

# INNOVACIÓN VIRTUAL



## Inteligencia Artificial

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**Grupo:** *IA*      **Tópico:** *Practica #7*

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Creamos un nuevo grupo de recursos, al cual vamos a llamar Sesión5

Search resources, services, and docs (G+)

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app


Recent services


Resource groups


Virtual machines

Cognitive Services

Logic apps

Function App

App Services

Groups

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## Create a resource group ...

[Basics](#) [Tags](#) [Review + create](#)

**Resource group** - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. [Learn more](#)

### Project details

Subscription \* ⓘ

Azure for Students

▼

Resource group \* ⓘ

### Resource details

Region \* ⓘ

(US) East US






▼

Creamos dos Virtual Network, que tienen que estar en la misma región que las máquinas virtuales

[Home](#) >

# Virtual networks ...

Innovación - Microsoft Educacion Mexico (innovaccion.mx)

 Create  Manage view   Refresh 

## Create virtual network ...

Basics IP Addresses Security Tags Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. [Learn more about virtual network](#)

### Project details

Subscription \* ⓘ

Azure for Students



Resource group \* ⓘ

Sesion5

[Create new](#)

### Instance details

Name \*

Network1

Region \*

East US

Nos vamos a IP Address y le damos a Add subnet, nos va a salir una pestaña en la derecha

### Add subnet

Subnet name \*

SubNet1

Subnet address range \* ⓘ

10.2.0.0/24

10.2.0.0 - 10.2.0.255 (251 + 5 Azure reserved addresses)

#### NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway

None

#### SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Services ⓘ

0 selected

Add

Cancel

Luego de esto le damos a crear

Home >

Microsoft.VirtualNetwork-20220603224100 | Overview

Deployment

Search (Ctrl+/)

Delete Cancel Redeploy Refresh

Overview

Inputs

Outputs

Template

... Deployment i

Deployment to re:

We'd love your feedback! →

... Deployment is in progress

Deployment name: Microsoft.VirtualNetwork-20220603224100

Subscription: [Azure for Students](#)

Resource group: [Session5](#)

Start time: 6/3/2022, 10:44:31 PM

Correlation ID: 66971836-759c-9149-b6a0e3c49313

Deployment details (Download)

Resource	Type	Status	Operati
No results.			

Basics IP Addresses Security Tags Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

10.2.0.0/16 10.2.0.0 - 10.2.255.255 (65536 addresses)



☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

+ Add subnet Remove subnet

<input type="checkbox"/> Subnet name	Subnet address range	NAT gateway
<input type="checkbox"/> default	10.2.0.0/24	-

Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to a subnet after you create the virtual network. [Learn more](#)

Después de crear las dos redes virtuales, vamos a juntarlas, para ello vamos a settings y después vamos a peerings

Settings

- Address space
- Connected devices
- Subnets
- Bastion
- DDoS protection
- Firewall
- Microsoft Defender for Cloud
- Network manager
- DNS servers
- Peerings

Después creamos dos Máquinas Virtuales, las cuales debemos crear con contraseña

[Home](#) >

## Virtual machines

Innovación - Microsoft Educacion Mexico (innovacion.mx)

[+ Create](#) [↔ Switch to classic](#) [🕒 Reservations](#)

[Home](#) > [Virtual machines](#) >

### Create a virtual machine

[Basics](#) [Disks](#) [Networking](#) [Management](#) [Advanced](#) [Tags](#) [Review + create](#)

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. [Learn more](#)

#### Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \* ⓘ

Azure for Students

Resource group \* ⓘ

Sesion5

[Create new](#)

#### Instance details

Virtual machine name \* ⓘ

MaquinaVirtual55

Region \* ⓘ

(Asia Pacific) Australia Central

Availability options ⓘ

No infrastructure redundancy required

Security type ⓘ

Standard

Image \* ⓘ

Windows 10 Pro, version 21H2 - Gen2

[See all images](#) | [Configure VM generation](#)

Azure Spot instance ⓘ

☐

[Review + create](#) [< Previous](#) [Next: Disks >](#)

Después nos vamos a Networking y seleccionamos la red virtual (y por defecto la subnet)

[Basics](#) [Disks](#) [Networking](#) [Management](#) [Advanced](#) [Tags](#) [Review + create](#)

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. [Learn more](#)

#### Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network \* ⓘ

VirtualNetwork1

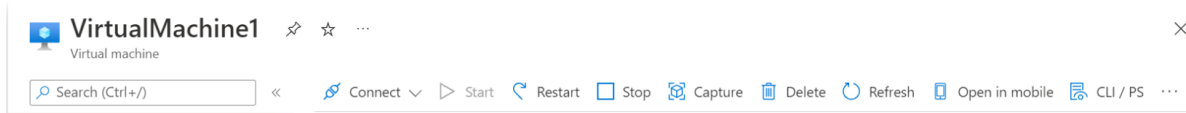
[Create new](#)

Subnet \* ⓘ

SubNet1 (10.2.0.0/24)

[Manage subnet configuration](#)

Dentro de las VM, le damos en conectar



Vamos al SSH y copiamos el comando de abajo

RDP SSH Bastion

### Connect via SSH with client

1. Open the client of your choice, for example [WSL on Windows](#), [Terminal on Mac](#) or [Shell on Linux](#).
2. Ensure you have read-only access to the private key. Chmod is only supported on Linux subsystems (e.g. WSL on Windows or Terminal on Mac).

```
chmod 400 <keyname>.pem
```

3. Provide a path to your SSH private key file. [Replace/reset your SSH private key](#). ⓘ

Private key path

```
~/ssh/azureuser
```

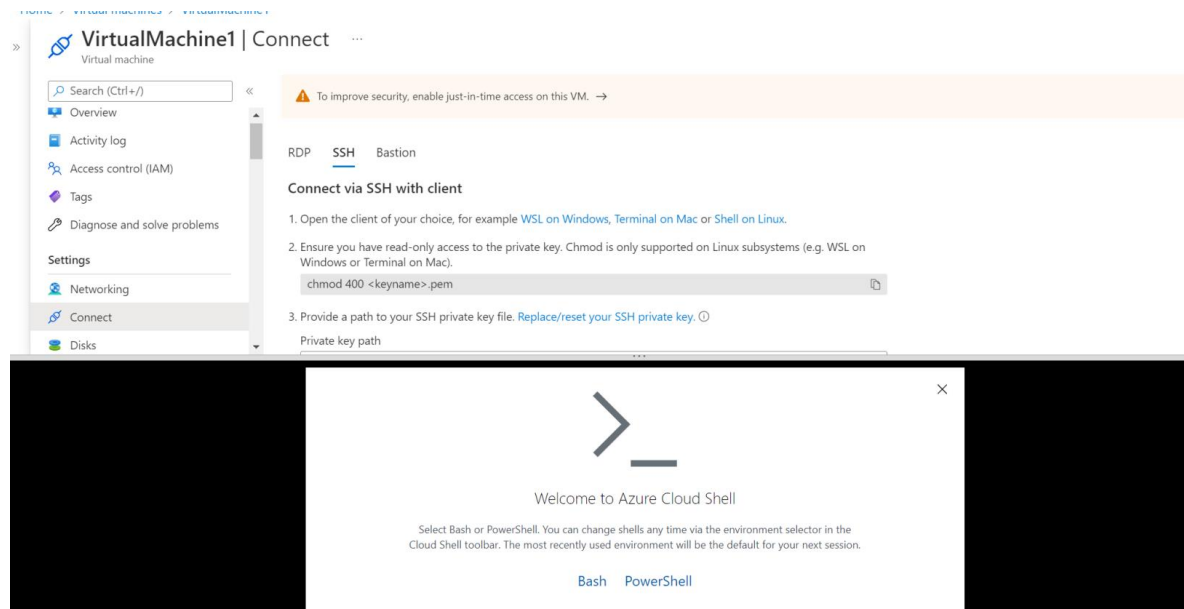
4. Run the example command below to connect to your VM.

```
ssh -i <private key path> azureuser@20.37.14.21
```

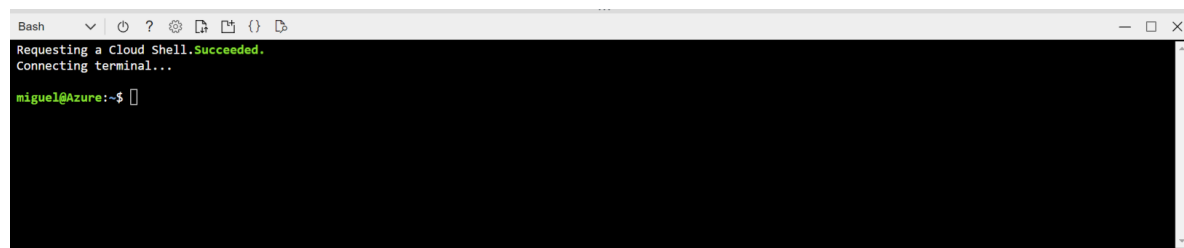
Luego vamos a Azure Cloud Shell (Primer ícono al lado de la barra de búsqueda)



