1. Set up a docker registry:

```
hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn
$ docker swarm init
Swarm initialized: current node (xs2d61pnbsnxli8ky3v9aas5l) is now a manager.

To add a worker to this swarm, run the following command:

    docker swarm join --token SWMTKN-1-38f3g8sz3uhwzfdnd0xrwfgd9db93sa66duv55btp
0nvm8a6ls-5cqjy20n7wwmvvapqern5eipa 192.168.65.3:2377

To add a manager to this swarm, run 'docker swarm join-token manager' and follow
 the instructions.


hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn
$ docker service create --name registry --publish published=5000,target=5000 registry:2
j97pwwjhi9xls10vbwgkp592d
verify: Service j97pwwjhi9xls10vbwgkp592d converged

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn
$ docker service ls
ID              NAME       MODE        REPLICAS    IMAGE         PORTS
j97pwwjhi9xl    registry   replicated  1/1         registry:2    *:5000->5000/tcp

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn
$ curl http://localhost:5000/v2/

{}
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100     2  100     2    0     0     29      0 --:--:-- --:--:-- --:--:--    30{}
bash: {}: command not found

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn
$ mkdir stackdemo
cd stackdemo

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ vi app.py

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ vi requirements.txt

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ vi Dockerfile

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ vi compose.yml

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker compose up -d
validating D:\docker-learn\stackdemo\compose.yml: services.web Additional property redis
is not allowed
```

2. Test the app with compose:

```
hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ cat compose.yml
  services:
    web:
      image: 127.0.0.1:5000/stackdemo
      build: .
      ports:
        - "8000:8000"
    redis:
      image: redis:alpine


hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker compose up -d
 web Pulling
 redis Pulling
 web Warning manifest for 127.0.0.1:5000/stackdemo:latest not found: manifest unknown: ma
nifest unknown
 ec99f8b99825 Pulling fs layer
 5f13f9e3fcad Pulling fs layer
```

```
 Network stackdemo_default   Creating
 Network stackdemo_default   Created
 Container stackdemo-web-1   Creating
 Container stackdemo-redis-1  Creating
 Container stackdemo-web-1   Created
 Container stackdemo-redis-1  Created
 Container stackdemo-web-1   Starting
 Container stackdemo-redis-1  Starting
 Container stackdemo-redis-1  Started
 Container stackdemo-web-1   Started

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker compose ps
NAME                    IMAGE                      COMMAND                   SERVICE   CREATED
               STATUS            PORTS
stackdemo-redis-1   redis:alpine               "docker-entrypoint.s…"   redis     About a
 minute ago   Up About a minute   6379/tcp
stackdemo-web-1     127.0.0.1:5000/stackdemo   "python app.py"          web       About a
 minute ago   Up About a minute   0.0.0.0:8000->8000/tcp

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ curl http://localhost:8000
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100    39  100    39    0     0    724      0 --:--:-- --:--:-- --:--:--   722Hello World
! I have been seen 1 times.


hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ curl http://localhost:8000
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100    39  100    39    0     0   1730      0 --:--:-- --:--:-- --:--:--  1772Hello World
! I have been seen 2 times.
```

```
hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ curl http://localhost:8000
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100    40  100    40    0     0   1857      0 --:--:-- --:--:-- --:--:--   1904Hello World
! I have been seen 10 times.


hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker compose down --volumes
 Container stackdemo-redis-1  Stopping
 Container stackdemo-web-1  Stopping
 Container stackdemo-redis-1  Stopped
 Container stackdemo-redis-1  Removing
 Container stackdemo-redis-1  Removed
 Container stackdemo-web-1  Stopped
 Container stackdemo-web-1  Removing
 Container stackdemo-web-1  Removed
 Network stackdemo_default  Removing
 Network stackdemo_default  Removed


hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker compose push
 redis Skipped
 Pushing 127.0.0.1:5000/stackdemo: f47ae8396dfb Preparing
 Pushing 127.0.0.1:5000/stackdemo: 5f70bf18a086 Preparing
 Pushing 127.0.0.1:5000/stackdemo: fc75f6b4e5f0 Preparing
 Pushing 127.0.0.1:5000/stackdemo: 62de8bcc470a Preparing
 Pushing 127.0.0.1:5000/stackdemo: 58026b9b6bf1 Preparing
 Pushing 127.0.0.1:5000/stackdemo: fbe16fc07f0d Preparing
 Pushing 127.0.0.1:5000/stackdemo: aabe8fddede5 Preparing
 Pushing 127.0.0.1:5000/stackdemo: bcf2f368fe23 Preparing
 Pushing 127.0.0.1:5000/stackdemo: fbe16fc07f0d Waiting
```

```
hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker stack deploy --compose-file compose.yml stackdemo
Ignoring unsupported options: build

Since --detach=false was not specified, tasks will be created in the background.
In a future release, --detach=false will become the default.
Creating network stackdemo_default
Creating service stackdemo_web
Creating service stackdemo_redis

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker stack services stackdemo
ID                NAME              MODE         REPLICAS    IMAGE
  PORTS
trs36kzlbhp2      stackdemo_redis   replicated   1/1         redis:alpine

urhzv66zgses      stackdemo_web     replicated   1/1         127.0.0.1:5000/stackdemo:latest
  *:8000->8000/tcp

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ curl http://localhost:8000
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100    39  100    39    0     0   1635      0 --:--:-- --:--:-- --:--:--  1695Hello World
! I have been seen 1 times.
```

```
hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker stack rm stackdemo
Removing service stackdemo_redis
Removing service stackdemo_web
Removing network stackdemo_default

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker service rm registry
registry

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ docker swarm leave --force
Node left the swarm.

hp@DESKTOP-AP73G4O MINGW64 /d/docker-learn/stackdemo
$ |
```