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USER MANUAL

AZURE ARM TEMPLATE 3NIC-2VM-HA-GLM-BACKAUTOSCALE

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Contents

[PATENT PROTECTION 1](#_Toc114147589)

[TRADEMARKS 1](#_Toc114147590)

[CONFIDENTIALITY 1](#_Toc114147591)

[DISCLAIMER 1](#_Toc114147592)

[ENVIRONMENTAL CONSIDERATIONS 2](#_Toc114147593)

[FURTHER INFORMATION 2](#_Toc114147594)

[Introduction to Install vThunder on Microsoft Azure 5](#_Toc114147595)

[Overview of Microsoft Azure 5](#_Toc114147596)

[Azure Terminology 8](#_Toc114147597)

[System Requirements 9](#_Toc114147598)

[Pre-requisites 12](#_Toc114147599)

[Installation vThunder on Microsoft Azure 14](#_Toc114147600)

[Chapter 1 - Core vThunder Installation & Basic Setup. 14](#_Toc114147601)

[Configure 14](#_Toc114147602)

[Install 16](#_Toc114147603)

[Verify 17](#_Toc114147604)

[Configure – Client Servers VMSS Setup 17](#_Toc114147605)

[Verify 23](#_Toc114147606)

[Chapter 2 - Automation Account Setup. 23](#_Toc114147607)

[Configure Azure Access Key 23](#_Toc114147608)

[Configure 40](#_Toc114147609)

[Install 41](#_Toc114147610)

[Verify 41](#_Toc114147611)

[Create Runbook 42](#_Toc114147612)

[Chapter 3 - Automation Account Webhook Setup. 43](#_Toc114147613)

[Install 43](#_Toc114147614)

[Verify 44](#_Toc114147615)

[Chapter 4 - vThunder SLB Setup. 45](#_Toc114147616)

[Configure 45](#_Toc114147617)

[Install 48](#_Toc114147618)

[Chapter 5 - vThunder HA Setup. 48](#_Toc114147619)

[Configure 48](#_Toc114147620)

[Install 49](#_Toc114147621)

[Verify 49](#_Toc114147622)

[Chapter 6 - vThunder GLM Setup 50](#_Toc114147623)

[Configure 50](#_Toc114147624)

[Install 50](#_Toc114147625)

[Chapter 7 - Let us Verify. 51](#_Toc114147626)

[Login to vThunder 51](#_Toc114147627)

# Introduction to Install vThunder on Microsoft Azure

vThunder for Microsoft Azure is a fully operational, software-only version of the ACOS Series Server Load Balancer (SLB), or Application Delivery Controller (ADC) device. It is configurable by ACOS CLI, GUI, AXAPI, and Harmony Controller. For more information see Virtual Instances in Harmony Controller.

vThunder is a virtual appliance, yet it retains most of the functionality available on the hardware based ACOS appliances. Managing vThunder is the same as managing hardware based ACOS device, and vThunder has the same CLI configurations and GUI presentation.

The networking configuration for vThunder is also like hardware based ACOS devices. The maximum throughput of vThunder for Azure is variable and depends on vThunder software license purchase and type instance used to deploy vThunder.

*A10 Networks brings Out-Of-Box template to deploy vThunder along with multiple features and functionality with pre-defined format into azure cloud.*

Please refer below section for more details.

* Three Network Card Interface (3NIC).
* 2 vThunder Virtual Machines (2VM).
* Server Load Balancer (SLB)
* A10 Global Licenses Manager (GLM).
* TLS/SSL Certification (SSL).
* Server Virtual Machine Auto scale set (VMSS).
* vThunder Internal Log Monitoring.

# Overview of Microsoft Azure

With the move to the cloud, many teams have adopted agile development methods. These teams iterate quickly. They need to repeatedly deploy their solutions to the cloud, and know their infrastructure is in a reliable state. As infrastructure has become part of the iterative process, the division between operations and development has disappeared. Teams need to manage infrastructure and application code through a unified process.

To meet these challenges, you can automate deployments and use the practice of infrastructure as code. In code, you define the infrastructure that needs to be deployed. The infrastructure code becomes part of your project. Just like application code, you store the infrastructure code in a source repository and version it. Any one on your team can run the code and deploy similar environments.

To implement infrastructure as code for your Azure solutions, use azure resource manager templates. The template is a json native file that defines the infrastructure and configuration for your project. The template uses declarative syntax, which lets you state what you intend to deploy without having to write the sequence of programming commands to create it. In the template, you specify the resources to deploy and the properties for those resources.

**Microsoft Azure** (formerly known as Windows Azure) is Microsoft’s cloud computing platform. Azure is an industry leader for both infrastructure-as-a-service (IaaS) and platform-as-a-ser- vice (PaaS). Azure offers a combination of managed and unmanaged services that lets customers deploy and manage their applications as they see fit.

The Azure cloud computing platform runs on Microsoft data center and is globally dis- tributed across more than a dozen countries. Such global distribution helps ensure customers receive high performance, regardless of where they are located.

Azure is flexible and can support virtually any operating system, from Windows to Linux, any programming language, from Java to C++, and any database, from SQL to Oracle. Azure also offers 99.95% uptime and is the platform that Microsoft uses to run many of its popular ser- vices, such as Bing, Skype, Xbox, and Office 365.

A10 Networks vThunder virtual device can be set up as an instance in Azure’s cloud and can be used to provide a robust server load balancing (SLB) service.

Microsoft Azure uses the following tools to create and manage resources:

**Azure Portal** - A web console to create and monitor Azure resources. For more information, refer to <https://azure.microsoft.com/en-in/features/azure-portal/>

**Azure PowerShell** - A set of cmdlets used for managing Azure resources from the command line. Launch Azure PowerShell from a browser within the Azure Cloud Shell or install the software on the system to start a local PowerShell session.

For more information, refer to <https://docs.microsoft.com/en-us/powershell/>

**Azure CLI**- Can also be launched from a browser within the Azure Cloud Shell or install the software on the system to start a local CLI session. For more information, refer to <https://docs.microsoft.com/en-us/cli/azure/overview?view=azure-cli-latest>

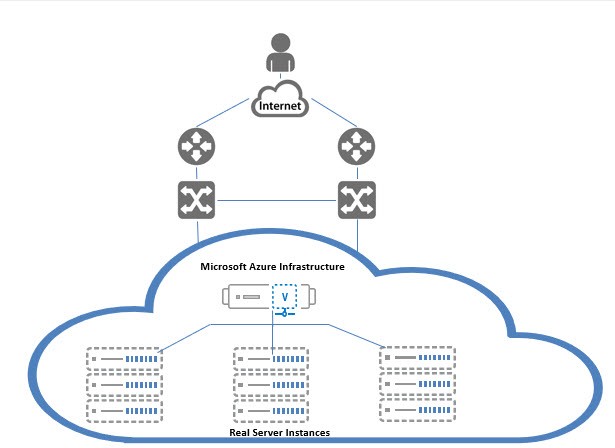
You **can** launch Cloud Shell from the top navigation bar of the Azure portal.

FIGURE 1-1: Launching Cloud Shell



The following figure shows how vThunder fits into the Microsoft Azure infrastructure.

FIGURE 1-2: vThunder for Microsoft Azure



Below diagram shows process flow and different azure resources and system components are connected to each other’s.

# Azure Terminology

**Azure account** — The Azure account created has different support plans for different regions. For more information on different Azure regions and availability of types of virtual machines in these regions, refer to

<https://docs.microsoft.com/en-us/azure/virtual-machines/linux/overview>

**Resource group** — A resource group is a logical group of all the resources related to an Azure solution. Azure offers flexibility in the allocation of resources to resource groups.

