

Tabela de Endereços IP, Gateways, Sub-redes e Serviços

Projeto: Integração Multi-Cloud Azure + AWS via VPN Site-to-Site

Autor: Gabriel

Componente	Nome	Endereço / CIDR	Plataforma	Observações
VPC	my-vpc-01-gabriel	10.0.0.0/16	AWS	Rede principal na AWS
Sub-rede privada	subnet-aws-privada	10.0.1.0/24	AWS	Sub-rede onde a instância EC2 está localizada
Instância EC2 privada	privada2.0-gabriel	10.10.1.48	AWS	EC2 sem IP público, conectada à sub-rede privada
Virtual Private Gateway	vpn-aws-azure-gabriel	-	AWS	Gateway VPN do lado da AWS, associado à VPC
Customer Gateway (CGW)	vpn-azure-aws-gabriel	172.191.98.26	AWS	IP público do VPN Gateway do Azure (Azure representa o cliente na AWS)
Túnel 1 - IP Externo AWS	-	50.19.19.165	AWS	IP do primeiro túnel da VPN da AWS
Túnel 1 - IP Interno	-	169.254.34.84/30	AWS/Azure	Faixa de IPs interna do túnel (rede ponto a ponto com Azure)
Túnel 2 - IP Externo AWS	-	54.85.77.237	AWS	IP do segundo túnel da VPN da AWS
Túnel 2 - IP Interno	-	169.254.58.200/30	AWS/Azure	Faixa de IPs interna do túnel (rede ponto a ponto com Azure)
VNet (Virtual Network)	rg-azure-gabriel	172.16.0.0/16	Azure	Rede principal do lado Azure
Sub-rede da VNet	-	172.16.1.0/24	Azure	Sub-rede onde está a VM privada
VM privada	vm-azure-gabriel	172.16.1.4	Azure	Máquina virtual sem IP público,

				usada para teste de conectividade
Gateway Subnet (Azure)	GatewaySubnet	172.16.255.0/27	Azure	Sub-rede obrigatória para criação do Azure VPN Gateway
Azure VPN Gateway	(gerado)	172.191.98.26	Azure	IP público criado automaticamente pelo Azure VPN Gateway
Local Network Gateway	lgw-aws	50.19.19.165	Azure	Representa o gateway da AWS na configuração do lado Azure
Prefixo da AWS (na Azure)	-	10.0.0.0/16	Azure	Indica as redes da AWS que devem ser roteadas pela VPN
Prefixo da Azure (na AWS)	-	172.16.0.0/16	AWS	Indica as redes da Azure que devem ser roteadas pela VPN

Guia de Configuração - Integração Multi-Cloud Azure + AWS

Integração Multi-Cloud: VPN Site-to-Site entre AWS e Azure

ETAPA 1 – Configuração no Azure

1. Criar um Resource Group

Nome: rg_azure_aws_project

Região: East US

2. Criar a Virtual Network (VNet)

Nome: vnet-azure

Endereço CIDR: 172.16.0.0/16

Sub-rede: 172.16.1.0/24

3. Criar a Máquina Virtual (VM)

Nome: vm-azure-gabriel

IP privado: 172.16.1.4

Rede: vnet-azure

4. Criar o Gateway de VPN

Criar uma sub-rede do gateway (obrigatório): 172.16.255.0/27

Criar o Virtual Network Gateway:

Tipo: VPN

SKU: VpnGw1

Gateway Type: VPN

VPN Type: Route-based

IP público: 172.191.98.26 (gerado)

ETAPA 2 – Configuração na AWS

1. Criar a VPC

Nome: my-vpc-01-gabriel

CIDR: 10.0.0.0/16

2. Criar a Sub-rede Privada

CIDR: 10.0.1.0/24

Associar a AZ desejada

3. Criar a EC2 Privada

Nome: privada2.0-gabriel

IP privado: 10.10.1.48

Sem IP público

Segurança: habilitar ICMP (Echo Request/Reply) no SG

4. Criar o Virtual Private Gateway

Nome: vpn-aws-azure-gabriel

Associar à VPC

5. Criar o Customer Gateway

IP: 172.191.98.26 (IP público do Azure VPN)

