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Lab1: Building your own Lab

Lab Objective:

- Preparing VMware Workstation
- Deploying F5 BIGIP System in Virtual Environment
- Licensing and Resource Provisioning
- Network configuration
- Connecting Backend servers [Linux based web servers] for testing

To deploy BIG-IP Virtual Edition on your workstation, VMware provides two great solutions:

- VMware Fusion
- VMware Workstation
  (For this Lab guide, we'll use VMware Workstation)

Step1: Preparing VMware

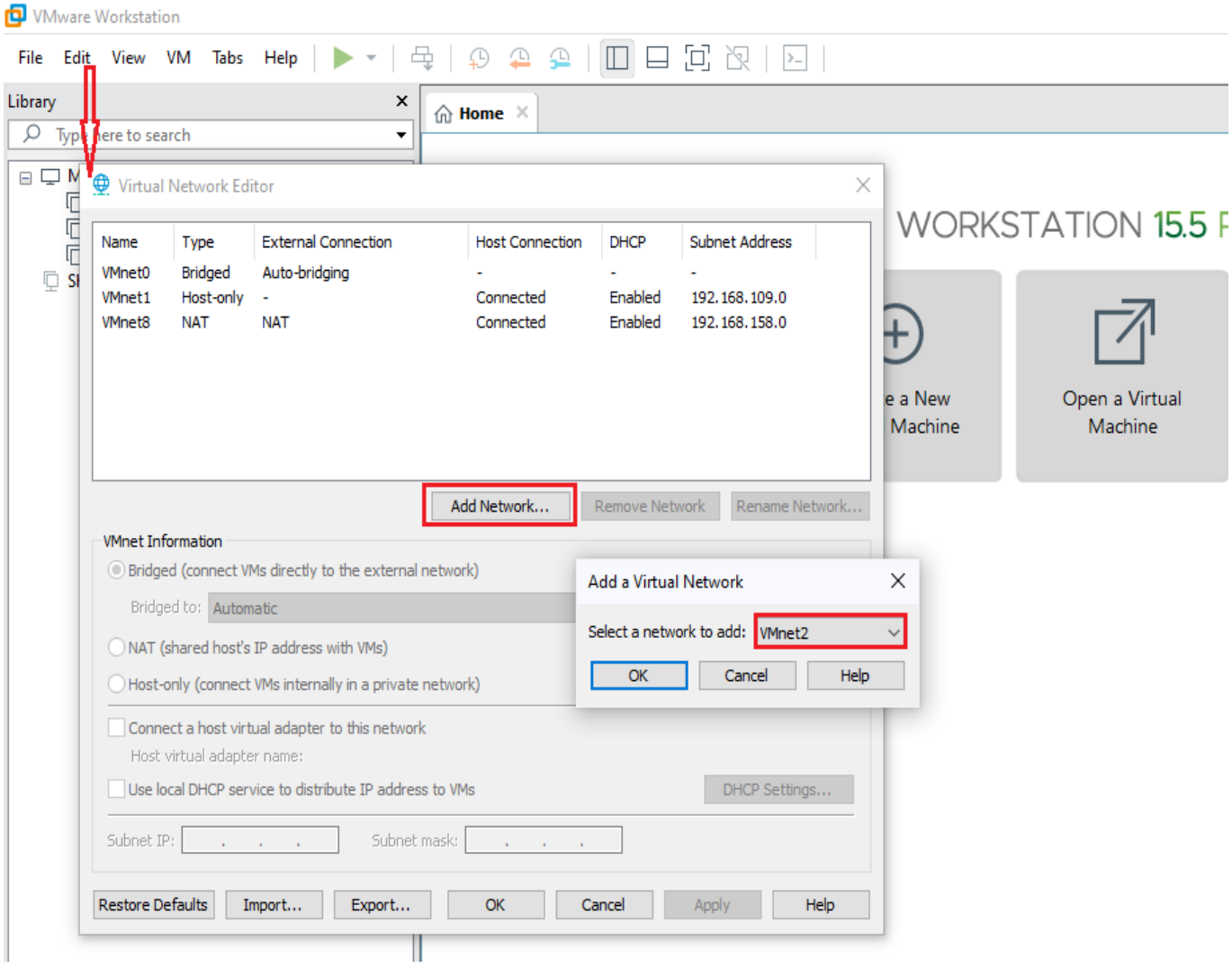
VMware is the virtual environment that will host F5 BIGIP System. We need to prepare it in the right way to make this setup work. The virtual machine **[F5 BIGIP VE]** comes with **four virtual NICs**, but we are going to use only three of them. The first one is the out-of-band management, and you need to configure there the IP address you wish to manage your F5 on. All the other interfaces will actively send traffic, and you can tune them at will. Just note that the management interface must be on a separate network than the production interfaces.

