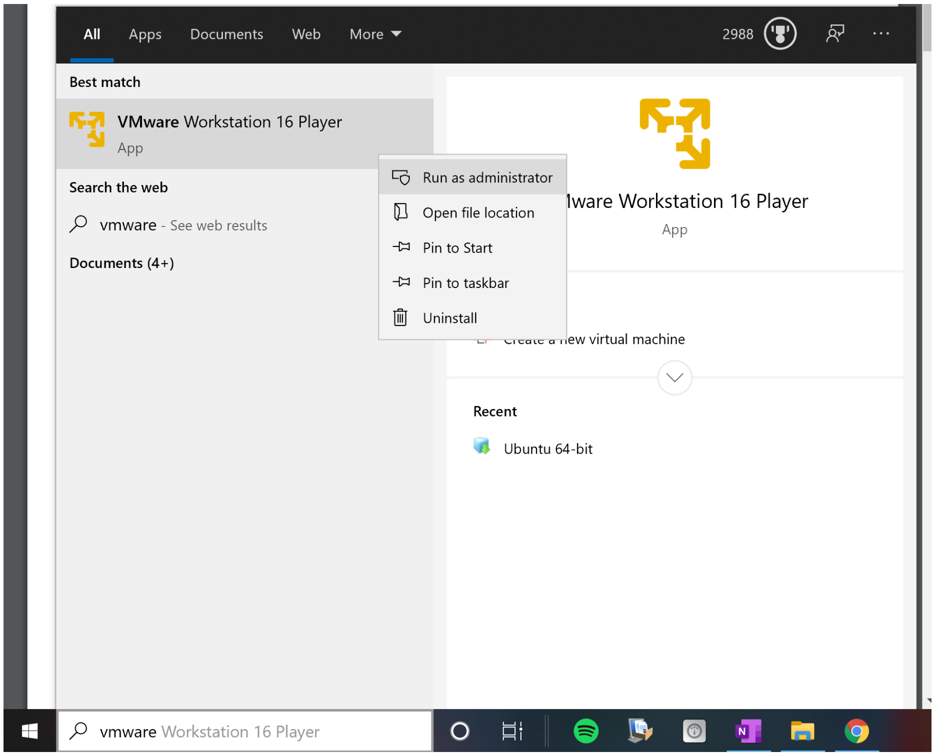
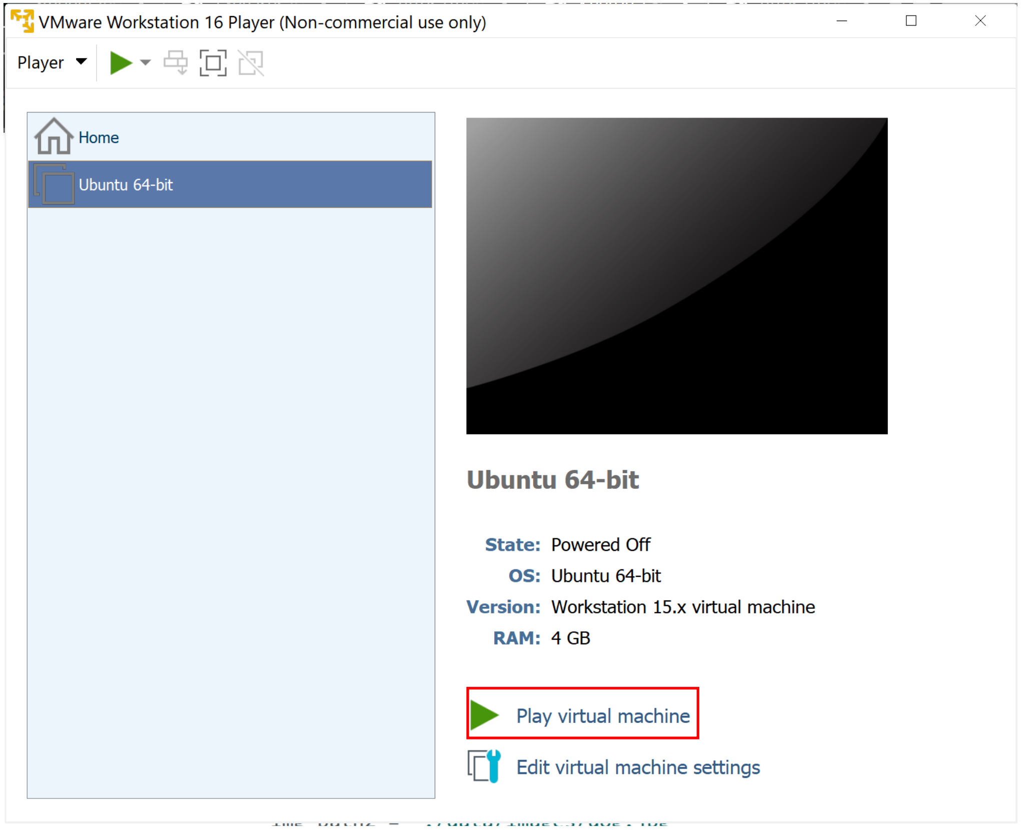
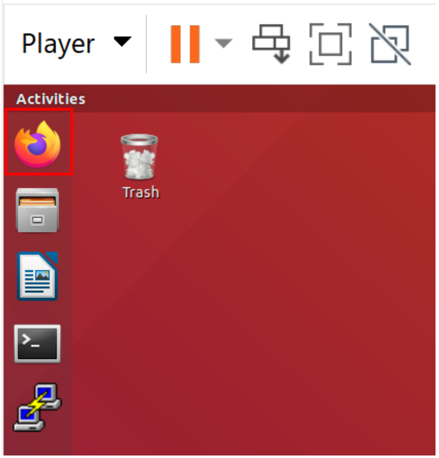
*Includes fix for “add device failed”