Tipo: Static

ASN: Pode usar 65000

6. Criar a VPN Connection

Tipo: Site-to-Site

Gateway: o Virtual Private Gateway criado

Customer Gateway: o que aponta para o IP do Azure

Túnel 1:

IP externo AWS: 50.19.19.165

IP interno: 169.254.34.84/30

Túnel 2:

IP externo AWS: 54.85.77.237

IP interno: 169.254.58.200/30

ETAPA 3 – Finalizando no Azure

1. Criar o Local Network Gateway

Nome: lgw-aws

IP: 50.19.19.165 (IP do túnel AWS)

Prefixos de endereço: 10.0.0.0/16

2. Criar a Connection

Conectar o Virtual Network Gateway ao Local Network Gateway

Tipo de autenticação: Shared Key (igual ao da AWS)

Tipo de conexão: IPSec

ETAPA 4 – Rotas e Testes

AWS:

Em Route Tables, adicione rota:

Destino: 172.16.0.0/16

Target: Virtual Private Gateway

Azure:

Em Sub-rede → Route Table (ou via configuração automática do Gateway)

Destino: 10.0.0.0/16

Gateway: VPN

ETAPA 5 – Teste de Conectividade

Acesse a VM do Azure via Bastion

Ping para: 10.10.1.48 (EC2 privada da AWS)

```
ubuntu@ip-10-10-1-48: ~  
ubuntu@ip-10-10-1-48:~$ ping 172.16.1.4  
PING 172.16.1.4 (172.16.1.4) 56(84) bytes of data.  
  
^C  
--- 172.16.1.4 ping statistics ---  
149 packets transmitted, 0 received, 100% packet loss, time 151575ms  
  
ubuntu@ip-10-10-1-48:~$ ping 172.16.1.4  
PING 172.16.1.4 (172.16.1.4) 56(84) bytes of data.  
  
^C  
--- 172.16.1.4 ping statistics ---  
14 packets transmitted, 0 received, 100% packet loss, time 13316ms  
  
ubuntu@ip-10-10-1-48:~$ ^C  
ubuntu@ip-10-10-1-48:~$ ^C  
ubuntu@ip-10-10-1-48:~$ ^C  
ubuntu@ip-10-10-1-48:~$ ^C  
ubuntu@ip-10-10-1-48:~$ ping 172.16.1.4  
PING 172.16.1.4 (172.16.1.4) 56(84) bytes of data.  
64 bytes from 172.16.1.4: icmp_seq=35 ttl=64 time=7.01 ms  
64 bytes from 172.16.1.4: icmp_seq=36 ttl=64 time=9.66 ms  
64 bytes from 172.16.1.4: icmp_seq=37 ttl=64 time=20.0 ms  
64 bytes from 172.16.1.4: icmp_seq=38 ttl=64 time=14.9 ms  
64 bytes from 172.16.1.4: icmp_seq=39 ttl=64 time=6.08 ms  
64 bytes from 172.16.1.4: icmp_seq=40 ttl=64 time=5.79 ms  
64 bytes from 172.16.1.4: icmp_seq=41 ttl=64 time=5.85 ms  
64 bytes from 172.16.1.4: icmp_seq=42 ttl=64 time=6.04 ms  
64 bytes from 172.16.1.4: icmp_seq=43 ttl=64 time=7.15 ms  
64 bytes from 172.16.1.4: icmp_seq=44 ttl=64 time=6.04 ms
```

AWS Pingando Azure

```
bst-2e1877be-3faf-4708-a086-bfc31665842f.bastion.azure.com/#/client/dm0tYXp1cmUtZ2FicmlbABjAGJpZnJvc3Q=?trustedAuthority=https%2F... Escala

1 device has a firmware upgrade available.
Run 'fwupdmgrr get-upgrades' for more information.

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

1 device has a firmware upgrade available.
Run 'fwupdmgrr get-upgrades' for more information.

Last login: Tue Jun 17 12:00:30 2025 from 172.16.0.196
Last login: Tue Jun 17 12:00:30 2025 from 172.16.0.196
PING 10.10.1.48 (10.10.1.48) 56(84) bytes of data:
64 bytes from 10.10.1.48: icmp_seq=272 ttl=64 time=5.84 ms
64 bytes from 10.10.1.48: icmp_seq=273 ttl=64 time=6.04 ms
64 bytes from 10.10.1.48: icmp_seq=274 ttl=64 time=11.9 ms
64 bytes from 10.10.1.48: icmp_seq=275 ttl=64 time=5.81 ms
64 bytes from 10.10.1.48: icmp_seq=276 ttl=64 time=6.40 ms
64 bytes from 10.10.1.48: icmp_seq=276 ttl=64 time=6.40 ms
64 bytes from 10.10.1.48: icmp_seq=278 ttl=64 time=5.44 ms
64 bytes from 10.10.1.48: icmp_seq=279 ttl=64 time=5.98 ms
64 bytes from 10.10.1.48: icmp_seq=280 ttl=64 time=5.70 ms
64 bytes from 10.10.1.48: icmp_seq=280 ttl=64 time=5.70 ms
```

