

INT-332 Practical-4

Example 2: Python App with Flask

```
PS C:\Users> cd sr302
```

```
PS C:\Users\sr302> mkdir flask_user_project
```

```
>> cd flask_user_project
```

Directory: C:\Users\sr302

Mode	LastWriteTime	Length	Name
d----	2/18/2026 12:45 PM		flask_user_project

```
PS C:\Users\sr302\flask_user_project> notepad app.py
```

```
>> notepad requirements.txt
```

```
>> notepad Dockerfile
```

```
>>
```

```
PS C:\Users\sr302\flask_user_project> docker build -t flask-user-app .
```

```
>>
```

```
[+] Building 0.2s (1/1) FINISHED                                docker:desktop-linux
```

```
=> [internal] load build definition from Dockerfile              0.1s
```

```
=> => transferring dockerfile: 2B                                0.0s
```

```
ERROR: failed to build: failed to solve: failed to read dockerfile: open Dockerfile: no such file or directory
```

```
PS C:\Users\sr302\flask_user_project> ^C
```

```
PS C:\Users\sr302\flask_user_project> dir
```

Directory: C:\Users\sr302\flask_user_project

Mode	LastWriteTime	Length	Name
----	-----	-----	----
-a----	2/18/2026 12:46 PM	434	app.py
-a----	2/18/2026 12:46 PM	175	Dockerfile.txt
-a----	2/18/2026 12:46 PM	5	requirements.txt

PS C:\Users\sr302\flask_user_project> ^C

PS C:\Users\sr302\flask_user_project> ren Dockerfile.txt Dockerfile

>>

PS C:\Users\sr302\flask_user_project> docker build -t flask-user-app .

>>

```
[+] Building 9.4s (11/11) FINISHED                                docker:desktop-linux
=> [internal] load build definition from Dockerfile                0.1s
=> => transferring dockerfile: 214B                                0.0s
=> [internal] load metadata for docker.io/library/python:3.11-slim 7.4s
=> [auth] library/python:pull token for registry-1.docker.io      0.0s
=> [internal] load .dockerignore                                    0.1s
=> => transferring context: 2B                                       0.0s
=> [1/5] FROM docker.io/library/python:3.11-slim@sha256:0b23cfb7425d065008b778022a17b1551c82f8b4866ee5a7a200084b7e2e 0.1s
=> => resolve docker.io/library/python:3.11-slim@sha256:0b23cfb7425d065008b778022a17b1551c82f8b4866ee5a7a200084b7e2e 0.1s
=> [internal] load build context                                    0.1s
=> => transferring context: 735B                                      0.1s
=> CACHED [2/5] WORKDIR /app                                        0.0s
=> CACHED [3/5] COPY requirements.txt .                             0.0s
```

```
=> CACHED [4/5] RUN pip install --no-cache-dir -r requirements.txt 0.0s
=> [5/5] COPY . . 0.1s
=> exporting to image 0.5s
=> => exporting layers 0.1s
=> => exporting manifest
sha256:7d43f0f110beb4b6257bae0208434f5c2b18d5a0f55b45f94abea58b7074ae87 0.0s
=> => exporting config
sha256:6b7a72ec97385f0a5108614156a7888ffaa322565b81ca19da204d225623c1c1 0.0s
=> => exporting attestation manifest
sha256:60f727c064623f32cb46fb7c11562c9f25e9c73a2785889044b0d0006cd0d2a1 0.1s
=> => exporting manifest list
sha256:5ed9fdf0785bfbefaadcad9598333e3809545b1e0fcee9bb56d12f0202a2bae2 0.0s
=> => naming to docker.io/library/flask-user-app:latest 0.0s
=> => unpacking to docker.io/library/flask-user-app:latest 0.1s
```

```
PS C:\Users\sr302\flask_user_project> ^C
```

```
PS C:\Users\sr302\flask_user_project> docker run -p 5000:5000 flask-user-app
```

```
>>
```

```
* Serving Flask app 'app'
```

```
* Debug mode: off
```

```
WARNING: This is a development server. Do not use it in a production deployment. Use a production
WSGI server instead.
```

```
* Running on all addresses (0.0.0.0)
```

```
* Running on http://127.0.0.1:5000
```

```
* Running on http://172.17.0.2:5000
```

```
Press CTRL+C to quit
```

```
172.17.0.1 - - [18/Feb/2026 07:18:56] "GET / HTTP/1.1" 200 -
```

```
PS C:\Users\sr302\flask_user_project> ^C
```

```
PS C:\Users\sr302\flask_user_project> docker run -p 5000:5000 flask-user-app
```

```
>>
```

```
* Serving Flask app 'app'
```

```
* Debug mode: off
```

WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.