For more information, refer to

[https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group- overview](https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-%20overview/)

**Availability set** — An availability set is a logical grouping of Azure VM resources so that each VM resource is isolated from other resources when deployed. This hardware isolation ensures that a minimum number of VMs are impacted during a failure. For more information, refer to

[https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group- overview](https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-%20overview/)

**Virtual network** — The Microsoft Azure Virtual Network service enables resources to securely communicate with other resources in an Azure network in the cloud. A virtual network is hence logical isolation of the Azure cloud for an Azure account. You can connect different virtual networks and to on-premises networks. For more information, refer to

[https://docs.microsoft.com/en-us/azure/virtual-machines/windows/tutorial-avail- ability-sets](https://docs.microsoft.com/en-us/azure/virtual-machines/windows/tutorial-avail-%20ability-sets/)

**Network security group (NSG)** — A network security group (NSG) contains a list of security rules that allow or deny network traffic to resources connected to Azure virtual networks (VNet). The NSGs can be associated with subnets or individual NICs attached to the VMs. When an NSG is associated with a subnet, the rules apply to all the resources connected to the subnet.

# System Requirements

Below all azure cloud resources will be created.

All templates come with default value it can be change while execution.

1. Azure Resource Group.

New resource group will be created with the specified name and location, in case does not exist.

Default name: *vth-rg1*

1. Azure Storage Account.

New storage account will be created inside resource group.

In case storage account already exists, it will prompt error “The storage account named is already taken”.

**Details:**

**Storage Account Name:** *vthunderstorage*

**Performance**: Standard

**Replication**: Read-access geo-redundant storage (RA-GRS)

**Account kind**: StorageV2 (general purpose v2)

1. Azure Automation Account

One automation account will be created with below details:

Default name: *vth-amt-acc*

1. Azure Runbook with Webhook

One runbook will be created

Default name: *SLB-Config*

Webhook Default name: *slb-webhook*

1. Virtual Machine Scale Set. [VMSS]

Default name: *vth-server-vmss*

1. Virtual Machine Instance.

**Basic Details:**

**Product: A10 vThunder**

**Instance Name:** *vth-inst1*

**Operating system**: Linux

**Default Size**: Standard\_B4ms (4 vCPUs, 16 GiB Memory)

Note:

\*\*Highly recommended to do assessment of your projected traffic before selecting any size.

\*\* Instances name and size can be customized in parameter file.

**Supported VM Sizes**

|  |  |  |
| --- | --- | --- |
| ***Series*** | ***Size*** | ***Qualified Name*** |
| A series | Standard A4\_v2  Standard A4m\_v2  Standard/Basic A4  Standard A8\_v2 | Standard\_A4\_v2  Standard\_A4m\_v2  Standard\_A4  Standard\_A8\_v2 |
| B series | Standard B2\_s  Standard B2ms  Standard B4ms | Standard\_B2\_s  Standard\_B2ms  Standard\_B4ms |
| D series | Standard D3\_v2  Standard DS3\_v2  Standard D5\_v2 | Standard\_D3\_v2  Standard\_DS3\_v2  Standard\_D5\_v2 |
| F series | Standard F4s  Standard F8  Standard F16s | Standard\_F4s  Standard\_F8  Standard\_F16s |

Few of sizes are getting retried soon from azure, please refer [Virtual Machine series | Microsoft Azure](https://azure.microsoft.com/en-in/pricing/details/virtual-machines/series/).

For more information, please refer as below.

<https://docs.microsoft.com/en-us/azure/virtual-machines/sizes-> [general](http://sales@a10networks.com/)

<https://docs.microsoft.com/en-us/azure/virtual-machines/linux/sizes>.

1. Virtual Cloud Network. [VCN]

Default address prefix for virtual network is 10.0.0.0/16.

Default name: *vth-vnet*

1. Subnets.

Total three subnets will be created. Address prefix can be configured in parameter file.

Default name:

*vth-vnet1-mgmt-sub1*

*vth-vnet1-data-sub2*

*vth-vnet1-data-sub3*

1. Network Security Group. [NSG]

Default all interfaces are associated with security group.

Default name: *vth-nsg1*

Default Security Rules:

Table

Description automatically generated

1. Network Interface Card. [NIC]

Default name:

*vth-inst1-mgmt-nic1*

*vth-inst1-data-nic2*

*vth-inst1-data-nic3*

*vth-inst2-mgmt-nic1*

*vth-inst2-data-nic2*

*vth-inst2-data-nic3*

Each vThunder consist of two types of NIC.

* Management Interface with public IP
* Data Interfaces with primary private IP. [Ethernet 1, Ethernet 2]

Note: Interfaces holds IP from DHCP.

* Data Interfaces with secondary public IP [vip] and secondary private IP address [fip]

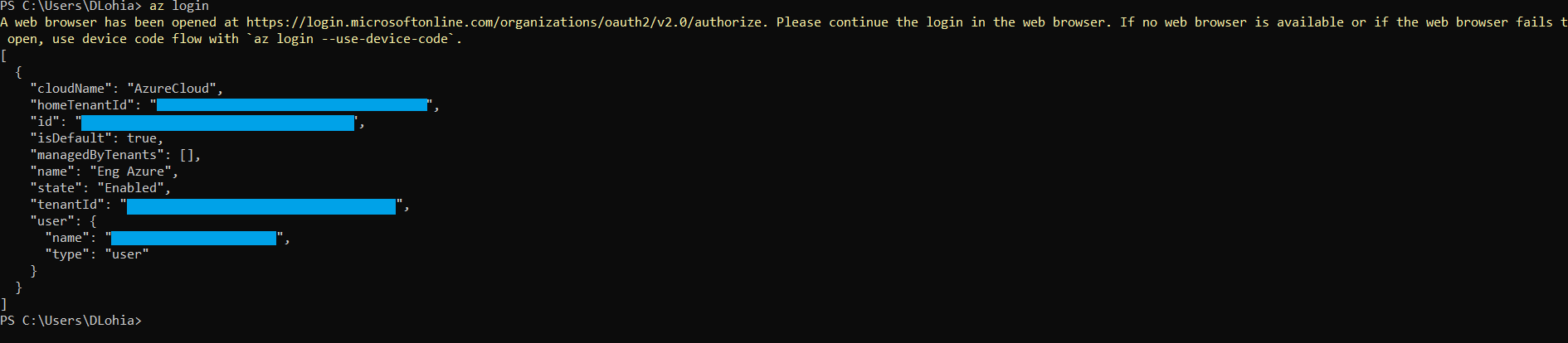
# Pre-requisites

Please find below detailed pre-requisites to install template using ARM.

1. Azure account and valid subscription.

Azure Portal—A web console to create and monitor Azure resources. For more information, refer to <https://azure.microsoft.com/en-in/features/azure-portal/>

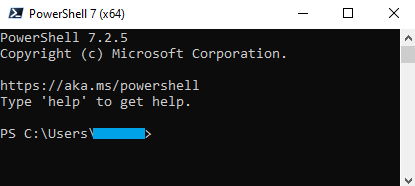
1. Azure CLI [2.39.0]— Can also be launched from a browser within the Azure Cloud Shell or install the software on the system to start a local CLI session. For more information, refer to <https://docs.microsoft.com/en-us/cli/azure/overview?view=azure-cli-latest>



1. Windows PowerShell 7.0.6 LTS or 7.1.3, 7.2.2 or any higher. Recommended 7.2.2.

[Installing PowerShell on Windows - PowerShell | Microsoft Docs](https://docs.microsoft.com/en-us/powershell/scripting/install/installing-powershell-on-windows?view=powershell-7.2)

Azure PowerShell—A set of cmdlets used for managing Azure resources from the command line. Launch Azure PowerShell from a browser within the Azure Cloud Shell or install the software on the system to start a local PowerShell session. For more information, refer to <https://docs.microsoft.com/en-us/powershell/>

  
Install Az Modules: Install-Module Az



1. Policy Setting in PowerShell.

Set execution policy to Unrestricted:

Set-ExecutionPolicy -Scope Process -ExecutionPolicy Bypass



1. Generate SSL certificate to apply on vThunder (Optional).
2. A10 GLM account access and valid available licenses.

For more details:

<https://glm.a10networks.com/>.

