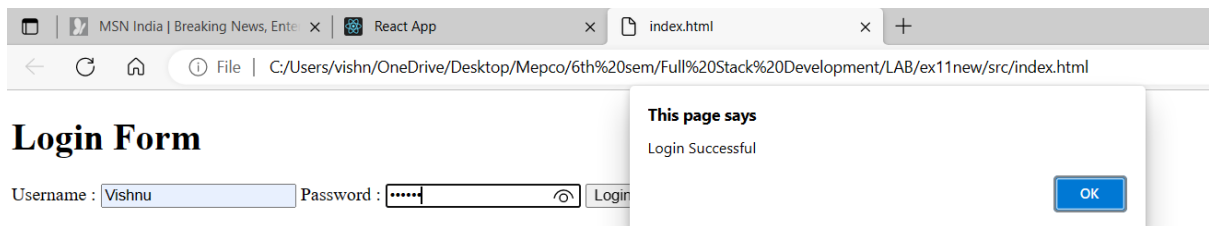
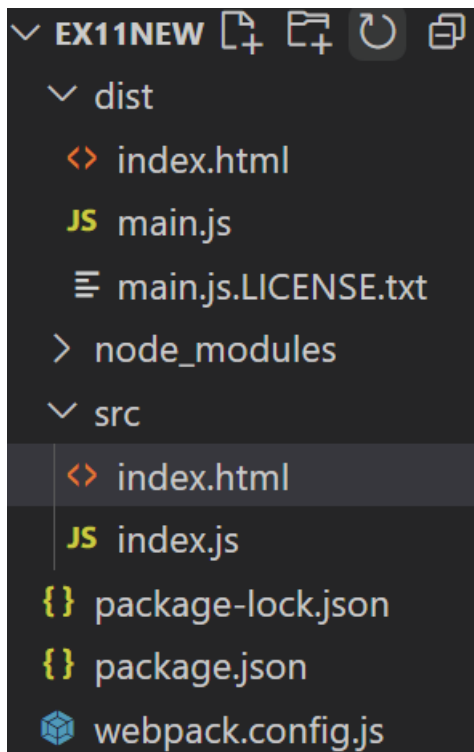


