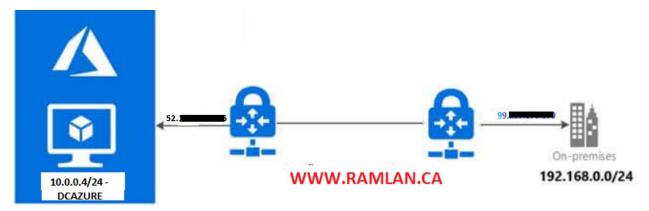
# How to setup Site to Site connection using RRAS For Azure

In this post, I will cover the following. We need RRAS to setup S2S because, I don't have Firewall or VPN Device within the lab to initiate connection to Azure. Point to Site (P2S) will not work because it is for client connectivity.

- 1. Set up virtual machine for RRAS (On Premises)
- 2. Make sure it has 2 NIC One for Internal and One for Azure which will be disabled for now.
- 3. Install the server and complete the updates
- 4. Join to the domain
- 5. Install RRAS Role
- 6. Setup network configuration in Azure
- 7. Complete RRAS configuration
- 8. Make sure it is connected
- 9. Make sure to ping from On Premise and from Azure

We must configure the Virtual Networks and Virtual Machines as per the following configuration.

- Azure Public IP 52.
- LabVM Vnet1 10.0.0.0/24
- On Premises IP 99.
- ▶ LAN IP 192.168.0.0/24



I have completed step 1-4. We will continue with RRAS role later.

`	Settings		$\sim$
ŵ	Home	Windows Update	
Fin	d a setting $ ho$	*Some settings are managed by your organization View configured update policies	
Upda	ate & Security	You're up to date	
C	Windows Update	Last checked: Today, 4:07 PM	
曲	Delivery Optimization	Check for updates	
<b>⇔</b>	Windows Security	*We'll automatically download updates, except on metered connections (where charges may apply). In that case, we'll automatically download only those updates required to keep	
ß	Troubleshoot	Windows running smoothly. We'll ask you to install updates after they've been downloaded.	
9	Recovery	Change active hours	
$\oslash$	Activation		
Ũŧ	For developers		
		Looking for info on the latest updates?	
		Learn more	

# **SITE TO SITE CONFIGURATION:**

Site-to-site VPN is a type of VPN connection that is created between two separate network locations. It provides the ability to connect geographically separate locations or networks, usually over the public internet connection or a WAN connection.

Step 1 – Verify your Virtual Network

~	Dashboard >
+ Create a resource	Virtual networks
🟫 Home	RAMLAN INC
📶 Dashboard	$+$ Add $~$ 🔅 Manage view $\sim$
	Filter by name
- * FAVORITES	
All resources	Showing 1 to 1 of 1 records.
Resource groups	$\square$ Name $\uparrow_{\downarrow}$
📚 App Services	Sector Content → Conte
👼 SQL databases	
🜌 Azure Cosmos DB	
👤 Virtual machines	
💠 Load balancers	
Storage accounts	
<-> Virtual networks	

Step 2 – Creating Gateway Subnet

If you refer to Part 1, I did create Gateway Subnet. Here is the configuration details

CatewaySubnet	
Save X Discard 📋 Delete 🖒 Refresh	
Address range (CIDR block) 🛈	
10.0.1.0/24	
10.0.1.0 - 10.0.1.255 (256 addresses)	
Available addresses (i) 250	
NAT gateway ①	
None	$\sim$
Add IPv6 address space	
Network security group	
None	$\sim$
Assigning a network security group to a gateway subnet is not supported.	
Route table	
None	$\sim$
Users	>
Manage users	
Service endpoints	
Services 🕕	
0 selected	$\sim$
Subnet delegation	
Delegate subnet to a service ①	
None	$\sim$

# Step 3 – Create Local Network Gateway

On the search bar type Local Network Gateway and open. The Local Network Gateway basically defines our on-premises IP address information.