Below details required in template execution:

{  
 "userName": "<glm-portal-user-email>",  
 "userPassword": "<glm-portal-password>",  
 "entitlementToken": "<glm-license-entitlement-token>",  
 "licenseId": "<glm-license-id>"  
}

1. Artifacts:
2. [ARM-TEMPLATES/ARM-3NIC-2VM-HA-GLM-PUBVIP-BACKAUTO · develop · ax / A10-Azure-ARM-Templates-internal · GitLab (a10networks.com)](https://gitlab.a10networks.com/ax/a10-azure-arm-templates-internal/-/tree/develop/ARM-TEMPLATES/ARM-3NIC-2VM-HA-GLM-PUBVIP-BACKAUTO)

# Installation vThunder on Microsoft Azure

## Chapter 1 - Core vThunder Installation & Basic Setup.

### Configure

Refer ARM\_TMPL\_3NIC\_2VM\_PARAM.json file to customize default values. Please find below in details.

**Setting vThunder Default Credentials**

Default credential is mentioned in below image, this is only required during VM creation.

Username: *vth-user*

Password: *vth-Password*



Note: vThunder will get provision using above credential but those are temporary. As soon as it gets provision, vThunder will auto delete all users other than default user.

So, use below credentials for login.

Username: admin

Password: a10

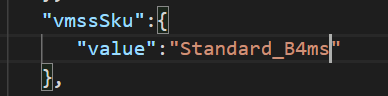
**VMSS Name**



**VMSS Size [VThunder]**

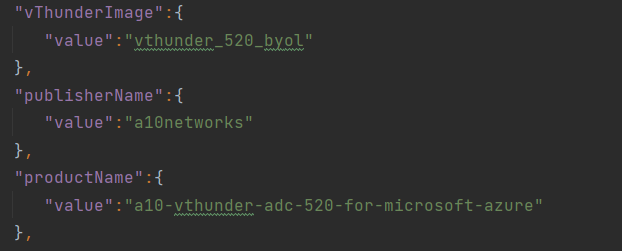
Any size which supports at least 3 NIC.

Please refer ‘Qualified Name’ column under [supported vm sizes](#_System_Requirements) section to select any other size.

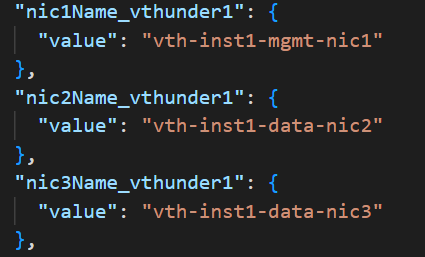


**vThunder Image**

User can pick available image from Azure marketplace.

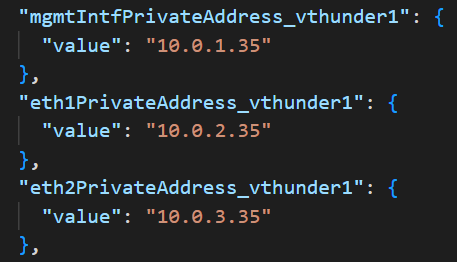


**Network Interfaces Card**



**Subnets**

Default subnets value

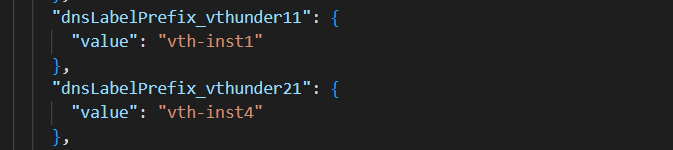


**Network Security Group**

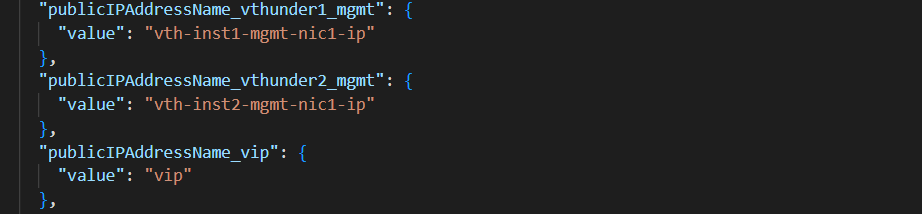
Text

Description automatically generated

**DNS Label Prefix**



**NIC Public IP Name**



**Storage Account Name**

If storage account is already existed, script will give the error “The storage account named is already taken.”

Text

Description automatically generated

### Install

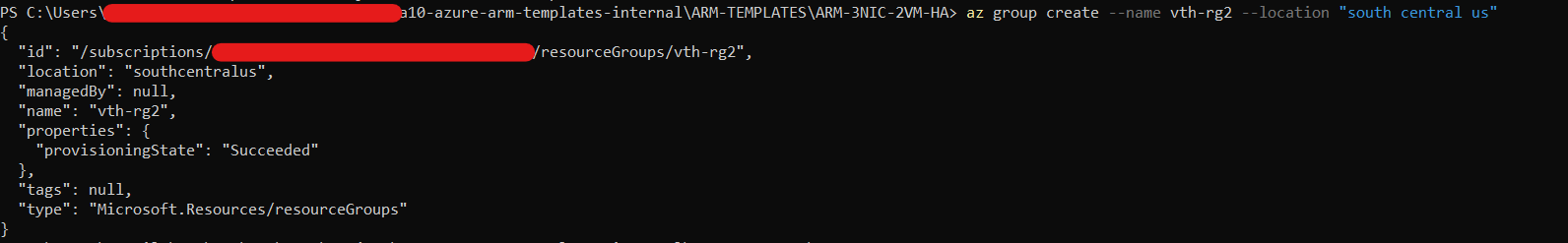
1. Open PowerShell 7 from start menu.

