Using Traffic Manager on Azure with priority based routing

Hi all.. Welcome to Priority based routing on Azure Traffic Manager.

Azure Traffic Manager:

Traffic Manager is used to route the traffic between your applications which runs on the server machines subjected to be Windows or Linux. Here in Traffic Manager we have four different types of Routing methods and they are:

- Priority Based Routing
- Performance Based Routing
- Geographic Based Routing
- Weighted Based Routing

Priority Based Routing?

In Priority based routing we set priorities for the servers which are connected with help of traffic manager and the request gets routed with help of the priorities that has been configured.

Performance Based Routing?

In Performance Based Routing you will be able to access the applications on the server machines based on the lesser time of retrieval.

Weight Based Routing?

It's just similar to Round Robin Scheduling where you configure weightage towards each applications that has been hosted on the server.

Geographic Based Routing?

In Geographic Based Routing, depending on your Geographical location of access your traffic manager will route the incoming connection towards the nearest geographical location of your application.

In this below demo, we will be working with priority based routing in which we will create two server machines and we will be installing IIS on the same making a small difference to show the visibility of the data center from where it is hosted. We will be setting priority for different server machines in which we will be setting priorities for server 1 and server 2, so the requests served from any region will be routed towards the priority 1 data center at first and if the priority 1 fails to respond than the request will be served by priority 2 data center.

Requirements:

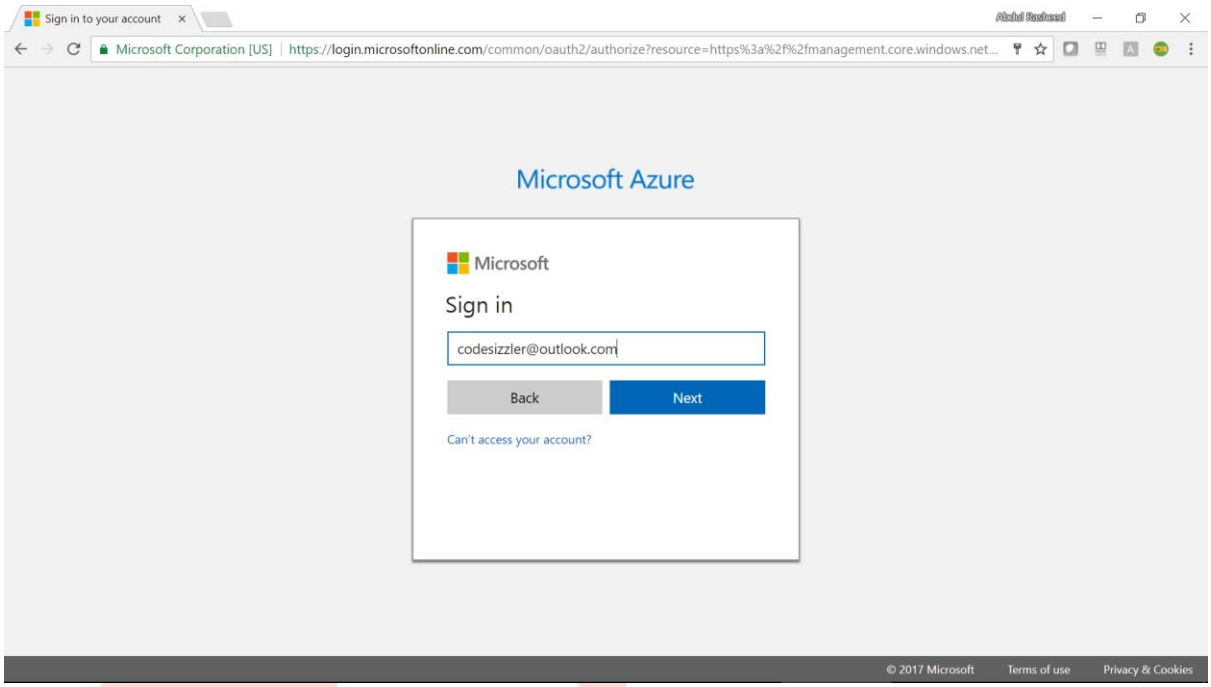
01. You should have an Azure account, if not click here to get an azure account which will be a free trial one for a month.

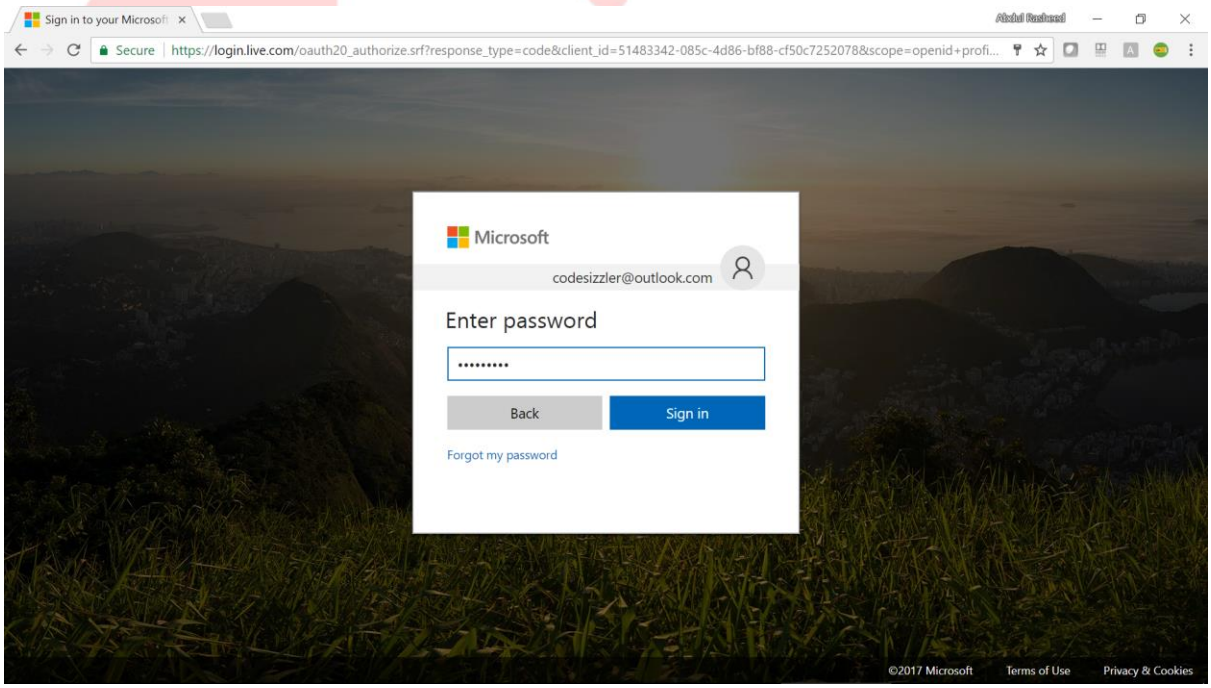
Follow the below steps now:

Step – 01: Login to the Azure portal using the below link.

www.portal.azure.com

Sign in with help of your Microsoft Azure account on the below sign in page.





Step – 02: Create a new server machine here

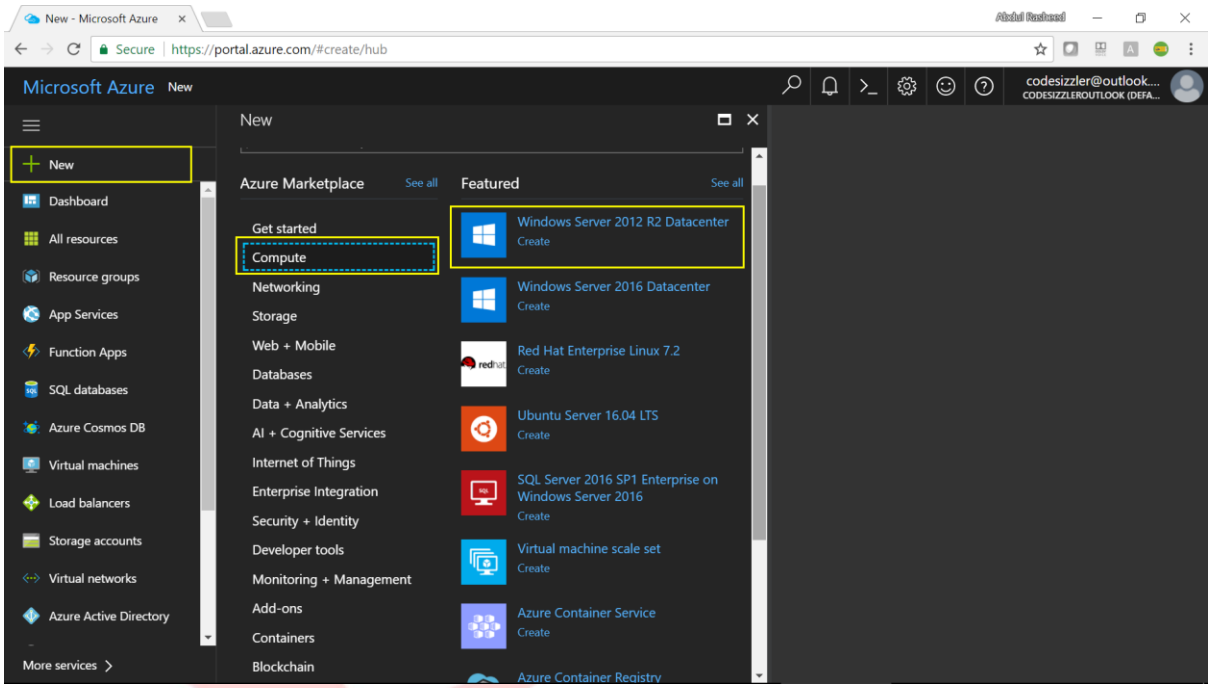
Click on New → Compute → Windows Server 2012 R2 Datacentre.

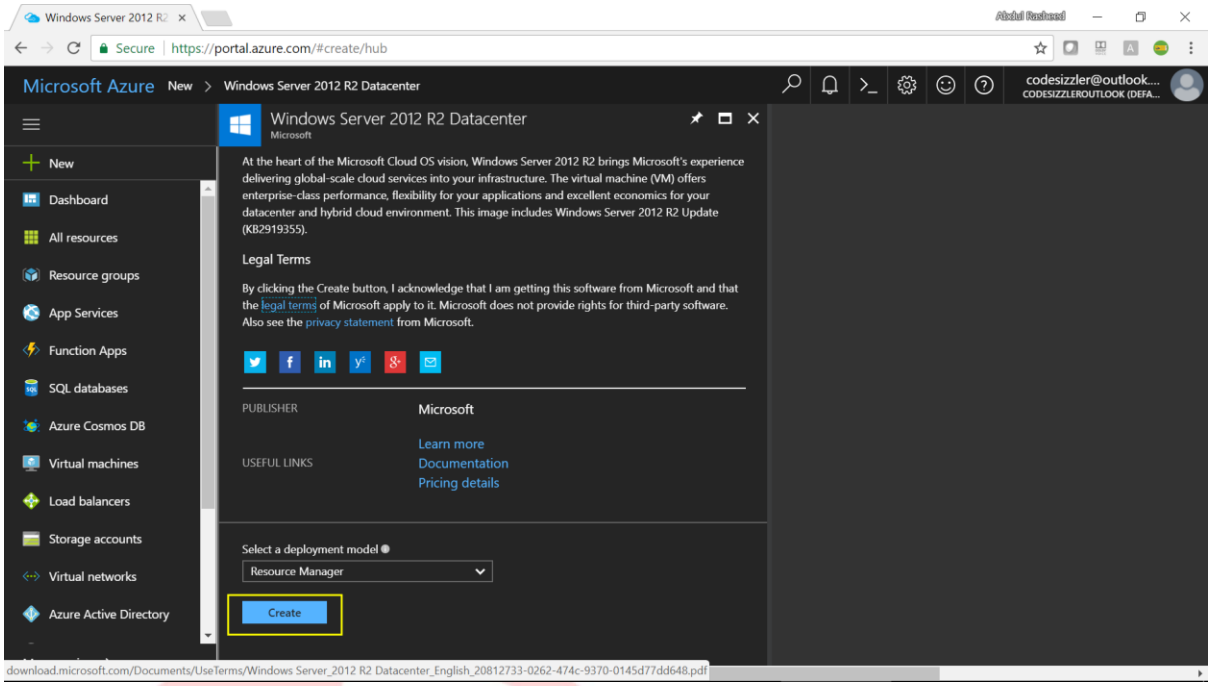
1. New.
2. Compute.
3. Windows Server 2012 R2 Datacentre.