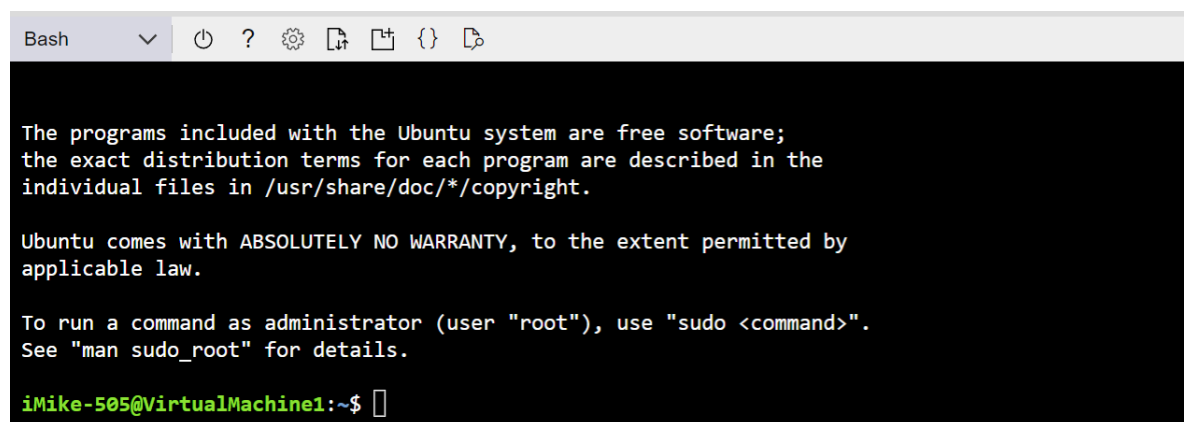
El cual nos va a abrir esto



Le damos en Bash y luego en crear, nos va a salir una pestaña similar a esta:



Dentro de la consola ponemos “ssh (private key que sale en el cuarto paso)”, le damos que yes, y nos pedirá la contraseña y listo.





Para comprobar que estamos dentro de la maquina virtual escribimos "sudo apt-get moo"

```
iMike-505@VirtualMachine1:~$ sudo apt-get moo

      (__)
      (oo)
    /-----\
   /  |       |  \
  /   |       |   \
 *  /\-----/\
   ~~~~

... "Have you mooed today?" ...
iMike-505@VirtualMachine1:~$
```

Vamos a redes,

Virtual networks

VirtualNetwork2

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Address space

Connected devices

Subnets

Bastion

DDoS protection

Essentials

Resource group (move)

Session5

Location (move)

Australia Central

Subscription (move)

Azure for Students

Subscription ID

5041c98e-1c9e-4b06-b1ec-65aa69e80f53

Tags (edit)

Address space

10.3.0.0/16

DNS servers

Azure provided DNS service

Flow timeout

Configure

BGP community string

Configure

Virtual network ID

ae9840a7-7c7b-4ee2-a8ee-b5eeb9488022

Vamos a dispositivos conectados

VirtualNetwork2 | Connected devices

Virtual network

Search (Ctrl+/)

Refresh

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Search connected devices

Device ↑↓	Type ↑↓	IP Address ↑↓	Subnet ↑↓
virtualmachine2392	Network interface	10.3.0.4	SubNet2

Agarramos la IP y le escribimos en Bash “ping IP”

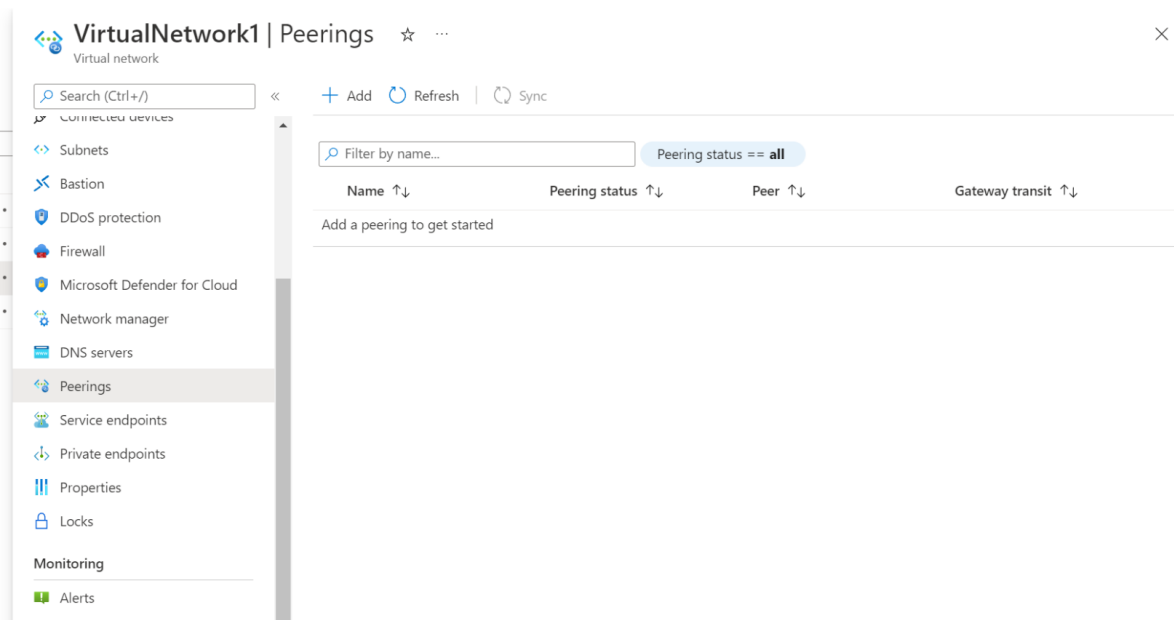
```
Bash
```