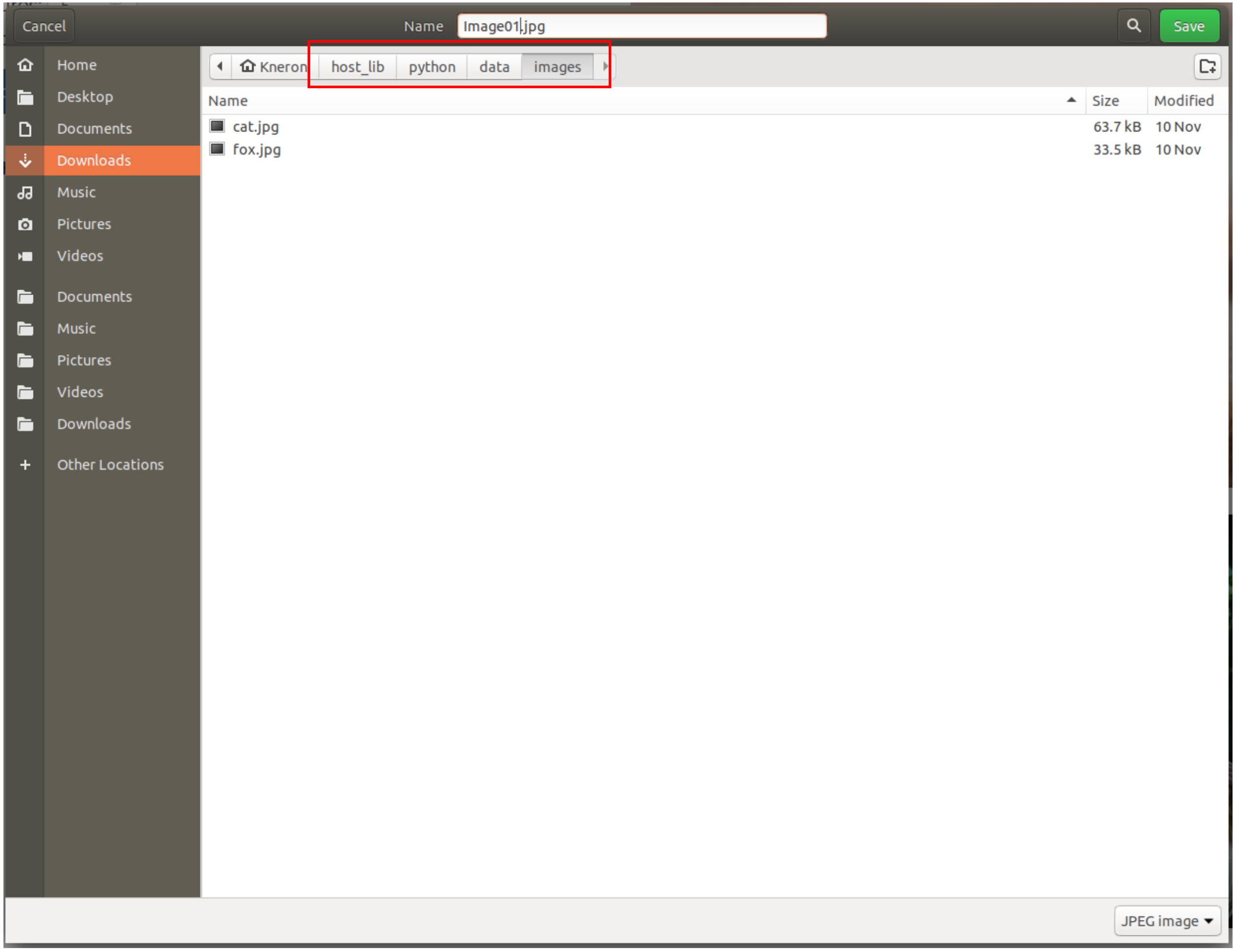



VMware Workstation 16 Player (Non-commercial use only)
Player
Home
Ubuntu 64-bit
Ubuntu 64-bit
Play virtual machine
Edit virtual machine settings

State: Powered Off
OS: Ubuntu 64-bit
Version: Workstation 15.x virtual machine
RAM: 4 GB

Save some pictures to use (I saved two)