You will be getting four blades as Basics, Size, Settings and Purchase which you have to configure for creating a new Virtual Machine.

For Basics –

1. Name: Enter your Virtual Machine name.
2. VM disk type: Select your Virtual Machine Disk Type either as HDD or SDD.
3. Username: Mention the login username for your server.
4. Password: Password for your server.
5. Confirm Password: Confirm the same as previous.
6. Subscription: Select the active subscription of the one which you own.
7. Resource Group: Either create a new resource group or select the existing one which you have.
8. Location: Your preferred Datacentre Location, here we have selected South East Asia.
9. Click on OK to move for the next blade.




Windows Server 2012 R2
Secure | https://portal.azure.com/#create/hub
Microsoft Azure
New > Windows Server 2012 R2 Datacenter
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Windows Server 2012 R2 Datacenter
Microsoft
At the heart of the Microsoft Cloud OS vision, Windows Server 2012 R2 brings Microsoft's experience delivering global-scale cloud services into your infrastructure. The virtual machine (VM) offers enterprise-class performance, flexibility for your applications and excellent economics for your datacenter and hybrid cloud environment. This image includes Windows Server 2012 R2 Update (KB2919355).
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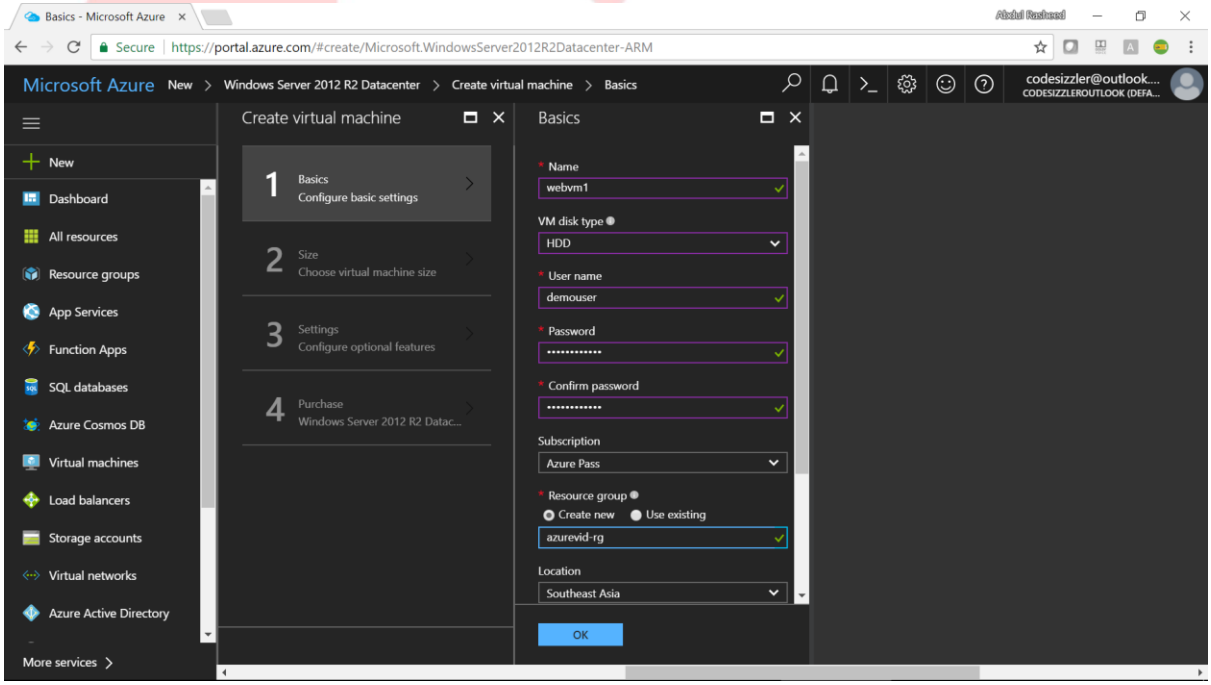
Basics - Microsoft Azure
Secure | https://portal.azure.com/#create/Microsoft.WindowsServer2012R2Datacenter-ARM
Microsoft Azure
New > Windows Server 2012 R2 Datacenter > Create virtual machine > Basics
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
Create virtual machine
1 Basics
Configure basic settings
2 Size
Choose virtual machine size
3 Settings
Configure optional features
4 Purchase
Windows Server 2012 R2 Datac...
Basics
* Name
webvm1
VM disk type
HDD
* User name
demouser
* Password
* Confirm password
Subscription
Azure Pass
* Resource group
Create new
Use existing
azurevid-rg
Location
Southeast Asia
OK
New
Dashboard
All resources
Resource groups
App Services
Function Apps
SQL databases
Azure Cosmos DB
Virtual machines
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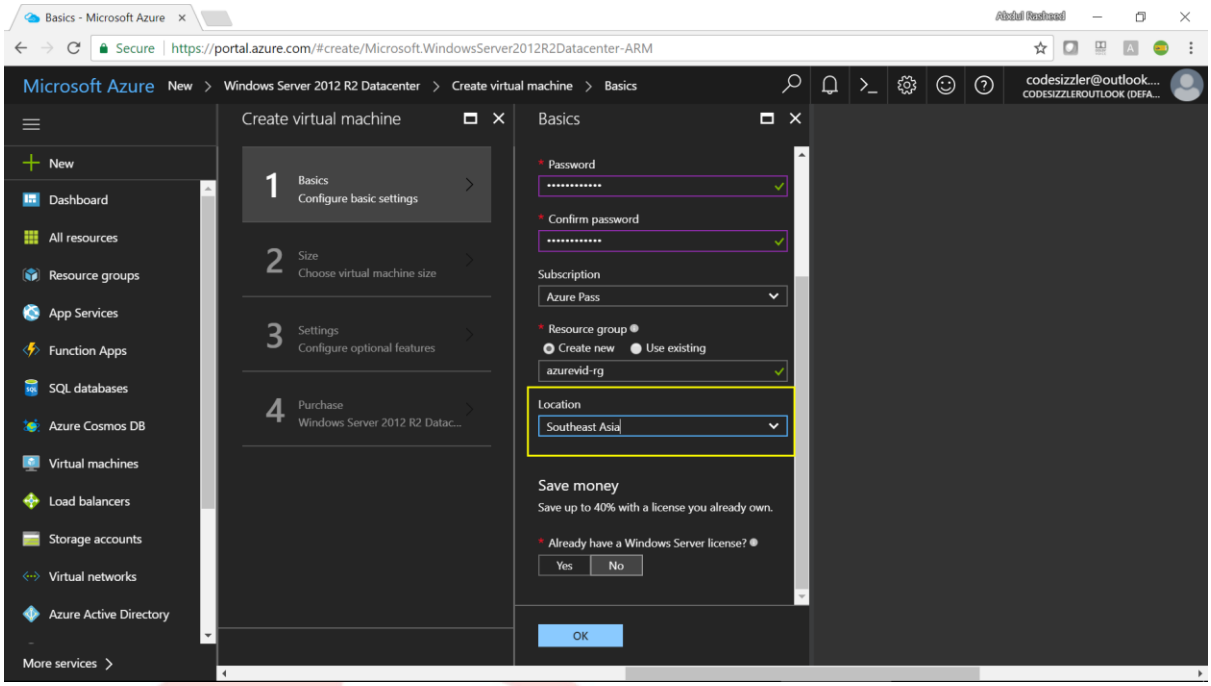
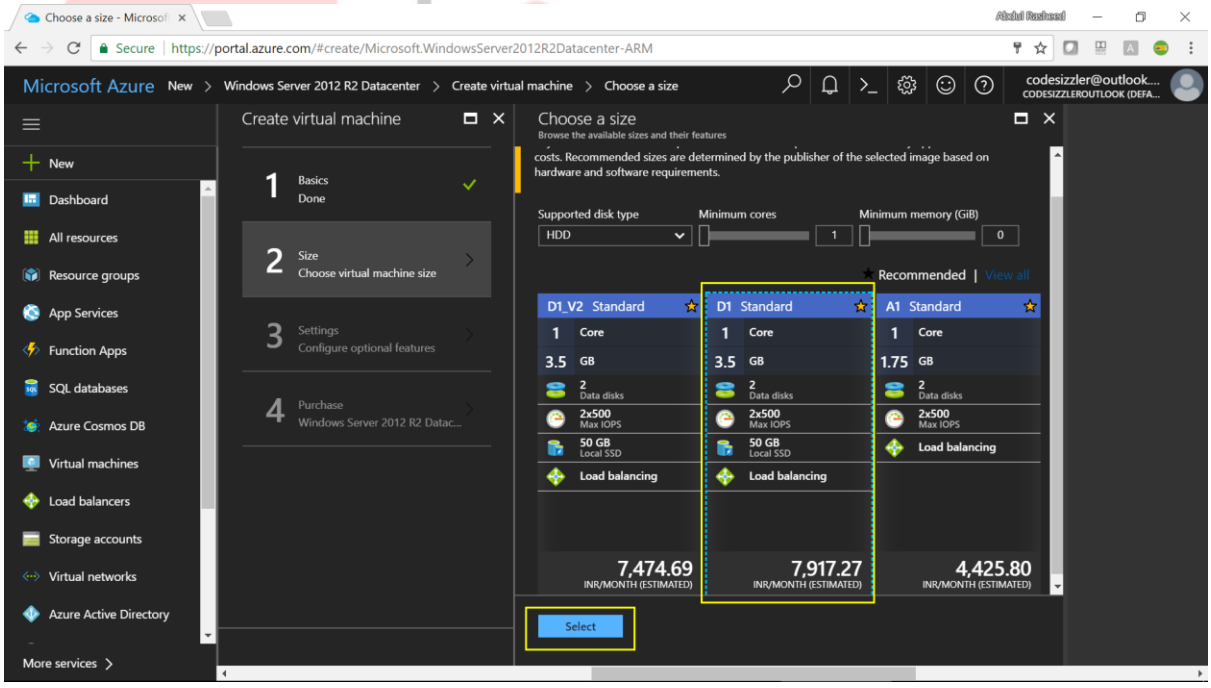
Storage accounts
Virtual networks
Azure Active Directory
More services



