

```
PS C:\Users\POOJITHA> cd "C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app"
```

```
>>
```

```
PS C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app> dir
```

```
>>
```

Directory:

C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app

Mode	LastWriteTime	Length	Name
----	-----	-----	
d----	17-05-2025 09:36 AM		multi-cloud
			-k8s-app

```
PS C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app> cd "multi-cloud-k8s-app"
```

```
>>
```

```
PS C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app\multi-cloud-k8s-app> dir
```

```
>>
```

Directory: C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app\multi-cloud-k8s-app

Mode	LastWriteTime	Length	Name
----	-----	-----	
d----	17-05-2025 09:36 AM		k8s
d----	17-05-2025 09:23 AM		product-ser
			vice
d----	17-05-2025 09:23 AM		user-servic
			e

-a---- 17-05-2025 09:42 AM 280 docker-comp
ose.yml

PS C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app\multi-cloud-k8s-app>docker compose up --build

>>

>>

time="2025-05-17T10:04:20+05:30" level=warning msg="C:\\Users\\POOJITHA\\Downloads\\multi-cloud-k8s-app\\multi-cloud-k8s-app\\docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion"

Compose can now delegate builds to bake for better performance.

To do so, set COMPOSE_BAKE=true.

[+] Building 25.1s (19/19) FINISHED docker:desktop-linux

=> [user-service internal] load build definition from 0.0s

=> => transferring dockerfile: 170B 0.0s

=> [product-service internal] load build definition fr 0.0s

=> => transferring dockerfile: 172B 0.0s

=> [product-service internal] load metadata for docker 1.0s

=> [user-service internal] load .dockerignore 0.0s

=> => transferring context: 2B 0.0s

=> [product-service internal] load .dockerignore 0.0s

=> => transferring context: 2B 0.0s

=> [product-service 1/5] FROM docker.io/library/pytho 14.6s

=> => resolve docker.io/library/python:3.10-slim@sha25 0.0s

=> => sha256:5cc9686f2aa90263bd53a0e 15.65MB / 15.65MB 1.0s

=> => sha256:5e3380732964a9fa4272d7d4a 3.51MB / 3.51MB 1.8s

=> => sha256:254e724d77862dc53abbd3 28.23MB / 28.23MB 10.7s

=> => extracting sha256:254e724d77862dc53abbd3bf0e27f9 2.3s

=> => extracting sha256:5e3380732964a9fa4272d7d4ab36e5 0.3s

=> => extracting sha256:5cc9686f2aa90263bd53a0ee75237a 1.2s

=> => extracting sha256:5d66a27e733ac4f56a6f6669d01e6a 0.0s

=> [product-service internal] load build context 0.0s
=> => transferring context: 93B 0.0s
=> [user-service internal] load build context 0.0s
=> => transferring context: 93B 0.0s
=> [user-service 2/5] WORKDIR /app 0.3s
=> [product-service 3/5] COPY requirements.txt . 0.1s
=> [product-service 4/5] RUN pip install -r requiremen 6.2s
=> [product-service 5/5] COPY . . 0.1s
=> CACHED [user-service 3/5] COPY requirements.txt . 0.0s
=> CACHED [user-service 4/5] RUN pip install -r requir 0.0s
=> [user-service 5/5] COPY . . 0.1s
=> [product-service] exporting to image 2.3s
=> => exporting layers 1.3s
=> => exporting manifest sha256:6a675fa1615477fddd9405 0.0s
=> => exporting config sha256:cdab6e2c5c6bdc3e6920fc02 0.0s
=> => exporting attestation manifest sha256:0b290bc389 0.1s
=> => exporting manifest list sha256:bd566e8be24e823fa 0.0s
=> => naming to docker.io/library/multi-cloud-k8s-app- 0.0s
=> => unpacking to docker.io/library/multi-cloud-k8s-a 0.7s
=> [user-service] exporting to image 2.3s
=> => exporting layers 1.3s
=> => exporting manifest sha256:8b595b4fee2cd6a6c1ee3b 0.0s
=> => exporting config sha256:b342e1c6c628c41c4f521d77 0.0s
=> => exporting attestation manifest sha256:533677d2db 0.1s
=> => exporting manifest list sha256:f7a125e55ad6d4e4f 0.0s
=> => naming to docker.io/library/multi-cloud-k8s-app- 0.0s
=> => unpacking to docker.io/library/multi-cloud-k8s-a 0.7s
=> [user-service] resolving provenance for metadata fi 0.0s
=> [product-service] resolving provenance for metadata 0.0s
[+] Running 3/5