Azure Pingando AWS

AWS

Search

[Alt+S]

United States (N. Virginia)

vedlabs/user3546604@ramonl.gabriel@gmail.com @ 4752-8343-1203

VPC

Customer gateways

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

Carrier gateways

DHCP option sets

Elastic IPs

Managed prefix lists

NAT gateways

Peering connections

Route servers

Security

Network ACLs

Security groups

PrivateLink and Lattice

Customer gateways (1/1) info

Find resource by attribute or tag

Name	Customer gateway ID	State	BGP ASN	IP address	Type	Certificate ARN
cg-aws-azure-gabriel	cgw-04041faf16a034bb5	Available	65000	172.191.98.26	ipsec.1	-

Customer gateway cgw-04041faf16a034bb5 / cg-aws-azure-gabriel

Details

Tags

Customer gateway ID

cgw-04041faf16a034bb5

State

Available

BGP ASN

65000

Certificate ARN

-

Type

ipsec.1

IP address

172.191.98.26

Device

-

Customer Gateway

aws [Search] [Alt+S] United States (N. Virginia) vscabn/user3846604@rampant.gabriel@gmail.com @ 4752-3343-1203

EC2 > Instances

Instances (1/3) info

Find instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IP
vaifuncionar3.0	i-0267771e038d154d1	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-44-206-224-251.co...	44.206.2...
privada2.0-ga...	i-027e9a702050e884c	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-	-
vm-aws-gabriel	i-046a082e8fd11e35d	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-	-

i-0267771e038d154d1 (vaifuncionar3.0)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary info

Instance ID i-0267771e038d154d1

Public IPv4 address 44.206.224.251 | open address

Instance state Running

Private IP DNS name (IPv4 only) ip-172-31-94-251.ec2.internal

Instance type t2.micro

Private IPv4 addresses 172.31.94.251

Public DNS ec2-44-206-224-251.compute-1.amazonaws.com | open address

Elastic IP addresses

IPv6 address -

Hostname type IP name: ip-172-31-94-251.ec2.internal

Answer private resource DNS name IP.v4 (A)

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Instance Bastion

aws [Search] [Alt+S] United States (N. Virginia) vscabn/user3846604@rampant.gabriel@gmail.com @ 4752-3343-1203

EC2 > Instances

Instances (1/3) info

Find instance by attribute or tag (case-sensitive) All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IP
vaifuncionar3.0	i-0267771e038d154d1	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-44-206-224-251.co...	44.206.2...
privada2.0-ga...	i-027e9a702050e884c	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-	-
vm-aws-gabriel	i-046a082e8fd11e35d	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-	-

i-027e9a702050e884c (privada2.0-gabriel)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary info

Instance ID i-027e9a702050e884c

Public IPv4 address -

Instance state Running

Private IP DNS name (IPv4 only) ip-10-10-1-48.ec2.internal

Instance type t2.micro

Private IPv4 addresses 10.10.1.48

Public DNS -

IPv6 address -

Hostname type IP name: ip-10-10-1-48.ec2.internal

Answer private resource DNS name

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Instance Privada

us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#securityGroups:

Security Groups (1/6)

