Manuel Fernando Gómez Hernández

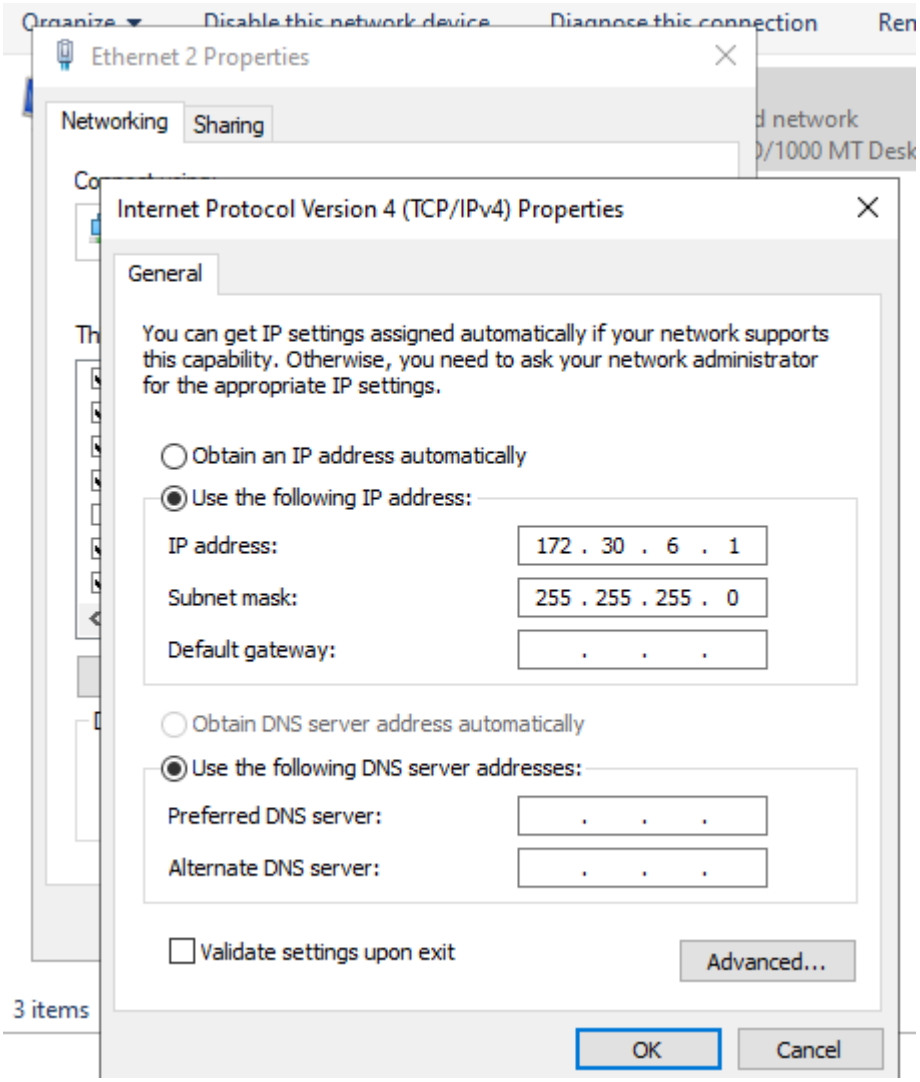
Servicio DHCP en Windows Server

En esta práctica vamos a realizar la instalación y configuración del servicio DHCP en un servidor Windows
Server 2022 según las instrucciones presentadas.
Para crear nuestro servidor Windows Server 2022 podemos utilizar una box de Vagrant (puede ser del
usuario gusztavvargadr). El nombre del equipo debe ser W22SRXXX y el nombre de la máquina en virtual
box será VBW22SRXXX. Dispondrá de una interfaz de red en modo sólo anfitrión, además de la interfaz en
modo NAT que le proporcionará acceso a internet. La interfaz tendrá la configuración:
• Dirección de red 172.30.XX.0/16 con ip 172.30.XX.1. (1,5 ptos.)

Vagrantfile

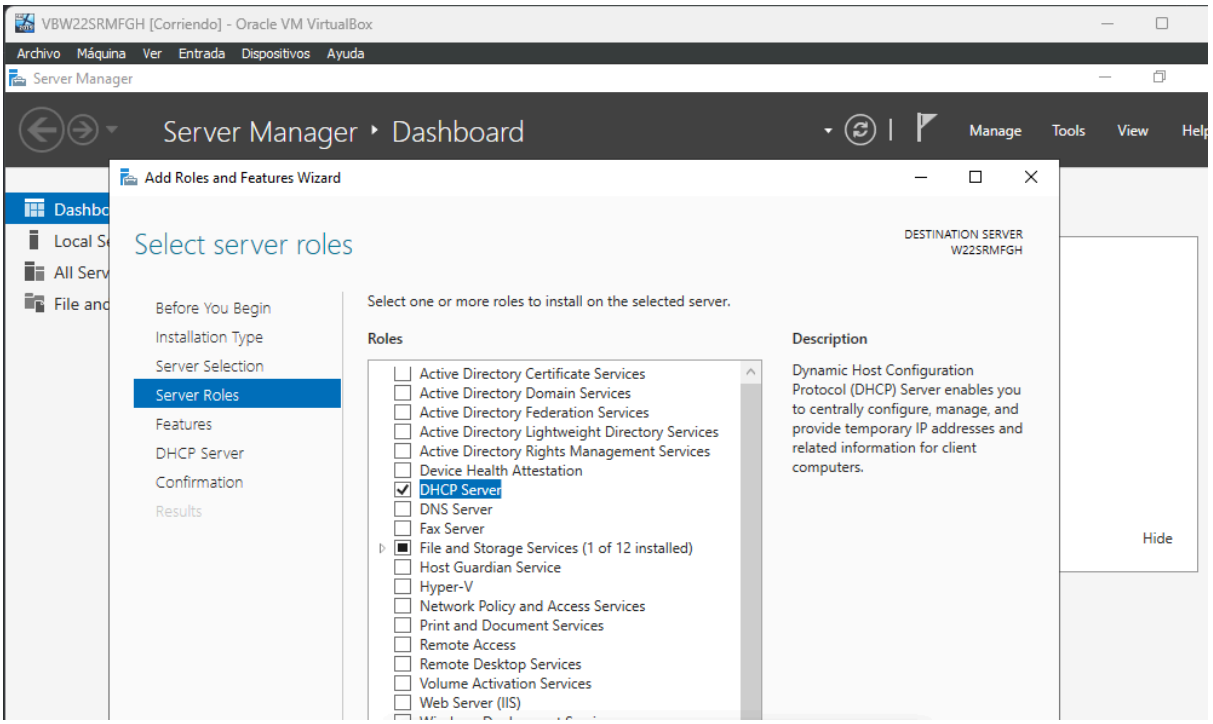
E: > VagrantDHCP1 > Vagrantfile

```
Vagrant.configure("2") do |config|
    config.vm.box = "gusztavvargadr/windows-server-2022-standard"
  config.vm.box_version = "2102.0.2409"
    config.vm.hostname = "W22SRMFGH"
    config.vm.provider "virtualbox" do |vb|
      vb.name = "VBW22SRMFGH"
      vb.memory = "2048"
      vb.cpus = 2
    end

    config.vm.network "private_network", ip: "172.30.6.1"
    config.vm.network "public_network" # Para NAT y acceso a Internet

    # Habilitar acceso a la GUI de Windows
    config.vm.boot_timeout = 600
    config.vm.provider "virtualbox" do |vb|
      vb.gui = true
    end
  end

```


Organize
Disable this network device
Diagnose this connection
Ren
Ethernet 2 Properties
Networking
Sharing
network
/1000 MT Desk
Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
172 . 30 . 6 . 1
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel
3 items

Se pide realizar:

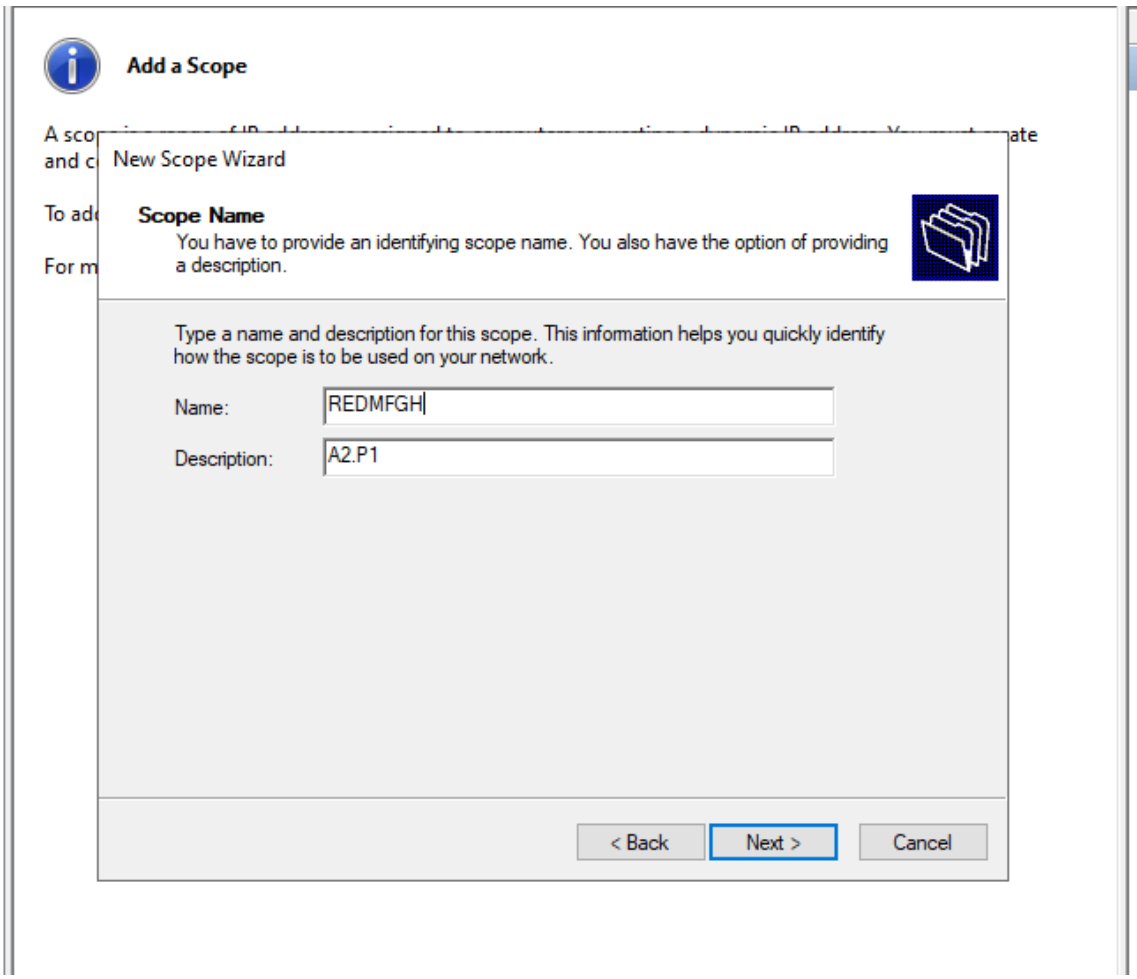
1) Modifica varios parámetros globales de configuración DHCP. Explica la diferencia que existe entre los parámetros de ámbito, los globales y los de reserva. (1 pto.)

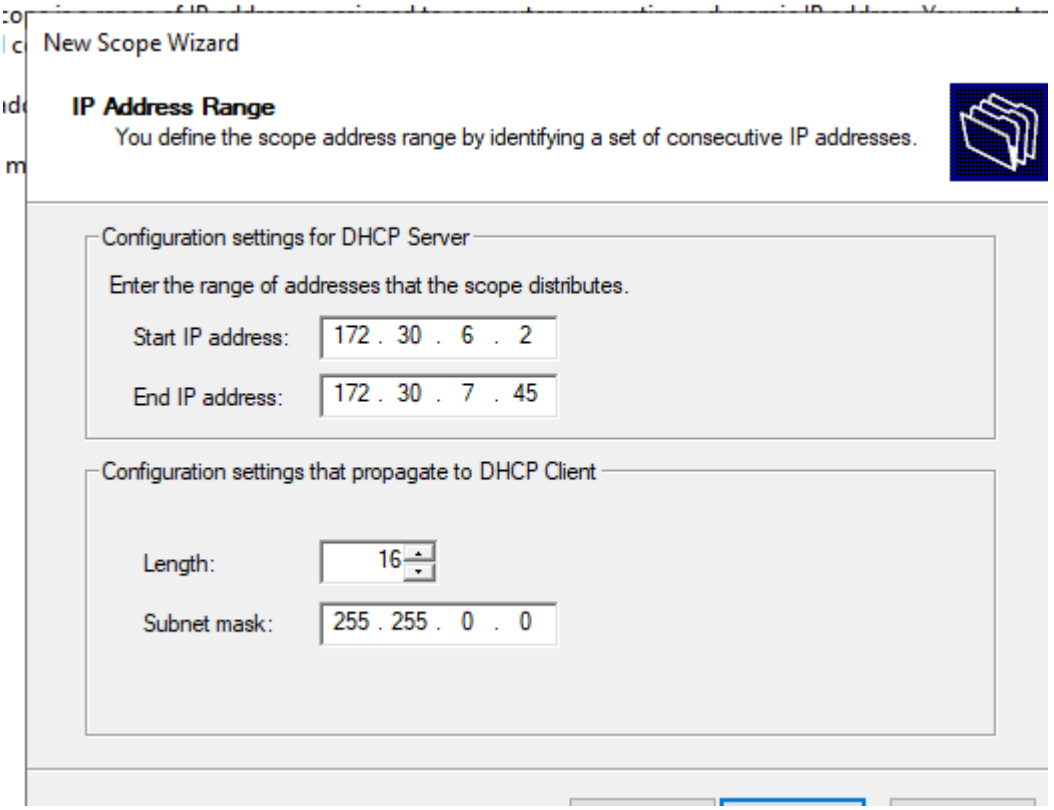


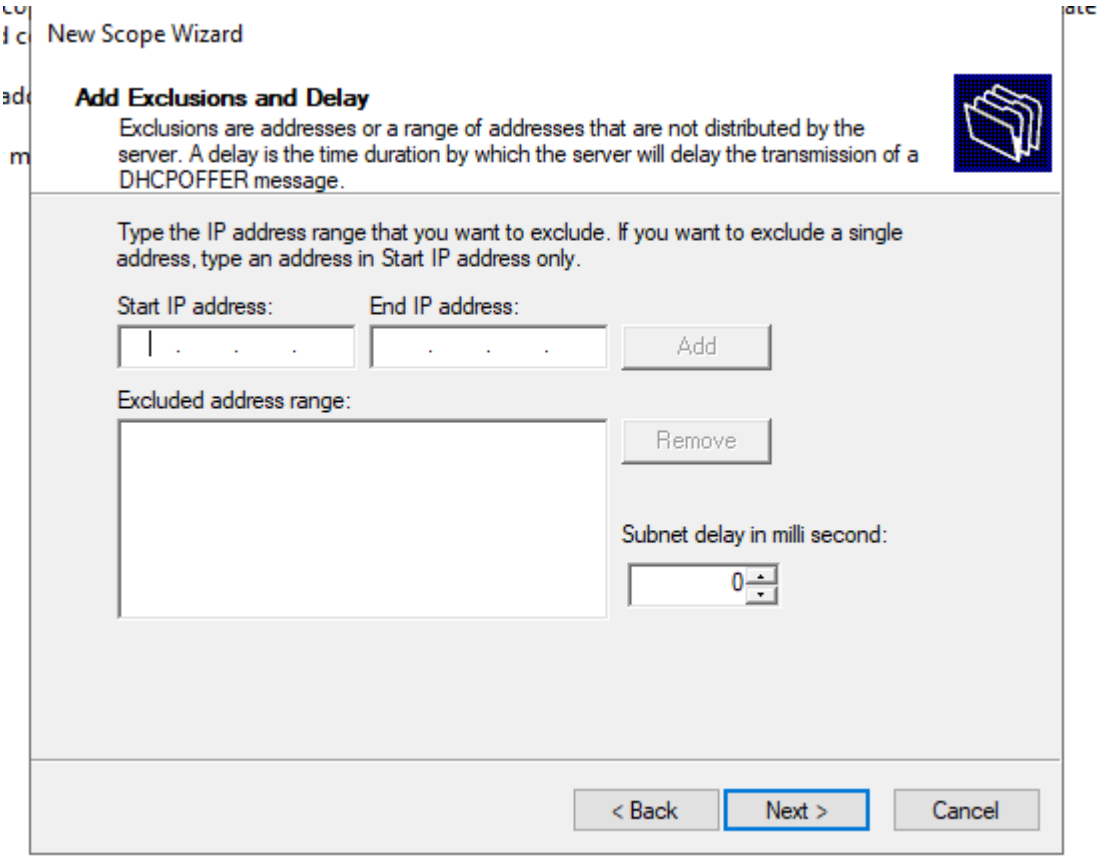
Parámetros Globales: Estos afectan a todos los ámbitos configurados en el servidor DHCP. Por ejemplo, el sufijo DNS y el servidor DNS predeterminado.
Parámetros de Ámbito: Se aplican solo a un rango específico de direcciones IP dentro de un ámbito.
Parámetros de Reserva: Se aplican a dispositivos específicos identificados por su dirección MAC.