Exercise – 11



Exercise – 12



Exercise – 13

```
Activities Terminal Apr 25 06:37
ubuntu@ubuntu-2204: ~$ docker pull ubuntu
Using default tag: latest
Error response from daemon: Get "https://registry-1.docker.io/v2/": net/http: request canceled while waiting for connection (Client.Timeout exceeded while awaiting headers)
ubuntu@ubuntu-2204: ~$ docker pull ubuntu
Using default tag: latest
Error response from daemon: Get "https://registry-1.docker.io/v2/": x509: certificate signed by unknown authority
ubuntu@ubuntu-2204: ~$ docker pull ubuntu
Using default tag: latest
latest: pulling from library/ubuntu
Digest: sha256:67211c14fa74f970d27cc59d69a7fa9aeff8e28ea118ef3babc295a0428a6d21
Status: Image is up to date for ubuntu:latest
ubuntu@ubuntu-2204: ~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  STATUS    PORTS    NAMES
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS
8a7279e56e73   hello-world   "/hello"                56 minutes ago    Exited (0) 56 minutes ago
a45be722a1a6   hello-world   "/hello"                58 minutes ago    Exited (0) 58 minutes ago
05617e12b897   hello-world   "/hello"                58 minutes ago    Exited (0) 58 minutes ago
dc67b5635481   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Exited (1) 6 days ago
bbc8ad29ea3   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Exited (1) 6 days ago
eb5e9f7d2eb9   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Created
04c66931ea06   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Created
4baf8bd75968   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Exited (255) About an hour ago 33060/tcp, 0.0.0.0:30306->3306/tcp, :::30306->33
067tcp        mysql-containe...   "/bin/bash"            7 days ago        Exited (255) About an hour ago
9a78c9793df4   ubuntu        "bash"                 7 days ago        Exited (255) About an hour ago
6a6506612c06   hello-world   "/hello"                7 days ago        Exited (0) 7 days ago
ubuntu@ubuntu-2204: ~$
```

```
Activities Terminal Apr 25 06:40
ubuntu@ubuntu-2204: ~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  STATUS    PORTS    NAMES
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS
eb5e9f7d2eb9   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Created
04c66931ea06   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Created
4baf8bd75968   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Exited (255) About an hour ago 33060/tcp, 0.0.0.0:30306->3306/tcp, :::30306->33
->3306/tcp
52273f4f02c5   ubuntu        "/bin/bash"            7 days ago        Exited (255) About an hour ago
9a78c9793df4   ubuntu        "bash"                 7 days ago        Exited (255) About an hour ago
6a6506612c06   hello-world   "/hello"                7 days ago        Exited (0) 7 days ago
ubuntu@ubuntu-2204: ~$ docker search ubuntu
NAME                DESCRIPTION                STARS     OFFICIAL   AUTOMATED
ubuntu              Ubuntu is a Debian-based Linux operating sys... 15880     [OK]
webosphere-liberty  WebSphere Liberty multi-architecture images ... 293       [OK]
open-liberty        Open Liberty multi-architecture images based... 59        [OK]
neurodebian         NeuroDebian provides neuroscience research s... 180       [OK]
ubuntu-debootstrap  DEPRECATED: use "ubuntu" instead.                58        [OK]
ubuntu-upstart      DEPRECATED, as is Upstart (find other proces... 113       [OK]
ubuntu/nginx        Nginx, a high-performance reverse proxy & we... 86
ubuntu/cortex       Cortex provides storage for Prometheus. Long... 3
ubuntu/squid        Squid is a caching proxy for the Web. Long-t... 56
ubuntu/apache2      Apache, a secure & extensible open-source HT... 58
ubuntu/mysql        MySQL open source fast, stable, multi-thread... 46
ubuntu/kafka        Apache Kafka, a distributed event streaming ... 30
ubuntu/bind9        BIND 9 is a very flexible, full-featured DNS... 51
ubuntu/redis        Redis, an open source key-value store. Long-... 18
ubuntu/prometheus   Prometheus is a systems and service monitori... 40
postgres            PostgreSQL is an open source object-relatio... 27
zookeeper            ZooKeeper maintains configuration informatio... 9
grafana             Grafana, a feature rich metrics dashboard & ... 9
memcached           Memcached, in-memory keyvalue store for sma... 5
alertmanager        Alertmanager handles client alerts from Prom... 8
chisel              Chiselled Ubuntu for self-contained .NET & A... 7
chisel-runtime      Chiselled Ubuntu runtime image for .NET app... 5
chisel-aspnet       Chiselled Ubuntu runtime image for ASP.NET a... 5
cassandra            Cassandra, an open source NoSQL distributed ... 2
telegraf            Telegraf collects, processes, aggregates & w... 4
ubuntu@ubuntu-2204: ~$
```

```
Activities Terminal Apr 25 06:44
ubuntu@ubuntu-2204: ~$ docker pull ubuntu
Digest: sha256:67211c14fa74f970d27cc59d69a7fa9aeff8e28ea118ef3babc295a0428a6d21
Status: Image is up to date for ubuntu:latest
docker.io/library/ubuntu:latest
ubuntu@ubuntu-2204: ~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  STATUS    PORTS    NAMES
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS
fb29ce5a3bfb   hello-world   "/hello"                30 seconds ago    Exited (0) 29 seconds ago
e3e38dc1afe1   ubuntu        "/bin/bash"            2 minutes ago     Exited (127) About a minute ago
8a7279e56e73   hello-world   "/hello"                About an hour ago    Exited (0) About an hour ago
a45be722a1a6   hello-world   "/hello"                About an hour ago    Exited (0) About an hour ago
05617e12b897   hello-world   "/hello"                About an hour ago    Exited (0) About an hour ago
dc67b5635481   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Exited (1) 6 days ago
bbc8ad29ea3   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Exited (1) 6 days ago
eb5e9f7d2eb9   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Created
04c66931ea06   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Created
4baf8bd75968   ubuntu/mysql:8.0-22.04_beta   "docker-entrypoint.s..." 6 days ago        Exited (255) About an hour ago 33060/tcp, 0.0.0.0:30306->3306/tcp, :::30306->33
->3306/tcp
52273f4f02c5   ubuntu        "/bin/bash"            7 days ago        Exited (255) About an hour ago
9a78c9793df4   ubuntu        "bash"                 7 days ago        Exited (255) About an hour ago
6a6506612c06   hello-world   "/hello"                7 days ago        Exited (0) 7 days ago
ubuntu@ubuntu-2204: ~$ docker search ubuntu
NAME                DESCRIPTION                STARS     OFFICIAL   AUTOMATED
ubuntu              Ubuntu is a Debian-based Linux operating sys... 15880     [OK]
webosphere-liberty  WebSphere Liberty multi-architecture images ... 293       [OK]
open-liberty        Open Liberty multi-architecture images based... 59        [OK]
neurodebian         NeuroDebian provides neuroscience research s... 180       [OK]
ubuntu@ubuntu-2204: ~$
```