Find security groups by attribute or tag

Name	Security group ID	Security group name	VPC ID	Description
-	sg-0590b7e262c0e0308	Grupo-bastion	vpc-02cfc8284f5ac244d	launch-wizard-3 created 2025-06-16T1...
-	sg-0a590858783076367	default	vpc-02cfc8284f5ac244d	default VPC security group
-	sg-0745a86df5e37cd96	launch-wizard-2	vpc-0c2f3d14825f0bb65	launch-wizard-2 created 2025-06-15T2...
-	sg-06d7d86f053346bce	launch-wizard-3	vpc-0c2f3d14825f0bb65	launch-wizard-3 created 2025-06-17T1...
-	sg-021af18333e66748e	launch-wizard-1	vpc-02cfc8284f5ac244d	launch-wizard-1 created 2025-06-15T2...
-	sg-08cd487d43a02ec1c	default	vpc-0c2f3d14825f0bb65	default VPC security group

sg-021af18333e66748e - launch-wizard-1

Inbound rules (2)

Name	Security group rule ID	IP version	Type	Protocol	Port range	Source
-	sg-001f574cbec5dc774	IPv4	SSH	TCP	22	0.0.0.0/0
-	sg-0c144595b1aac7ba9	IPv4	All traffic	All	All	0.0.0.0/0

Security Group

Route tables (1/2)

Find route tables by attribute or tag

Name	Route table ID	Explicit subnet associ...	Edge associatio...	Main	VPC	Own...
-	rtb-0ce039b37b7646024	-	-	Yes	vpc-0c2f3d14825f0bb65	475232
-	rtb-aws-azure-gabriel	rtb-09a1eef2385895adc	-	Yes	vpc-02cfc8284f5ac244d my-vpc-01-gabriel	475232

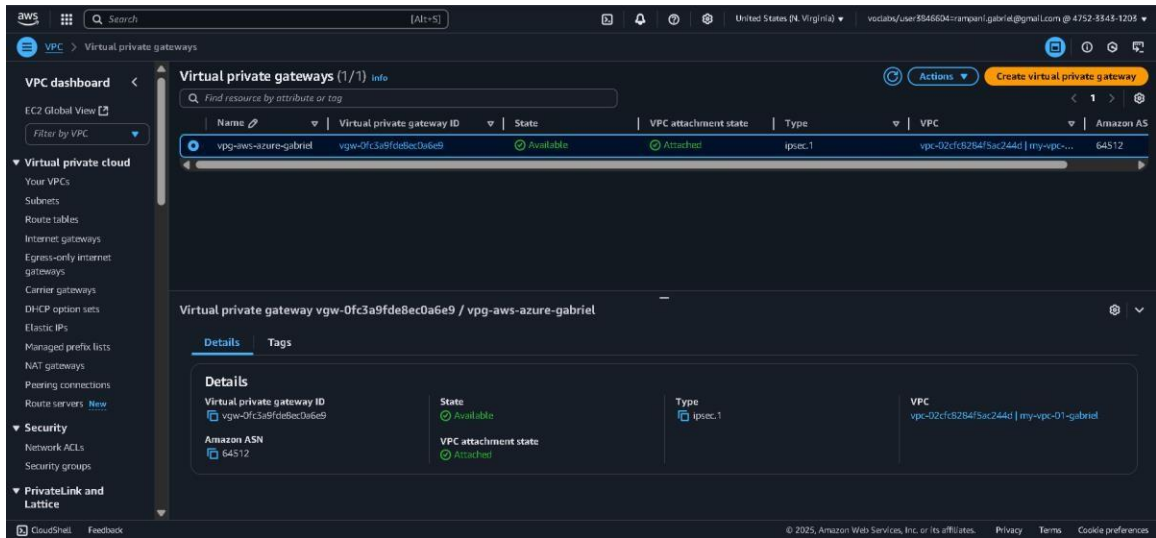
rtb-09a1eef2385895adc / rtb-aws-azure-gabriel