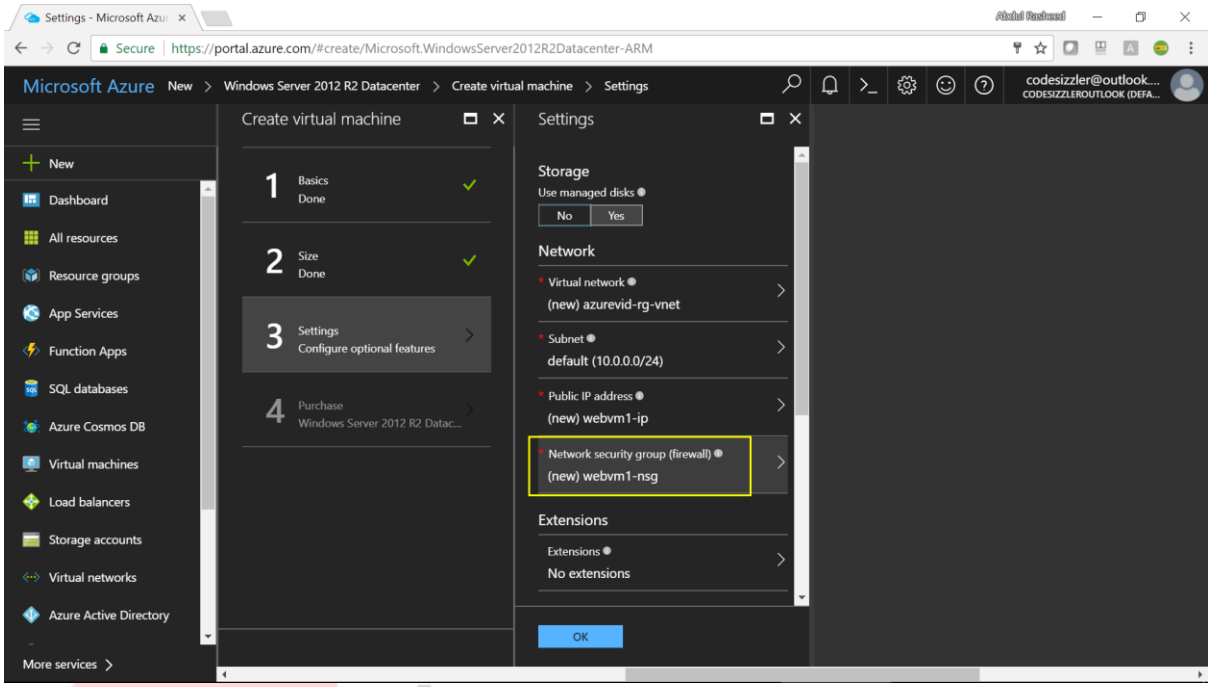
Select the size for your Virtual Machine, I have selected D1 Standard based on my usage. Click on Select to move on to the next blade of Settings.