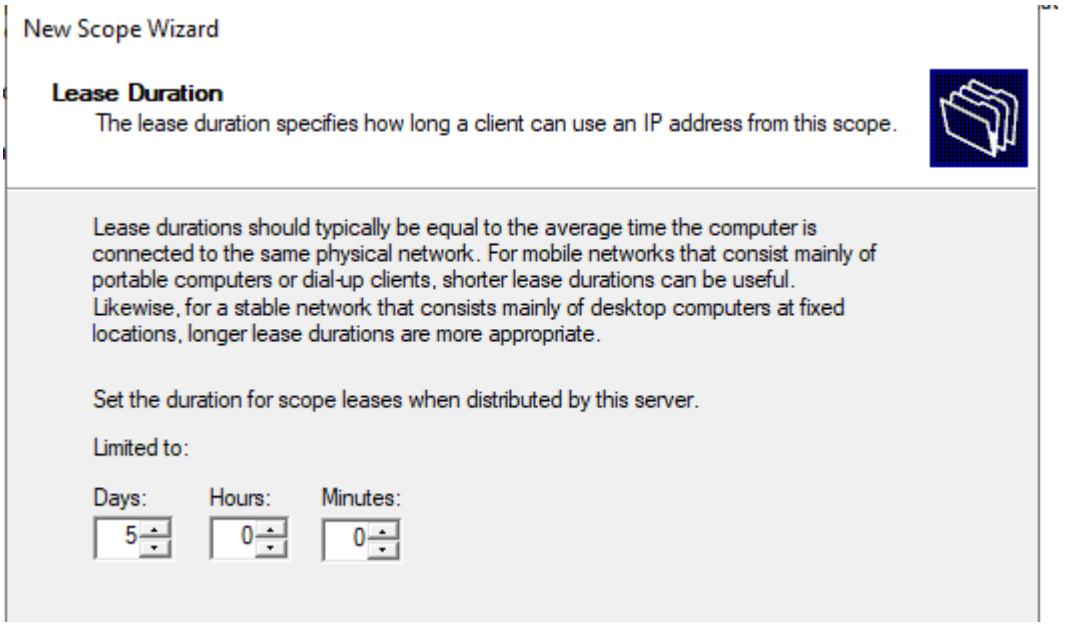
2) Configura el ámbito para la red 172.30.XX.0 con los parámetros siguientes:

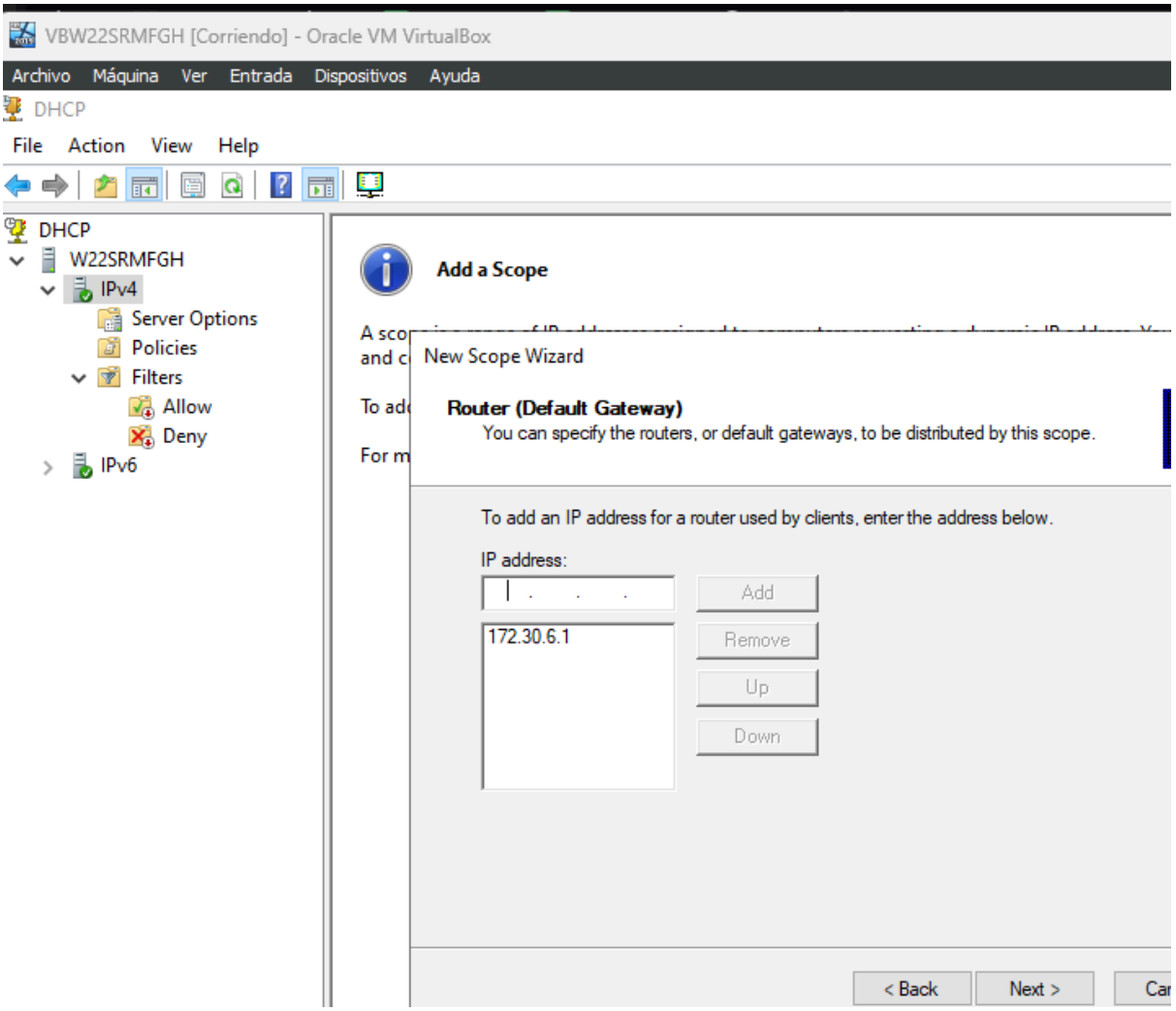
◦ Tiempo de concesión reserva = 5 días
◦ Pool de direcciones para 300 equipos
◦ Máscara de red = 255.255.0.0
◦ Sufijo DNS = redwinxxx.demo
◦ Puerta de enlace = 172.30.XX.1
◦ Servidor DNS = 1.1.1.1 (3,5 ptos.)