Lab1.1: Download and Install VMware workstation Software
Lab1.2: Edit Network setting

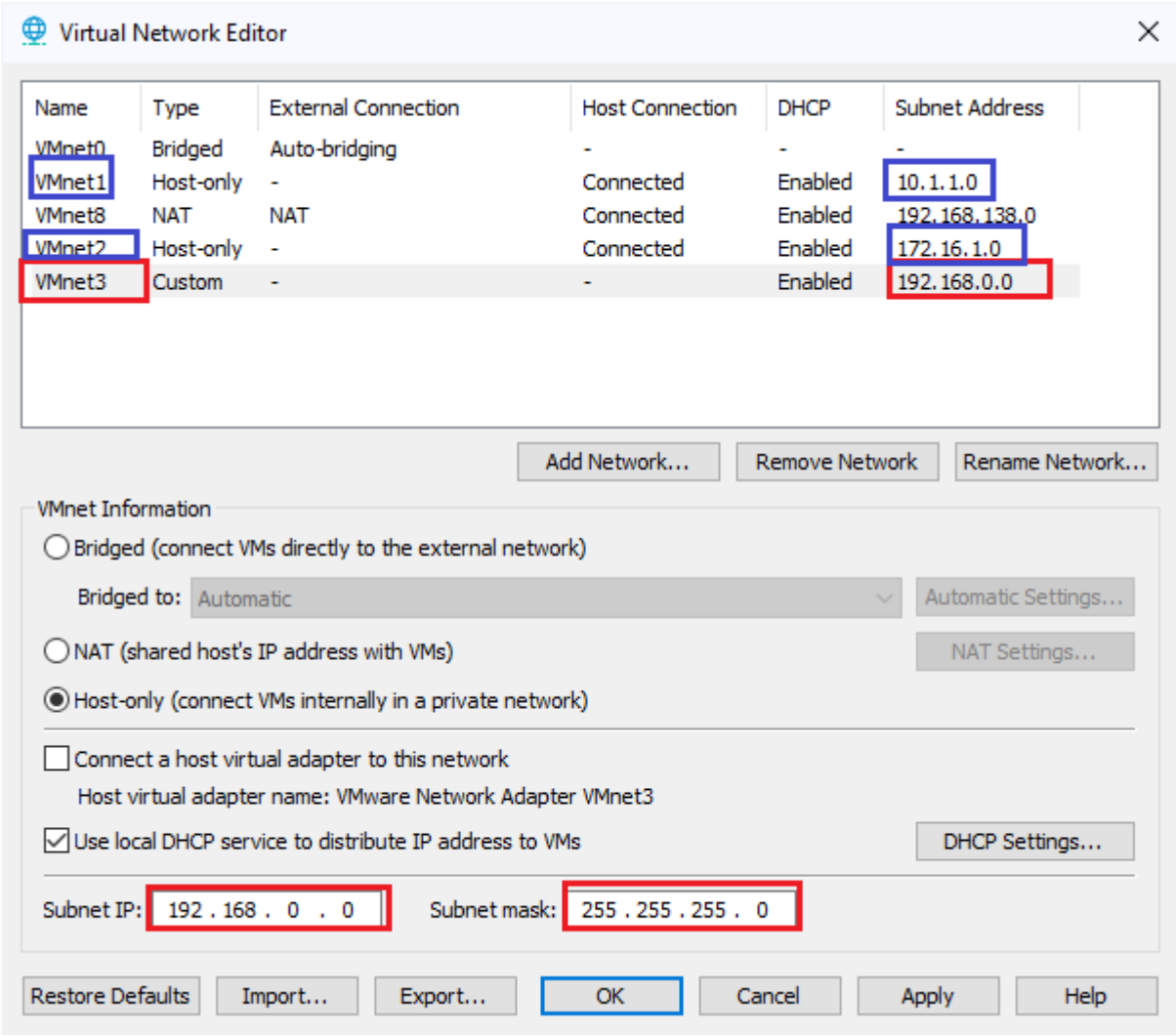
- Open VMware workstation and then **Edit>> Virtual Network Editor**
- Configure the interfaces according to the following table

