

1- First step we are create Virtual Network (VN) in Azure Site

The screenshot shows the 'Create virtual network' wizard in the Microsoft Azure portal, specifically the 'Basics' tab. The page title is 'Create virtual network'. Below the tabs, there is a brief description of Azure Virtual Network (VNet). The 'Project details' section includes a 'Subscription' dropdown set to 'Azure for Students' and a 'Resource group' dropdown set to 'tla', which is highlighted with a red box. The 'Instance details' section includes a 'Name' field set to 'VN' and a 'Region' dropdown set to '(Asia Pacific) East Asia'. At the bottom, there are navigation buttons: 'Review + create', '< Previous', 'Next : IP Addresses >', and 'Download a template for automation'.

2- Assign IP address and Create Subnet (I am created /27)

The screenshot shows the 'Create virtual network' wizard in the Microsoft Azure portal, specifically the 'IP Addresses' tab. The 'IPv4 address space' field is set to '192.168.0.0/16' and is highlighted with a red box. The 'Add subnet' sidebar on the right is open, showing a 'Subnet name' field set to 'vnsubnet' and a 'Subnet address range' field set to '192.168.0.0/27', both highlighted with red boxes. The sidebar also includes a 'SERVICE ENDPOINTS' section with a 'Services' dropdown set to '0 selected'. At the bottom of the sidebar are 'Add' and 'Cancel' buttons. The main wizard navigation at the bottom shows 'Review + create', '< Previous', 'Next : Security >', and 'Download a template for automation'.

3- Create Virtual Network Gateway (VNG) and Assgin Gateway subnet (I am assigned /27)

Microsoft Azure

Search resources, services, and docs (G+)

Home > Virtual network gateways >

Create virtual network gateway

Name * VNG

Region * East Asia

Gateway type * VPN ExpressRoute

VPN type * Route-based Policy-based

SKU * VpnGw1

Generation * Generation1

Virtual network * VN

Gateway subnet address range * 192.168.1.0/27

Public IP address

Public IP address * Create new Use existing

Public IP address name * vngsubnet

Review + create Previous Next: Tags > Download a template for automation

4- Now we get peering public ip address in azure virtual network gateway

Microsoft Azure

Search resources, services, and docs (G+)

Home > Microsoft.VirtualNetworkGateway-20201012102255 >

VNG

Virtual network gateway

Overview

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Access control (IAM)

Tags

Diagnose and solve problems

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Configuration

Connections

Point-to-site configuration

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Automation

Essentials

Resource group (change) : tla

Location : East Asia

Subscription (change) : Azure for Students

Subscription ID : 1070914c-3d89-4daf-bc1b-7529e9ad8873

Tags (change) : Click here to add tags

SKU : VpnGw1

Gateway type : VPN

VPN type : Route-based

Virtual network : VN

Public IP address : 65.52.165.159 (vngsubnet)

Health check

Perform a quick health check to detect possible gateway issues

Go to Resource health

Documentation

View guidance on helpful topics related to VPN gateway

View documentation

Show data for last 1 hour 6 hours 12 hours 1 day 7 days 30 days

Total tunnel ingress

Total tunnel egress

5- Go to AWS site,

And then Create Customer Gateway and add peering public ip from Azure Virtual Network Gateway

aws Services

Customer Gateways > Create Customer Gateway

Create Customer Gateway

Specify the Internet-routable IP address for your gateway's external interface; the address must be static and may be behind a device performing network address translation (NAT). For dynamic routing, also specify your gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN); this can be either a public or private ASN (such as those in the 64512-65534 range).

VPNs can use either Pre-Shared Keys or Certificates for authentication. When using Certificate authentication, an IP address is optional. To use Certificate authentication, specify a Certificate ARN when you create your Customer Gateway. To use Pre-Shared Keys, only an IP address is required.

Name:

Routing: ☐ Dynamic ☒ Static

IP Address: Add Azure peering public ip address

Certificate ARN:

Device:

* Required

Cancel Create Customer Gateway

6- Create VPG

aws Services

Virtual Private Gateways > Create Virtual Private Gateway

Create Virtual Private Gateway

A virtual private gateway is the router on the Amazon side of the VPN tunnel.