℅ Search resources, servi	ices, and docs (G+/)		
Dashboard >			
Local netwo	rk gateways	Ŕ	
+ Add ≡≡ Edit o	olumns 💍 Refresh 🛛	🖉 Assign tags	
Subscriptions: Pay-As	-You-Go		
Dashboard > Local r Create local	network gateways > network gatew	vay	
Name * SL-IN-VPN			
IP address * ③ 99.			
Address space ① 192.168.0.0/24			
Add additional add			
Configure BGP set	tings		
Subscription * Pay-As-You-Go	~		
Resource group * ③ LabVM Create new	~		
Location * East US 2	$\sim$ ]		
₽			
Create Aut	omation options		
group 'LabVM' was suc	.Local Network Gateway-202 cessful.	00921095656' to resource	
Go to resource	🖈 Pin to dashboard		
Dashboard >			
<ul> <li></li></ul>	→ Move ∨ 📋 Delete ∧ Essentials		
<ul> <li>■ Activity log</li> <li>冷 Access control (IAM)</li> <li>◆ Tags</li> </ul>	Resource group (change) : LabVM         Location       : East US 2         Subscription (change)       : Pay-As-You-Go         Subscription ID       :		IP address : 99.2 Address space : 192.168.0.0/24
Settings	Tags (change) : Click here to add tags		
Export template     Properties			
<ul> <li>Locks</li> <li>Support + troubleshooting</li> </ul>			
R New support request			

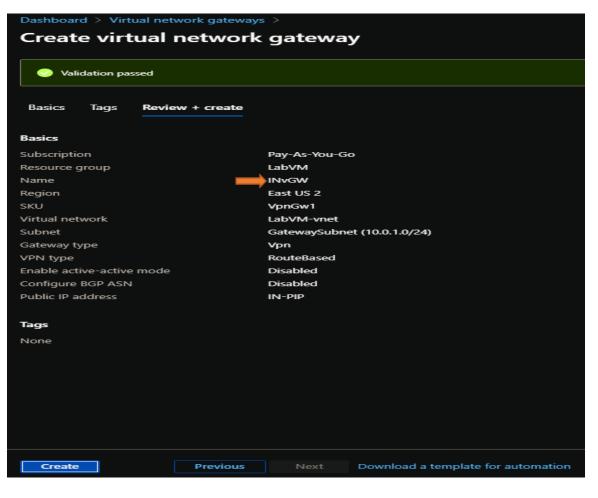
### Step 4 – Create Virtual Network Gateway

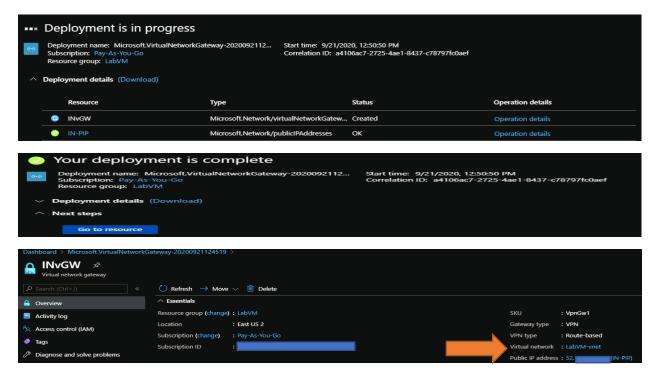
If you refer at Part 1, I did create Virtual Network Gateway with Basic SKU. This will not work for S2S configuration because SKU has to be vpngw1. So, I had to delete virtual network gateway and create a new one for this exercise (S2S).

**BEFORE:** 

	Create utilized network gateway
Basics Tags Review + create	
Azure has provided a planning and design	guide to help you configure the various VPN gateway options. Learn more.
Project details	
Select the subscription to manage deploye	ed resources and costs. Use resource groups like folders to organize and manage all
your resources.	
Subscription *	Pay-As-Yos Go ~
Resource group 💿	LabVM (derived from virtual network's resource group)
Instance details	
Name *	NetworkGateway
Region *	East US 2
Gateway type *	VPN ExpressRoute
VPN type * 💿	Route-based O Policy-based
sku - 💿 🗾	Basic
Virtual network *	LabVM-vnet 🗸
	Create virtual network
Subnet 💿	
	Only virtual networks in the currently selected subscription and region are listed.
Public IP address	
Public IP address	Create new Use existing
Public IP address name *	NetworkGatewayPIP ~
Public IP address SKU	Basic
Assignment	Dynamic      Static
Enable active-active mode * 💿	Enabled  Disabled
Configure BGP ASN * ①	
Azure recommends using a validated VPN instructions for configuration, refer to Az	N device with your virtual network gateway. To view a list of validated devices and ure's documentation regarding validated VPN devices.
Basics Tags Review + create	
Tags are name/value pairs that enable you to multiple resources and resource groups.	to categorize resources and view consolidated billing by applying the same tag _ Learn more
Note that if you create tags and then chan	ge resource settings on other tabs, your tags will be automatically updated.
Name 🗇	Value 🔿
Homelab	i Production

### AFTER:





STEP 5 – Create Connection

The connection is represented to connect Virtual Network Gateway and Local Network Gateway.