BIG-IP VM Adapter Name	VMware workstation	Network/VLAN Purpose	IPV4 Network address space	Interface on BIG-IP VM
Net Adapter	Vmnet1, host only	Management	10.1.1.1/24	Mgmt. Port
Net Adapter 2	Vmnet2, host only	Internal	172.16.1.100/24	1.1
Net Adapter 3	Vmnet3, host only	External	192.168.0.100/24	1.2
Net Adapter 4	Unused	Unused	Unused	1.3

a. Edit>> Virtual Network Editor >> Add Network >>Select Network to add >> VMnet2 and also add VMnet3



b. Select **VMnet1** and change Subnet IP to 10.1.1.0/24 **[Management Network]**
c. Select **VMnet2** and change Subnet IP to 172.16.1.0/24 **[Internal Network]**
d. Select **VMnet3** and change subnet IP to 192.168.0.0/24 **[External Network]**



Step2: Downloading the F5 BIG-IP Virtual Edition

1. Navigate and Login at **https://downloads.f5.com/esd/productlines.jsp** , if you do not have an account then create new account with email ID
2. Click **Find a Download**, select **BIG-IP v13.x / Virtual Edition,** and click **Virtual-Edition** again
3. Read the License Agreement and click **I Accept**
4. Select the **BIGIP-*currentversion*.ALL-scsi.ova** file, with the description Image file set for VMware **ESXi** Server
5. Choose the nearest download location and Download File.

Step3: Requesting for Trial/Demo License for BIG-IP VE and BIG-IQ

1. Go to https://downloads.f5.com/trial/
2. Request for Free Trial License to Evaluate BIG-IP VE and BIG-IQ
3. Check Your Inbox for **Registration key** [Expiry is 30 days]

Step4: Importing F5 BIG-IP Virtual Edition Image

1. From VMware Workstation , navigate to **File>Open** click choose file
2. Select the BIG-IP VE Image File (ova/ovf File) from your download location and click open
3. Name the new virtual Machine whatever you want for our example we'll use **F5 BIG-IP LTM1**

Lab 2: Creating LTM Objects [Node, Pool and Virtual Server]

Lab Objective:

- Create three Nodes [172.16.1.1 , 172.16.1.2 , 172.16.1.3]
- Create Pool and Add Members [Nodes with Port]
- Configure a virtual server and associate with the pool
- Verify traffic flow through the BIG-IP System using statistics

Lab Requirements:

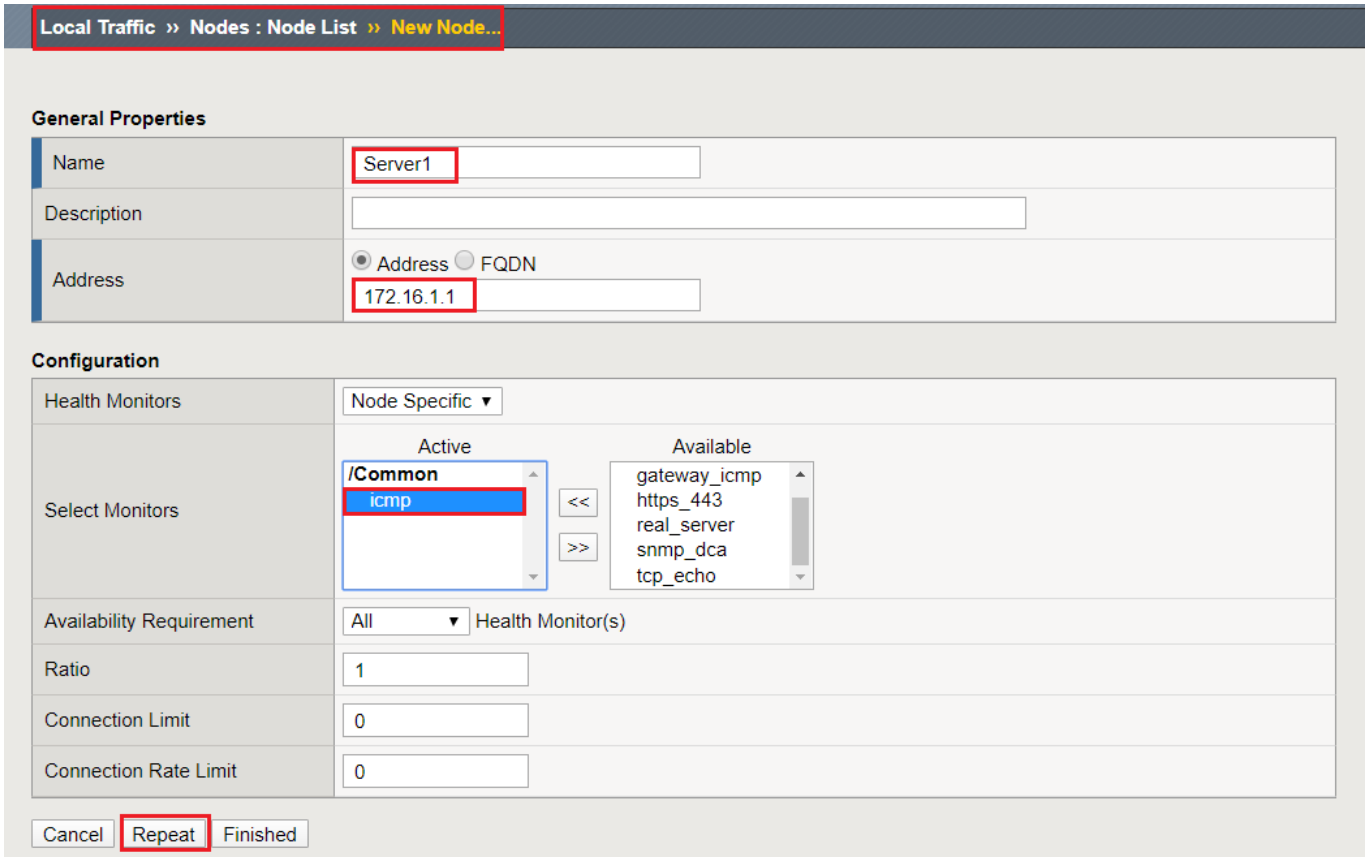
- GUI access of F5 BIGIP System with management IP address **https://10.1.1.1**