Graphical user interface, text, application

Description automatically generated

2. Create azure resource group.

Default name: *vth-rg1*



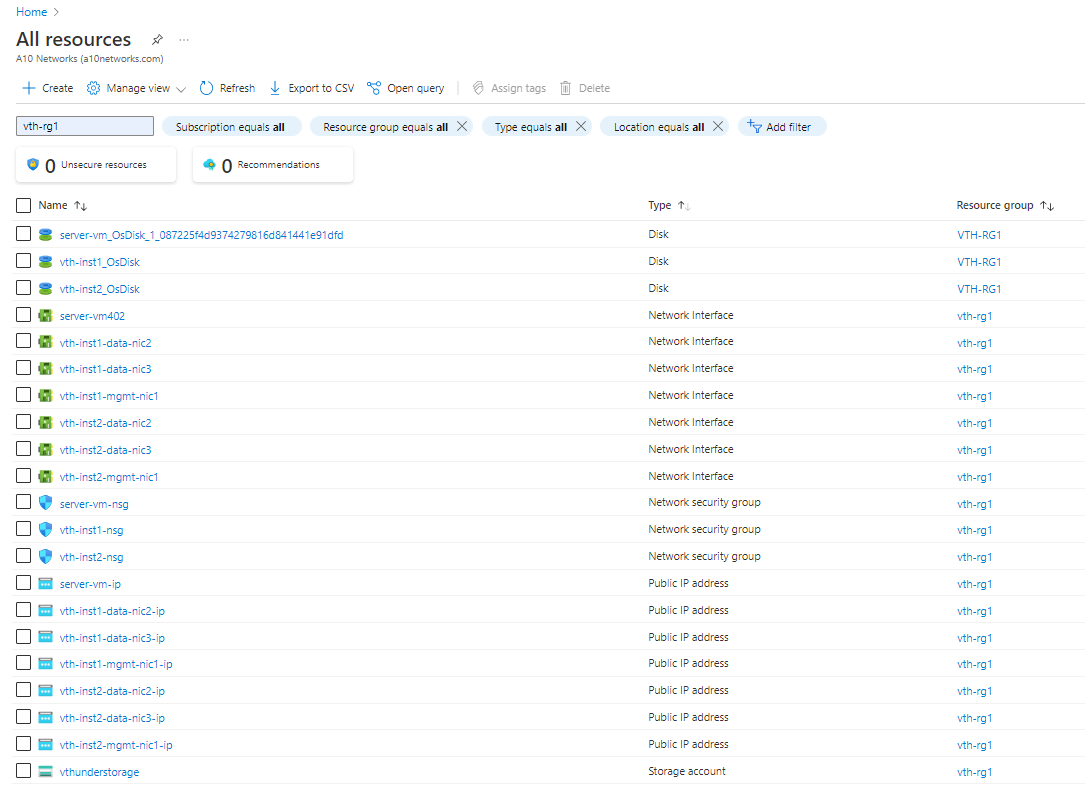
az group create --name vth-rg1 --location "south central us"

3. Run below command. 

az deployment group create -g *vth-rg1* --template-file ARM\_TMPL\_3NIC\_2VM\_1.json --parameters ARM\_TMPL\_3NIC\_2VM\_PARAM.json

### Verify

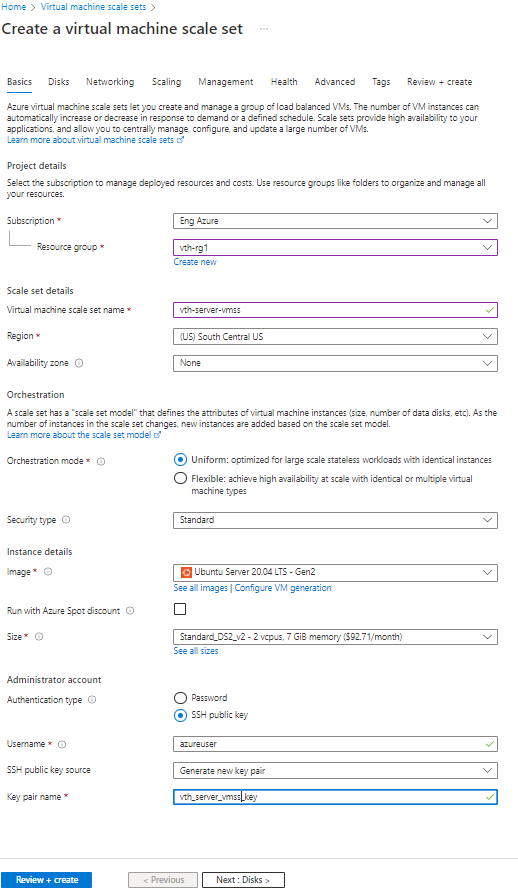
1. Resources List



### Configure – Client Servers VMSS Setup

Go to Azure Portal-> Virtual machine scale sets -> Create

Add basic information.



Select Next.

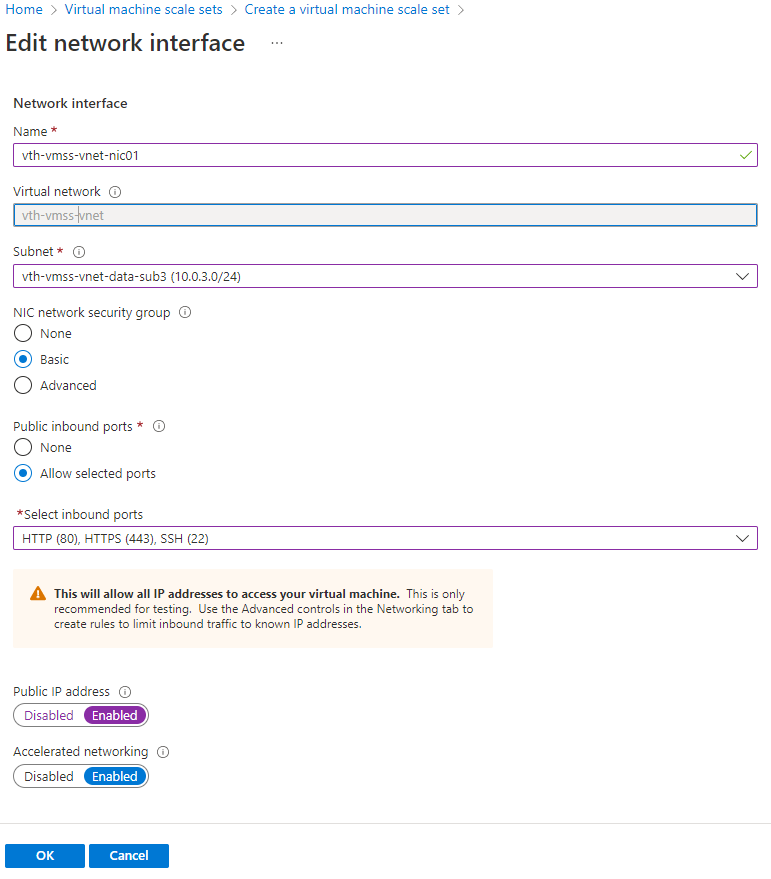
Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

Select/Update as above and Click on Edit Network Interface.



Select OK.

Select Next

Graphical user interface, text, application, email

Description automatically generated

Review

Create

Download private key and create resource.

Wait for some time. Finally, you will see resources created.

Graphical user interface, text, application, email

Description automatically generated

### Verify

Network Configuration:

VMSS will have only 1 interface and port 80 and port 443 should be present in inbound rules.

A picture containing graphical user interface

Description automatically generated

## Chapter 2 - Automation Account Setup.

### Configure Azure Access Key

Azure access key is required to access resources. To create the Azure access key, perform the following steps:

1. [Create a Role](#_Create_a_Role)
2. [Register a Service Application](#_Register_a_Service)
3. [Associate Service Application with a Role](#_Associate_Service_Application)
4. [Create Certificate and Secrets](#_Create_Certificate_and)
5. [Collect Azure Access Key](#_Collect_Azure_Access)
6. [Importing Azure Access Key](#_Importing_Azure_Access)

#### 1. Create a Role

To create a custom role, perform the following steps:

1. Navigate to the Home > Subscriptions > Registered Subscription Name > Access control (IAM) from left panel.

FIGURE 3-1: Subscriptions - Access control (IAM) window



1. On the Select Access control (IAM) page, select the Roles tab. The Role window is dis- played.

FIGURE 3-2: Access Control - Role Window



1. Click on the +Add tab and select Add custom role option. The Create a custom role window is displayed.

FIGURE 3-3: Add custom role window



1. Enter Customer role name and Description (optional).

FIGURE 3-4: Create a custom role window



1. Click on the **Next** button. The Permission window is displayed.

*FIGURE 3-5: Permission window*



1. Click on the **+Add Permissions** button to create a custom role.
2. Search for the permission to add the custom role.