Go to Local Network Gateway – Connections - Add

SL-IN-VPN   Connect Local network gateway	ions 🖈	Add connection SL-IN-VPN Name * S25
	+ Add 🖒 Refresh	Connection type ③ Site-to-site (IPsec) ~
🔶 Overview	${\cal P}$ Search connections	*Virtual network gateway ① >
Activity log	Name	*Local network gateway 🛈 🔒
Access control (IAM)	No results	SL-IN-VPN
A T		Shared key (PSK) * ①
🕈 Tags		IKE Protocol ①
Settings		
		Subscription
Configuration		Pay-As-You-Go 🗸
S Connections		Resource group ①
		LabVM A
Export template		Create new
III Properties		Location ① East US 2
🔒 Locks		
Support + troubleshooting		
R New support request		ок

Here we have the connection detail. The status say Not Connected. Hopefully it should say Connected after we complete RRAS.

Dashboard >       Connections       RAMLAN INC       + Add ≡≡ Edit columns	<b>Refresh</b>   🖗 Assign tag				
Subscriptions: Pay-As-You-Go					
Filter by name		All resource groups	✓ All locations		All tags
1 items					
$\square$ Name $\uparrow_{\downarrow}$	Status	Peer 1	Peer 2	Resource group $\uparrow_{\downarrow}$	Location $\uparrow_{\downarrow}$
🗌 🔗 s2s 📃	Not connected	INvGW	SL-IN-VPN	LabVM	East US 2

🚡 Add Roles and Features Wizard

\_

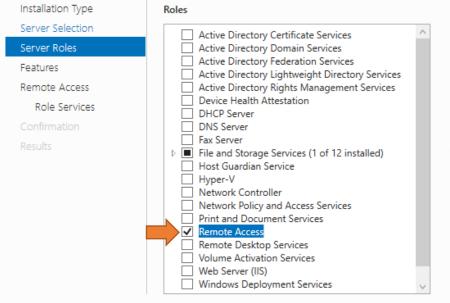
 $\times$ 

elect installatio	on type	DESTINATION SERVER RRAS.RAMLAN.CA
Before You Begin Installation Type Server Selection	Select the installation type. You can install roles and features on a machine, or on an offline virtual hard disk (VHD).    Role-based or feature-based installation Configure a single server by adding roles, role services, and features and features are services.	
Server Roles	Parata Darkton Services installation	
Features	<ul> <li>Remote Desktop Services installation</li> <li>Install required role services for Virtual Desktop Infrastructure (</li> </ul>	VDI) to create a virtual machine-base
Confirmation	or session-based desktop deployment.	
Results		
	< Previous Next >	Install Cancel
Add Roles and Features Wiz	ard	
elect destinatio	ON SERVER Select a server or a virtual hard disk on which to install roles and f	DESTINATION SERVER RRAS.RAMLAN.CA eatures.
Installation Type	<ul> <li>Select a server from the server pool</li> </ul>	
Server Selection	<ul> <li>Select a virtual hard disk</li> </ul>	
Server Roles	Server Pool	
Features	Filter:	
Confirmation		
Results	Name IP Address Operating System	n
	RRAS.RAMLAN.CA 192.168.0.15,1 Microsoft Window	ws Server 2019 Datacenter
	1 Computer(c) found	
	1 Computer(s) found This page shows servers that are running Windows Server 2012 or	a newer release of Windows Server
	and that have been added by using the Add Servers command in	Server Manager. Offline servers and
	newly-added servers from which data collection is still incomplete	are not shown.

# Select server roles

Before You Begin

Select one or more roles to install on the selected server.



# Description

Remote Access provides seamless connectivity through DirectAccess, VPN, and Web Application Proxy. DirectAccess provides an Always On and Always Managed experience. RAS provides traditional VPN services, including site-to-site (branch-office or cloud-based) connectivity. Web Application Proxy enables the publishing of selected HTTP- and HTTPS-based applications from your corporate network to client devices outside of the corporate network. Routing provides traditional routing capabilities, including NAT and other connectivity options. RAS and Routing can be deployed in singletenant or multi-tenant mode.