Name tag:

ASN: ☒ Amazon default ASN ☐ Custom ASN

* Required

Cancel Create Virtual Private Gateway

7- Create Site to Site VPN tunnel and add Static ip address from Azure VM private ip range

aws Services

Select the target gateway and customer gateway that you would like to connect via a VPN connection. You must have entered the target gateway information already.

Name tag: tunnel001

Target Gateway Type: ☒ Virtual Private Gateway ☐ Transit Gateway

Virtual Private Gateway*: vgw-0ca6803a7e6602d0b

Customer Gateway: ☒ Existing ☐ New

Customer Gateway ID*: cgw-00e3405a5510c12df

Routing Options: ☐ Dynamic (requires BGP) ☒ Static

Static IP Prefixes:

IP Prefixes	Source	State
192.168.0.0/27	- add Azure VNG private ip address	-

Add Another Rule

Tunnel Inside Ip Version: ☒ IPv4 ☐ IPv6

8- Edit Route table in AWS and add Azure private range attached Virtual private gateway

aws Services

Route Tables > Edit routes

Edit routes

Destination	Target	Status	Propagated
172.16.0.0/16	local	active	No
0.0.0.0/0	igw-062819bbad07ac987	active	No
192.168.0.0/16	vgw-0ca6803a7e6602d0b		No

Add route

Add Azure Virtual Network private ip range and add AWS Virtual Gateway in route table

* Required

Cancel Save routes

9- Now we get tunnel public ip address

Now get tunnel public ip and add to azure local network gateway

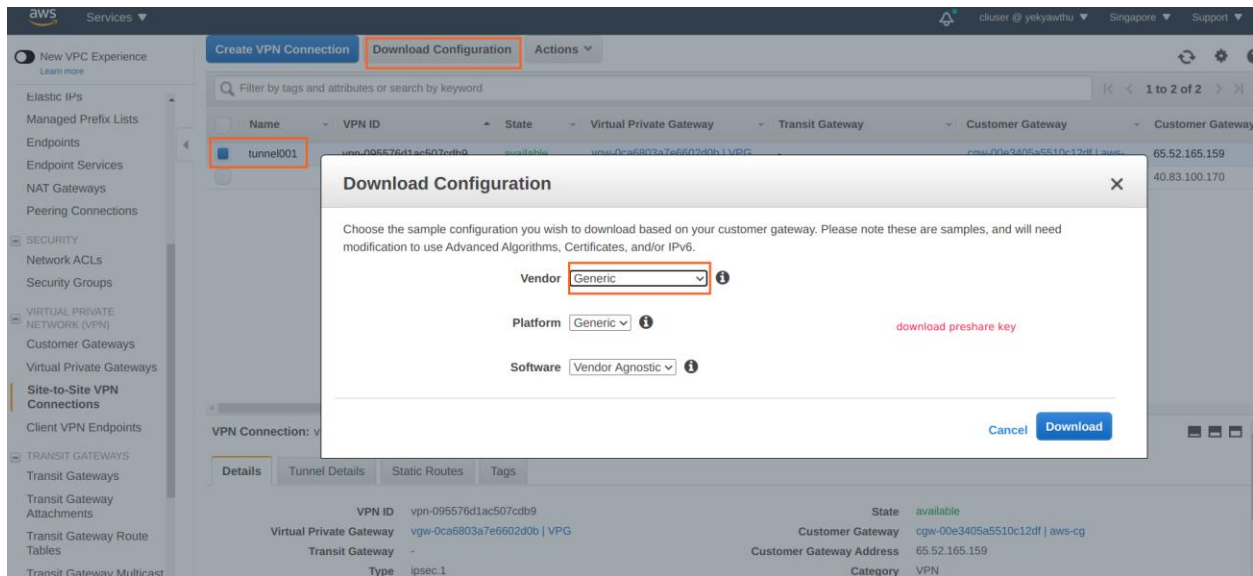
Tunnel Number	Outside IP Address	Inside IPv4 CIDR	Inside IPv6 CIDR	Status	Status Last Changed
Tunnel 1	13.251.118.147	169.254.9.140/30	-	DOWN	October 12, 2020 at 11:00:08 AM UT...
Tunnel 2	18.138.136.72	169.254.237.20/30	-	DOWN	October 12, 2020 at 11:00:23 AM UT...