For example, select **Microsoft Compute** from Add Permissions page.

*FIGURE 3-6: Add permission window*



The Microsoft Compute permission window is displayed.

*FIGURE 3-7: Microsoft Compute permissions window*



1. Select the **Permission** check box(es) and click **Add** button.
2. To add **Microsoft Network** from Add Permissions page, click on the **+Add Permissions**

on Create a custom role page.

*FIGURE 3-8: Create a custom role - Add permissions*



1. Search and select **Microsoft Network** from Add Permissions page.

*FIGURE 3-9: Add permissions - Microsoft Network page*



1. Select the **Permission** check box and click **Add** and **Review + create**.

*FIGURE 3-10: Microsoft Network permissions window*



The **Create a custom role** confirmation window is displayed.



1. Click OK to successfully create the custom role with permissions.

**NOTE:** It may take the system a few minutes to display your role everywhere.

#### 2. Register a Service Application

To register a service application, perform the following steps:

1. Navigate to the Home > Services > Azure Active Directory option.

*FIGURE 3-11: Azure Active Directory page*



1. On the Azure Active Directory page, click on the App registrations menu option from the left panel. The App registration window to register an application is displayed.

*FIGURE 3-12: App registrations window*



1. Click on the **+New Registration** tab. The Register an application window is displayed.

*FIGURE 3-13: Register an application window*



1. Enter the **Name** of the application. For example, acos-sapp.
2. Click on the **Register** button to register the application. The application gets displayed in the list of Azure Active Directory - Apps registrations window.

#### 3. Associate Service Application with a Role

To associate service application with a created role, perform the following steps:

1. Navigate to the **Home** > **Subscriptions** > **Registered Subscription Name** > **Access control (IAM)**.

The Subscription > Access control (IAM) window is displayed.

*FIGURE 3-14: Subscription - Access control (IAM) window*



1. To assign a role to the above scope, click the **+ Add** tab from the main menu options. The Add role assignment window is displayed.

*FIGURE 3-15: Add a role assignment -1*



1. Select a **Role** from the drop-down list. For example, acos-role.
2. Select the **Assign Access to** option from the drop-down list.
3. Enter a string to search and select for a name or email address. For example, acos.
4. Click the **Save** button to save the configuration.

#### 4. Create Certificate and Secrets

To create certificate and secrets for the assigned role, perform the following steps:

1. Navigate to the **Home** > **Services** > **Azure Active Directory** option.

*FIGURE 3-16: Azure Active Directory - Overview page*



1. On the Azure Active Directory - Overview page, click on the App registrations menu option from the left panel. The App registration window with a registered application(s) is displayed.

*FIGURE 3-17: App registrations - Overall applications window*



1. Select a service application from list of applications. The selected service application window is displayed.
2. Select the **Certificates & secrets** option from the left Manage navigation pane. The acos sapp - Certificates & secrets window is displayed.
3. Select the **Start date** and **Expires** date from the date picker.

Or Click the **New client secret** button. The Add a client secret window is displayed.

*FIGURE 3-18: Add a client secret window*



1. Enter the New client secret **Description**, **Expires** value. The entered value is displayed on the acos-Certificates & secrets window.

*FIGURE 3-19: acos-sapp Certificates & secrets window*



NOTE:

Copy the new client secret value, as it is not visible once the page is refreshed.

#### 5. Collect Azure Access Key

To collect Azure access keys, perform the following steps:

1. Navigate to the **Home** > **Azure Active Directory** - **App registrations**.

*FIGURE 3-20: App registrations - Azure Active Directory window*



1. Select service application from the list of applications. The selected service application page is displayed.

*FIGURE 3-21: Selected Service application window*



1. Copy the Client ID, Tenant ID from the service application page. client\_id= 'cc4c86xx-65b3-48xx-a3xx-610cxxxxxxxx’ tenant\_id= '91d27axx-8cxx-41xx-82xx-3d1bxxxxxxxx'
2. Navigate to the **Home** > **Subscriptions** > **Registered Subscription Name**, and copy subscription ID value.

*FIGURE 3-22: Subscriptions window*



1. Create a text file with as subscription, client\_id, client\_secret and tenant\_id as shown below:

subscription='07d34bxx-61xx-47xx-abxx-006bxxxxxxxx'

client\_id='cc4c86xx-65xx-48xx-a3xx-610cxxxxxxxx’ client\_secret='G0x\_hVDzZxxxx-o1Vsw.xxxx.Zxxxx-xx' tenant\_id='91d2xxxx-8xxe-41xx-82xx-3d1bxxxxxxxx’

#### 6. Import Azure Access Key

Each vThunder instance requires a copy of the Azure Access key. The recommended method of importing the Azure Access key by using any of the file transfer methods.

Perform the following steps.

1. Log into the vThunder instance.
2. Go to the config mode.

**vThunder>**enable

Password:

**vThunder#**config

1. Go to the admin mode.

**vThunder(config)#**admin ?

admin

NAME<length:1-31> System admin user name

**vThunder(config)#**admin admin

1. Import the Azure Access key by using any of the file transfer methods recommended.

**vThunder(config-admin:admin)#azure-cred import ?**

use-mgmt-port Use management port as source port

tftp: Remote file path of tftp: file system(Format: tftp://host/file) ftp: Remote file path of ftp: file system(Format: ftp://[user@]host[:port]/file)

scp: Remote file path of scp: file system(Format: scp://[user@]host/file)

sftp: Remote file path of sftp: file system(Format:

sftp://[user@]host/file)

To delete the key, use the command **Azure-cred delete**.

1. Verify the imported Azure Access keys by below mentioned commands:

vThunder-Active(config)(NOLICENSE)#admin ad vThunder-Active(config)(NOLICENSE)#admin admin

vThunder-Active(config-admin:admin)(NOLICENSE)#azure-cred import scp://user- name@<ip-addr>:/<file-path>/cred.txt

vThunder-Active(config-admin:admin)(NOLICENSE)#azure-cred sh vThunder-Active(config-admin:admin)(NOLICENSE)#azure-cred show SUB\_ID = 'dfe16a52-556b-428a-a168-91767a54c0Ce'

client\_id = 'b8d52c6f-0c65-460d-bafd-e03cc942aa66' secret = 'bVcK\_XGEd9u0Or+M2Css=fmCL?8bf-0b' tenant = '1e94d773-1e01-442d-b25d-3b3e1b64948d'

vThunder-Active(config-admin:admin)(NOLICENSE)#

### Configure

Please refer ARM\_TMPL\_3NIC\_2VM\_AUTOMATION\_ACCOUNT\_PARAM.json

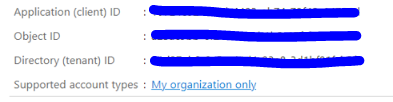
Needs to update few parameters:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Encrypted** | **Value** |
| automationAccountName | string | N.A | <automation-account-name> |
| location | string | N.A | South Central US |
| appId | string | No | f4f3d35d-xxxx-xxxx-xxxx-xxxxxxxxxxxx |
| clientSecret | string | Yes | abcd-09as-jhtv-sgta-24tre |
| tenantId | string | No | 91d27ab9-xxxx-xxxx-xxxx-xxxxxxxxxxxx |
| resourceGroupName | string | No | vth-rg1 |
| vmssName | String | No | vmss-server-name |
| mgmtInterface1 | String | No | vth-inst1-mgmt-nic1 |
| mgmtInterface2 | String | No | Vth-inst2-mgmt-nic1 |
| portList | String | No | \*see in the below line\* |

Note

1. If automation account does not exist, then a new automation account will be created inside resource group. If automation account already exists, then template will auto update it.
2. If automation account variable does not exist, then a new automation account variable will be created inside automation account variables. If automation account variable already exists, then it will give “The variable already exists. “Error.
3. ResourceGroupName is name of resource group where virtual machine scale set having vThunder servers and resources created by ARM template are present.
4. App Id and Tenant Id will get from App Registration.