	< Previous	Next > Install Cancel
📥 Add Roles and Features Wizard		– 🗆 X
Select role service	25	DESTINATION SERVER RRAS.RAMLAN.CA
Before You Begin Installation Type Server Selection Server Roles Features Remote Access <b>Role Services</b> Web Server Role (IIS) Role Services Confirmation Results	Select the role services to install for Remote Access Role services	Description Routing provides support for NAT Routers, LAN Routers running BGP, RIP, and multicast capable routers (IGMP Proxy).
	< Previous	Next > Install Cancel

DESTINATION SERVER RRAS.RAMLAN.CA

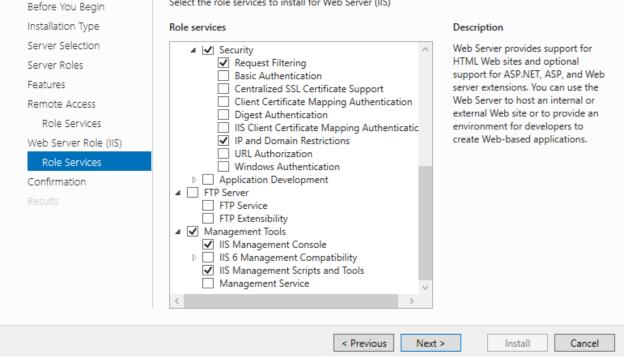
11 ×

DESTINATION SERVER

RRAS.RAMLAN.CA

# Select role services

Select the role services to install for Web Server (IIS)



# 📥 Add Roles and Features Wizard

# Confirm installation selections

DESTINATION SERVER RRAS.RAMLAN.CA

Х

To install the following roles, role services, or features on selected server, click Install.

Restart the destination server automatically if required

Optional features (such as administration tools) might be displayed on this page because they have been selected automatically. If you do not want to install these optional features, click Previous to clear their check boxes.

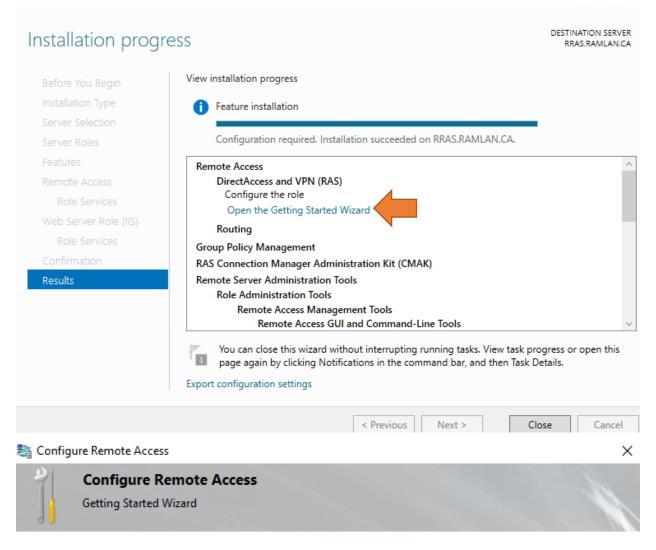
RAS Connection Manager Administration Kit (CMAK)	
Remote Access	
DirectAccess and VPN (RAS)	
Routing	
Remote Server Administration Tools	
Role Administration Tools	
Remote Access Management Tools	
Remote Access GUI and Command-Line Tools	
Remote Access module for Windows PowerShell	

Specify an alternate source path

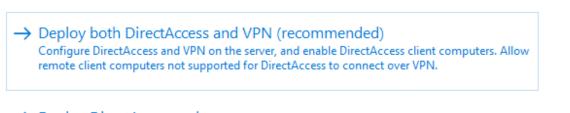
< Previous Next >

Installation Type Server Selection Server Roles Features Remote Access Role Services Web Server Role (IIS) Role Services Confirmation

Before You Begin



# Welcome to Remote Access Use the options on this page to configure DirectAccess and VPN.



# → Deploy DirectAccess only Configure DirectAccess on the server, and enable DirectAccess client computers.

 $\rightarrow$  Deploy VPN only

Configure VPN using the Routing and Remote Access console. Remote client computers can connect over VPN, and multiple sites can be connected using VPN site-to-site connections. VPN can be used by clients not supported for DirectAccess.

