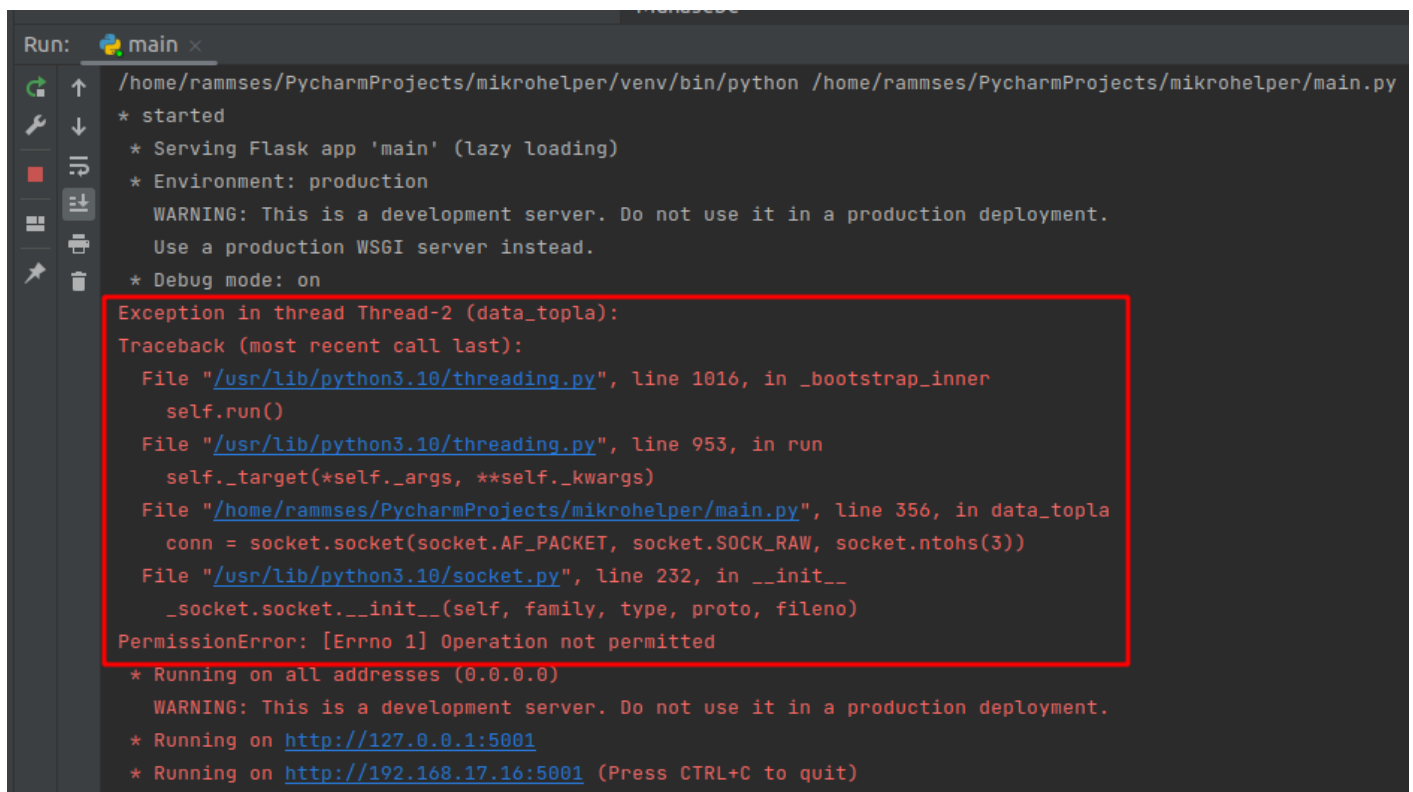


# Permissions and working with raw sockets using pycharm

A screenshot of the PyCharm Run console. The console shows the output of a Flask application running in production mode. It includes a warning about using a development server in production. A red box highlights an exception in thread Thread-2 (data\_topla):

```
Exception in thread Thread-2 (data_topla):
Traceback (most recent call last):
  File "/usr/lib/python3.10/threading.py", line 1016, in _bootstrap_inner
    self.run()
  File "/usr/lib/python3.10/threading.py", line 953, in run
    self._target(*self._args, **self._kwargs)
  File "/home/rammses/PycharmProjects/mikrohelper/main.py", line 356, in data_topla
    conn = socket.socket(socket.AF_PACKET, socket.SOCK_RAW, socket.ntohs(3))
  File "/usr/lib/python3.10/socket.py", line 232, in __init__
    _socket.socket.__init__(self, family, type, proto, fileno)
PermissionError: [Errno 1] Operation not permitted
```

The console also shows the application running on all addresses (0.0.0.0) and on specific URLs: <http://127.0.0.1:5001> and <http://192.168.17.16:5001>.

The problem is that raw\_sockets require root privileges to initiate. This is not good and creates a lot of fuzz when you do runs on pycharm, you need to go terminal execute the code using sudo and stopping it creates a lot of additional fuzz if you are using threads or processes libraries. And this solution is only for developers that uses linux environments

To overcome this problem;

You can setcap the interpreter but you must be carefull because this is dangerous. After this point all the code you run with this feture will be committed with root privileges so if you are doing packet generation or some crazy stuff you might create network problems. Watch it !!!

```
sudo setcap 'CAP_NET_RAW+eip CAP_NET_ADMIN+eip' /usr/bin/python3.10
```

Or run with sudo in pycharm, use the script below as your interpreter.

