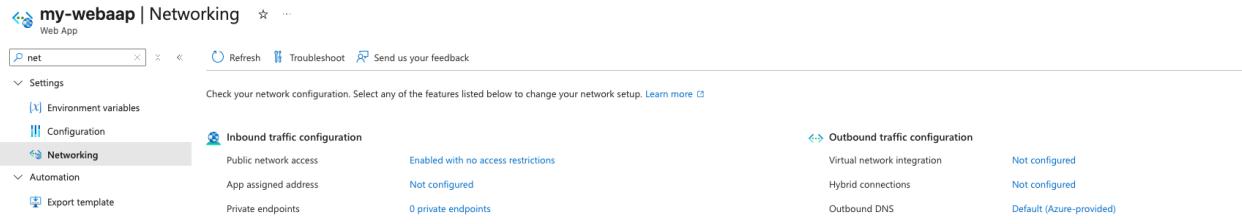


# Create an App Service

1. Navigate to the Azure Portal.
2. In the left-hand sidebar, click on "+ Create a resource."
3. Search for "Web App" and select it.
4. Click the "Create" button to initiate the setup.
5. Fill in the details for your App Service:
  - **Subscription:** Select the appropriate subscription.
  - **Resource Group:** Choose your RG
  - **Name:** Provide a unique name for the App Service.
  - **Publish:** Select 'Code'.
  - **Runtime stack:** .NET 9
  - **Operating System:** Linux
  - **Region:** Select the desired region.
  - **App Service plan:** Either use an existing plan or create a new one. Note: To use VNet Integration, the App Service plan should be a Premium, **PremiumV2**, or **PremiumV3** tier.
6. Review any additional settings as needed and then click on the "Review + create" button.
7. After validation, click the "Create" button.

# Enable VNet Integration for the App Service

1. Once your App Service is created, go to its overview page.
2. In the left-hand settings pane, under the "Settings" section, click on "Networking."



my-webaap | Networking

Check your network configuration. Select any of the features listed below to change your network setup. [Learn more](#)

**Inbound traffic configuration**

Public network access	Enabled with no access restrictions
App assigned address	Not configured
Private endpoints	0 private endpoints

**Outbound traffic configuration**

Virtual network integration	Not configured
Hybrid connections	Not configured
Outbound DNS	Default (Azure-provided)

3. Under the "VNet Integration" section, click on "**Not configured**".
4. Click on "+ Add VNet" to start the VNet Integration setup.
5. Select your VNet
6. Select the frontend-subnet