Routing and Remote Access		— D	$\times$
File Action View Help			
RRAS (local) Server Status Configure and Enable Routing and Remote Access Disable Routing and Remote Access		Remote Access Server ss, on the Action menu, click Configure and Enable Routing and Remote	^
All Tasks View	>		
Delete Refresh			
Properties Help			

Routing and Remote Access Server Setup Wizard

#### Configuration

You can enable any of the following combinations of services, or you can customize this server.

C	Remote access (dial-up or VPN)
	Allow remote clients to connect to this server through either a dial-up connection or a
	secure virtual private network (VPN) Internet connection.

- Network address translation (NAT)
   Allow internal clients to connect to the Internet using one public IP address.
- O Virtual private network (VPN) access and NAT Allow remote clients to connect to this server through the Internet and local clients to connect to the Internet using a single public IP address.
- Secure connection between two private networks Connect this network to a remote network, such as a branch office.

C Custom configuration	
Select any combination of the features available in Routing and Remote Access	S.

ext > Cancel	Next >	< Back

Routing and Remote Access Server Setup Wizard

#### Demand-Dial Connections

Demand-dial connections allow you to route data to a remote network.

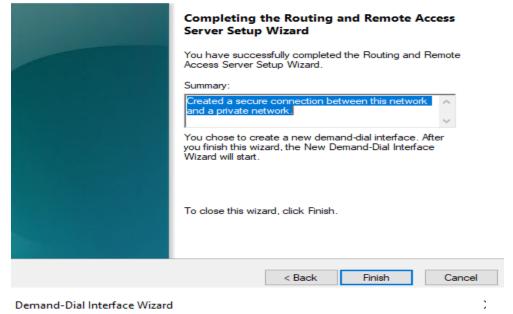
Do you want to use demand-dial connections to access remote networks?
Yes
C No
You can set up demand-dial connections after this wizard finishes.
< Back Next > Cancel

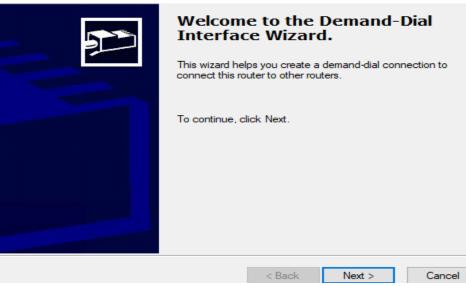
Routing and Remote Access Server Setup Wizard

### IP Address Assignment

You can select the method for assigning IP addresses to remote clients.

He	ow do you want IP addresses to be assigned to remote clients?
œ	Automatically
	If you use a DHCP server to assign addresses, confirm that it is configured properly. If you do not use a DHCP server, this server will generate the addresses.
C	From a specified range of addresses
	< Back Next > Cancel
Pouting	and Remote Access Server Setup Wizard
Routing	and Kentote Access Server Setup Wizard





Demand-Dial Interface Wizard			×
Interface Name You can type a friendly name for this connec	tion.		P
Type a name for this demand dial interface. after the network or router to which they con		ice is to name in	terfaces
Interface name: AzureVPN			
	< Back	Next >	Cancel
Demand-Dial Interface Wizard			×
Select the type of demand-dial interface you	want to create.		9
C Connect using a modem, ISDN adapter, I	or other device		
<ul> <li>Connect using virtual private networking</li> </ul>			
C Connect using PPP over Ethemet (PPPo	E)		
	< Back	Next >	Cancel
Demand-Dial Interface Wizard			×
VPN Type Select the type of VPN connection you want	to create.		Ð
C Automatic selection			
Point to Point Tunneling Protocol (PPTP)	1		
C Layer 2 Tunneling Protocol (L2TP)			
IKEv2			
	< Back	Next >	Cancel
	( Doon	them a	Carloot

