

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                 0.0s
sha256:7d43f0f110beb4b6257bae0208434f5c2b18d5a0f55b45f94abea58b7074ae87
=> => exporting config                   0.0s
sha256:6b7a72ec97385f0a5108614156a7888ffaa322565b81ca19da204d225623c1c1
=> => exporting attestation manifest    0.1s
sha256:60f727c064623f32cb46fb7c11562c9f25e9c73a2785889044b0d0006cd0d2a1
=> => exporting manifest list           0.0s
sha256:5ed9fdf0785bfbefaadcad9598333e3809545b1e0fce9bb56d12f0202a2bae2
=> => 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:d518b01bf622dfcccb82984d59ca1e3eb78ad81f3da78d90da006c12c1c6db45d      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>
```