There is a catch, you should also require to be a nopassword user in your sudoers config.

1. Get your user name in to sudoers

```
sudo echo "your_user_name ALL=(ALL) NOPASSWD:ALL" > /etc/sudoers.d/your_user_name
```

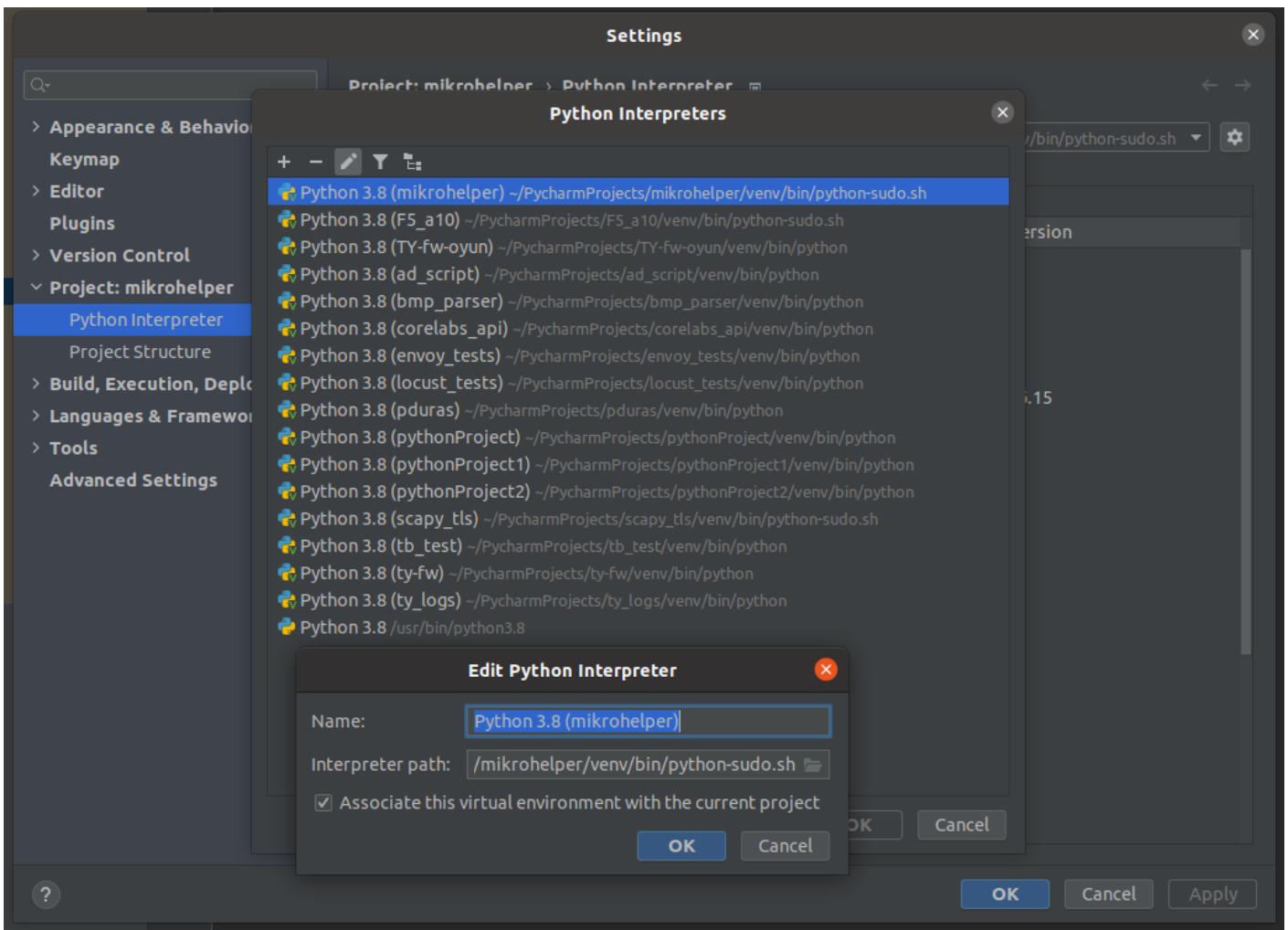
```
→ ~ cd /etc/sudoers.d
→ sudoers.d
→ sudoers.d
→ sudoers.d ll
toplam 12K
-r--r----- 1 root root 98 May 12 11:56 python
-r--r----- 1 root root 32 May 12 12:05 rammses
-r--r----- 1 root root 958 Şub 3 2020 README
→ sudoers.d more rammses
rammses ALL=(ALL) NOPASSWD:ALL
→ sudoers.d
```

2. Change your pycharm config to use the python-sudo

Copy this and don't forget to change the "home/rammses/PycharmProjects/mikrohelfer" section before creating the python-sudo.sh file

```
#!/bin/bash
sudo /home/rammses/PycharmProjects/mikrohelfer/venv/bin/python "$@"
```

- put it into venv/bin folder
- name it python-sudo.sh
- set it executable `chmod +x ./python-sudo.sh`
- set your project interpreter as shown below



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