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ChatGPT Suggested Port forwarding to connect Vitis Unified IDE to QEMU for debugging

Windows 11 ------------------------------------> WSL2 ------- Ubuntu -------> QEMU

Vitis Unified IDE
with Linux
Helloworld ---> QEMU

Steps:

1. At WSL Ubuntu run QEMU

nahid@Nice2behere:/opt/petalinuxZed/BillLabProject$ petalinux-boot --qemu --kernel --qemu-args
"-net nic -net user,hostfwd=tcp::1534-:1534"

2. At QEMU run tcf-agent process with port forwarding

BillLabProject:~$ tcf-agent -d TCP:1534 &


```
 30 root          0 IW<  [kworker/R-rpcio]
 31 root          0 IW<  [kworker/1:1H-ev]
 32 root          0 IW<  [kworker/R-xprti]
 33 root          0 SW   [kswapd0]
 34 root          0 IW<  [kworker/R-nfsio]
 35 root          0 IW   [kworker/1:2-eve]
 36 root          0 IW   [kworker/u4:2]
 38 root          0 IW<  [kworker/u5:0]
 39 root          0 IW<  [kworker/R-sdhci]
 40 root          0 SW   [irq/42-mmc0]
 41 root          0 IW<  [kworker/R-mld]
 42 root          0 IW<  [kworker/R-ipv6_]
 43 root          0 IW<  [kworker/0:1H]
 44 root          0 IW   [kworker/u4:3]
 78 root       5124 S    /sbin/udevd -d
447 root       2260 S    udhcpc -n -p /run/udhcpc.enx000a35001e53.pid -i enx000a35001e53
486 root       5192 S    sshd: /usr/sbin/sshd [listener] 0 of 10-100 startups
490 rpc        1624 S    /usr/sbin/rpcbind
495 rpcuser    1740 S    /usr/sbin/rpc.statd
499 root       2260 S    /usr/sbin/inetd
506 root       2260 S    /sbin/syslogd -n -O /var/log/messages
509 root       2260 S    /sbin/klogd -n
520 root      14820 S    /usr/sbin/tcf-agent -d -L- -l0
526 root       1556 S    /sbin/getty 38400 tty1
541 root       2456 S    {start_getty} /bin/sh /bin/start_getty 115200 ttyPS0 vt102
555 root       2056 S    /bin/login --
556 petalinu   2616 S    -sh
569 petalinu  13796 S    tcf-agent -d TCP:1534
573 petalinu   2288 R    ps
[1]+  Done                   tcf-agent -d TCP:1534
BillLabProject:~$
```
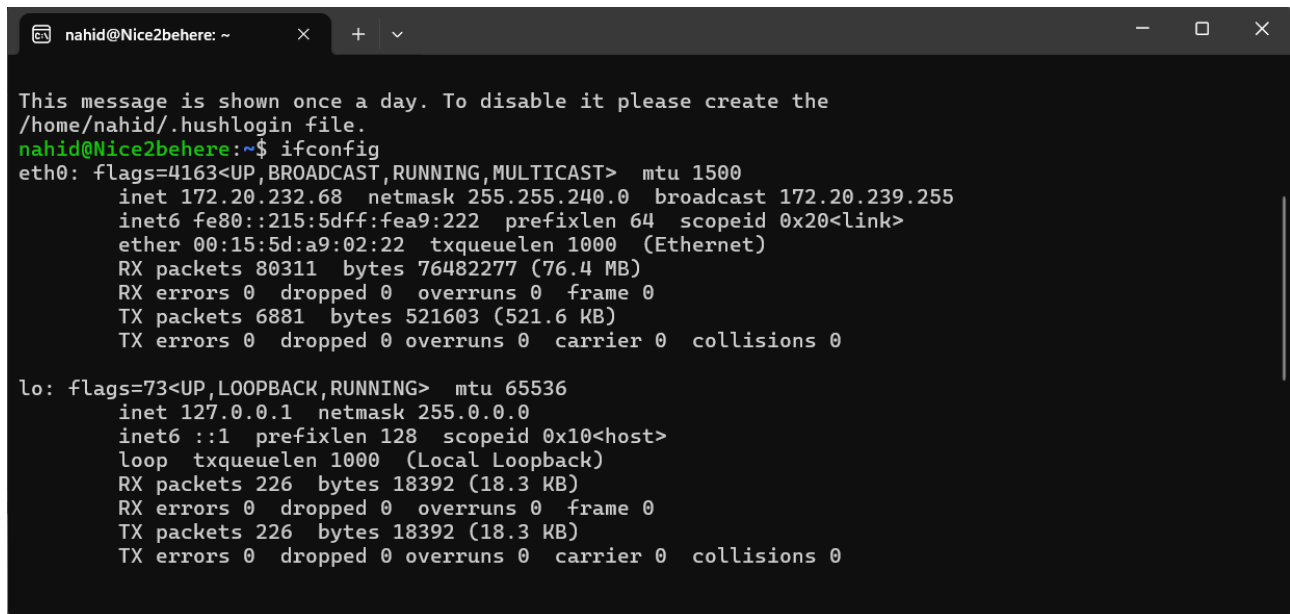
3. At windows 11

a) Run this command as Admin
C:\Windows\System32>netsh interface portproxy add v4tov4 listenport=1534 listenaddress=0.0.0.0
connectport=1534 connectaddress=172.20.232.68

Where Ubuntu's IP address is: 172.20.232.68

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nahid@Nice2behere: ~          ×    +   ∨                                        —   □   ×

This message is shown once a day. To disable it please create the
/home/nahid/.hushlogin file.
nahid@Nice2behere:~$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 172.20.232.68  netmask 255.255.240.0  broadcast 172.20.239.255
        inet6 fe80::215:5dff:fea9:222  prefixlen 64  scopeid 0x20<link>
        ether 00:15:5d:a9:02:22  txqueuelen 1000  (Ethernet)
        RX packets 80311  bytes 76482277 (76.4 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 6881  bytes 521603 (521.6 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 226  bytes 18392 (18.3 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 226  bytes 18392 (18.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

b) Check your run
C:\Windows\System32>netsh interface portproxy show all

Listen on ipv4:   Connect to ipv4:

Address   Port   Address   Port
--------------- ---------- --------------- ----------
0.0.0.0   1534   172.20.232.68   1534

c) Ping

C:\Windows\System32>ping 172.20.232.68

Pinging 172.20.232.68 with 32 bytes of data:
Reply from 172.20.232.68: bytes=32 time<1ms TTL=64
Reply from 172.20.232.68: bytes=32 time<1ms TTL=64
Reply from 172.20.232.68: bytes=32 time<1ms TTL=64
Reply from 172.20.232.68: bytes=32 time<1ms TTL=64

Conclusion:

Try to connect to 127.0.0.1 using port 1534.

But Vitis Unified IDE using 127.0.0.1 and port 1534 could not connect to QEMU and complained that there is no TCF agent running on 127.0.0.1.