Exercise – 7

GPU (VGG16)

```
2023-04-28 11:52:01.358977: I tensorflow/core/util/port.cc:110] oneDNN custom operations are on. You may see slightly different numerical results
due to floating-point round-off errors from different computation orders. To turn them off, set the environment variable `TF_ENABLE_ONEDNN_OPTS=0`
.
2023-04-28 11:52:01.362215: I tensorflow/tsl/cuda/cudart_stub.cc:28] Could not find cuda drivers on your machine, GPU will not be used.
2023-04-28 11:52:01.418680: I tensorflow/tsl/cuda/cudart_stub.cc:28] Could not find cuda drivers on your machine, GPU will not be used.
2023-04-28 11:52:01.419347: I tensorflow/core/platform/cpu_feature_guard.cc:182] This TensorFlow binary is optimized to use available CPU instruct
ions in performance-critical operations.
To enable the following instructions: AVX2 AVX512F AVX512_VNNI FMA, in other operations, rebuild TensorFlow with the appropriate compiler flags.
2023-04-28 11:52:02.303946: W tensorflow/compiler/tf2tensorrt/utils/py_utils.cc:38] TF-TRT Warning: Could not find TensorRT
Downloading data from https://www.cs.toronto.edu/~kriz/cifar-10-python.tar.gz
170498071/170498071 [=====] - 16s 0us/step
2023-04-28 11:52:31.130467: I tensorflow/compiler/xla/stream_executor/cuda/cuda_gpu_executor.cc:996] successful NUMA node read from SysFS had nega
tive value (-1), but there must be at least one NUMA node, so returning NUMA node zero. See more at https://github.com/torvalds/linux/blob/v6.0/Do
cumentation/ABI/testing/sysfs-bus-pci#L344-L355
2023-04-28 11:52:31.590290: W tensorflow/core/common/runtime/gpu/gpu_device.cc:1956] Cannot dlopen some GPU libraries. Please make sure the missin
g libraries mentioned above are installed properly if you would like to use GPU. Follow the guide at https://www.tensorflow.org/install/gpu for ho
w to download and setup the required libraries for your platform.
Skipping registering GPU devices...
Epoch 1/10
782/782 [=====] - 68s 76ms/step - loss: 2.0779 - accuracy: 0.2120 - val_loss: 1.8898 - val_accuracy: 0.3336
Epoch 2/10
782/782 [=====] - 56s 72ms/step - loss: 1.5399 - accuracy: 0.4293 - val_loss: 1.3621 - val_accuracy: 0.5029
Epoch 3/10
782/782 [=====] - 55s 71ms/step - loss: 1.2742 - accuracy: 0.5416 - val_loss: 1.1570 - val_accuracy: 0.5853
Epoch 4/10
782/782 [=====] - 55s 70ms/step - loss: 1.1145 - accuracy: 0.6040 - val_loss: 1.0590 - val_accuracy: 0.6156
Epoch 5/10
782/782 [=====] - 55s 70ms/step - loss: 1.0107 - accuracy: 0.6421 - val_loss: 0.9649 - val_accuracy: 0.6598
Epoch 6/10
782/782 [=====] - 51s 66ms/step - loss: 0.9276 - accuracy: 0.6761 - val_loss: 0.9952 - val_accuracy: 0.6513
Epoch 7/10
782/782 [=====] - 50s 64ms/step - loss: 0.8657 - accuracy: 0.6988 - val_loss: 0.8787 - val_accuracy: 0.6964
Epoch 8/10
782/782 [=====] - 51s 65ms/step - loss: 0.8068 - accuracy: 0.7190 - val_loss: 0.8693 - val_accuracy: 0.7055
Epoch 9/10
782/782 [=====] - 54s 69ms/step - loss: 0.7574 - accuracy: 0.7359 - val_loss: 0.8202 - val_accuracy: 0.7175
Epoch 10/10
782/782 [=====] - 54s 70ms/step - loss: 0.7228 - accuracy: 0.7513 - val_loss: 0.8125 - val_accuracy: 0.7221
```