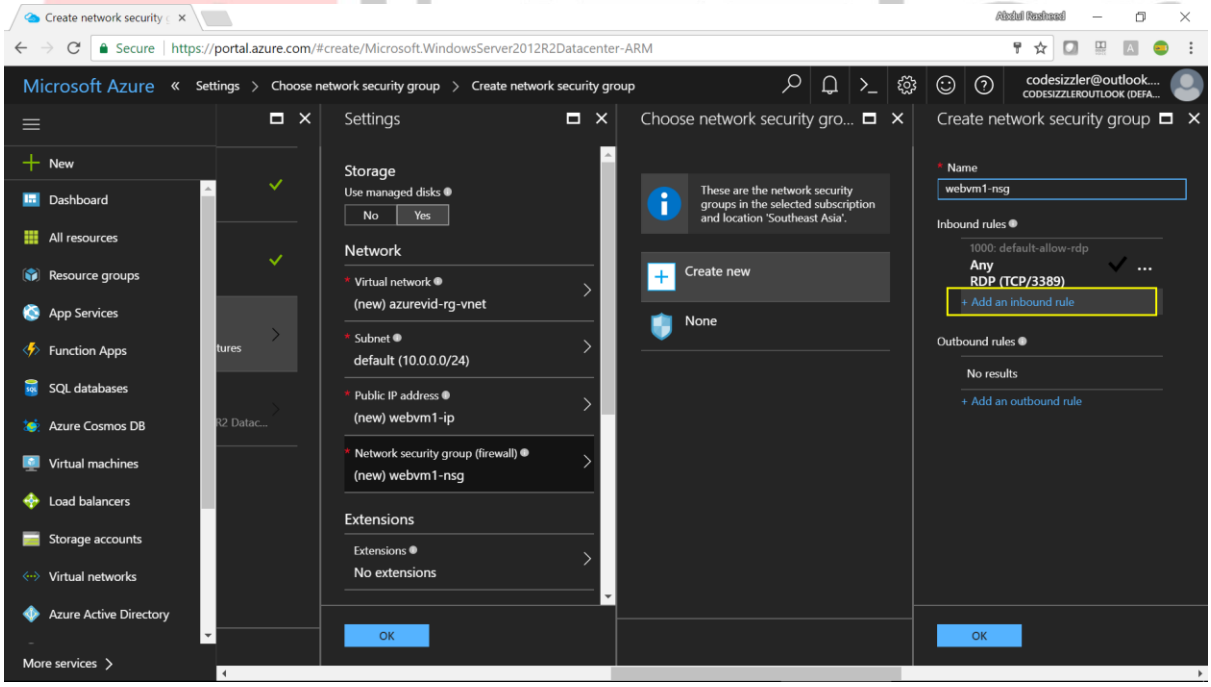


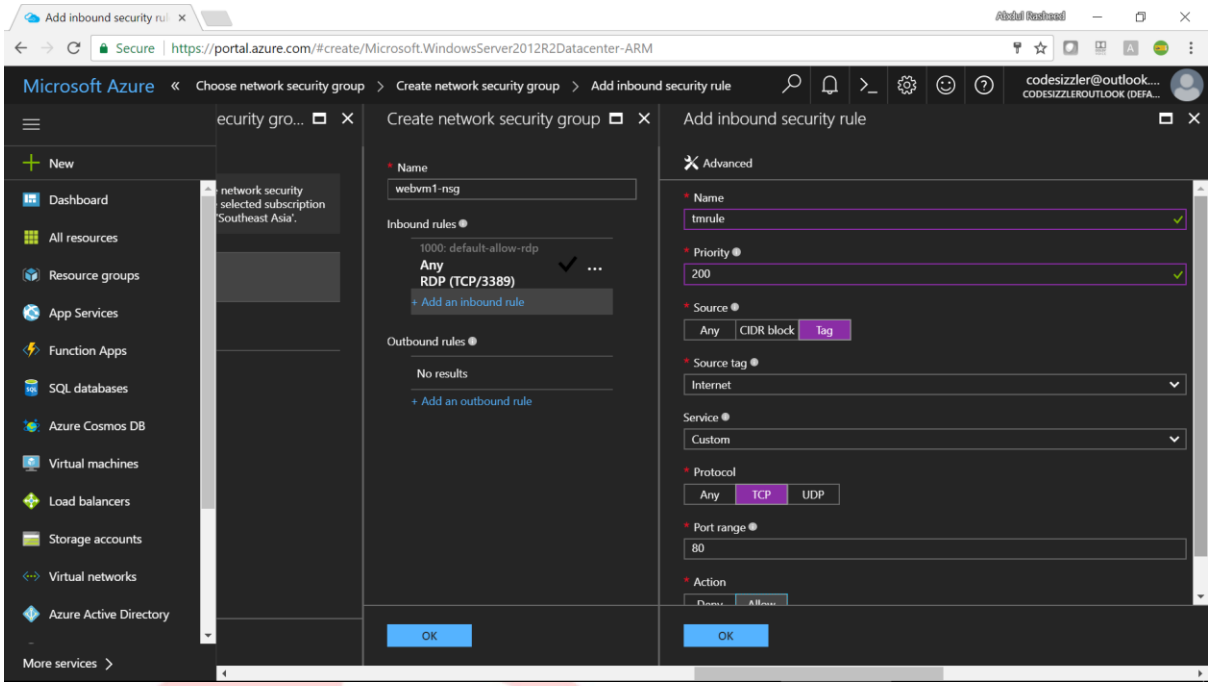
Step – 3: Configure your NSG (Network Security Group) settings by adding an inbound rule which sets a priority, source, source tag, service, protocol, port range and action. Click on OK followed by it.

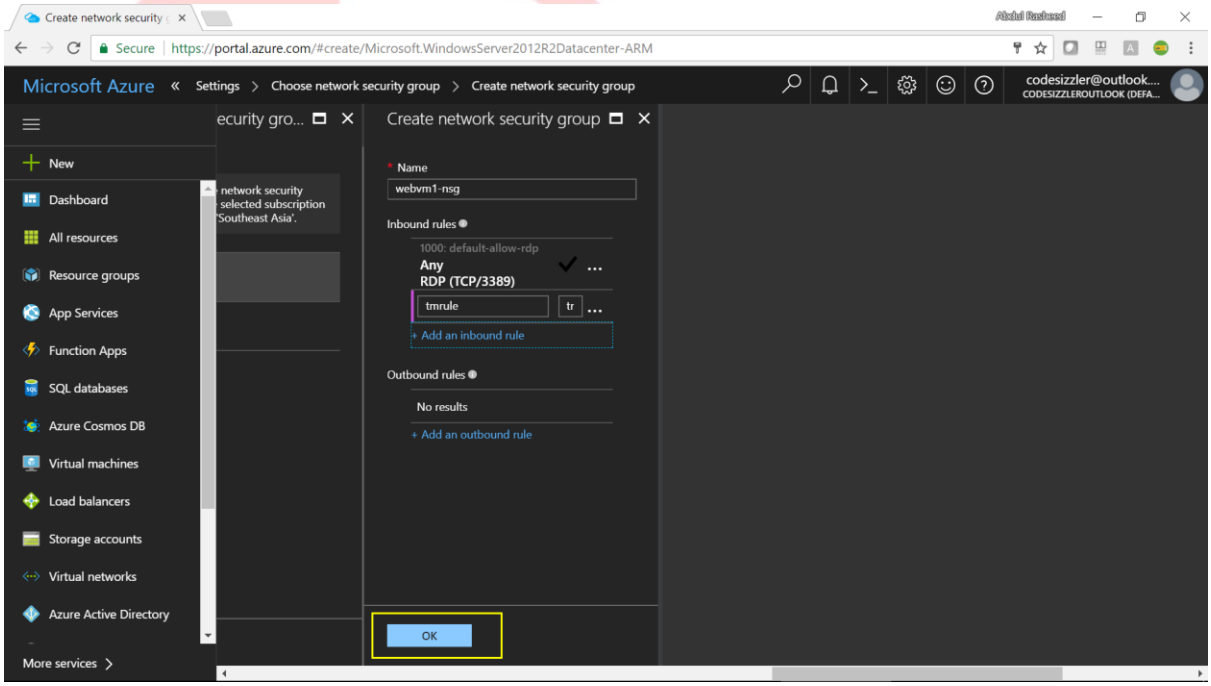
- Name – tmrule
- Priority – 200
- Source – Tag
- Source Tag – Internet
- Service – Custom
- Protocol – TCP