### Add virtual network integration

dorinh

Subscription

Landing zone A1

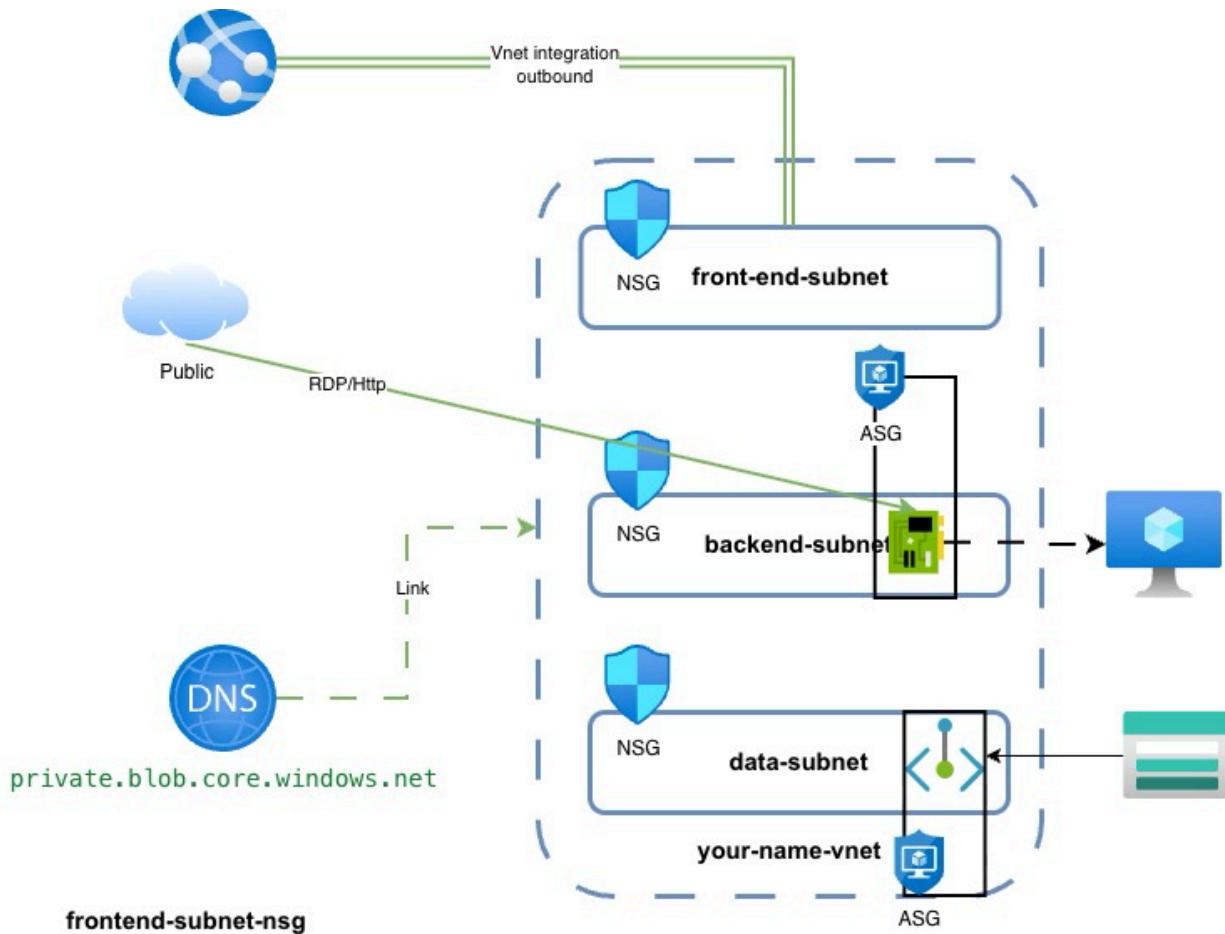
Virtual Network

dorinh-vnet

Subnet ⓘ

dorinh-frontend-subnet (10.2.1.0 - 10.2.1.255)

7. Click "Connect" to initiate the integration.



#### frontend-subnet-nsg

Priority ↑	Name ↑	Port ↑	Protocol ↑	Source ↑	Destination ↑	Action ↑
<input type="checkbox"/> 4096	⚠ Deny-All-Inbound	Any	Any	Any	Any	✗ Deny
<input type="checkbox"/> 65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	✓ Allow
<input type="checkbox"/> 65001	AllowAzureLoadBalanc...	Any	Any	AzureLoadBalancer	Any	✓ Allow

#### backend-subnet-nsg

Priority ↑	Name ↑	Port ↑	Protocol ↑	Source ↑	Destination ↑	Action ↑
<input type="checkbox"/> 110	Allow-HTTP-Internet	80	Tcp	Internet	Any	✓ Allow
<input type="checkbox"/> 120	⚠ Allow-RDP-Internet	3389	Tcp	Internet	Any	✓ Allow
<input type="checkbox"/> 4096	⚠ Deny-All-Inbound	Any	Any	Any	Any	✗ Deny

#### data-subnet-nsg

Priority ↑	Name ↑	Port ↑	Protocol ↑	Source ↑	Destination ↑	Action ↑
<input type="checkbox"/> 100	ℹ VM-to-Data	Any	Tcp	DORINH-VM-ASG	DORINH-DATA-A... ✓ Allow	✓ Allow
<input type="checkbox"/> 4096	⚠ Deny-All-Inbound	Any	Any	Any	Any	✗ Deny
<input type="checkbox"/> 65000	AllowVnetInBound	Any	Any	VirtualNetwork	VirtualNetwork	✓ Allow

# Use App Service Diagnostics

1. Navigate to Your App Service
  - Go to the Azure Portal.
  - In the left-hand sidebar, click on "App Services" and then select your specific App Service from the list.
2. Open App Service Diagnostics
  - In the left-hand settings pane for your App Service, click on "**Diagnose and solve problems.**"
3. Access the "**Network/Connectivity Troubleshooter**"
  - Once inside the App Service Diagnostics, look for the section titled "Diagnostic Tools."
  - Click on "Networking Troubleshooter." This category contains diagnostic tools for checking the network-related configurations and issues of your App Service.
4. Use the Connection Issues tool to test the connection to different IPs and services
  - Test the connectivity to your Storage Account

Home > App Services > dorinh | Networking > Virtual Network Integration >

dorinh ...