Azure Console 🡪 Azure Active Directory 🡪 App Registration

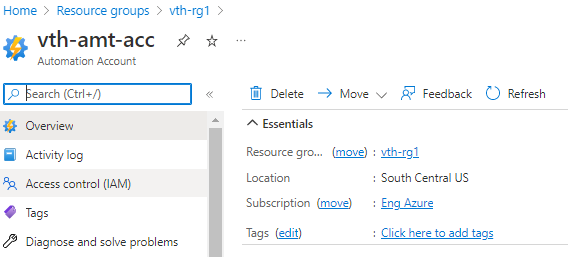


1. clientSecret id will get from App Registration -> Certificates & secrets.

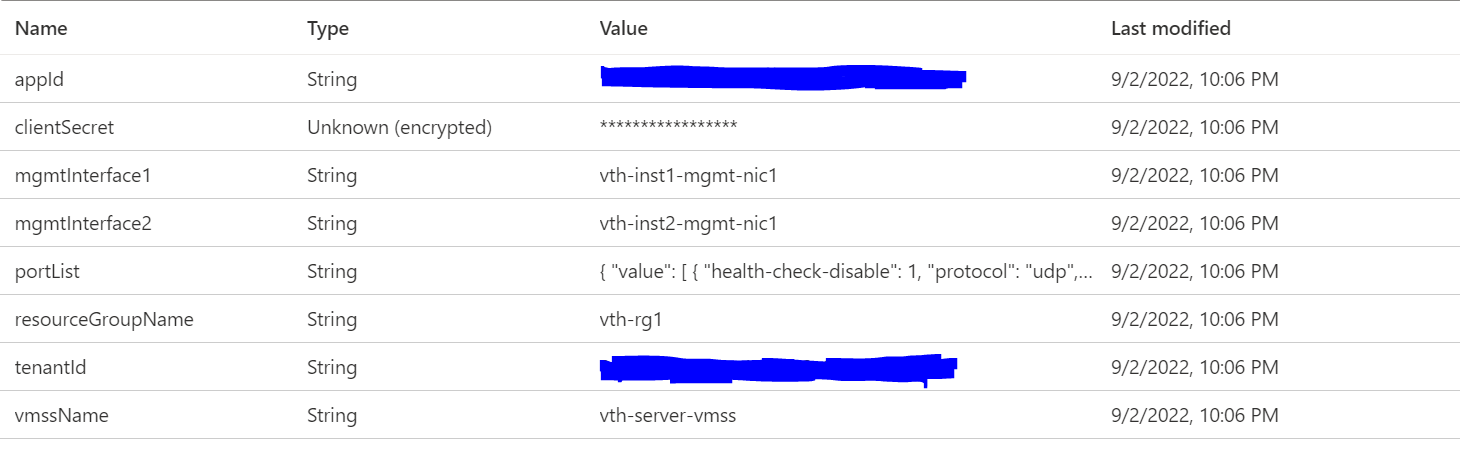
### Install

Run PowerShell script to create an automation account. .\ARM\_TMPL\_3NIC\_2VM\_AUTOMATION\_ACCOUNT\_2.ps1

### Verify

Go to azure portal -> Resource Group -> Automation Account

Go to azure portal -> Automation Account -> Variables



### Create Runbook

Go to Automation Account->Process Automation->Runbooks->Create a runbook for all below items.

1. Create a runbook with name [SLB-Config].

Graphical user interface, text, application

Description automatically generated

1. Once you click on create, wait for 30 sec after that you will see edit window.

Graphical user interface, application, Word

Description automatically generated

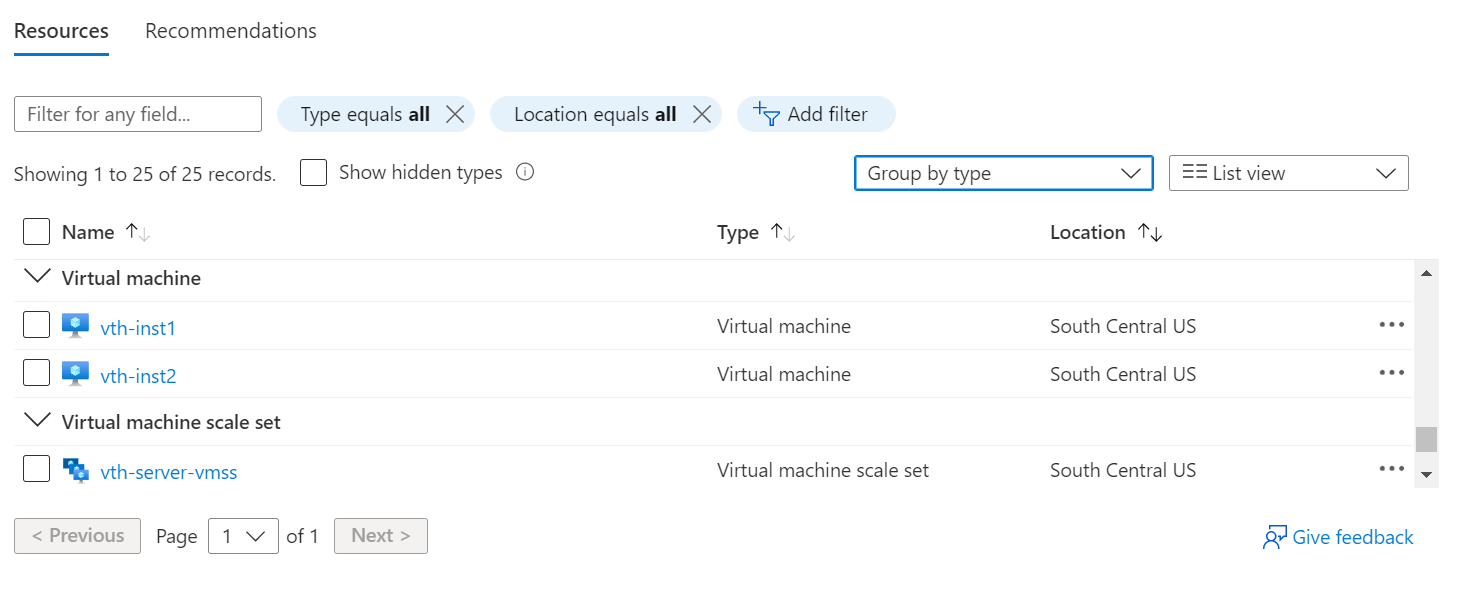
1. Copy runbook [**ARM\_TMPL\_3NIC\_2VM\_SLB\_SERVER\_RUNBOOK.ps1**] content.
2. Save.
3. Publish.

## Chapter 3 - Automation Account Webhook Setup.

Note: Make sure vthunder instance is in start mode.

In case you have stopped please start. Also confirm all instances are in running mode.

Go to Azure Portal -> Resource Group -> *vth-rg1*



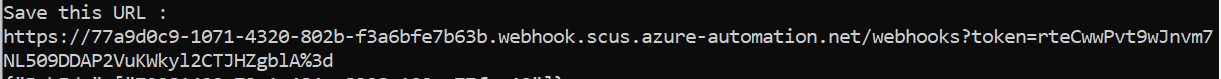
### Install

Default webhook name: *slb-webhook*

Run PowerShell script to create a webhook.