10- Create Local Network Gateway , add tunnel public address and add private VPC network range from AWS

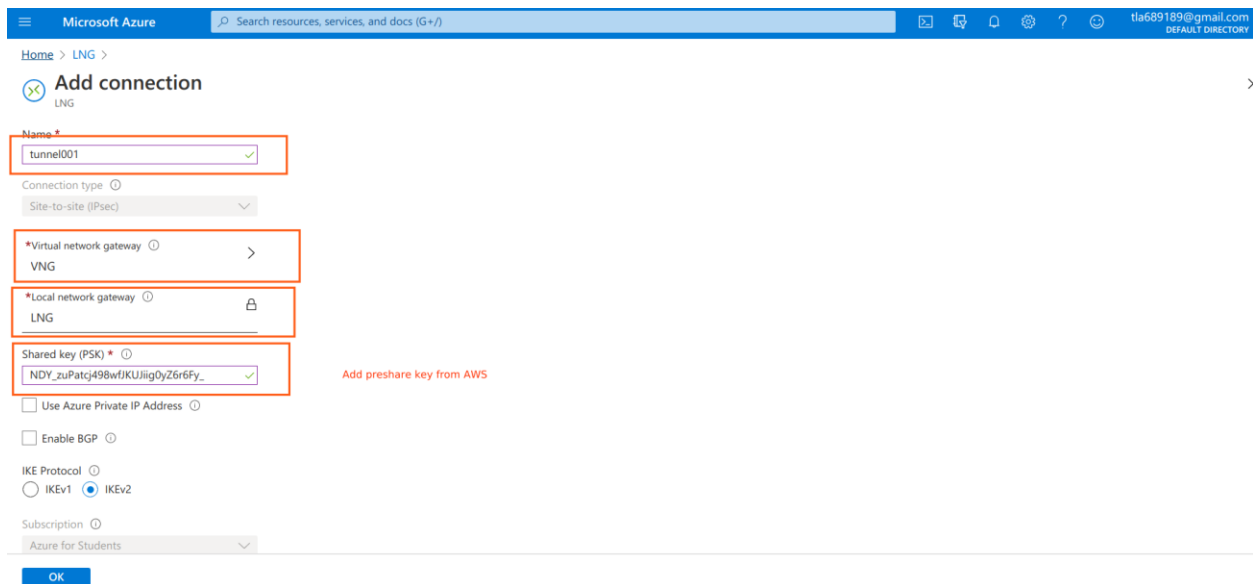
Add Tunnel public ip from AWS

Add private ip (VPC) from AWS

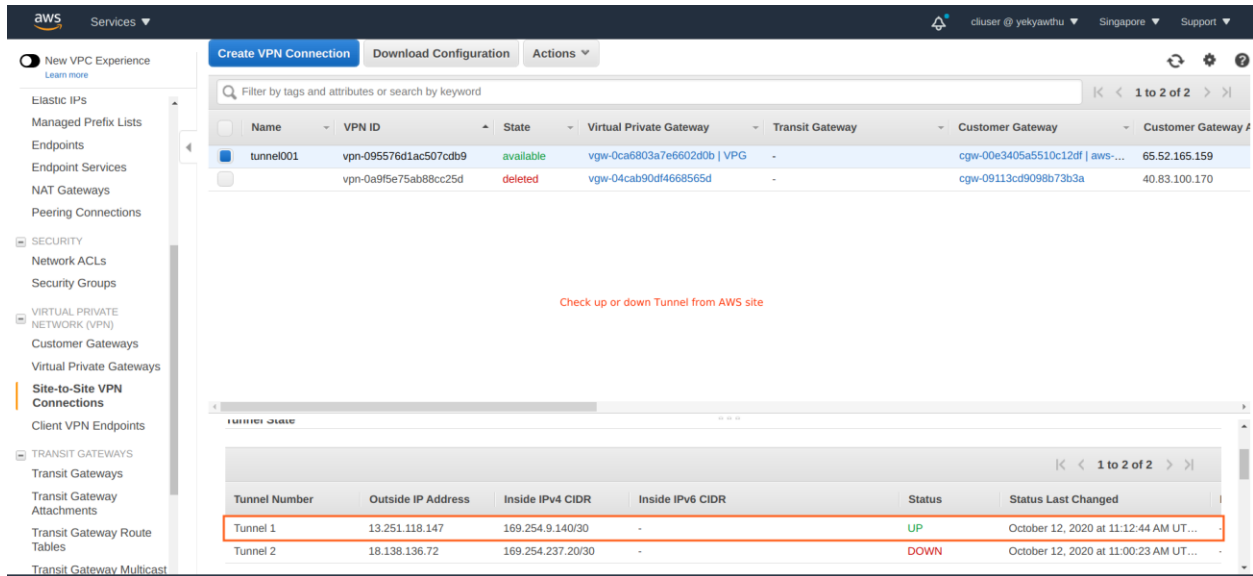
11- Now we need to download tunnel configuration file from AWS