A. Create Nodes

Server1:172.16.1.1, Server2:172.16.1.2, Server3:172.16.1.3

1. Create a Node using the information in the Following table.

Configuration utility		
Local Traffic>>Nodes>Node List, then click **Create**		
	General Properties	
	Name	**Server1**
	Description	Leave Blank or Any description
	Address	**172.16.1.1**
	Configuration section	
	Health Monitors	**Node Specific**
	Select Monitors	Select **ICMP** from Available List
	Ratio	**1**
	Connection Limit	**0**
	Connection Rate Limit	**0**



2. Click **Repeat**.

Note: Repeat will save the current object and prepare you to create another object of the same type.

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3. Once the "success" icon appears at the top of the page, change the entries in the **general Properties** section to :

Name	**Server2**
Address	**172.16.1.2**

4. Click **Repeat** to create third node object
   change the entries in the **general Properties** section to:

Name	**Server3**
Address	172.16.1.3

5. Click **Finished**.

B. Create a Pool

1. Create a Pool using the information in the Following table.

Configuration utility		
Local Traffic>> Pools>>Pool list, then click **Create**		
	Configuration Section	
	Configuration	**Basic**
	Name	**http_pool**
	Health Monitors	Move **tcp** from **Available** to **Active**.
	Resources section	
	New Members	**Node List** Address: Server1(172.16.1.1) Service Port: 80 HTTP Address: Server2(172.16.1.2) Service Port: 80 HTTP Address: Server3(172.16.1.3 Service Port: 80 HTTP
	Click	**Add**
	When Complete, Click…	**Finished**

	General Properties	
	Name	**http_vs1**

		Standard
	Destination Address	Address **192.168.0.200**
	Service port	**HTTP**
Resources section		
	Default Pool	**http_pool**
When complete, Click …..		**Finished**

Test the Virtual Server

1. Open web browser window and establish a connection to your virtual server at **http://192.168.0.200** Note the results of the page that is displayed, then "hard-refresh" the page five to ten times. (In most browsers **ctrl+F5** hard refreshes the page.)
2. Verify that traffic was sent through your virtual server and pool members by examining statistics on local traffic and answering the questions below in the space provided.

Hint: use the **Refresh** and **Reset** buttons in the **Display options** area to manage the statistics display.

Configuration utility		
Statistics >>Module statistics >> Local Traffic		
Display Options Section		
	Statistics Type :**Virtual servers**	
	Do you see the incoming traffic from client to virtual server?	
	Do you see the outgoing traffic from virtual server to client?	
	Statistics Type :**Pools**	
	Did traffic go to each pool member?	
	Did each pool member manage the same number of connections? (Look at the values	
	172.16.1.3:80?	