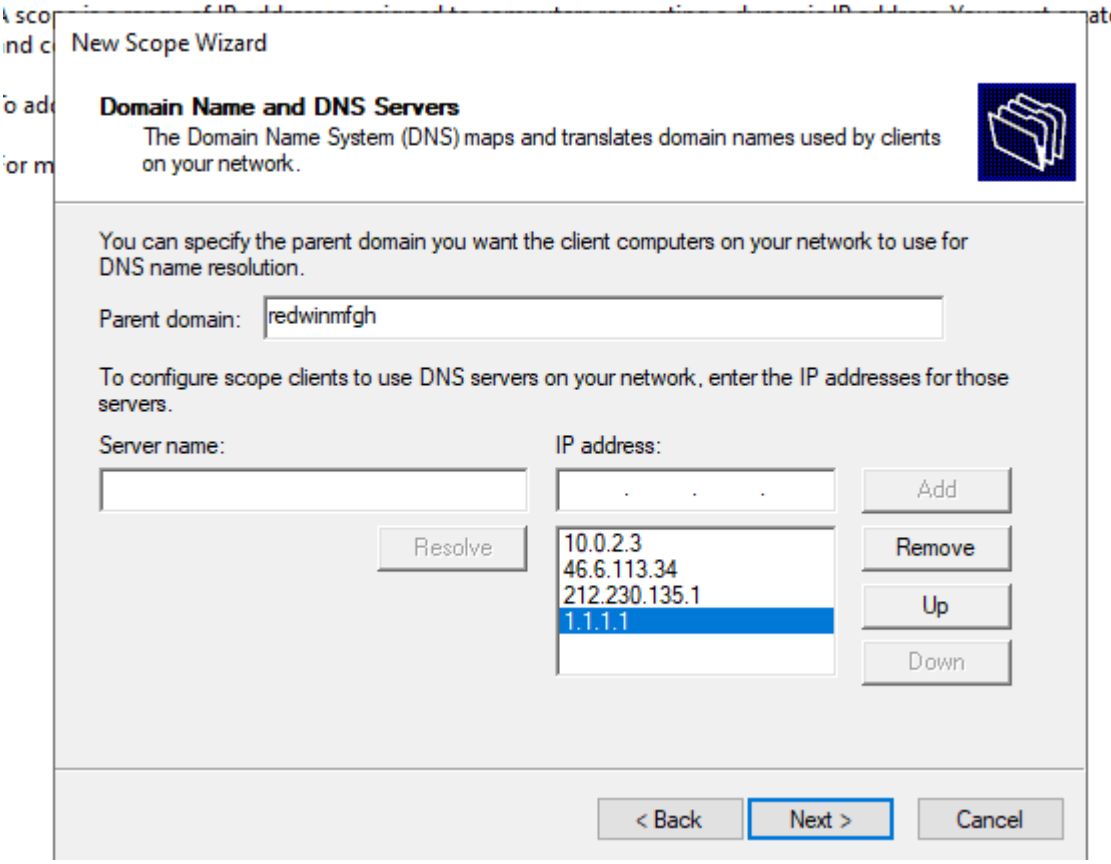

Add a Scope
New Scope Wizard
Scope Name
You have to provide an identifying scope name. You also have the option of providing a description.
Type a name and description for this scope. This information helps you quickly identify how the scope is to be used on your network.
Name:
REDMFGH
Description:
A2.P1
< Back
Next >
Cancel

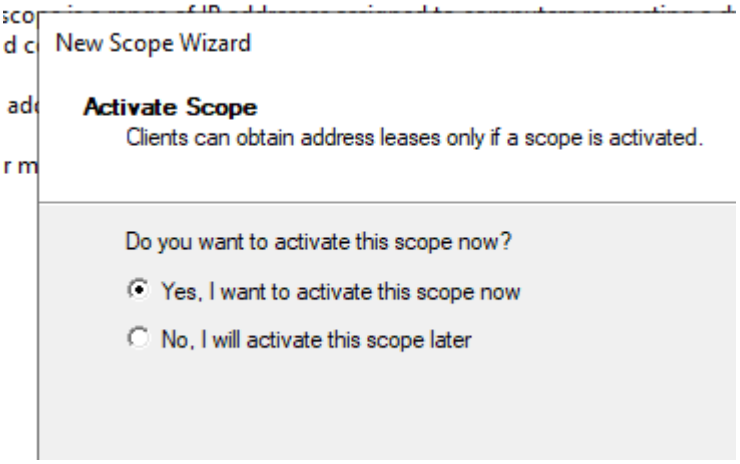

New Scope Wizard
IP Address Range
You define the scope address range by identifying a set of consecutive IP addresses.
Configuration settings for DHCP Server
Enter the range of addresses that the scope distributes.
Start IP address:
172 . 30 . 6 . 2
End IP address:
172 . 30 . 7 . 45
Configuration settings that propagate to DHCP Client
Length:
16
Subnet mask:
255 . 255 . 0 . 0

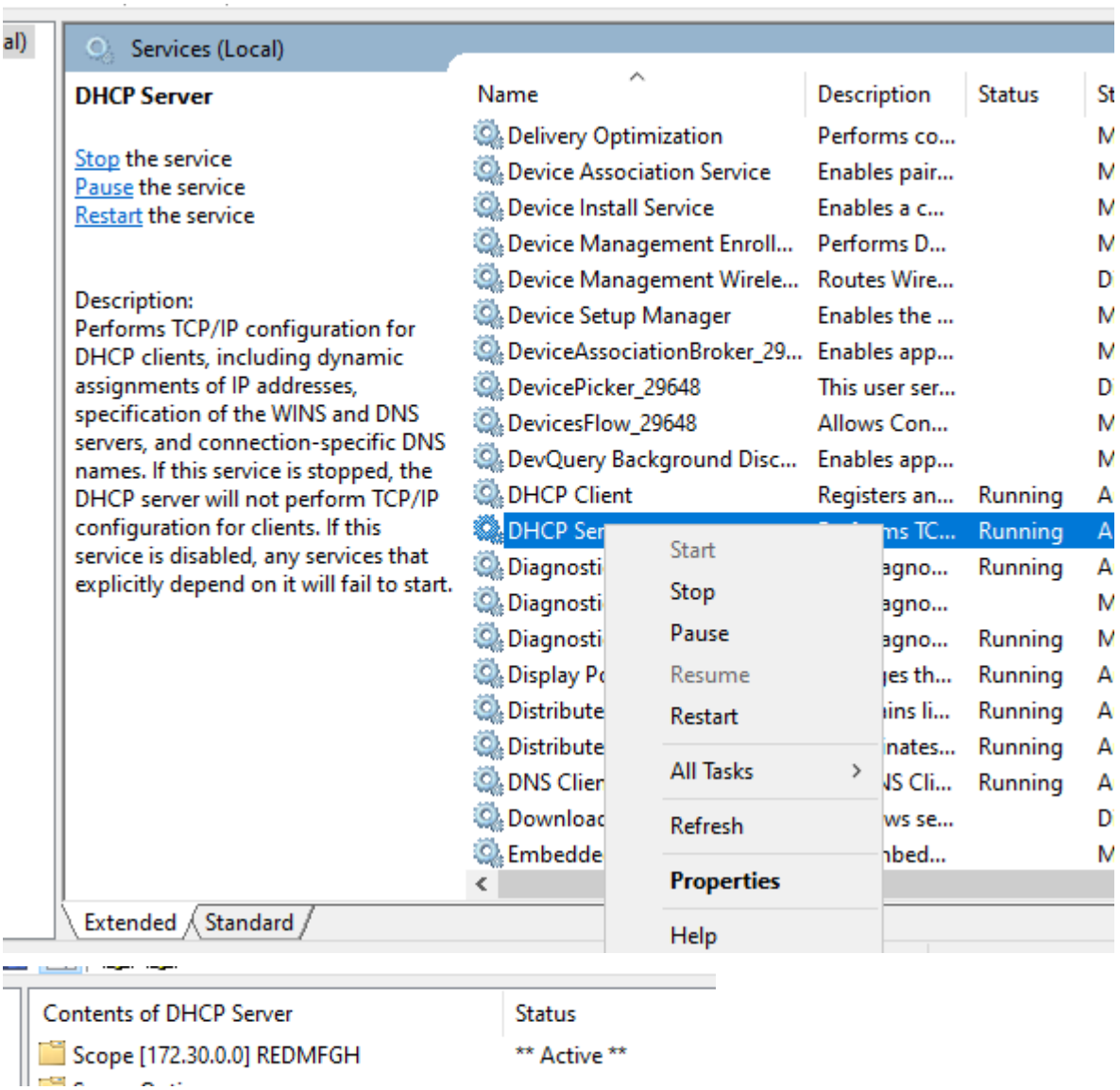

New Scope Wizard
Add Exclusions and Delay
Exclusions are addresses or a range of addresses that are not distributed by the server. A delay is the time duration by which the server will delay the transmission of a DHCPOFFER message.
Type the IP address range that you want to exclude. If you want to exclude a single address, type an address in Start IP address only.
Start IP address:
End IP address:
Add
Excluded address range:
Remove
Subnet delay in milli second:
0
< Back
Next >
Cancel


New Scope Wizard
Lease Duration
The lease duration specifies how long a client can use an IP address from this scope.
Lease durations should typically be equal to the average time the computer is connected to the same physical network. For mobile networks that consist mainly of portable computers or dial-up clients, shorter lease durations can be useful.
Likewise, for a stable network that consists mainly of desktop computers at fixed locations, longer lease durations are more appropriate.
Set the duration for scope leases when distributed by this server.
Limited to:
Days:
Hours:
Minutes:
5
0
0

