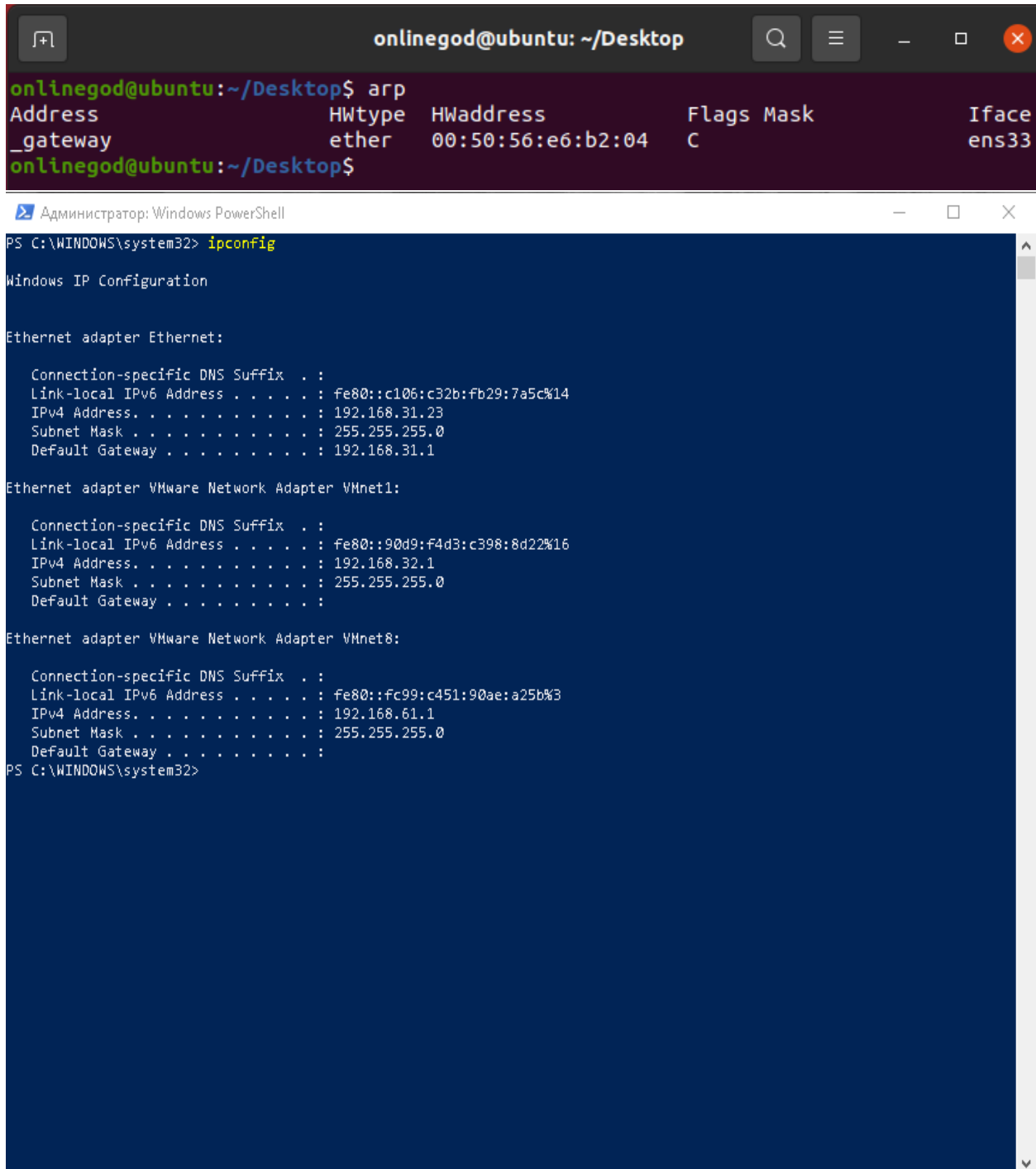


## Summary: ARP Functionality

Test designed by Rustamov Arsen from IB-93 on 01.10.2022

Description: Verify that **ARP** protocol update arp table

Attachments:



The image shows two terminal windows. The top window is an Ubuntu terminal with the prompt 'onlinegod@ubuntu: ~/Desktop'. It shows the command 'arp' being executed, which displays the ARP table. The table has columns for Address, HWtype, HWaddress, Flags, Mask, and Iface. The entry for '\_gateway' shows an ether hardware type and the address '00:50:56:e6:b2:04' on interface 'ens33'. The bottom window is a Windows PowerShell terminal with the prompt 'PS C:\WINDOWS\system32>'. It shows the command 'ipconfig' being executed, which displays the IP configuration for three network adapters: Ethernet, VMware Network Adapter VMnet1, and VMware Network Adapter VMnet8. Each adapter's configuration includes the connection-specific DNS suffix, link-local IPv6 address, IPv4 address, subnet mask, and default gateway.

```
onlinegod@ubuntu: ~/Desktop$ arp
Address          HWtype  HWaddress      Flags Mask    Iface
_gateway         ether    00:50:56:e6:b2:04  C             ens33
onlinegod@ubuntu:~/Desktop$
```

```
Администратор: Windows PowerShell
PS C:\WINDOWS\system32> ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

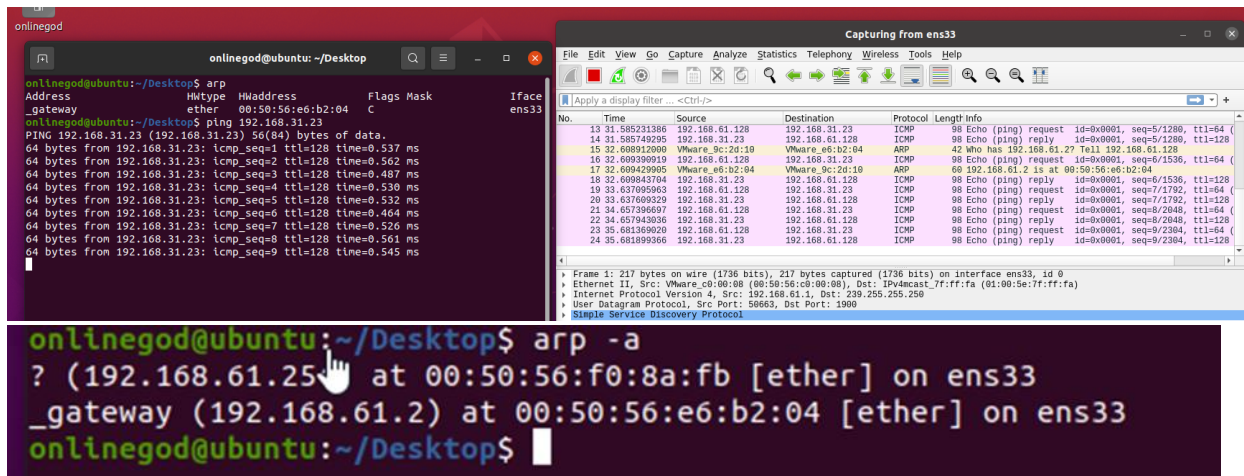
    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::c106:c32b:fb29:7a5c%14
    IPv4 Address. . . . . : 192.168.31.23
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.31.1

Ethernet adapter VMware Network Adapter VMnet1:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::90d9:f4d3:c398:8d22%16
    IPv4 Address. . . . . : 192.168.32.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 

Ethernet adapter VMware Network Adapter VMnet8:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::fc99:c451:90ae:a25b%3
    IPv4 Address. . . . . : 192.168.61.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 
PS C:\WINDOWS\system32>
```



Version: ARP v1

Setup Description:

PC1-----ethernet1-----PC2

PC1: 192.168.61.128

PC2: 192.168.31.23

Steps (with ER):

1. Check arp table

**arp -a** <for PC1>

**ER:** verify that arp table (cache) has no information about PC2

2. Check IP address of PC2

**ipconfig** <for PC2>

**ER:** ip of PC2 is shown in PowerShell

3. Run Wireshark for ethernet1

4. Run ping from PC1 to PC2

**ER:** ping is running

5. Verify that ARP request and ARP reply are present for IP and MAC of PC2 in Wireshark

6. Check arp table one more time

**arp -a** <for PC1>

**ER:** verify that arp table now has information about PC2