.\ARM\_TMPL\_3NIC\_2VM\_WEBHOOK\_3.ps1 -runBookName *"SLB-Config”*

After installation user will get webhook url on cli.



Go inside **VMSS -> vth-server-vmss ->Scaling->Notify,** add **vth-slb-config-webhook** url and save

1. Generate URL for runbook and update on Azure portal in VMSS>>Scaling.

Graphical user interface, text, application, email

Description automatically generated

**Note**:

1. User will have to add webhook url in vmss notify section

### Verify

#### Runbook Jobs

Go to the azure portal -> automation account -> Jobs

Verify SLB-Config job in completed status. Select the job to see the detail information

Graphical user interface, text, application, email

Description automatically generated

Click on completed job and select “All Logs” to verify

Graphical user interface, text, application, email

Description automatically generated

## Chapter 4 - vThunder SLB Setup.

### Configure

Please configure below parameters in ARM\_TMPL\_3NIC\_2VM\_SLB\_CONFIG\_PARAM.json

**Service Group List**

Default service group list

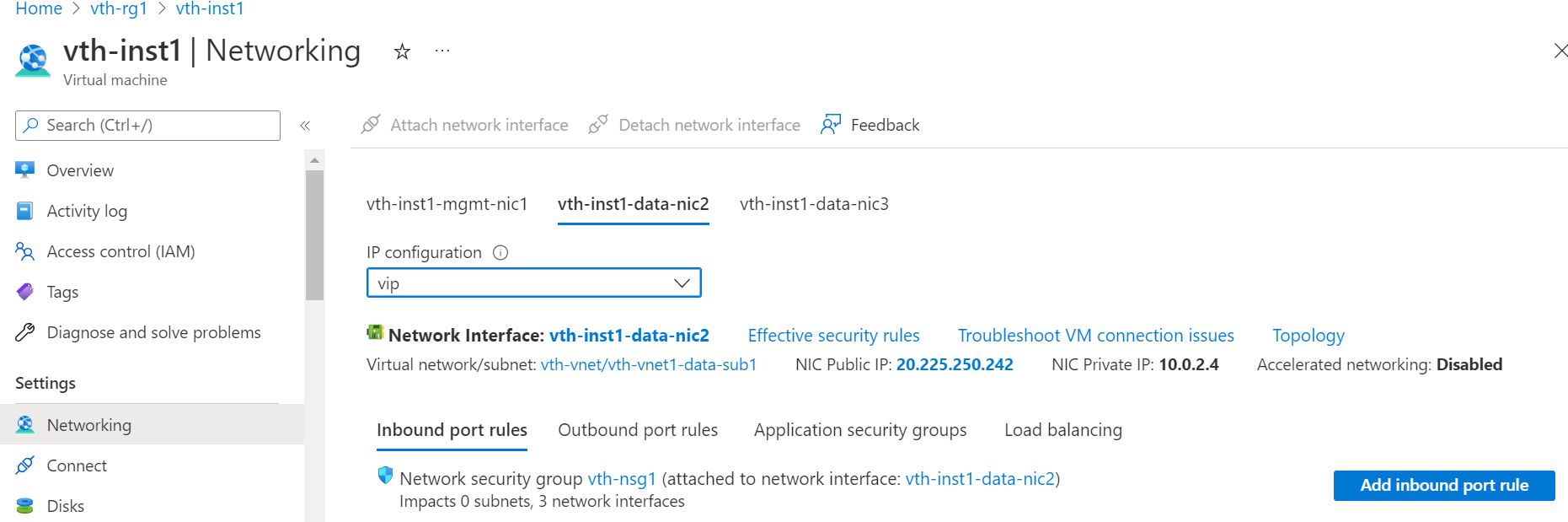


**Virtual Server**

1. Default of virtual server name is “vip”.
2. Vip address is generated dynamically.
3. After deploying arm template, User will get vip address.

For vip

Go to Azure Portal ->ResourceGroup -> vth-inst1 -> Networking



user will have to put that same vip address in this slb parameter file

Text

Description automatically generated

1. “ha-conn-mirror” does not work on port 80 and 443.

Text

Description automatically generated

Note

1. Check ARM\_TMPL\_3NIC\_2VM\_SLB\_CONFIG\_PARAM.json file, vip is assigned dynamically so update in slb parameter file according to assigned value.
2. SLB script check management interface name presents in ARM PARAM file and using this name gets public IP of vthunder instance.

**SSL Configuration**

1. Default SSL configuration is disable. No SSL will be applied.
2. While running the SLB Script User will get option to enable on cli.

Graphical user interface, text

Description automatically generated

If user want apply SSL need to give input as ‘Y’

1. Default value of SSL certificate.

Text

Description automatically generated

For example:

*“sslConfig”: {*

*“requestTimeOut”: 40,*

*“Path”: “C:\Users\........\........\......\certs\server.pem”,*

*“File”: “server”,*

*“CertificationType”: “pem”*

*}*

1. Supported certification type .pem.

### Install

.\ARM\_TMPL\_3NIC\_2VM\_SLB\_CONFIG\_4.ps1

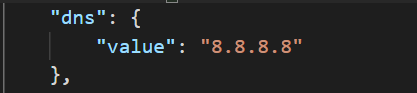
## Chapter 5 - vThunder HA Setup.

Please configure below parameters in ARM\_TMPL\_3NIC\_2VM\_HA\_CONFIG\_PARAM.json

### Configure

**DNS**

1. Default value is google dns address.



**Network Gateway IP**

1. This is first IP address of default management subnet configuration.

Text

Description automatically generated

**Vrrp**

Text

Description automatically generated

**Terminal Idle Timeout**

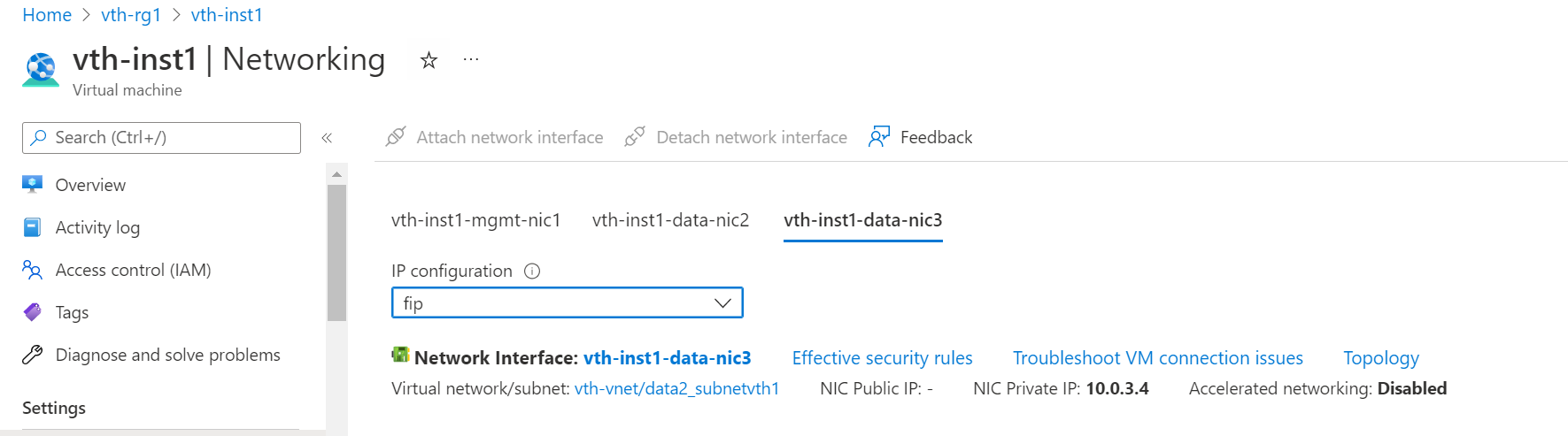
Text

Description automatically generated

**Vrid**

1. Default value of vrid is 0
2. Default priority for vThunder-1 is 100, and vThunder-2 will have 99 (100-1) priority.
3. FIP value generated dynamically on Azure portal, to get fip

Go to Azure Portal ->ResourceGroup -> vth-inst1 ->Networking



so user should have to enter same ‘fip’ in HA parameter file.