Details Routes Subnet associations Edge associations Route propagation Tags

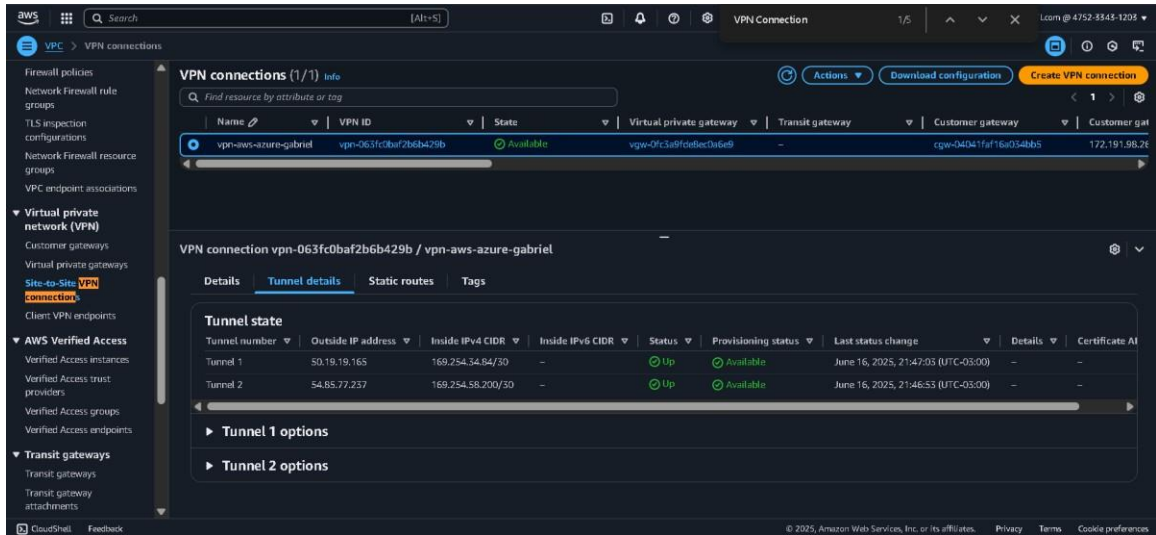
Routes (4)

Destination	Target	Status	Propagated
0.0.0.0/0	vpc-0c2f3d14825f0bb65	Active	No
10.10.0.0/16	local	Active	No
172.16.0.0/24	vpc-0c2f3d14825f0bb65	Active	No
172.31.0.0/16	pvc-0d468a59fcb0bdc3a	Active	No

Tabela de Rotas



Virtual Private Gateway



VPN Connection

Microsoft Azure

Search resources, services, and docs (0+)

gabriel.rampan@senatus-ecolias.com

Home > Resource groups > rg-azure-aws-gabriel >

bastion-gabriel Bastion

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Settings

Monitoring

Automation

Help

Essentials

Resource group (readonly) : [rg-azure-aws-gabriel](#)

Location : East US (Zone 1, 2, 3)

Subscription (readonly) : [Azure for Students](#)

Subscription ID : 451c12e-e76f-40d5-9907-f7129efa3fc

Tags (edit) : [Add tags](#)

Virtual network/subnet : [rg-azure-gabriel/azureBastionSubnet](#)

Public DNS name : [bit-2e1877be-3faf-4708-a086-bfc31603842f.bastion.azure.com](#)

Public IP address : [bastion00-gabriel](#)

Tier : Standard

Provisioning state : Succeeded

Availability zone : 1, 2, 3

JSON View

Tutorials

Sessions

Free training from Microsoft

Connect to virtual machines through the Azure portal by using Azure Bastion

8 units • 40 min

Deploy Azure Bastion to securely connect to Azure virtual machines directly within the Azure portal. Start "Connect to virtual machines" training.

Configure and manage virtual networks for Azure administrators

10 units • 13 hr 39 min

Learn how to configure and manage a range of Azure network capabilities including connectivity services and network monitoring services. Start "Configure and manage virtual networks" training.

Add or remove favorites by pressing Ctrl+Shift+F

Bastion

Microsoft Azure

Search resources, services, and docs (0+)

gabriel.rampan@senatus-ecolias.com

Home > Hybrid connectivity | Local network gateways >

Ing-azure-aws-gabriel Local network gateway

Search

Overview

Activity log

Access control (IAM)

Tags

Resource visualizer

Settings

Automation

Help

Essentials

Resource group (readonly) : [rg-azure-aws-gabriel](#)

Location : East US

Subscription (readonly) : [Azure for Students](#)

Subscription ID : 451c12e-e76f-40d5-9907-f7129efa3fc

Tags (edit) : [Add tags](#)