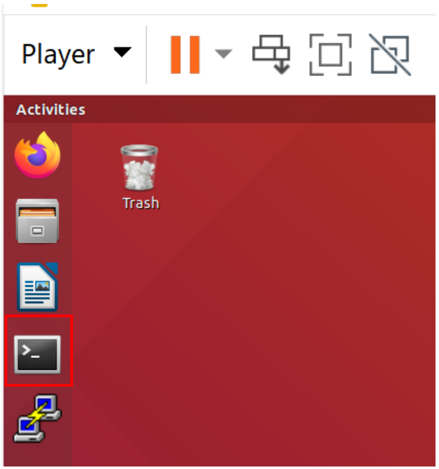


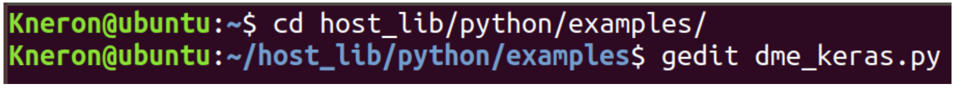


Name: Image01.jpg

Kneron / host_lib / python / data / images

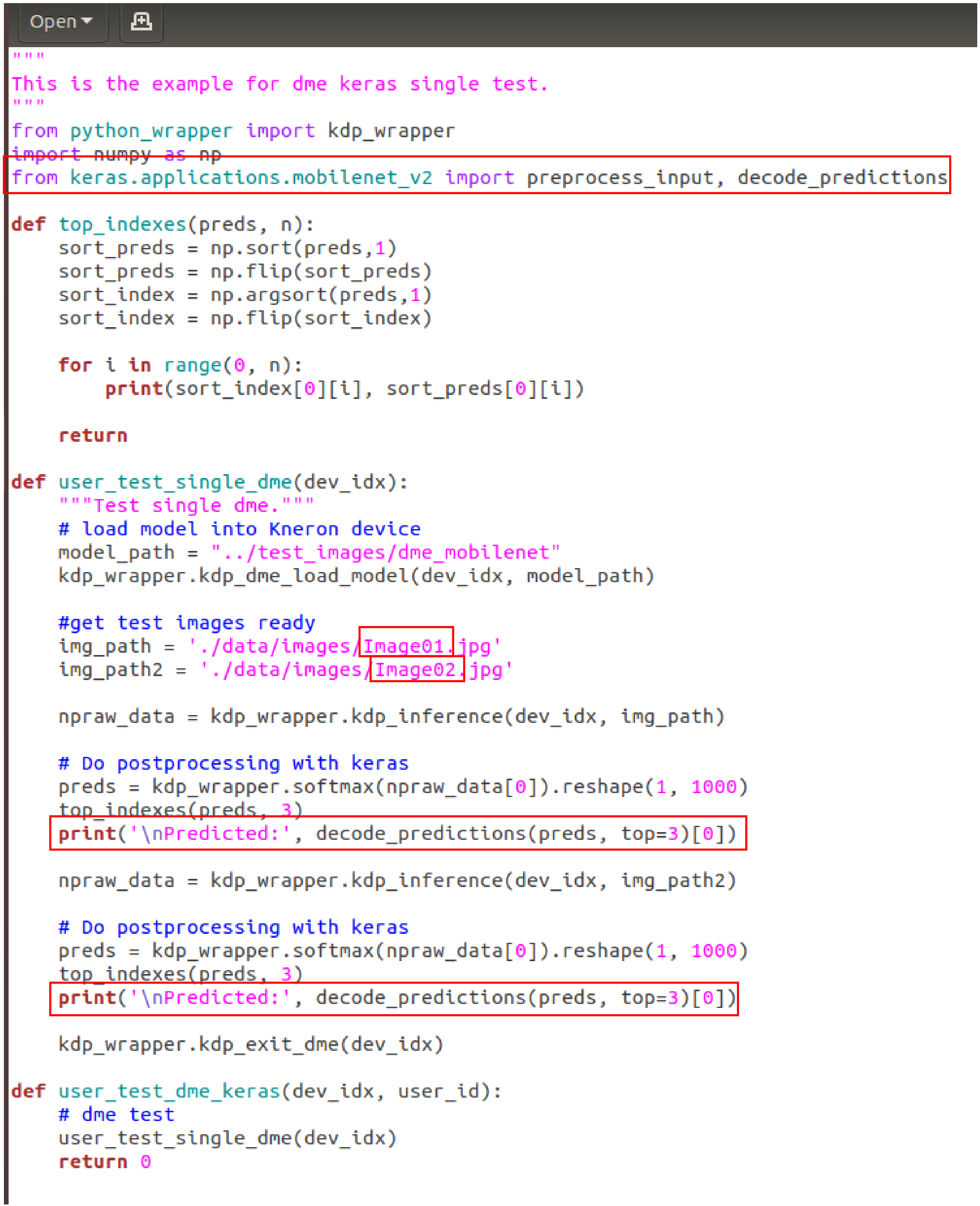
| Name | Size | Modified |
|---|---|---|
| cat.jpg | 63.7 kB | 10 Nov |
| fox.jpg | 33.5 kB | 10 Nov |



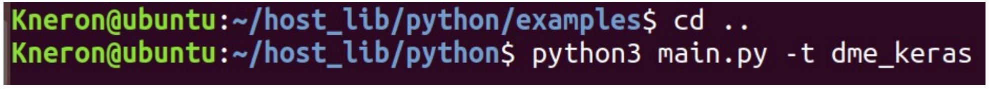


```
Kneron@ubuntu:~$ cd host_lib/python/examples/
Kneron@ubuntu:~/host_lib/python/examples$ gedit dme_keras.py
```

Remove comment on some lines and rename the img_path image name to your saved image