## Network/Connectivity Troubleshooter

Check your network connectivity and troubleshoot network issues

Destination type *	<input type="button" value="Specify manually"/>
URI or IP:Port *	<input type="text" value="dorinh70083.blob.core.windows.net:443"/>
<input type="button" value="Run connectivity check"/>	

### Observations and Solutions (1)

- ✗ **Failed to establish a TCP connection to the destination endpoint**

### Successful Checks (3)

- ✓ **Web App is configured to route all traffic through a VNet**

5. Why is the connectivity failing?
  - Discuss with the group a solution
  - Fix it!

## Create Peering from VNet1 to Hub

1. In the Azure Portal, navigate to "Virtual networks" and select VNet (the first VNet).
2. In **yourVnet** settings pane, under the "Settings" section, click on "Peerings."
3. Click on the "+ Add" button.

### Remote virtual network summary

Peering link name *	dorinh-to-networkhub-peer
I know my resource ID ⓘ	<input type="checkbox"/>
Subscription *	Landing zone A1
Virtual network *	Select virtual network

4. Fill in the details for the peering:
  - Name: Enter a descriptive name for the peering from VNet to **yourName-to-networkhub-peer**
  - Peer details: Select the hub-network
  - Allow virtual network access: Set to "Enabled" to allow resources in VNet to communicate with networking-traning-hub-vnet.
5. Click "OK" to create the peering.

### Remote virtual network peering setting

Allow the peered virtual network to access 'dorinh-vnet' ⓘ

Allow the peered virtual network to receive forwarded traffic from 'dorinh-vnet' ⓘ

Allow gateway or route server in the peered virtual network to forward traffic to 'dorinh-vnet' ⓘ

Enable the peered virtual network to use 'dorinh-vnet's' remote gateway or route server ⓘ

## Local virtual network summary

Peering link name \*

## Local virtual network peering settings

Allow 'dorinh-vnet' to access the peered virtual network  (i)

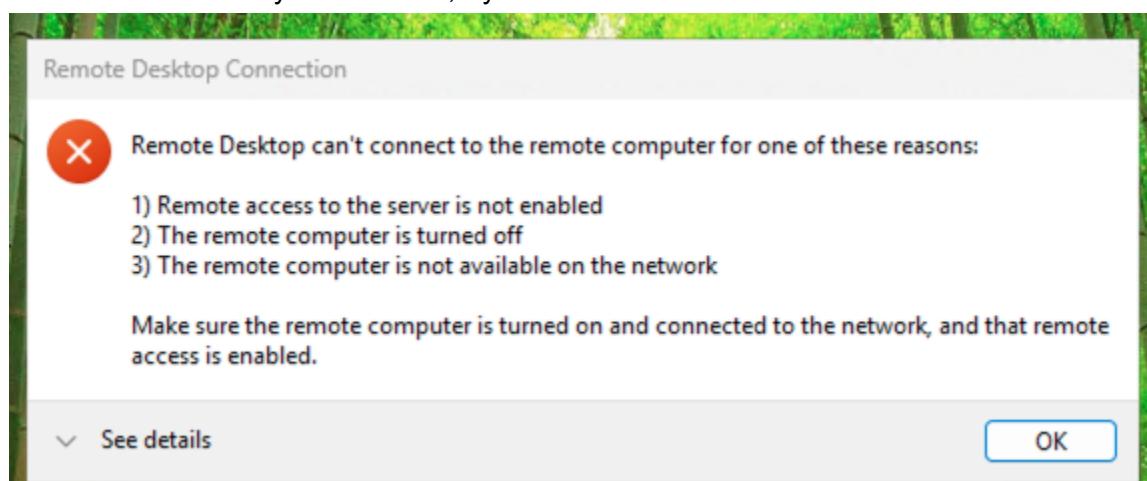
Allow 'dorinh-vnet' to receive forwarded traffic from the peered virtual network  (i)

Allow gateway or route server in 'dorinh-vnet' to forward traffic to the peered virtual network  (i)