*** Running on all addresses (0.0.0.0)**

*** Running on http://127.0.0.1:5000**

*** Running on http://172.17.0.2:5000**

Press CTRL+C to quit

172.17.0.1 -- [18/Feb/2026 07:20:10] "GET / HTTP/1.1" 200 -

PS C:\Users\sr302\flask_user_project> docker build -t flask-user-app .

>>

[+] Building 3.0s (10/10) FINISHED	docker:desktop-linux	
=> [internal] load build definition from Dockerfile		0.1s
=> => transferring dockerfile: 214B		0.0s
=> [internal] load metadata for docker.io/library/python:3.11-slim		1.5s
=> [internal] load .dockerignore		0.0s
=> => transferring context: 2B		0.0s
=> [1/5] FROM docker.io/library/python:3.11-slim@sha256:0b23cfb7425d065008b778022a17b1551c82f8b4866ee5a7a200084b7e2e		0.1s
=> => resolve docker.io/library/python:3.11-slim@sha256:0b23cfb7425d065008b778022a17b1551c82f8b4866ee5a7a200084b7e2e		0.1s
=> [internal] load build context		0.1s
=> => transferring context: 785B		0.1s
=> CACHED [2/5] WORKDIR /app		0.0s
=> CACHED [3/5] COPY requirements.txt .		0.0s
=> CACHED [4/5] RUN pip install --no-cache-dir -r requirements.txt		0.0s
=> [5/5] COPY . .		0.1s
=> exporting to image		0.7s
=> => exporting layers		0.3s
=> => exporting manifest		
sha256:c786c8a784e68bad32aeaf5c30bbd77037985bdc860bad8bde4f557d9b5ac9e7		0.1s
=> => exporting config		
sha256:0d3f8e280202716fae36618daf2874c61fa9a8037a3cd1908f524a43a06d9596		0.0s

```
=> => exporting attestation manifest
sha256:f4ce6a07b10c9155c6aa864263e5397a4414954773d44839a9dad75479b6b6ce    0.1s

=> => exporting manifest list
sha256:d518b01bf622dfccb82984d59ca1e3eb78ad81f3da78d90da006c12c1c6db45d    0.0s

=> => naming to docker.io/library/flask-user-app:latest    0.0s

=> => unpacking to docker.io/library/flask-user-app:latest    0.0s
```

```
PS C:\Users\sr302\flask_user_project> docker run -p 5000:5000 flask-user-app
```

```
>>
```

```
* Serving Flask app 'app'
```

```
* Debug mode: off
```

```
WARNING: This is a development server. Do not use it in a production deployment. Use a production
WSGI server instead.
```

```
* Running on all addresses (0.0.0.0)
```

```
* Running on http://127.0.0.1:5000
```

```
* Running on http://172.17.0.2:5000
```

```
Press CTRL+C to quit
```

```
172.17.0.1 -- [18/Feb/2026 07:20:47] "GET / HTTP/1.1" 200 -
```

```
172.17.0.1 -- [18/Feb/2026 07:22:15] "GET /users HTTP/1.1" 200 -
```

```
172.17.0.1 -- [18/Feb/2026 07:22:16] "GET /favicon.ico HTTP/1.1" 404 -
```

```
172.17.0.1 -- [18/Feb/2026 07:23:22] "POST /add HTTP/1.1" 201 -
```

```
172.17.0.1 -- [18/Feb/2026 07:24:08] "POST /add HTTP/1.1" 201 -
```

Output-

```
PS C:\Users\sr302\flask_user_project> Invoke-RestMethod -Method POST http://localhost:5000/add `
```

```
>> -Headers @{"Content-Type"="application/json"} `
```

```
>> -Body '{"name":"John"}'
```

```
message      users
```

```
-----      -----
```

```
John added successfully! {Alice, Bob, John, John}
```

```
PS C:\Users\sr302\flask_user_project>
```