entra erar meera	ce Wizard X
Destination Addr What is the nar	ress me or address of the remote router?
Enter the name	or IP address of the router you are connecting to.
Host name or If	<sup>o</sup> address (such as microsoft.com or 157.54.0.1 or 3ffe:1234::1111 ):
52.	
	< Back Next > Cancel
emand-Dial Interfa	ce Wizard X
Protocols and Se Select transport	ecurity ts and security options for this connection.
Select all that a	pply:
Route IF	packets on this interface.
Add a us	ser account so a remote router can dial in
	ser account so a remote router can dial in
🗖 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
🗖 Send a	ser account so a remote router can dial in
🗖 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
🗖 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
🗖 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
🔽 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
🗖 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
🔽 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
🔽 Send a	ser account so a remote router can dial in plain-text password if that is the only way to connect
☐ Senda ☐ Use scri	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router < Back Next > Cancel
Send a Use scri	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router < Back
Send a Use scri tatic Route	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router          < Back
Send a Subscription Send	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router < Back       Next >       Cancel         X       X       X         Support using IPv4       10 . 0 . 0 . 0       0
Send a Use scri Use scri tatic Route Remote Network Destination: Network Mask:	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router < Back       Next >       Cancel         X       X         Support using IPv4       10 · 0 · 0 · 0         10 · 0 · 0 · 0       0         255 · 255 · 0 · 0       0
Send a Subscription Send	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router < Back       Next >       Cancel         X       X       X         Support using IPv4       10 . 0 . 0 . 0       0
Send a Use scri Use scri tatic Route Remote Network Destination: Network Mask:	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router $\frac{\langle Back \ Next \rangle \ Cancel}{\times}$
Send a Use scri Use scri tatic Route Remote Network Destination: Network Mask: Metric:	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router $\frac{\langle Back \ Next \rangle \ Cancel}{\times}$
Send a Send a Use scri Use scri tatic Route  Remote Network Destination: Network Mask: Metric: Remote Network	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router $\frac{\langle Back \ Next \rangle \ Cancel}{\times}$
Send a Send a Use scri Use scri tatic Route  Remote Network Destination: Network Mask: Metric: O Remote Network Destination:	ser account so a remote router can dial in plain-text password if that is the only way to connect pting to complete the connection with the remote router $\frac{\langle Back \ Next \rangle \ Cancel}{\times}$

### Static Routes for Remote Networks

A static route is a man	nually define	d, permanent route betw	een two	networ	ks.	9	
To activate this demand-di IP address of the remote n	ial connecti etworks this	on, you must add a static s network will communica	route to te with.	the ne	twork. Spec	ify the	
Static Routes:							
Destination	Net	work Mask/Prefix length	Metric				
10.0.00		.255.0.0	24	-			
Add Remo	ove						
		< Back	N	lext >	Ca	incel	
Demand-Dial Interface Wiz Dial-Out Credentials Supply the user name router.		ord to be used when con	necting t	to the n	emote	×	
You need to set the di- the remote router. The the remote router.	al out crede ese credent	entials that this interface w ials must match the dial in	vill use w n credeni	hen co tials co	nnecting to nfigured on		
User name:						1	
Domain:						-	
Password:						-	
Confirm password:						-	
comm password.							
Routing and Remote Access     File Action View Help		< Back	N	ext >	Car	ncel	- 0 ×
Routing and Remote Access	Network In	terfaces					
<ul> <li>Server Status</li> <li>RRAS (local)</li> </ul>		mand Dial Interfaces	Туре		Status	Connection State	Device Name
Network Interfaces	Loopbac	k	Loopba		Enabled	Connected	
Ports	ਬੜ੍ਹੇ Internal ਦਿਤਾ Internal		Dedicate	ed	Enabled	Connected	Microsoft Hype
Remote Access Logging	Azure <sup>VDI</sup>	M	Domano	-dial	Enabled Enabled	Connected Disconnected	
> <u>9</u> IPv4 > <u>9</u> IPv6	Azure	Set Credentials		d	Enabled	Connected	Microsoft Hyper
🧕 General 🚊 Static Routes		Connect					
<u>static Routes</u>		Disconnect					
		Enable					
		Disable					
		Unreachability Reason					
		Set IP Demand-dial Filters					
		Set IPv6 Demand-dial Filters	5				
		Dial-out Hours					
		Delete					
		Refresh					
		Properties					
		Help					
< >	<						>

×

AzureVPN Properties

× AzureVPN Properties

General Options Security Networking	General Options Security Networking
Connection type	Type of VPN:
Demand-dial	IKEv2 $\checkmark$
ldle time before hanging up: 5 minutes $\sim$	Advanced Settings
O Persistent connection	Data encryption:
	Require encryption (disconnect if server declines)
	Authentication
Redial attempts:	O Use Extensible Authentication Protocol (EAP)
Average redial intervals: 1 minute ~	$\sim$
	Properties
	O Use machine certificates
	<ul> <li>Verify the Name and Usage attributes of the server's certificate</li> </ul>
	Use preshared key for authentication
	Key:
Callback PPP Settings	
OK Cancel	OK Cancel