✓ product-serviceBuilt0.0s

✓ user-serviceBuilt0.0s

[+] Running 3/5i-cloud-k8s-app_app-net Created0.1 ✓ product-serviceBuilt0.0s

✓ user-serviceBuilt0.0s [+] Running 3/5i-cloud-k8s-app_app-net Created0.1 ✓ product-
serviceBuilt0.0s ✓ user-serviceBuilt0.0s [+] Running 3/5i-cloud-k8s-app_app-net Created0.1
✓ product-serviceBuilt0.0s ✓ user-service-----XXBuilt0.0s [+] Running 5/5i-cloud-k8s-
app_app-net Created0.1 ✓ product-service Built0.0s ✓ user-service
Built0.0s ✓ Network multi-cloud-k8s-app_app-net Created0.1s Container multi-cloud-k8s-
app-user-service-1 Creating0. ✓ Container multi-cloud-k8s-app-product-service-1 Created0.3s
✓ Container multi-cloud-k8s-app-user-service-1 Created0.3s

Attaching to product-service-1, user-service-1

product-service-1 | * Serving Flask app 'app'

product-service-1 | * Debug mode: off

product-service-1 | WARNING: This is a development server. Do not use it in a production
deployment. Use a production WSGI server instead.

user-service-1 | * Serving Flask app 'app'

product-service-1 | * Running on all addresses (0.0.0.0)

user-service-1 | * Debug mode: off

product-service-1 | * Running on http://127.0.0.1:5000

user-service-1 | WARNING: This is a development server. Do not use it in a production
deployment. Use a production WSGI server instead.

product-service-1 | * Running on http://172.18.0.3:5000

user-service-1 | * Running on all addresses (0.0.0.0)

product-service-1 | Press CTRL+C to quit

user-service-1 | * Running on http://127.0.0.1:5000

user-service-1 | * Running on http://172.18.0.2:5000

user-service-1 | Press CTRL+C to quit

Gracefully stopping... (press Ctrl+C again to force)

[+] Stopping 0/2

- Container multi-cloud-k8s-app-user-service-1 Stopping0.[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping0.[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping0.[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping0.[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping0.[+] Stopping 0/2

- [illegible]


```

- Container multi-cloud-k8s-app-user-service-1 Stopping9.[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping9.[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 0/2
- Container multi-cloud-k8s-app-user-service-1 Stopping10[+] Stopping 1/2
✓ Container multi-cloud-k8s-app-user-service-1 Stopped10.[+] Stopping 1/2
✓ Container multi-cloud-k8s-app-user-service-1 Stopped10.[+] Stopping 2/2
✓ Container multi-cloud-k8s-app-user-service-1 Stopped10.9s
✓ Container multi-cloud-k8s-app-product-service-1 Stopped11.1s

```

PS C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app\multi-cloud-k8s-app>docker compose up --build

>> docker-compose down

>> docker-compose up --build

>>

time="2025-05-17T10:09:33+05:30" level=warning msg="C:\\Users\\POOJITHA\\Downloads\\multi-cloud-k8s-app\\multi-cloud-k8s-app\\docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion"

Compose can now delegate builds to bake for better performance.

To do so, set COMPOSE_BAKE=true.