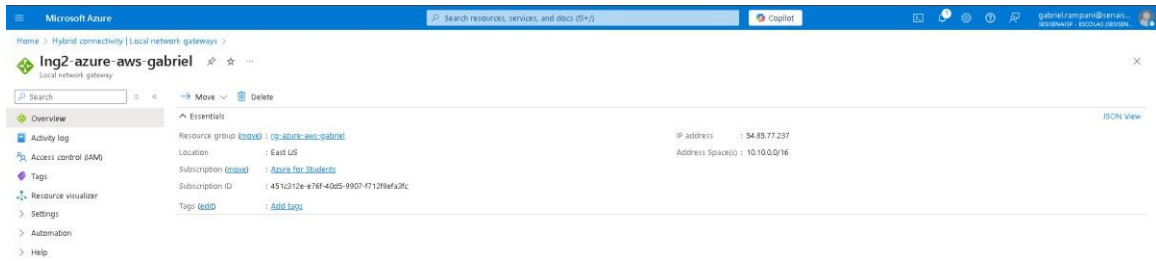
IP address : 50.19.10.165

Address Space(s) : 10.10.0.0/16

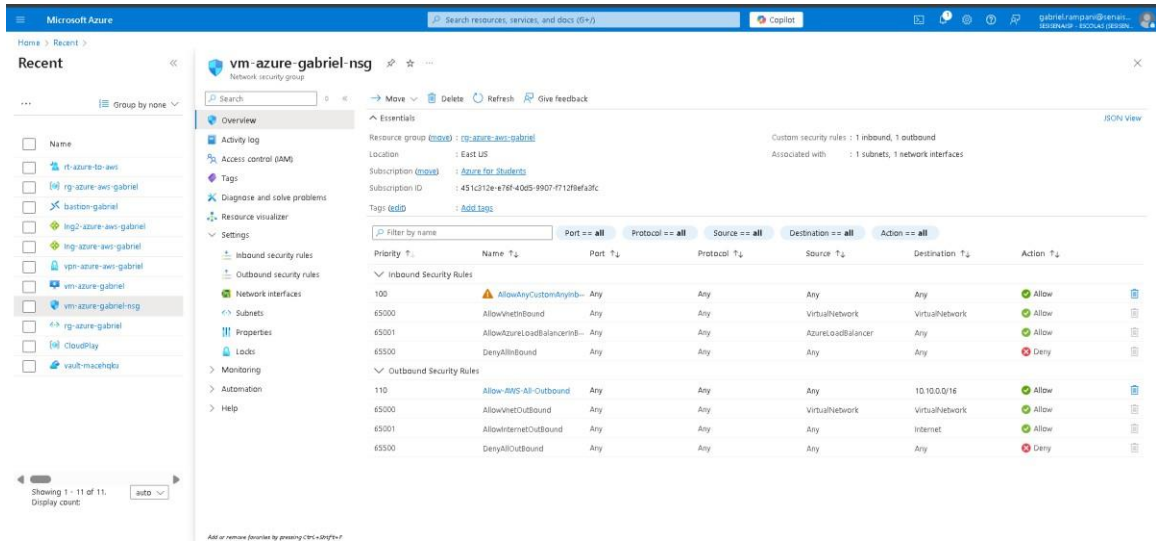
JSON View

Add or remove favorites by pressing Ctrl+Shift+F

Locak Network Gateway



Local Network Gateway



Network Security Group

Microsoft Azure

Search resources, services, and docs (Ctrl+K)

Home > Resource groups > rg-azure-aws-gabriel

Resource groups

Overview

Activity log

Access control (IAM)

Tags

Resource visualizer

Events

Settings

Cost Management

Monitoring

Automation

Help

Essentials

Subscription (top): Azure for Students

Subscription ID: 431c12e-e7ef-40d9-9907-f7127efaf3fc

Deployments: 1 Failed 2 Succeeded

Location: East US

Tags (add): Add tags

Resources Recommendations (10)

Filter for any field...