# 🚊 Routing and Remote Access

File Action View Help 🚈 🖬 🗙 🗐 🐼 🗟 ? (= Routing and Remote Access **Network Interfaces** 📑 Server Status LAN and Demand Dial Interfaces Туре RRAS (local) 🐯 Loopback Loopback Network Interfaces 📮 Internal Dedicated Ports 📮 Internal Internal 🔄 Remote Access Logging AzureVPN > 🚊 IPv4 Set Credentials... 🗸 🚊 IPv6 🚊 General Connect 🚊 Static Routes Disconnect 🚊 Routing and Remote Access  $\times$ File Action View Help 🔿 🔄 🔀 📊 🖄 🛸 ? Bouting and Remote Access Network Interfaces Gerver Status LAN and Demand Dial Interfaces Туре Status Connection State Device Name Loopback Loopback Enabled Connected Network Interfaces

Microsoft Hyper-Dedicated Enabled Connected Ports AzureVP 🛅 Remote Access Logging Internal Enabled Connected > <u>@</u> IPv4 ▼ <u>@</u> IPv6 able ected Dedicated Enabled Connected Microsoft Hyper-General
 Static Routes

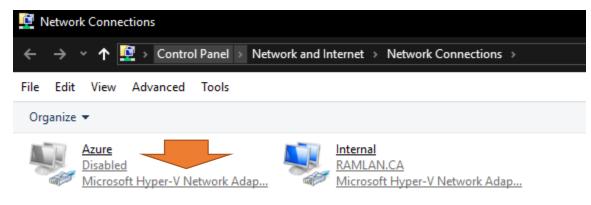
Dashboard >						
Connections 🖈						
+ Add 📰 Edit columns 🖒 R	efresh   🖉 Assign tags					
Subscriptions: Pay-As-You-Go						
		All resource groups		All locations		All tags
1 items						
Name ↑↓	Status	Peer 1	Peer 2		Resource group $\uparrow \downarrow$	Location $\uparrow_\downarrow$
🗌 📀 s2s 📃	Connected	INvGW	SL-IN-V	/PN	LabVM	East US 2

 $\times$ 

I had few issues during the process. I was not able to ping from DC or RRAS server from On Premises to Azure VM and vice versa. I was also not able to RDP to Azure VM. I had to do the following.

# **Disabled Azure Network Connection:**

During VM creation, I added extra network adapter to vm, so we can use it, if required for later. I don't need the adapter. So had to disable.



# Create Static Route

# Created below static route in RRAS Server

🚊 Routing and Remote Access					_	
File Action View Help						
🗢 🔿   🚈 📰   🍳 🗟   🖬 🖬						
Routing and Remote Access	Static Routes					
<ul> <li>Server Status</li> <li>RRAS (local)</li> <li>Network Interfaces</li> <li>Ports</li> <li>Remote Access Logging</li> <li>IPv4</li> <li>General</li> <li>Static Routes</li> <li>NAT</li> <li>IPv6</li> <li>General</li> <li>Static Routes</li> </ul>	Destination 重 10.0.0	Network mask 255.255.255.0	Gateway None	Interface AzureVPN	Metric 255	View Both

# **Route Command**

On DC – Open Command Prompt – Add this command

route -p add 10.0.0.0 mask 255.0.0.0 192.168.0.15 - This command is pointing DC to RRAS, so we can ping both ways (On Premises -> Azure -> Azure -> On Premises) from any machines within the network.

# **Azure Network Security Group**

In Azure – Go to NSG and create Inbound and Outbound rule. This is not the right way but for lab it is fine.