Text

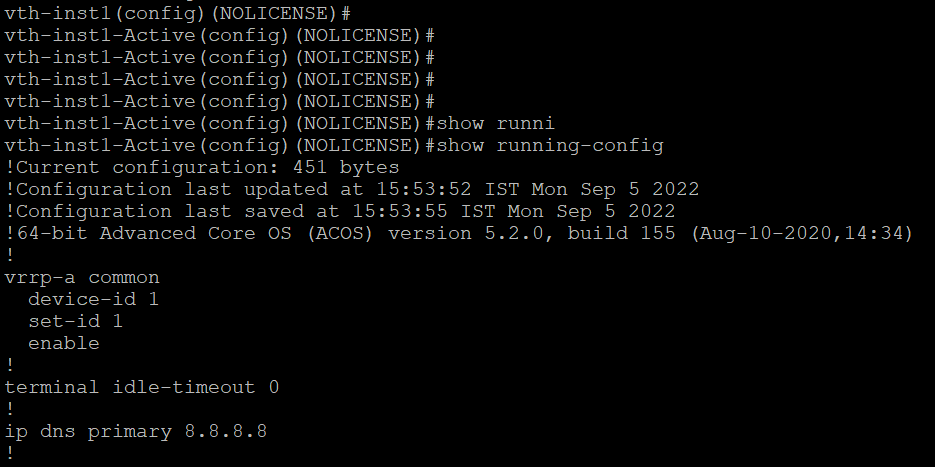
Description automatically generated

### Install

.\ARM\_TMPL\_3NIC\_2VM\_HA\_CONFIG\_5 -resourceGroup *vth-rg1*

### Verify

After installation of HA configuration of vThunder will be in active state.



## Chapter 6 - vThunder GLM Setup

Please configure below parameters in ARM\_TMPL\_3NIC\_2VM\_GLM\_CONFIG\_PARAM.json

### Configure

Users must give GLM account details.

{

  "parameters": {

    "user\_name": {

      "value": "<user\_email\_address>"

    },

    "user\_password": {

      "value": "<user\_password>"

    },

    "entitlement\_token": {

      "value": "<license-entitilement-token>"

    }

  }

}

### Install

Run This script for applying GLM license on both vthunder

.\ARM\_TMPL\_3NIC\_2VM\_GLM\_CONFIG\_6.ps1

## Chapter 7 - Let us Verify.

### Login to vThunder

vThunder can be access by ssh to instance or GUI.

SSH to vThunder Instance:

Open putty and connect.

IP: Get 2vthunders login

User Id [Default]: admin

Password [Default]: a10

After login.

Execute Command -> enable

Password -> <just press enter>

Text

Description automatically generated

#### vThunder GUI Verification

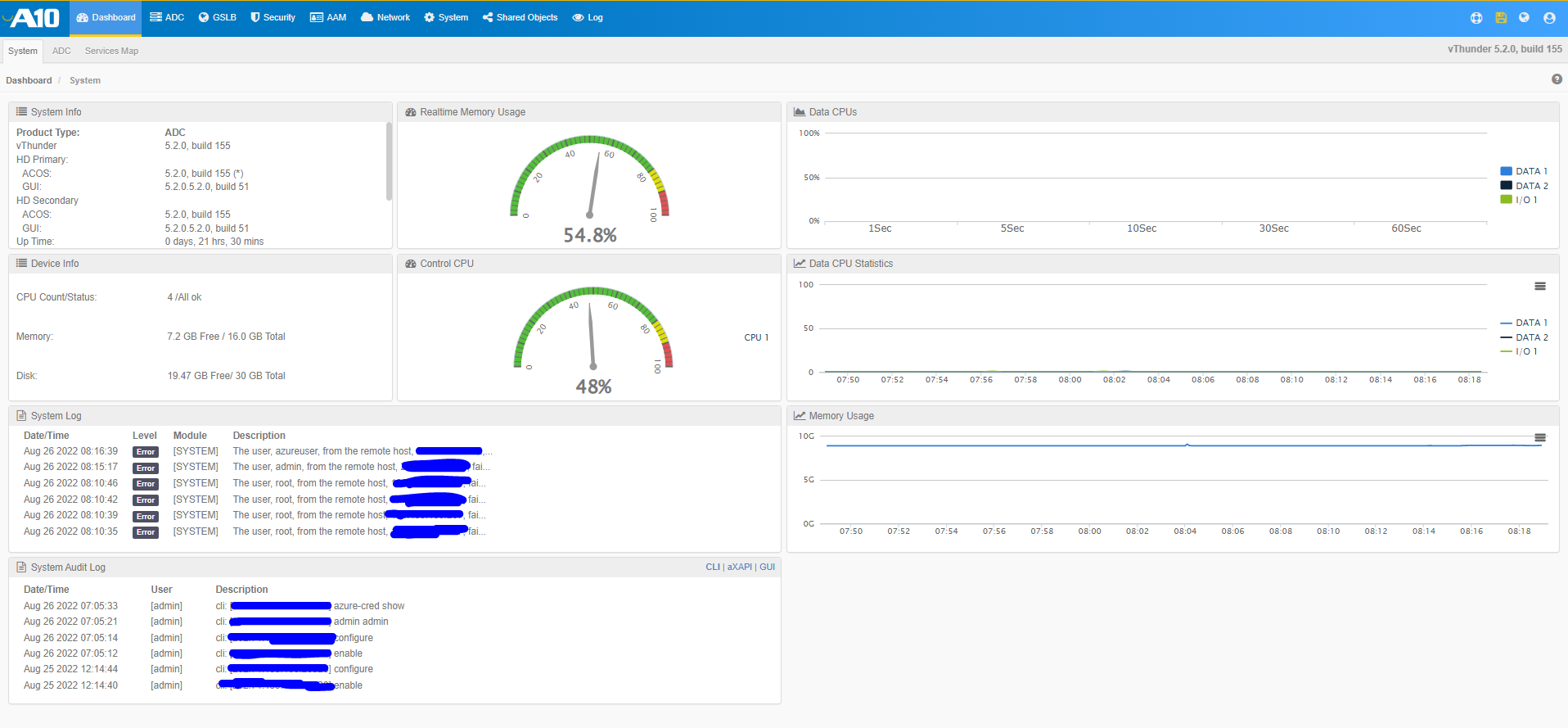
GUI: Check below vThunder GUI

Web URL: http://IP

<https://ip/gui/auth/login/>

User Id [Default]: admin

Password [Default]: a10



#### SLB Verification

After successfully installation you can see your slb config on vThunder, refer below image

Text

Description automatically generated

#### GLM License Provision Verification

After successfully installation you can see your GLM config on vThunder, refer below image.

Text

Description automatically generated

#### SSL Certificate Verification

After successfully installation you can see your ssl config on vThunder, refer below image.