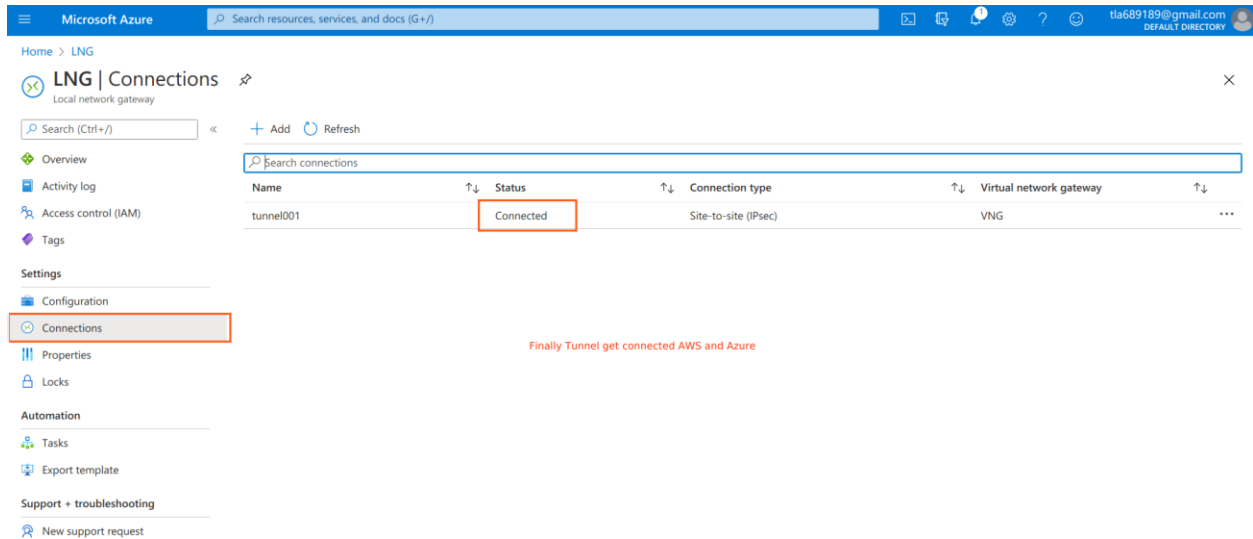
12- Add connection in Local Network Gateway and add preshared key



13- Now tunnel Up connection in AWS site



14- Now we get AWS and Azure Site to Site tunnel connection



15- Now we test really tunnel access or not so that we will create on VM

Microsoft Azure Search resources, services, and docs (G+)

Home > Virtual machines >

Create a virtual machine

Learn more

Network interface

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

Virtual network *

Subnet *

Public IP

NIC network security group ☐ None ☒ Basic ☐ Advanced

Public inbound ports * ☐ None ☒ Allow selected ports

Select inbound ports *

⚠ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

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

16- Finished VM in Azure site

Home > vm01 Virtual machine

Search (Ctrl + /)

Connect Start Restart Stop Capture Delete Refresh Share to mobile

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

Settings

- Networking
- Connect
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- Size
- Security
- Advisor recommendations
- Extensions
- Continuous delivery
- Availability + scaling
- Configuration
- Identity