Type equals all Location equals all Add filter

Showing 1 to 14 of 14 records. Show hidden types

Name	Type	Location
bastion-gabriel	Bastion	East US
bastionip-gabriel	Public IP address	East US
connection-azure-aws-gabriel	Connection	East US
connection-azure-aws-standby	Connection	East US
hgw-azure-aws-gabriel	Local network gateway	East US
hgw2-azure-aws-gabriel	Local network gateway	East US
pip-vpn-azure-aws-gabriel	Public IP address	East US
rg-azure-gabriel	Virtual network	East US
rt-azure-to-aws	Route table	East US
vm-azure-gabriel	Virtual machine	East US

Showing 1 - 2 of 2. Display count auto

Add or remove resources by pressing Ctrl+Shift+R

Resource Group

Microsoft Azure

Search resources, services, and docs (Ctrl+K)

Home > Route tables > rt-azure-to-aws

Route tables

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Settings

Configuration

Routes

Subnets

Properties

Locks

Monitoring

Automation

Help

Essentials

Resource group (top): rg-azure-aws-gabriel

Location: East US

Subscription (top): Azure for Students

Subscription ID: 431c12e-e7ef-40d9-9907-f7127efaf3fc

Tags (add): Add tags

Associations: 1 subnet associations

Routes

Search routes

Name	Address prefix	Next hop type	Next hop IP address
route-to-aws	10.10.0.0/16	Virtual network gateway	-

Subnets

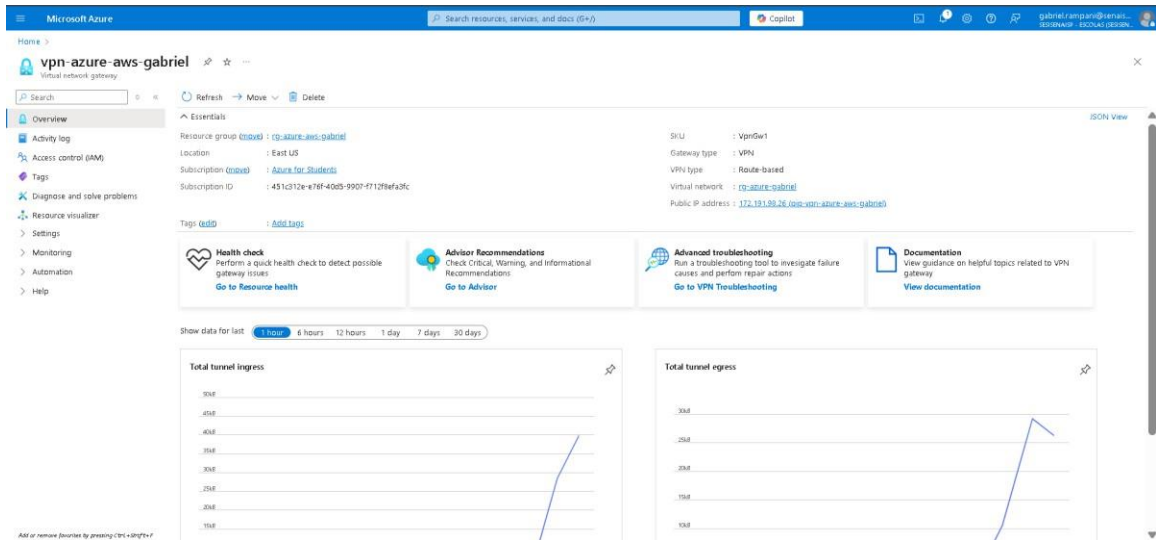
Search subnets

Name	Address range	Virtual network	Security group
subnet-01	172.16.1.0/24	rg-azure-gabriel	vm-azure-gabriel-nsg