🗌 🏺 DCAZU	DCAZURE-nsg Network security group					LabVM
Inbound security r	ules					
Priority	Name	Port	Protocol	Source	Destination	Action
100	🔺 Testrule	Any	Any	Any	Any	Allow
Outbound security	y rules					
Priority	Name	Port	Protocol	Source	Destination	Action
100	Rule1	Any	Any	Any	Any	Allow

# **Ping Test:**

From On Premises DC to Azure DC

Administrator: C:\Windows\system32\cmd.exe

```
Microsoft Windows [Version 10.0.17763.1457]
(c) 2018 Microsoft Corporation. All rights reserved.
C:\Users\Administrator>ping 10.0.0.4
Pinging 10.0.0.4 with 32 bytes of data:
Reply from 10.0.0.4: bytes=32 time=38ms TTL=127
Reply from 10.0.0.4: bytes=32 time=62ms TTL=127
Reply from 10.0.0.4: bytes=32 time=62ms TTL=127
Reply from 10.0.0.4: bytes=32 time=36ms TTL=127
Ping statistics for 10.0.0.4:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 36ms, Maximum = 62ms, Average = 46ms
```

From Azure DC to On Premises DC

Command Prompt

```
Aicrosoft Windows [Version 10.0.17763.1490]
(c) 2018 Microsoft Corporation. All rights reserved.
C:\Users\wvdadmin.RAMLAN>ping dc.ramlan.ca
Pinging dc.ramlan.ca [192.168.0.2] with 32 bytes of data:
Reply from 192.168.0.2: bytes=32 time=41ms TTL=127
Reply from 192.168.0.2: bytes=32 time=36ms TTL=127
Reply from 192.168.0.2: bytes=32 time=96ms TTL=127
Ping statistics for 192.168.0.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 36ms, Maximum = 96ms, Average = 52ms
```

I was able to get help from this site to fix Ping, RDP, Route and NSG issues.

# https://serverfault.com/

I am new to Azure. Trying to setup DC in Azure. Created a vm and when, I try to perform dc promo I get the error An Active Directory domain controller could not be contacted. I tried to ping from Azure to on premise 192.168.x.x - Ping failed. I tried the same from on premise to azure 10.0.x.x -Ping successful. I have setup Site to Site connection and it is connected. Why dc promo is not working - no clue. I checked nsg and created in and out bound rule to allow traffic from on premise to azure and from azure to on premise. Still struggling to complete dc promo. Appreciate your input.

Thanks

Ram

		bviously have connectivity issues with your VPN, if the servers can't even ping each othet. If
_		re sure that traffic is allowed by Azure NSGs, then it's probably blocked by the firewall on your
0	side.	
$\bullet$	share	edit follow answered 1 hour ago
$\checkmark$		Massimo 62.5k ● 52 ● 184 ● 304
Ð		
		I have turned off firewall on RRAS server and on premises DC as well. Yet cannot ping from either end. – Ram Lan 57 mins ago
		I can ping from On Premise to Azure DC VM. I can't ping from Azure to On Premise. NSG - Inbound and Outbound rule is created for ANY traffic to allow. I know it is not the right way to do. Since, I am testing I created this rule. – Ram Lan 39 mins ago
	- 14	You are using RRAS for your VPN connection is it doing NAT, too? – Massimo 35 mins ago
		I am not using NAT. From RRAS server, I can rdp azure vm. I can ping azure vm. The other way ping from azure vm to on premises is failing. Do, I need to change anything in NSG? – Ram Lan 33 mins ago
	•	Your NSGs are ok if they are configured to allow any traffic; you could also remove them, if you want to be absolutely sure they are not the problem. This looks more like a routing problem. Very likely, if the RRAS server is not the default gateway for your network. – Massimo 30 mins ago
		The default gateway for on premise is 192.168.0.1 which is my home router. The IP for RRAS is 192.168.0.15. – Ram Lan 26 mins ago
	-	You need to add static routes, either on the router (if you can) or on all machines in your network, to tell them they can reach the Azure network through the RRAS server. – Massimo 25 mins ago
		Checked Cisco Router DPC3825 to add static route of RRAS pointing to Azure 10.0.0.0. Unfortunately, I don't have the option within this home router provided by ISP Rogers. How can, I do this on DC and RRAS so, I can ping from Azure and proceed with dc promo? – Ram Lan 12 mins ago
	•	On the DC, do route -p add 10.0.0.0 mask 255.0.0.0 192.168.0.15 ; this should allow the two DCs to talk to each other Massimo 9 mins ago
		So creating above route should allow me to ping from Azure to On Premises DC? – Ram Lan 4 mins ago Edit
		You are simply amazing. Thanks for the help. I can ping from both ends. – Ram Lan 3 mins ago Edit
		Going to take a screenshot of this conversation for future reference. – Ram Lan 2 mins ago Edit

F

This concludes Site to Site, RRAS, Azure and other configuration.

Thanks

Ram Lan 23<sup>rd</sup> Sep 2020