Enable 'dorinh-vnet' to use the peered virtual networks' remote gateway or route server  (i)

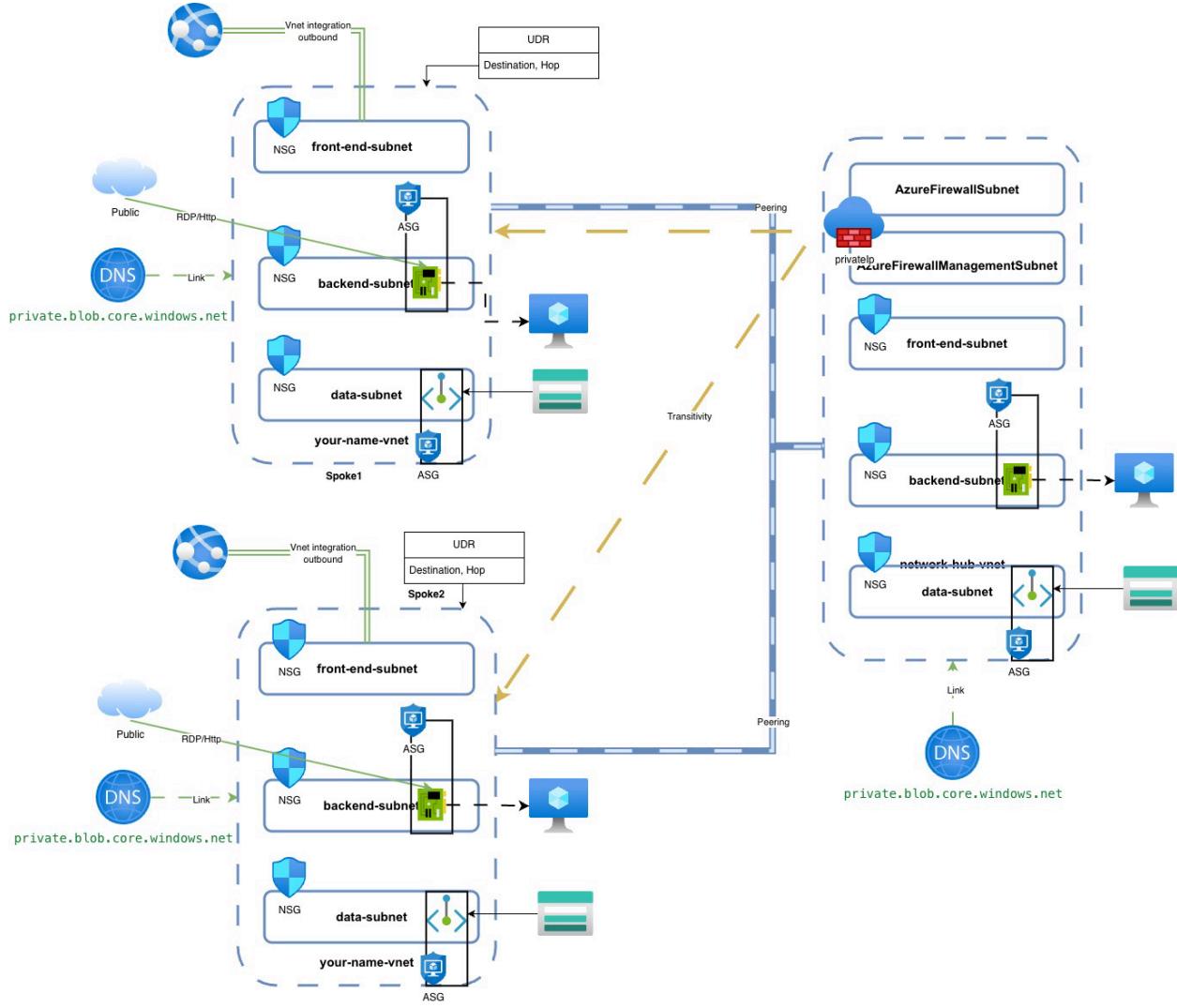
## Test VNet Peering

1. Use the existing VM in the hub.
2. Obtain the private IP addresses of the **networkhub-vm**.
  - o **Networkhub-vm** is in the Hub and yournameVM is in your Spoke.
  - o From yournameVM, try to RDP the private IP address of **Networkhub-vm**.
  - o From yournameVM, try to access the HTTP server on **Networkhub-vm**



- o Why does it not work?
  - i. Make the necessary adjustments to succeed.