[+] Building 2.5s (20/20) FINISHED docker:desktop-linux

=> [user-service internal] load build definition from 0.0s

=> => transferring dockerfile: 170B 0.0s

=> [product-service internal] load build definition fr 0.0s

=> => transferring dockerfile: 172B 0.0s

=> [product-service internal] load metadata for docker 1.9s

=> [user-service auth] library/python:pull token for r 0.0s
=> [user-service internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [product-service internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [product-service 1/5] FROM docker.io/library/python 0.1s
=> => resolve docker.io/library/python:3.10-slim@sha25 0.0s
=> [product-service internal] load build context 0.0s
=> => transferring context: 93B 0.0s
=> [user-service internal] load build context 0.0s
=> => transferring context: 93B 0.0s
=> CACHED [product-service 2/5] WORKDIR /app 0.0s
=> CACHED [user-service 3/5] COPY requirements.txt . 0.0s
=> CACHED [user-service 4/5] RUN pip install -r requir 0.0s
=> CACHED [user-service 5/5] COPY . . 0.0s
=> CACHED [product-service 3/5] COPY requirements.txt 0.0s
=> CACHED [product-service 4/5] RUN pip install -r req 0.0s
=> CACHED [product-service 5/5] COPY . . 0.0s
=> [product-service] exporting to image 0.2s
=> => exporting layers 0.0s
=> => exporting manifest sha256:6a675fa1615477fddd9405 0.0s
=> => exporting config sha256:cdab6e2c5c6bdc3e6920fc02 0.0s
=> => exporting attestation manifest sha256:c17549d9f9 0.1s
=> => exporting manifest list sha256:f590f329bad6c11fb 0.0s
=> => naming to docker.io/library/multi-cloud-k8s-app- 0.0s
=> => unpacking to docker.io/library/multi-cloud-k8s-a 0.0s
=> [user-service] exporting to image 0.2s
=> => exporting layers 0.0s
=> => exporting manifest sha256:8b595b4fee2cd6a6c1ee3b 0.0s
=> => exporting config sha256:b342e1c6c628c41c4f521d77 0.0s
=> => exporting attestation manifest sha256:08488761c9 0.1s

=> => exporting manifest list sha256:834b4c75a94cb3889 0.0s

=> => naming to docker.io/library/multi-cloud-k8s-app- 0.0s

=> => unpacking to docker.io/library/multi-cloud-k8s-a 0.0s

=> [product-service] resolving provenance for metadata 0.0s

=> [user-service] resolving provenance for metadata fi 0.0s

[+] Running 3/5

✓ product-serviceBuilt0.0s

✓ user-serviceBuilt0.0s

[+] Running 3/5i-cloud-k8s-app_default Created0.1 ✓ product-serviceBuilt0.0s

✓ user-serviceBuilt0.0s [+] Running 3/5i-cloud-k8s-app_default Created0.1 ✓ product-

serviceBuilt0.0s ✓ user-serviceBuilt0.0s [+] Running 3/5i-cloud-k8s-app_default Created0.1

✓ product-serviceBuilt0.0s ✓ user-service-----XXBuilt0.0s [+] Running 5/5i-cloud-k8s-

app_default Created0.1 ✓ product-service-----XXBuilt0.0s ✓ user-

serviceBuilt0.0s ✓ Network multi-cloud-k8s-app_default Created0.1s Container multi-cloud-

k8s-app-product-service-1 Recreate0. ✓ Container multi-cloud-k8s-app-user-service-1

Recreated0.4s

✓ Container multi-cloud-k8s-app-product-service-1 Recreated0.4s

Attaching to product-service-1, user-service-1

product-service-1 | * Serving Flask app 'app'

product-service-1 | * Debug mode: off

user-service-1 | * Serving Flask app 'app'

product-service-1 | WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.

user-service-1 | * Debug mode: off

product-service-1 | * Running on all addresses (0.0.0.0)

user-service-1 | WARNING: This is a development server. Do product-service-1 | * Running on http://127.0.0.1:5000 user-service-1 | * Running on all addresses (0.0.0.0)

product-service-1 | Press CTRL+C to quit

user-service-1 | * Running on http://172.19.0.3:5000

user-service-1 | Press CTRL+C to quit

user-service-1 | 172.19.0.1 - - [17/May/2025 04:42:38] "GET / HTTP/1.1" 404 -

user-service-1 | 172.19.0.1 - - [17/May/2025 04:42:38] "GET /favicon.ico HTTP/1.1" 404 -

Gracefully stopping... (press Ctrl+C again to force)

[+] Stopping 2/2

- ✓ Container multi-cloud-k8s-app-user-service-1 Stopped11.3s
- ✓ Container multi-cloud-k8s-app-product-service-1 Stopped11.2s

PS C:\Users\POOJITHA\Downloads\multi-cloud-k8s-app\multi-cloud-k8s-app> docker-compose
down # stop existing containers

>> docker-compose up --build

>>

[+] Running 3/3

- ✓ Container multi-cloud-k8s-app-product-service-1 Removed0.1s
- ✓ Container multi-cloud-k8s-app-user-service-1 Removed0.0s
- ✓ Network multi-cloud-k8s-app_defaultRemoved0.6s

Compose can now delegate builds to bake for better performance.

To do so, set COMPOSE_BAKE=true.