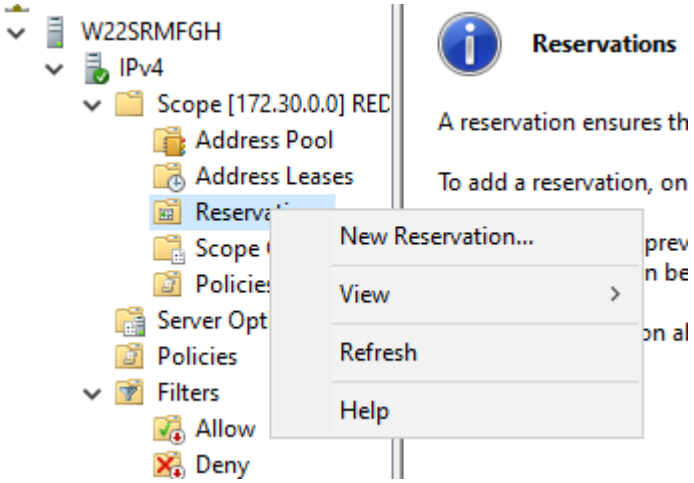

VBW22SRMFGH [Corriendo] - Oracle VM VirtualBox
Archivo Máquina Ver Entrada Dispositivos Ayuda
DHCP
File Action View Help
DHCP
W22SRMFGH
IPv4
Server Options
Policies
Filters
Allow
Deny
IPv6
Add a Scope
New Scope Wizard
Router (Default Gateway)
You can specify the routers, or default gateways, to be distributed by this scope.
To add an IP address for a router used by clients, enter the address below.
IP address:
Add
172.30.6.1
Remove
Up
Down
< Back
Next >


New Scope Wizard
Domain Name and DNS Servers
The Domain Name System (DNS) maps and translates domain names used by clients on your network.
You can specify the parent domain you want the client computers on your network to use for DNS name resolution.
Parent domain:
redwinmfgh
To configure scope clients to use DNS servers on your network, enter the IP addresses for those servers.
Server name:
IP address:
Add
Resolve
10.0.2.3
46.6.113.34
212.230.135.1
1.1.1.1
Remove
Up
Down
< Back
Next >
Cancel

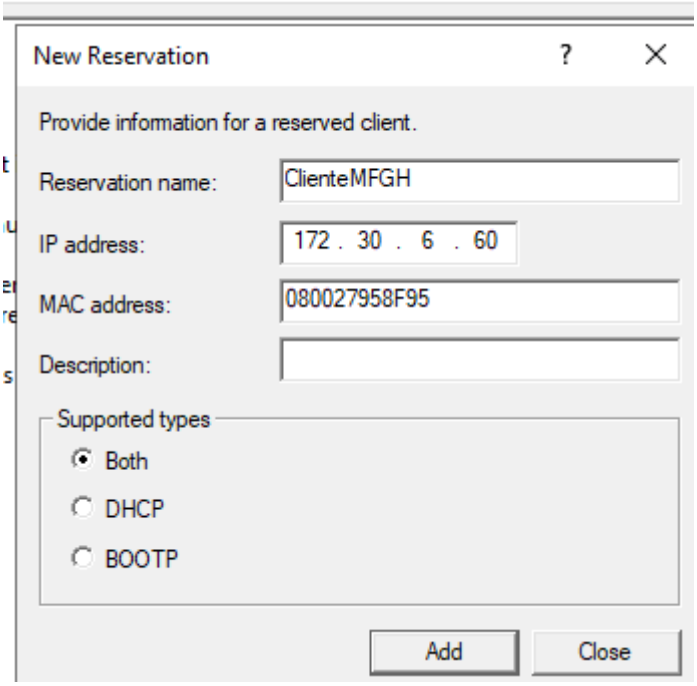

New Scope Wizard
Activate Scope
Clients can obtain address leases only if a scope is activated.
Do you want to activate this scope now?
Yes, I want to activate this scope now
No, I will activate this scope later

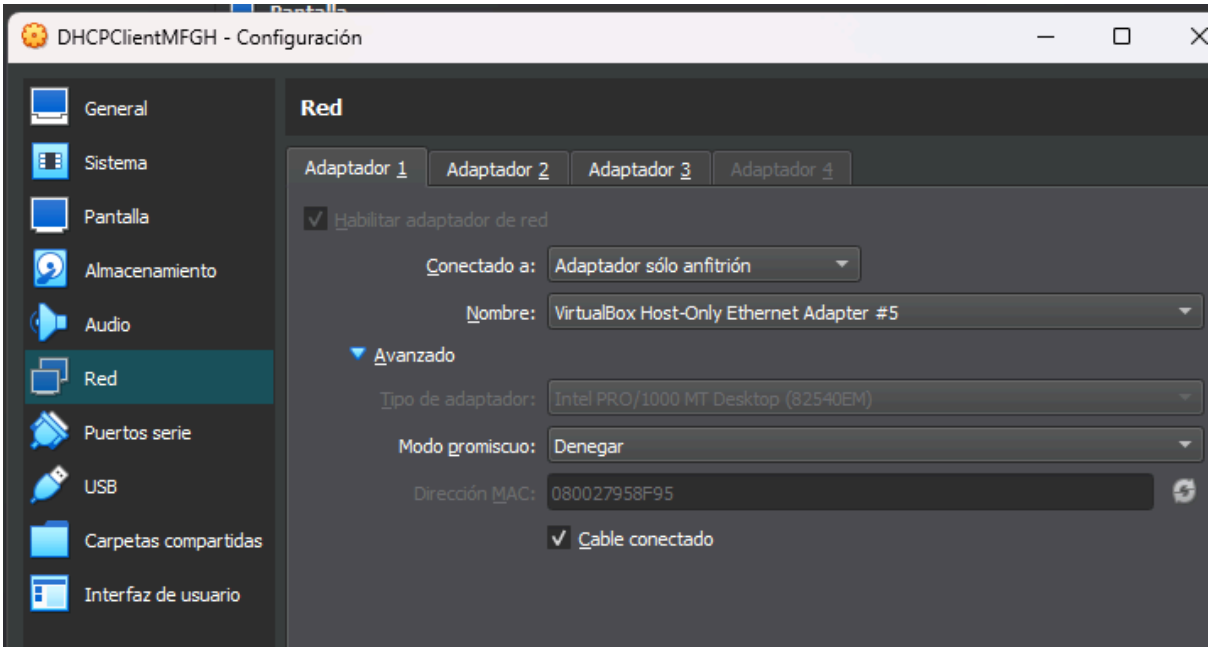

Services (Local)
DHCP Server
Stop the service
Pause the service
Restart the service
Description:
Performs TCP/IP configuration for DHCP clients, including dynamic assignments of IP addresses, specification of the WINS and DNS servers, and connection-specific DNS names. If this service is stopped, the DHCP server will not perform TCP/IP configuration for clients. If this service is disabled, any services that explicitly depend on it will fail to start.
Name
Description
Status
Delivery Optimization
Performs co...
Device Association Service
Enables pair...
Device Install Service
Enables a c...
Device Management Enroll...
Performs D...
Device Management Wirele...
Routes Wire...
Device Setup Manager
Enables the ...
DeviceAssociationBroker_29...
Enables app...
DevicePicker_29648
This user ser...
DevicesFlow_29648
Allows Con...
DevQuery Background Disc...
Enables app...
DHCP Client
Registers an...
Running
DHCP Ser
Running
Diagnosti
Running
Diagnosti
Diagnosti
Running
Display Pc
Running
Distribute
Running
Distribute
Running
DNS Clier
Running
Downloac
Embedde
Start
Stop
Pause
Resume
Restart
All Tasks
Refresh
Properties
Help
Extended
Standard
Contents of DHCP Server
Status
Scope [172.30.0.0] REDMFGH
** Active **