3. If the peering is set up correctly and there are no Network Security Group (NSG) rules blocking traffic, you should receive a response from **Networkhub-vm**.
4. Play with the peering configurations



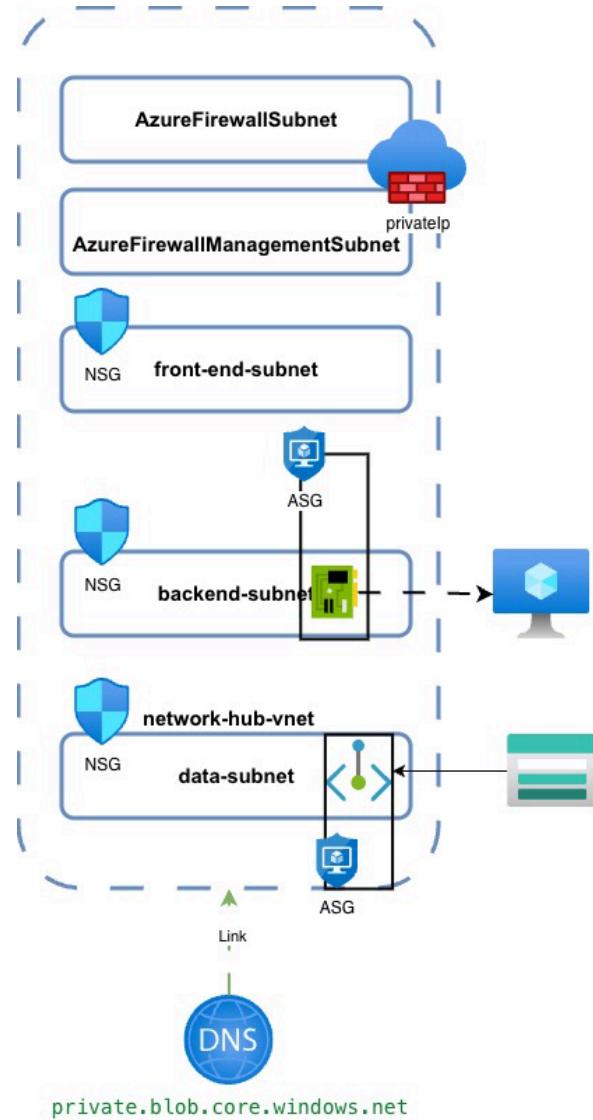
## Solve the Transitivity problem

1. Create a route table for your Spoke
  - Go to **Route tables**
  - Click **Create**
  - Resource group: **your-name-rg**
  - Name: **your-name-udr**
  - Region: same as the spoke
  - Click **Review + create** → **Create**
2. Add a route to Spoke1(Peer) route table

- Open **your-name-udr**

Name	Address prefix	Next hop type	Next hop IP address
andreiVnet-route	10.20.0.0/24	VirtualAppliance	10.200.4.4

- Click **Routes → Add**
    - Route name: **yourVnet-to-hub-fw**
    - Address prefix: **Select the Vnet address from one of your peers**
    - Next hop type: **Virtual appliance**
    - Next hop address: **private IP of the hub firewall**
  - Click **Add**
  - **Ask your peer to do the same with your network**
3. Associate Spoke 1 subnet
- Open **spoke1-udr**
  - Click **Subnets → Associate**
    - Virtual network: **spoke1-vnet**
    - Subnet: **spoke1-subnet**
  - Click **OK**
4. Verify traffic flow
- Ensure both spokes have the UDR applied
  - Ensure both spokes are peerd to the hub
  - Ensure the firewall has rules allowing traffic
  - Try to RDP on your peer Vm



dorinh-vm-nic | Effective routes

Network interface

Search Download Refresh Give feedback

Showing only top 200 records, click Download above to see all.