[+] Building 2.5s (20/20) FINISHED

docker:desktop-linux

=> [user-service internal] load build definition from Dockerfile
0.0s

=> => transferring dockerfile: 170B 0.0s

=> [product-service internal] load build definition from Dockerfile
0.0s

=> => transferring dockerfile: 172B 0.0s

=> [user-service internal] load metadata for docker.io/library/python:3.10-slim
1.9s

=> [user-service auth] library/python:pull token for registry-1.docker.io
0.0s

=> [product-service internal] load .dockerignore 0.0s

=> => transferring context: 2B 0.0s

=> [user-service internal] load .dockerignore 0.0s

=> => transferring context: 2B 0.0s

=> [product-service internal] load build context 0.0s

=> => transferring context: 93B 0.0s

=> [user-service 1/5] FROM docker.io/library/python:3.10-
slim@sha256:e1013c40c02a7875ae30c78c69b68ea7bee31713e8ac1c0f5469c1206258 0.0s

=> => exporting manifest

sha256:8b595b4fee2cd6a6c1ee3bf57646fcd62bab9e0f20cca46739fa6fcec88f1eb
0.0s

=> => exporting config

sha256:b342e1c6c628c41c4f521d772b2e4e3d483a1e65b315580317476acd2479fc58
0.0s

=> => exporting attestation manifest

sha256:d2d4664ac29a60ff5ab4a8f507f4f4b9d4bb11a4c69531a9dcf6d21f427532fb 0.1s

=> => exporting manifest list

sha256:5ae22ba5d380c5980703cdf7439bd06654928fbd9e592bea080290706394842
0.0s

=> => naming to docker.io/library/multi-cloud-k8s-app-user-service:latest

0.0s

=> => unpacking to docker.io/library/multi-cloud-k8s-app-user-service:latest

0.0s

=> [product-service] resolving provenance for metadata file

0.0s

=> [user-service] resolving provenance for metadata file

0.0s

[+] Running 5/5

✓ product-serviceBuilt0.0s

✓ user-serviceBuilt0.0s

✓ Network multi-cloud-k8s-app_defaultCreated0.1s

✓ Container multi-cloud-k8s-app-user-service-1 Created0.3s

✓ Container multi-cloud-k8s-app-product-service-1 Created0.3s

Attaching to product-service-1, user-service-1

user-service-1 | * Serving Flask app 'app'

user-service-1 | * Debug mode: off

product-service-1 | * Serving Flask app 'app'

user-service-1 | WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.

product-service-1 | * Debug mode: off

user-service-1 | * Running on all addresses (0.0.0.0)

product-service-1 | WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.

user-service-1 | * Running on http://127.0.0.1:5000
product-service-1 | * Running on all addresses (0.0.0.0)
user-service-1 | * Running on http://172.19.0.3:5000
product-service-1 | * Running on http://127.0.0.1:5000
user-service-1 | Press CTRL+C to quit
product-service-1 | * Running on http://172.19.0.2:5000
product-service-1 | Press CTRL+C to quit
product-service-1 | 172.19.0.1 - - [17/May/2025 04:45:55] "GET / HTTP/1.1" 404 -
product-service-1 | 172.19.0.1 - - [17/May/2025 04:45:55] "GET /favicon.ico HTTP/1.1" 404 -
product-service-1 | 172.19.0.1 - - [17/May/2025 04:48:11] "GET /products HTTP/1.1" 200 -
user-service-1 | 172.19.0.1 - - [17/May/2025 04:52:09] "GET /users HTTP/1.1" 200 -
user-service-1 | 172.19.0.1 - - [17/May/2025 04:52:09] "GET /favicon.ico HTTP/1.1" 404 -
user-service-1 | 172.19.0.1 - - [17/May/2025 04:52:31] "GET /users HTTP/1.1" 200 -
user-service-1 | 172.19.0.1 - - [17/May/2025 04:52:31] "GET /favicon.ico HTTP/1.1" 404 -
product-service-1 | 172.19.0.1 - - [17/May/2025 04:52:47] "GET /products HTTP/1.1" 200 -

← → ↻ ⓘ localhost:5001/products



Pretty-print ☐

```
[{"id":1,"name":"Laptop","price":999.99},{"id":2,"name":"Smartphone","price":599.99}]
```

← → ↻ ⓘ localhost:5002/users



Pretty-print ☐

```
[{"id":1,"name":"Alice"}]
```