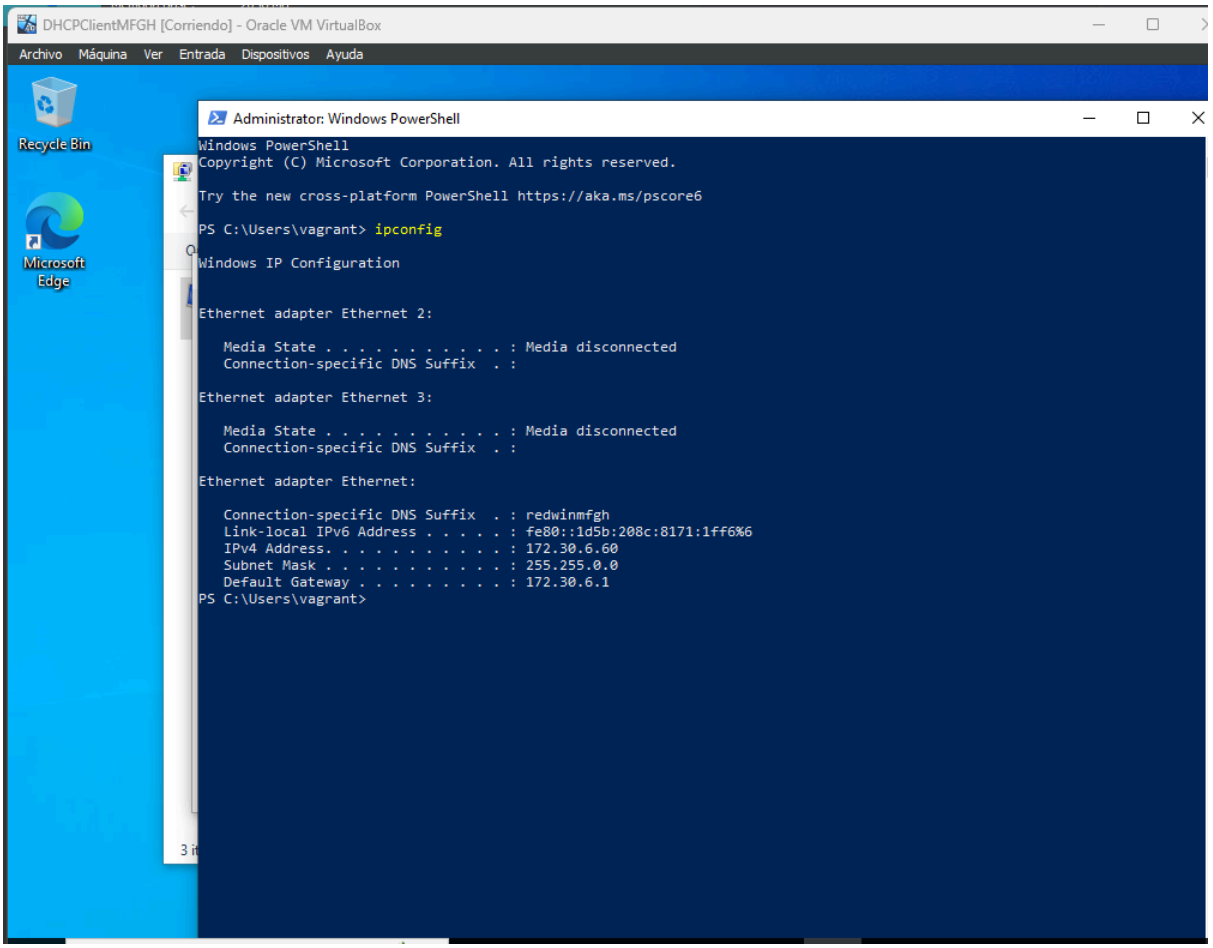
3) Se debe crear una reserva para un equipo cliente en la ip 172.30.XX.60 (1,5 ptos.)



Comprobamos el MAC de la máquina que vamos a utilizar como cliente y la ponemos ahi.







4) Se debe activar el enrutamiento NAT en el Windows Server de manera que los equipos cliente conectados a la red local sean capaces de salir a internet con la configuración que les proporciona el servicio DHCP. (2,5 ptos.)

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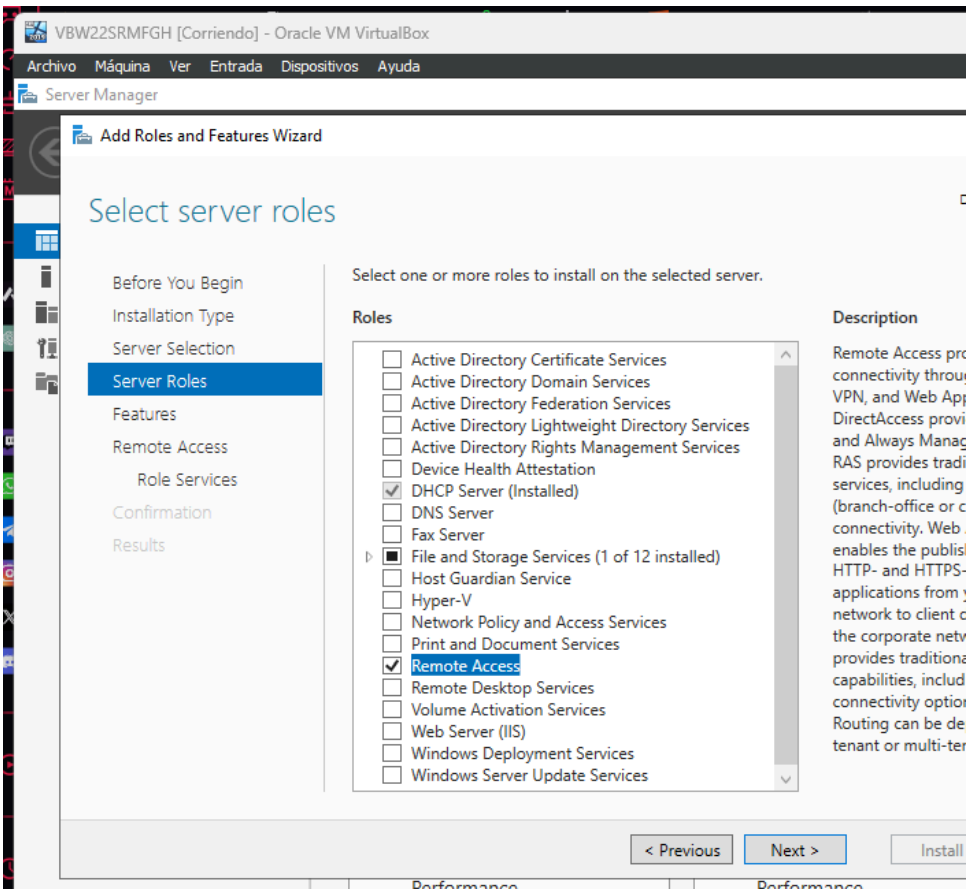
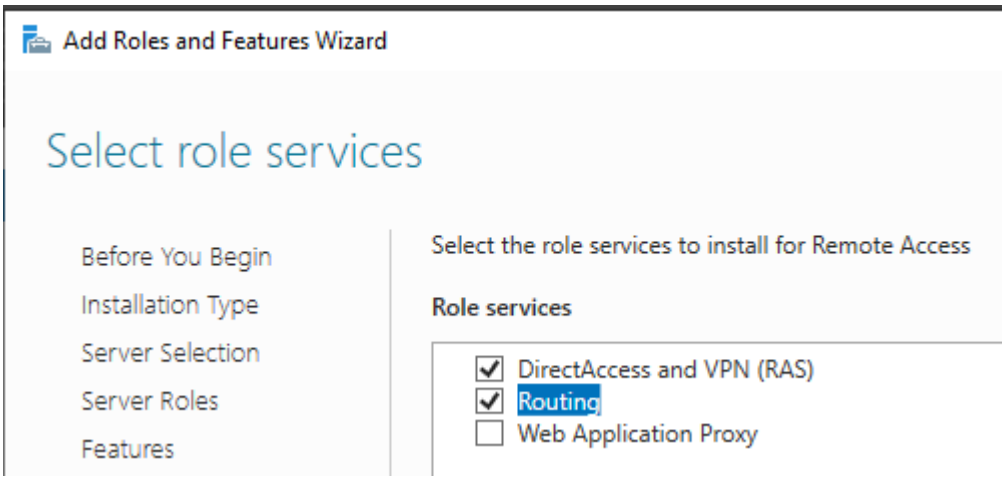
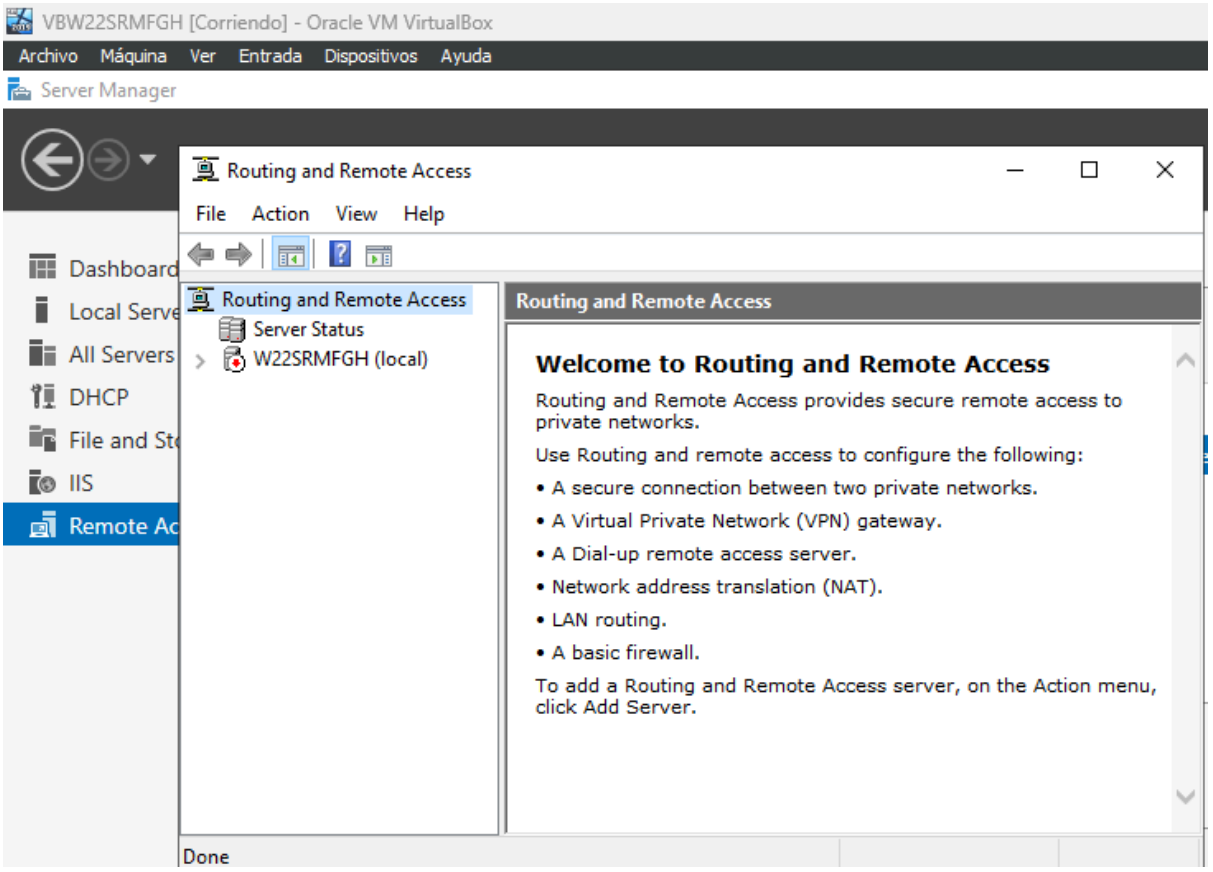