```
iMike-505@VirtualMachine1:~$ sudo apt-get moo

      (__)
      (oo)
    /-----\
   /  |       |  \
  *  / \----/ \
     ~~~~

... "Have you mooed today?" ...
iMike-505@VirtualMachine1:~$ ping 10.3.0.4
PING 10.3.0.4 (10.3.0.4) 56(84) bytes of data.
```

Al principio no va a recibir nada ya que no están conectadas, por eso regresamos a peerings y le damos en add



Renellamos los campos, en nombre se debe de colocar como vamos a identificar la conexión y en la parte de abajo va a ser viceversa

“Net1-Net2” // “Net2-Net1”

Add peering

VirtualNetwork1

For peering to work, two peering links must be created. By selecting remote virtual network, Azure will create both peering links.

This virtual network

Peering link name \*

Net1-Net2

Traffic to remote virtual network ⓘ

☒ Allow (default)

☐ Block all traffic to the remote virtual network

Traffic forwarded from remote virtual network ⓘ

☒ Allow (default)

☐ Block traffic that originates from outside this virtual network

Virtual network gateway or Route Server ⓘ

☐ Use this virtual network's gateway or Route Server

☐ Use the remote virtual network's gateway or Route Server

☒ None (default)

Remote virtual network

Peering link name \*

Net2-Net1

Nos debe de aparecer en Conectado en status

<input type="text" value="Filter by name..."/>	Peering status == all			
<input type="checkbox"/> Name ↑↓	Peering status ↑↓	Peer ↑↓	Gateway transit ↑↓	
<input type="checkbox"/> Net1-Net2	Connected	VirtualNetwork2	Disabled	...

Regresamos al Bash y podemos observar que tuvieron conexión con éxito

```
Bash  ▾ | 🔌 ? ⚙️ ↕ 📄 {} 📋  
64 bytes from 10.3.0.4: icmp_seq=493 ttl=64 time=0.586 ms  
64 bytes from 10.3.0.4: icmp_seq=494 ttl=64 time=0.853 ms  
64 bytes from 10.3.0.4: icmp_seq=495 ttl=64 time=0.711 ms  
64 bytes from 10.3.0.4: icmp_seq=496 ttl=64 time=0.584 ms  
64 bytes from 10.3.0.4: icmp_seq=497 ttl=64 time=0.685 ms  
64 bytes from 10.3.0.4: icmp_seq=498 ttl=64 time=1.48 ms  
64 bytes from 10.3.0.4: icmp_seq=499 ttl=64 time=0.638 ms  
64 bytes from 10.3.0.4: icmp_seq=500 ttl=64 time=0.717 ms  
64 bytes from 10.3.0.4: icmp_seq=501 ttl=64 time=1.66 ms  
64 bytes from 10.3.0.4: icmp_seq=502 ttl=64 time=0.642 ms  
64 bytes from 10.3.0.4: icmp_seq=503 ttl=64 time=0.743 ms  
64 bytes from 10.3.0.4: icmp_seq=504 ttl=64 time=4.11 ms  
█
```