Default	Active	100.64.0.0/10	None	-	-
Default	Active	172.16.0.0/12	None	-	-
Default	Active	25.176.0.0/13	None	-	-
Default	Active	25.152.0.0/14	None	-	-
Default	Active	25.184.0.0/14	None	-	-
Default	Active	25.4.0.0/14	None	-	-
Default	Active	25.148.0.0/15	None	-	-
Default	Active	198.18.0.0/15	None	-	-
Default	Active	25.150.0.0/16	None	-	-
Default	Active	25.156.0.0/16	None	-	-
Default	Active	25.159.0.0/16	None	-	-
Default	Active	40.109.0.0/16	None	-	-
Default	Active	192.168.0.0/16	None	-	-
Default	Active	104.147.0.0/16	None	-	-
Default	Active	157.59.0.0/16	None	-	-
Default	Active	40.108.0.0/17	None	-	-
Default	Active	104.146.0.0/17	None	-	-
Default	Active	23.103.0.0/18	None	-	-
Default	Active	20.35.252.0/22	None	-	-
User	Active	10.20.2.0/24	Virtual appliance	10.200.4.4	andrei\route
Default	Active	10.2.3.4/32	InterfaceEndpoint	-	-
Default	Active	10.200.3.4/32	InterfaceEndpoint	-	-

Add or remove favorites by pressing Cmd+Shift+F

### Connection

Computer: 10.1.0.4

User name: None specified

You will be asked for credentials when you connect.

Show Buttons Connect Help

Windows Security

**Enter your credentials**

These credentials will be used to connect to 10.1.0.4.

Email address

Password

Remember me

OK Cancel

```
C:\OSCE15\azurerm> ipconfig
```

### Windows IP Configuration

**Ethernet adapter Ethernet:**

```
Connection-specific DNS Suffix . : tx5txnxojgjunipb
Link-local IPv6 Address . . . . . : fe80::cb0b:129:3
IPv4 Address. . . . . : 172.16.0.4
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 172.16.0.1
```

C:\Users\azureuser>

# Create a Private DNS Zone

1. Log in to the Azure Portal:
  - a. Navigate to <https://portal.azure.com> and sign in with your Azure account.
2. Go to the 'Private DNS zones' Service:
  - a. In the left-hand menu, click on "Create a resource".
  - b. In the search box, type "Private DNS zones" and select it.
  - c. Click on the + Add button to create a new private DNS zone.
3. Fill in the Basics:
  - a. Select your Subscription and Resource Group.
  - b. Enter a name for the private DNS zone (e.g., **yourname.local**).
  - c. Select the same region as your VNet.
4. Review and Create:
  - a. Review the settings.
  - b. Click on "Review + Create," then click "Create."

## Link the Private DNS Zone to a VNet

The screenshot shows the 'Virtual Network Links' page for the 'dorinh.local' private DNS zone. The page has a header with a search bar, an 'Add' button, and other navigation options. On the left, there's a sidebar with links like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, and Resource visualizer. The main area shows a table with one row of data:

Link Name	Link Status	Virtual Network	Auto-Registration	Fallback to Internet
dorinvnet-link	Completed	dorinh-vnet	Enabled	Disabled

1. Navigate to the Created Private DNS Zone:
  - o From the Azure portal dashboard, go to Resource groups.
  - o Select your resource group and click on the private DNS zone you just created.
2. Link to VNet:
  - o In the DNS zone's left menu, under the Settings section, click Virtual Network Links.
  - o Click on the + Add button to create a new link.
3. Configure the Link:
  - o Provide a name for the link.
  - o Choose your Subscription (if it's not already selected).
  - o For the Virtual Network, select the desired VNet from the dropdown list.
  - o Set Registration to 'Yes'
  - o Click OK to create the link.
4. Try to perform an nslookup for the VM of one of your peers
  - o Eg: `Nslookup andrei-vm.andrei.local`
  - o Does it work? Why? Discuss how to fix this.

```
C:\Users\azureuser>nslookup dorinh-vm.dorinh.local
Server: UnKnown
Address: 168.63.129.16

Non-authoritative answer:
Name: dorinh-vm.dorinh.local
Address: 10.2.2.4
```

	Name	Type	TTL	Value	Auto registered		
> Settings	@	SOA	3600	Email: azureprivatedns-host.microsoft.com Host: azureprivatedns.net Refresh: 3600 Retry: 300 Expire: 2419200 Minimum TTL: 10 Serial number: 1	False		
▽ DNS Management	dorinh-vm	A	10	10.2.2.4	True		
Records							
Virtual Network Links							
> Monitoring							
> Automation							
> Help							