/good-docker/server$

```

Figure 13 3anyck

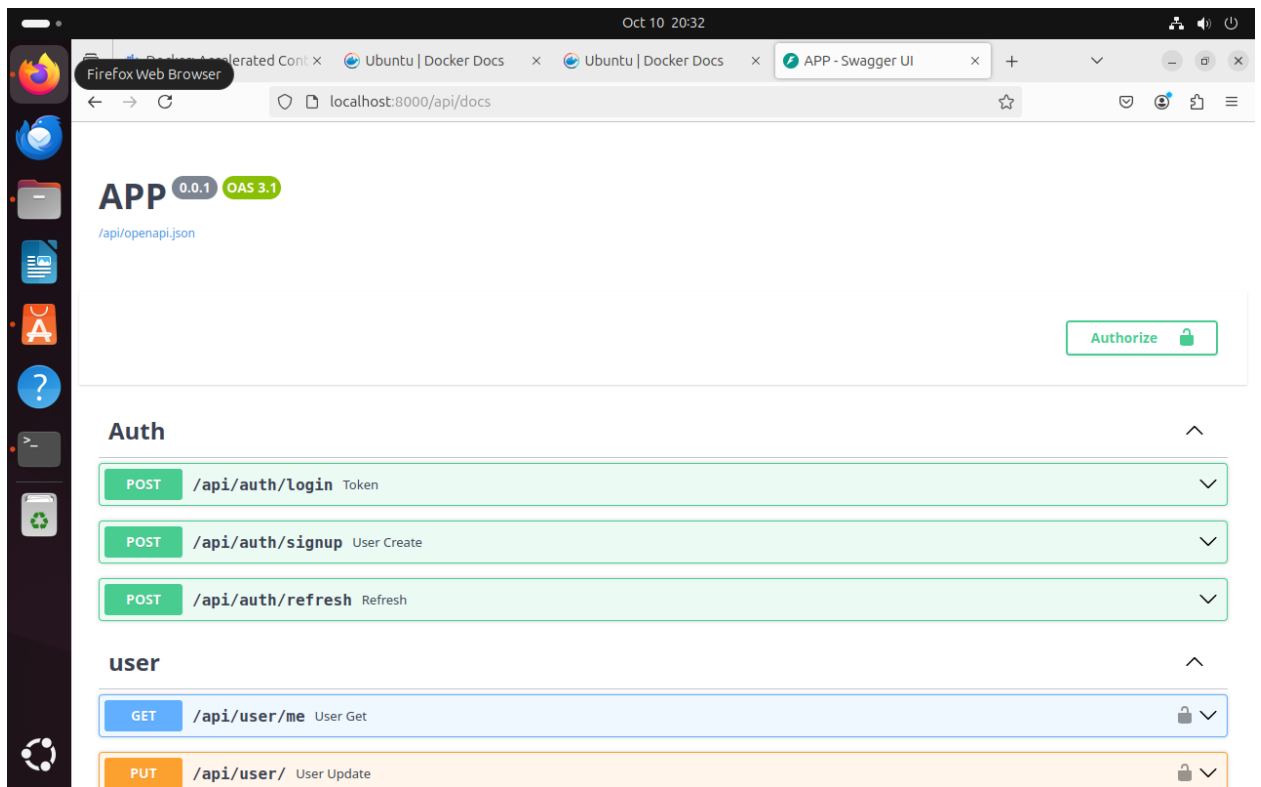


Figure 14 Работа на виртуальной машине

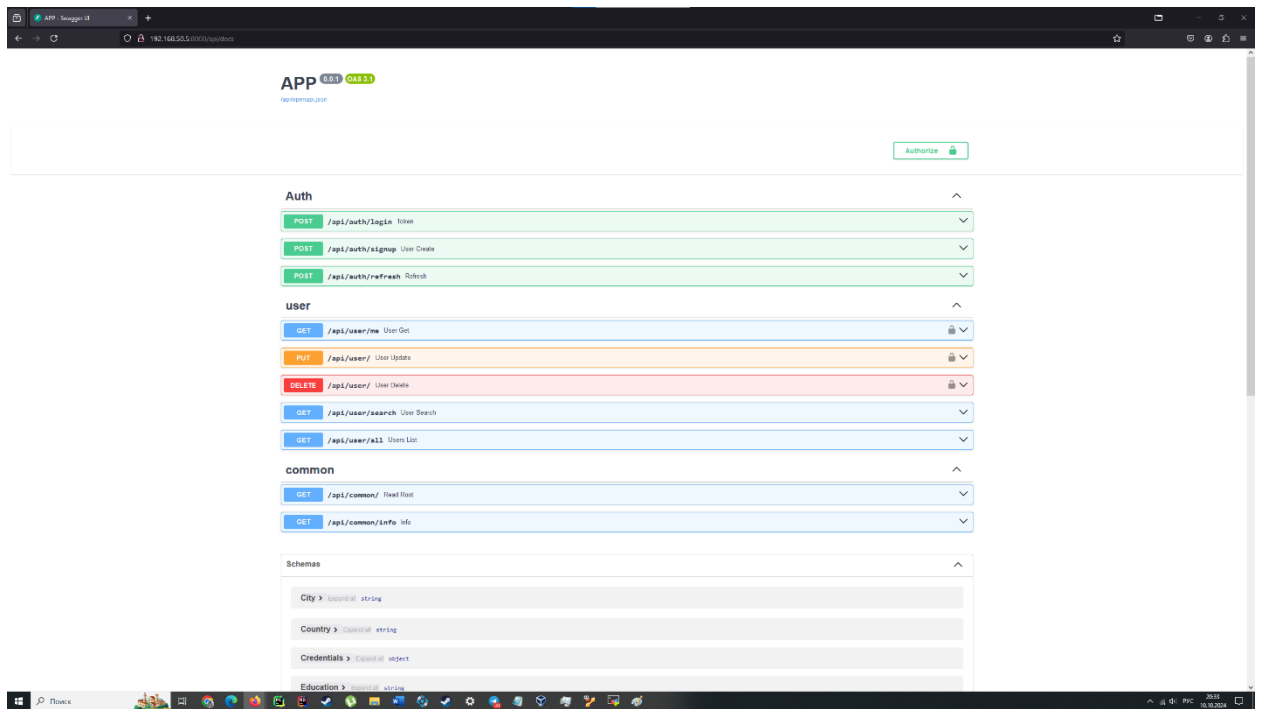


Figure 15 Работа на основной машине

Заключение

В результате выполнения данной работы, были получены практические и теоретические навыки по работе с Docker, Dockerfile, рассмотрены «плохие» и «хорошие» практики по использованию контейнеров