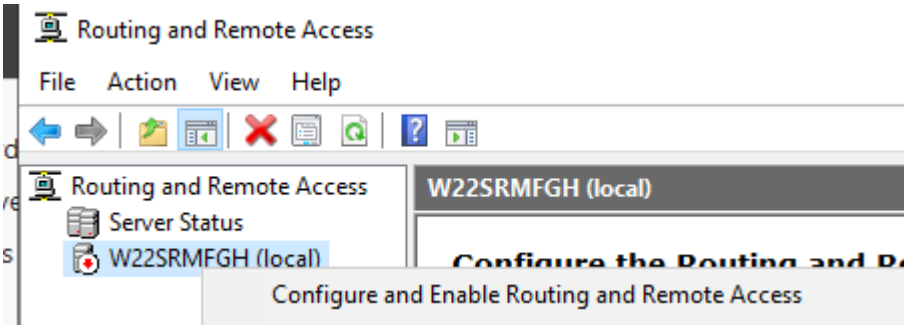
Instalamos el acceso remoto en el server, con estas dos opciones activadas.

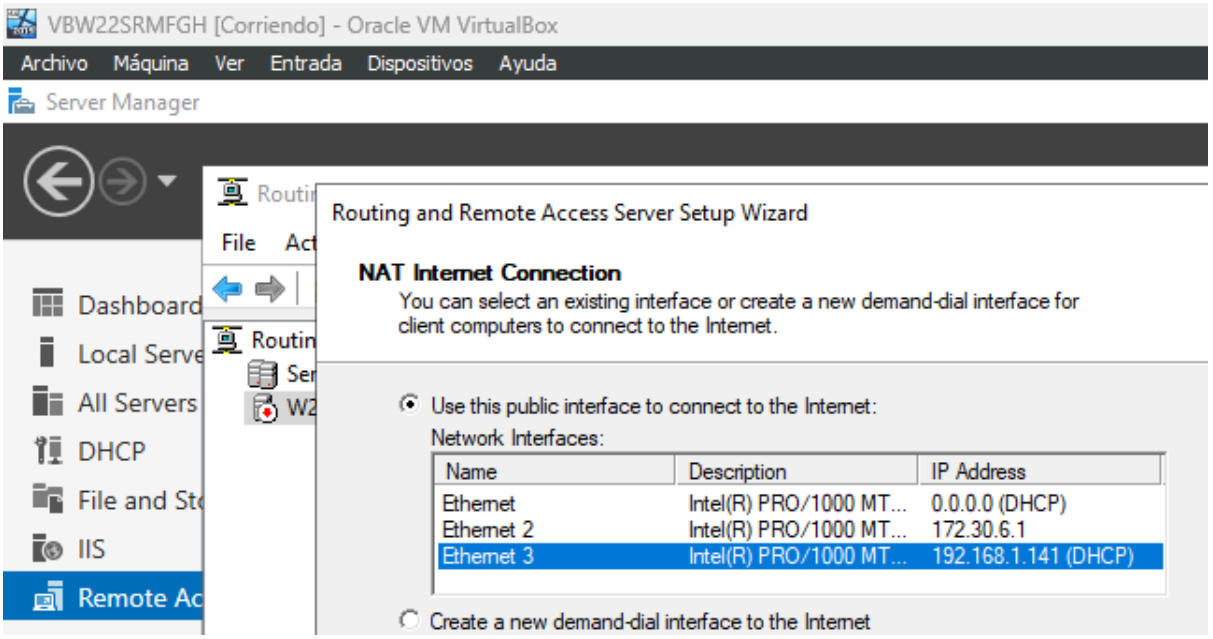


Nos metemos a la aplicación una vez instalada.

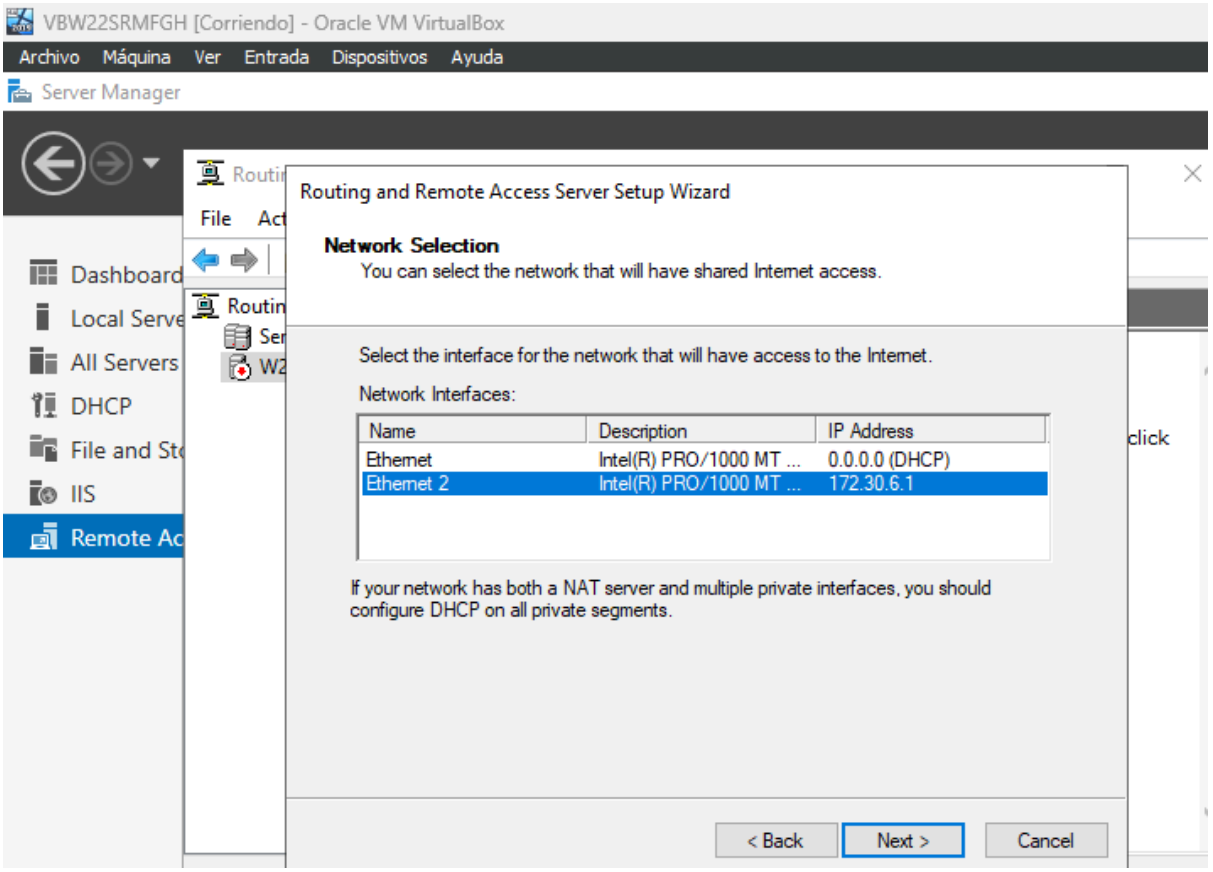


Vamos a activarlo y configurarlo.