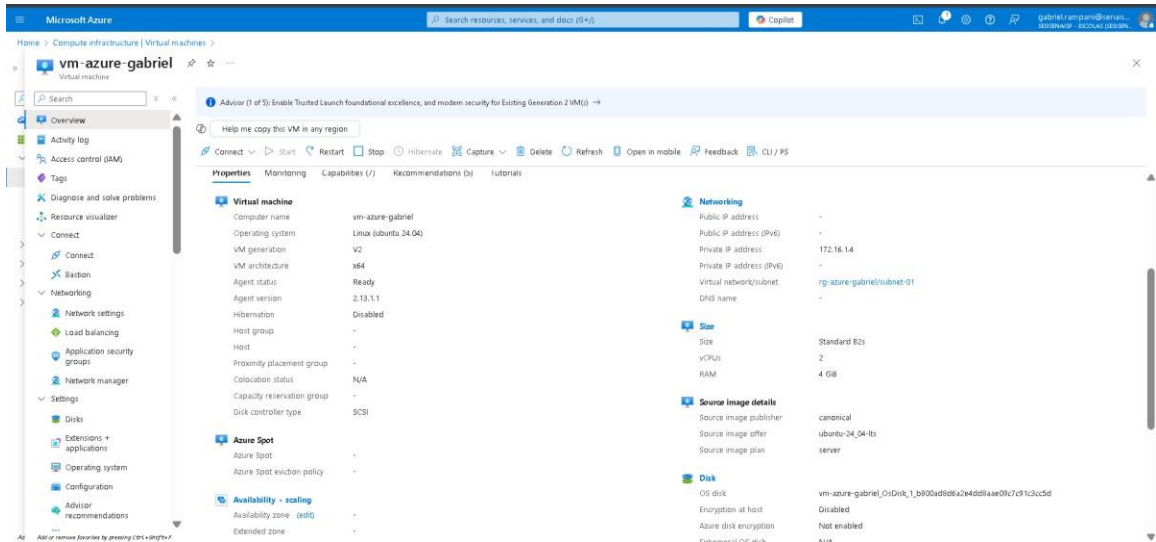
Showing 1 - 1 of 1. Display count auto

Add or remove resources by pressing Ctrl+Shift+R

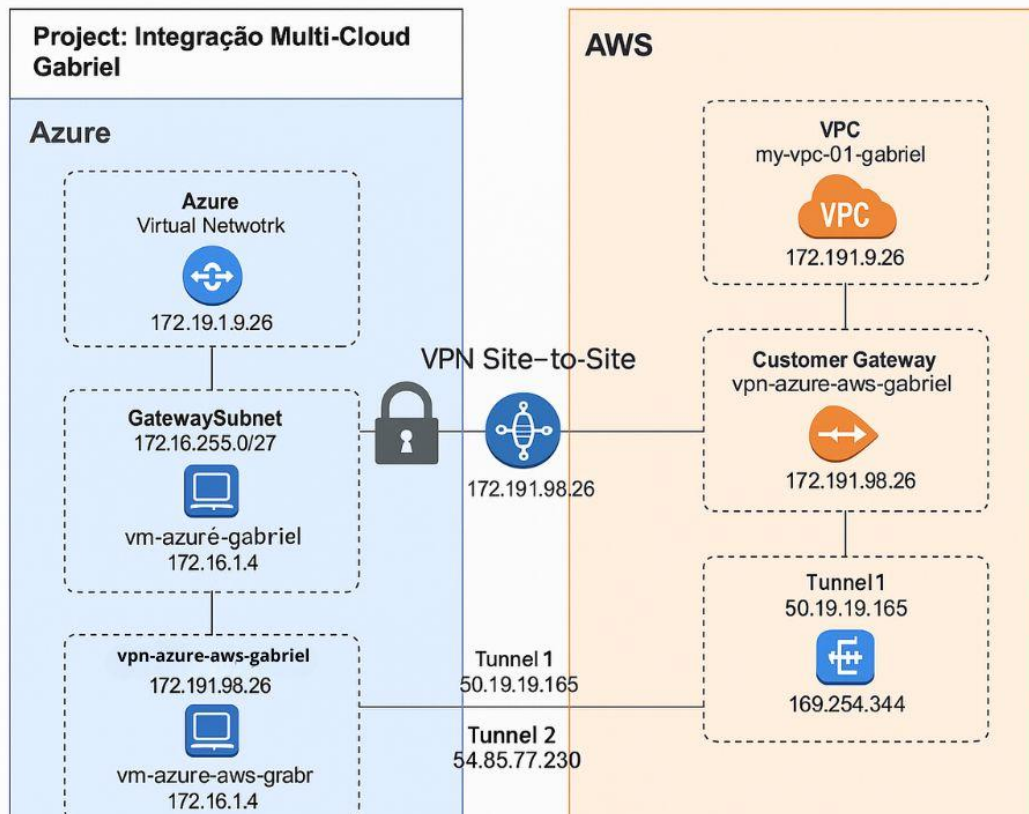
Tabela de Rotas



Virtual network Gateway



Vm privada azure



Diagrama