Essentials

Resource group (change) : tla

Status : Running

Location : East Asia

Subscription (change) : Azure for Students

Subscription ID : 1070914c-3d89-4daf-bc1b-7529e9ad8873

Tags (change) : Click here to add tags

Operating system : Linux (ubuntu 18.04)

Size : Standard DS1 v2 (1 vcpu, 3.5 GiB memory)

Public IP address : 13.70.26.34

Virtual network/subnet : VN/vsubnet

DNS name : Configure

Properties

Virtual machine

Computer name	vm01
Operating system	Linux (ubuntu 18.04)
SKU	18.04-LTS
Publisher	Canonical
VM generation	V1
Agent status	Ready
Agent version	2.2.51
Host	None
Proximity placement group	N/A

Networking

Public IP address	13.70.26.34
Public IP address (IPv6)	-
Private IP address	192.168.0.4
Private IP address (IPv6)	-
Virtual network/subnet	VN/vsubnet
DNS name	Configure

Size

Size	Standard DS1 v2
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17- Also Create VM in AWS site

The screenshot shows the AWS Management Console for an EC2 instance. The instance is named 'demo@vm01' with ID 'i-0c567b73ed89915c2'. It is a 't2.micro' instance in the 'ap-southeast-1a' availability zone, currently in a 'running' state. The public DNS (IPv4) is '13.250.46.129'. The private DNS is 'ip-172.16.67.183.ap-southeast-1.compute.internal'. The private IP is '172.16.67.183'. The instance is associated with the 'launch-wizard-1' security group and has no scheduled events.

18- Finally We get Site to Site VPN tunnel access AWS and Azure

The screenshot shows a terminal window with two terminal sessions. The left session is on the AWS EC2 instance 'demo@vm01' and the right session is on the Azure VM 'ubuntu@ip-172-16-67-183'. Both sessions show successful ping tests to each other, indicating connectivity through the Site-to-Site VPN tunnel.

```

demo@vm01:~$ ping 13.250.46.129
PING 13.250.46.129 (13.250.46.129) 56(84) bytes of data:
64 bytes from 13.250.46.129: icmp_seq=1 ttl=43 time=35.3 ms
64 bytes from 13.250.46.129: icmp_seq=2 ttl=43 time=35.4 ms
^C
--- 13.250.46.129 ping statistics ---
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 35.351/35.379/35.407/0.028 ms

demo@vm01:~$ ping 172.16.67.183
PING 172.16.67.183 (172.16.67.183) 56(84) bytes of data:
64 bytes from 172.16.67.183: icmp_seq=1 ttl=64 time=36.7 ms
64 bytes from 172.16.67.183: icmp_seq=2 ttl=64 time=36.8 ms
64 bytes from 172.16.67.183: icmp_seq=3 ttl=64 time=36.6 ms
64 bytes from 172.16.67.183: icmp_seq=4 ttl=64 time=36.6 ms
64 bytes from 172.16.67.183: icmp_seq=5 ttl=64 time=36.9 ms
64 bytes from 172.16.67.183: icmp_seq=6 ttl=64 time=37.0 ms
^C

```

```

ubuntu@ip-172-16-67-183:~$ ping 192.168.0.4
PING 192.168.0.4 (192.168.0.4) 56(84) bytes of data:
64 bytes from 192.168.0.4: icmp_seq=1 ttl=64 time=37.0 ms
64 bytes from 192.168.0.4: icmp_seq=2 ttl=64 time=37.7 ms
64 bytes from 192.168.0.4: icmp_seq=3 ttl=64 time=36.7 ms
64 bytes from 192.168.0.4: icmp_seq=4 ttl=64 time=36.7 ms
64 bytes from 192.168.0.4: icmp_seq=5 ttl=64 time=36.8 ms
64 bytes from 192.168.0.4: icmp_seq=6 ttl=64 time=38.4 ms
64 bytes from 192.168.0.4: icmp_seq=7 ttl=64 time=36.6 ms
64 bytes from 192.168.0.4: icmp_seq=8 ttl=64 time=38.1 ms
^C

```