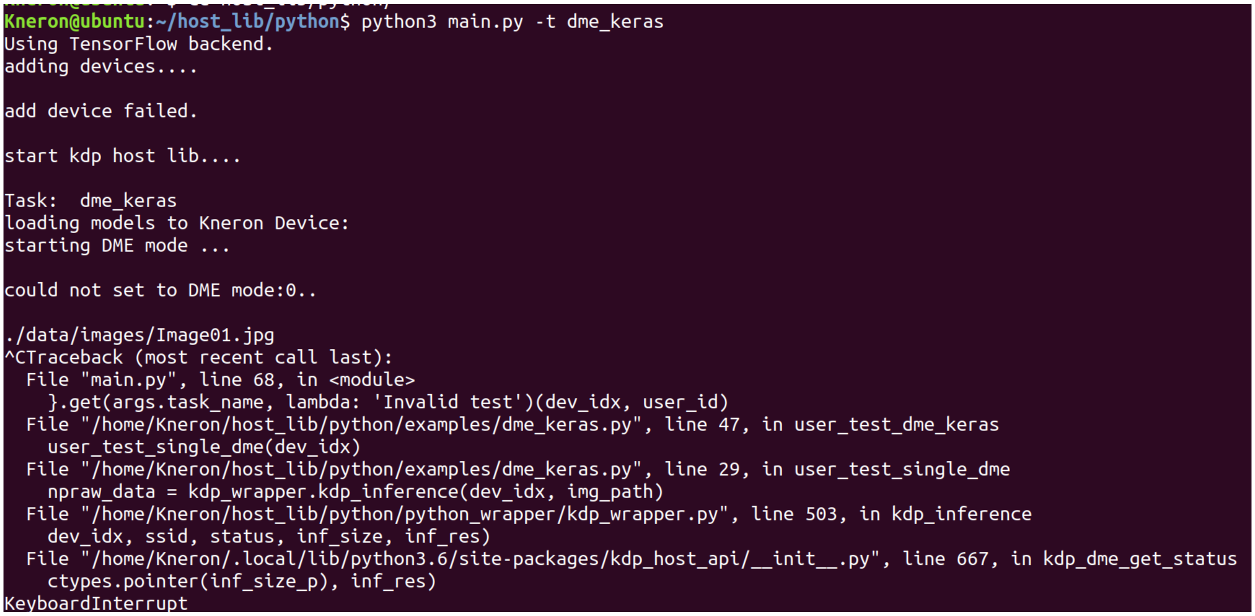


```
"""
This is the example for dme keras single test.
"""
from python_wrapper import kdp_wrapper
import numpy as np
from keras.applications.mobilenet_v2 import preprocess_input, decode_predictions

def top_indexes(preds, n):
    sort_preds = np.sort(preds,1)
    sort_preds = np.flip(sort_preds)
    sort_index = np.argsort(preds,1)
    sort_index = np.flip(sort_index)

    for i in range(0, n):
        print(sort_index[0][i], sort_preds[0][i])

    return

def user_test_single_dme(dev_idx):
    """Test single dme."""
    # load model into Kneron device
    model_path = "../test_images/dme_mobilenet"
    kdp_wrapper.kdp_dme_load_model(dev_idx, model_path)

    #get test images ready
    img_path = './data/images/Image01.jpg'
    img_path2 = './data/images/Image02.jpg'

    npraw_data = kdp_wrapper.kdp_inference(dev_idx, img_path)

    # Do postprocessing with keras
    preds = kdp_wrapper.softmax(npraw_data[0]).reshape(1, 1000)
    top_indexes(preds, 3)
    print('\nPredicted:', decode_predictions(preds, top=3)[0])

    npraw_data = kdp_wrapper.kdp_inference(dev_idx, img_path2)

    # Do postprocessing with keras
    preds = kdp_wrapper.softmax(npraw_data[0]).reshape(1, 1000)
    top_indexes(preds, 3)
    print('\nPredicted:', decode_predictions(preds, top=3)[0])

    kdp_wrapper.kdp_exit_dme(dev_idx)

def user_test_dme_keras(dev_idx, user_id):
    # dme test
    user_test_single_dme(dev_idx)
    return 0
```



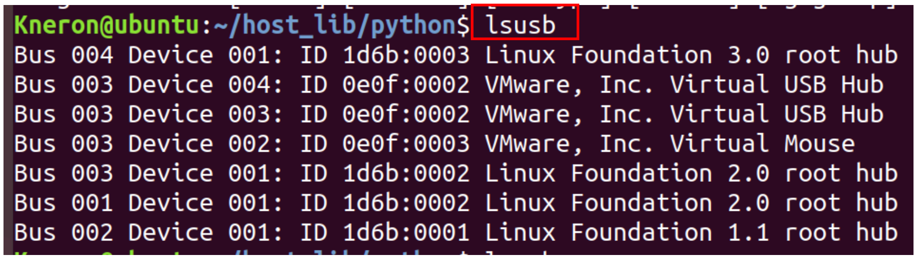
```
Kneron@ubuntu:~/host_lib/python/examples$ cd ..
Kneron@ubuntu:~/host_lib/python$ python3 main.py -t dme_keras
```

Fix for add device failure:



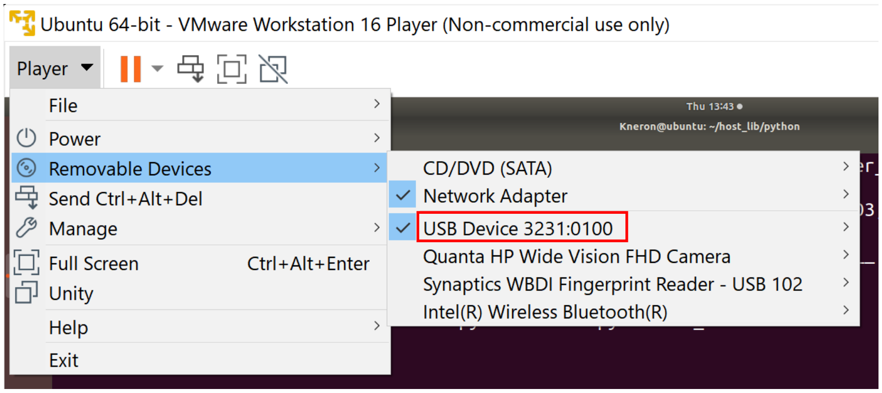
```
Kneron@ubuntu:~/host_lib/python$ python3 main.py -t dme_keras
Using TensorFlow backend.
adding devices....

add device failed.

start kdp host lib....

Task:  dme_keras
loading models to Kneron Device:
starting DME mode ...

could not set to DME mode:0..

./data/images/Image01.jpg
^CTraceback (most recent call last):
  File "main.py", line 68, in <module>
    }.get(args.task_name, lambda: 'Invalid test')(dev_idx, user_id)
  File "/home/Kneron/host_lib/python/examples/dme_keras.py", line 47, in user_test_dme_keras
    user_test_single_dme(dev_idx)
  File "/home/Kneron/host_lib/python/examples/dme_keras.py", line 29, in user_test_single_dme
    npraw_data = kdp_wrapper.kdp_inference(dev_idx, img_path)
  File "/home/Kneron/host_lib/python/python_wrapper/kdp_wrapper.py", line 503, in kdp_inference
    dev_idx, ssid, status, inf_size, inf_res)
  File "/home/Kneron/.local/lib/python3.6/site-packages/kdp_host_api/__init__.py", line 667, in kdp_dme_get_status
    ctypes.pointer(inf_size_p), inf_res)
KeyboardInterrupt
```

1. Look for ID 3231:0100. It is missing in this image below.

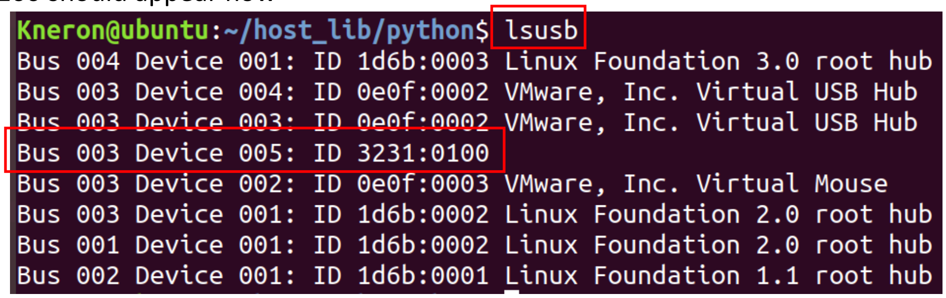


```
Kneron@ubuntu:~/host_lib/python$ lsusb
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 003 Device 004: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 003: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 002: ID 0e0f:0003 VMware, Inc. Virtual Mouse
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
```