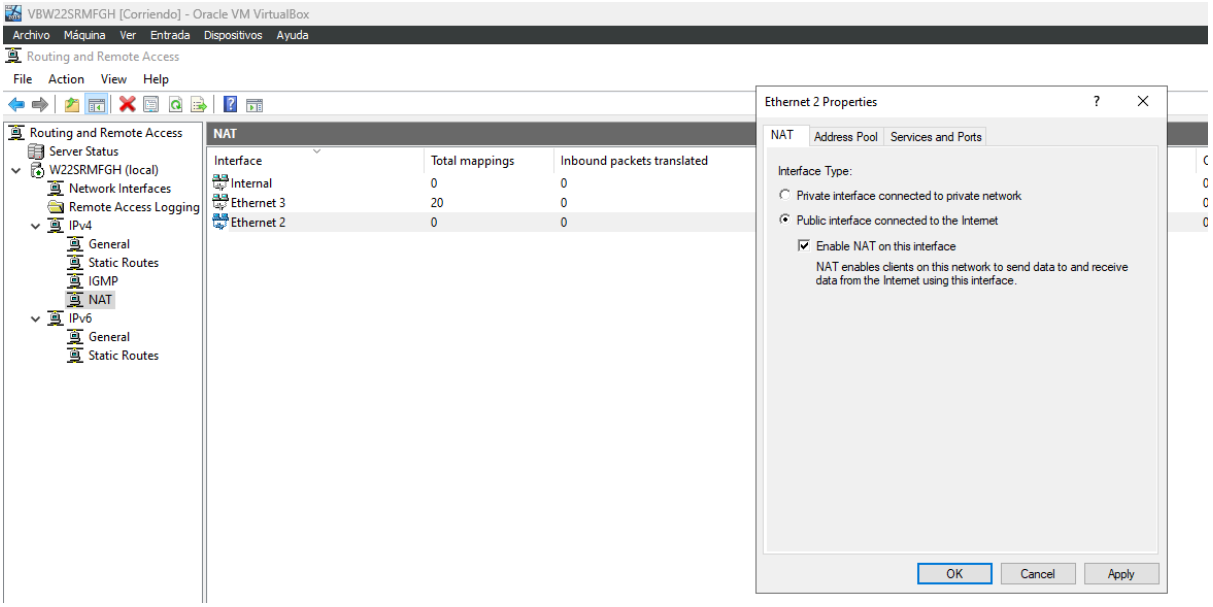




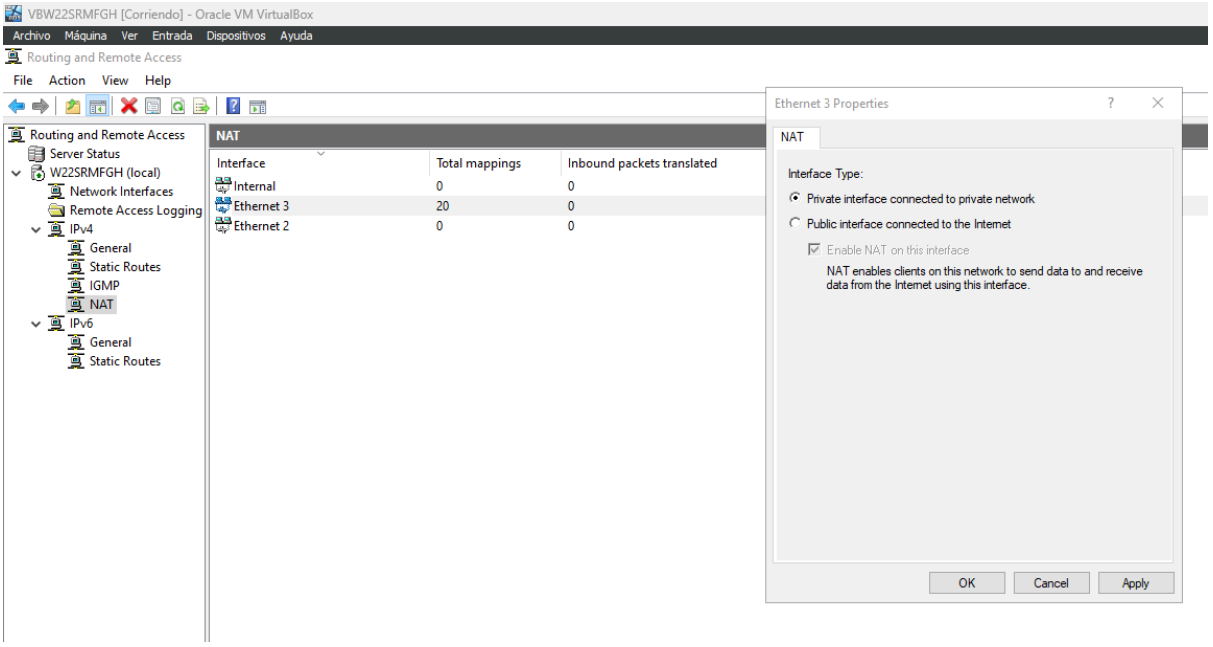
Elegimos la NAT, y esperamos a que se configure.



Ahora vamos a IPv4, en NAT y activamos la NAT necesaria, en este caso, ethernet 2, y activamos el NAT.



La tarjeta host-only se queda con la interfaz privada.



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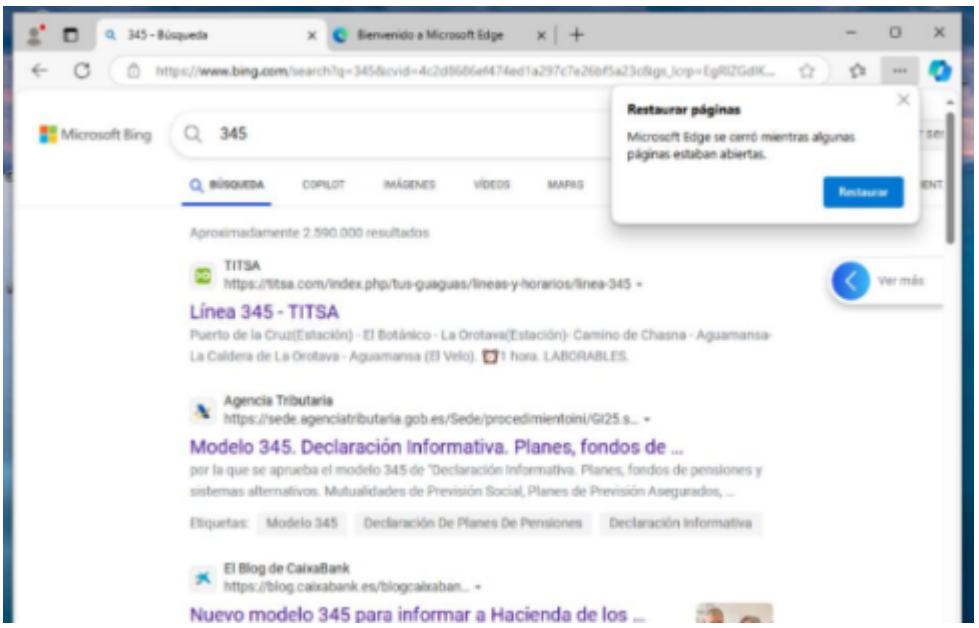

Si se ha hecho correctamente, ya debe de funcionar la conexión.

5) Muestra la información sobre las concesiones otorgadas por nuestro servidor DHCP (1 pto.)

Revisamos las IPs otorgadas en el menú de las concesiones.