2. Connect your USB Device (Kneron)

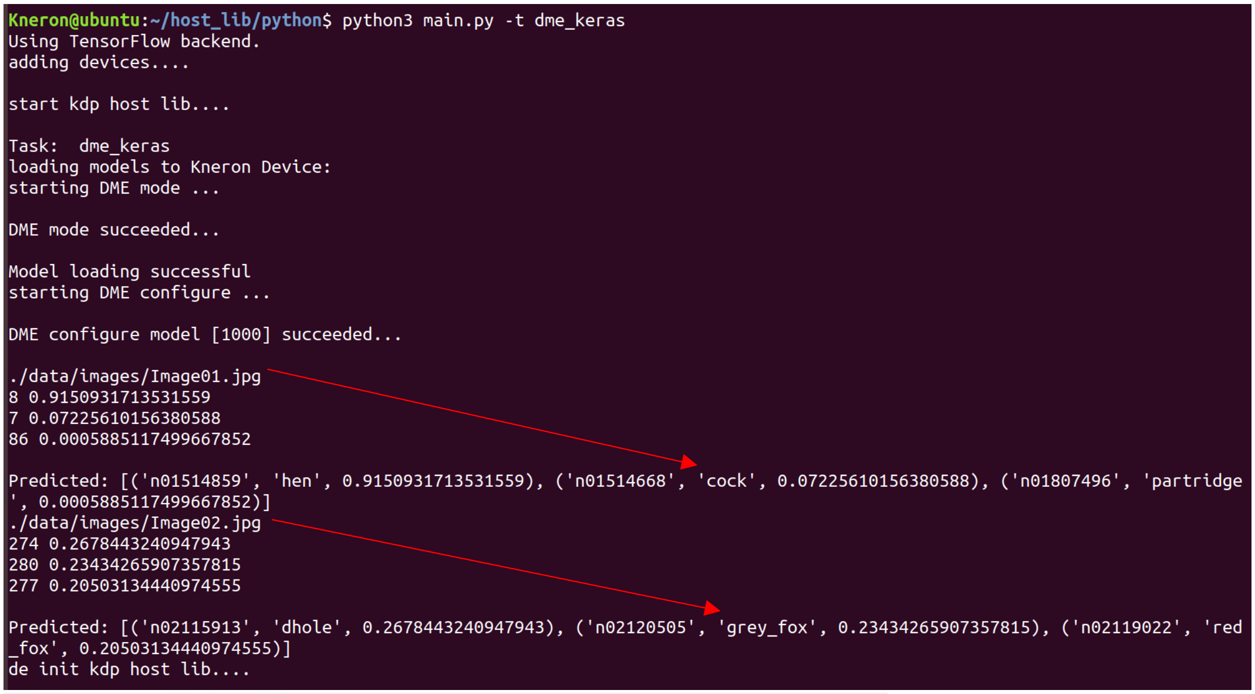

Ubuntu 64-bit - VMware Workstation 16 Player (Non-commercial use only)
Player
Thu 13:43
Kneron@ubuntu: ~/host_lib/python
File
Power
Removable Devices
Send Ctrl+Alt+Del
Manage
Full Screen Ctrl+Alt+Enter
Unity
Help
Exit
CD/DVD (SATA)
✓ Network Adapter
✓ USB Device 3231:0100
Quanta HP Wide Vision FHD Camera
Synaptics WBDI Fingerprint Reader - USB 102
Intel(R) Wireless Bluetooth(R)

3. 3231:0100 should appear now



```
Kneron@ubuntu:~/host_lib/python$ lsusb
Bus 004 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 003 Device 004: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 003: ID 0e0f:0002 VMware, Inc. Virtual USB Hub
Bus 003 Device 005: ID 3231:0100
Bus 003 Device 002: ID 0e0f:0003 VMware, Inc. Virtual Mouse
Bus 003 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
Bus 002 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
```

Result



```
Kneron@ubuntu:~/host_lib/python$ python3 main.py -t dme_keras
Using TensorFlow backend.
adding devices....

start kdp host lib....

Task:  dme_keras
loading models to Kneron Device:
starting DME mode ...

DME mode succeeded...

Model loading successful
starting DME configure ...

DME configure model [1000] succeeded...

./data/images/Image01.jpg
8 0.9150931713531559
7 0.07225610156380588
86 0.0005885117499667852

Predicted: [('n01514859', 'hen', 0.9150931713531559), ('n01514668', 'cock', 0.07225610156380588), ('n01807496', 'partridge
', 0.0005885117499667852)]
./data/images/Image02.jpg
274 0.2678443240947943
280 0.23434265907357815
277 0.20503134440974555

Predicted: [('n02115913', 'dhole', 0.2678443240947943), ('n02120505', 'grey_fox', 0.23434265907357815), ('n02119022', 'red
_fox', 0.20503134440974555)]
de init kdp host lib....
```

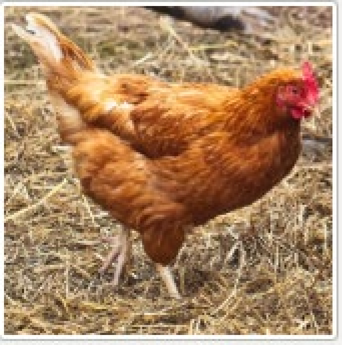


Image01.jpg

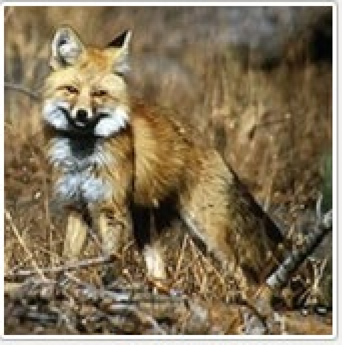


Image02.jpg