- Port range – 80
- Action – Allow

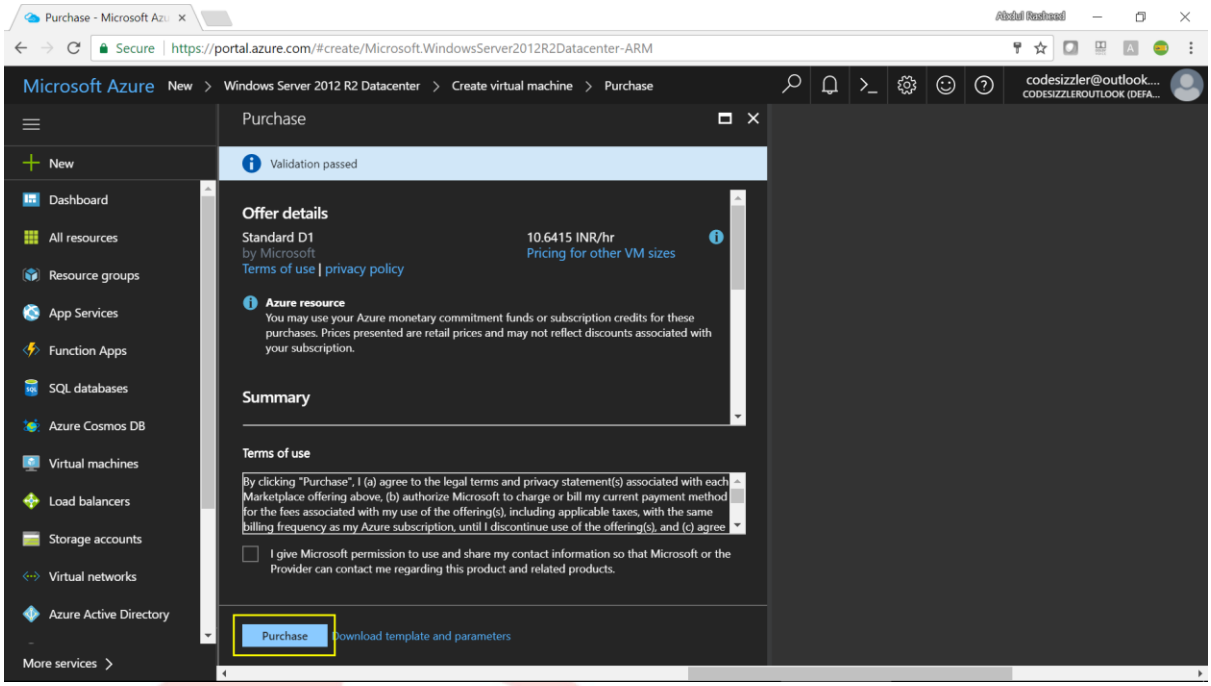




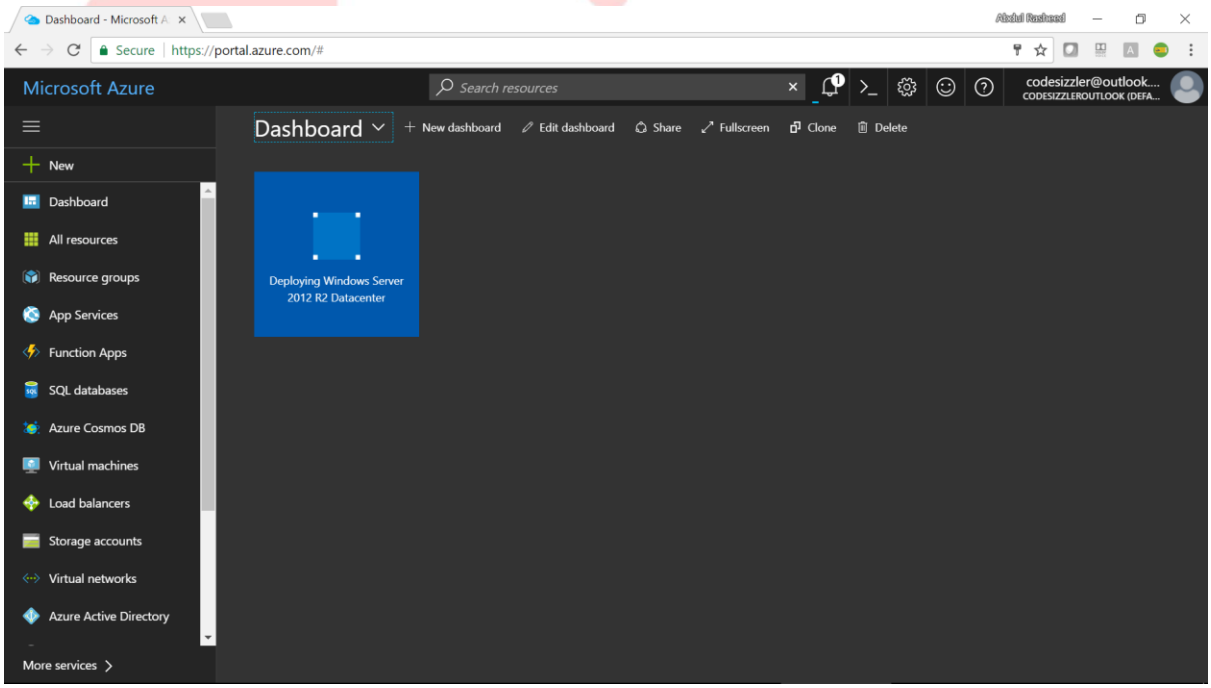




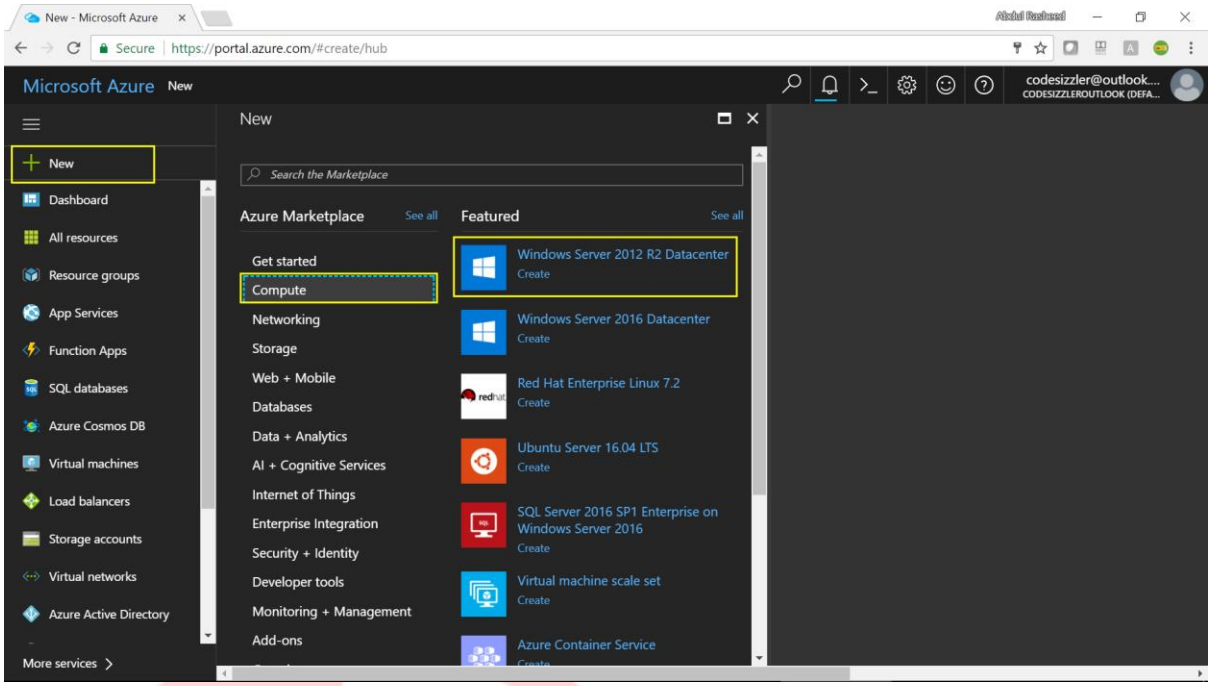
Click on Purchase after validation on the final blade of summary.



Here goes your virtual machine deployed on azure portal.



Repeat the steps of two and three for creating another server machine at a different data center location as shown on the below images.


New - Microsoft Azure
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Microsoft Azure New
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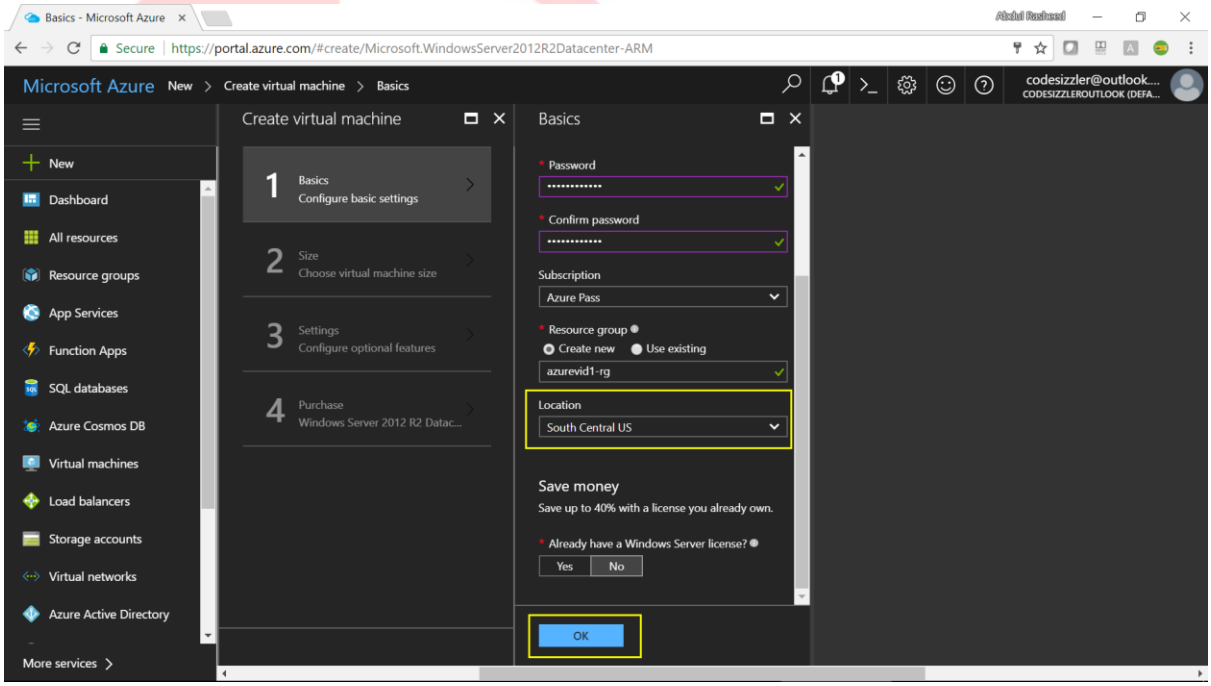
New
Search the Marketplace
Azure Marketplace See all
Get started
Compute
Networking
Storage
Web + Mobile
Databases
Data + Analytics
AI + Cognitive Services
Internet of Things
Enterprise Integration
Security + Identity
Developer tools
Monitoring + Management
Add-ons
Featured See all
Windows Server 2012 R2 Datacenter
Create
Windows Server 2016 Datacenter
Create
Red Hat Enterprise Linux 7.2
Create
Ubuntu Server 16.04 LTS
Create
SQL Server 2016 SP1 Enterprise on Windows Server 2016
Create
Virtual machine scale set
Create
Azure Container Service
New
Dashboard
All resources
Resource groups
App Services
Function Apps
SQL databases
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
More services


Basics - Microsoft Azure
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Microsoft Azure New > Create virtual machine > Basics
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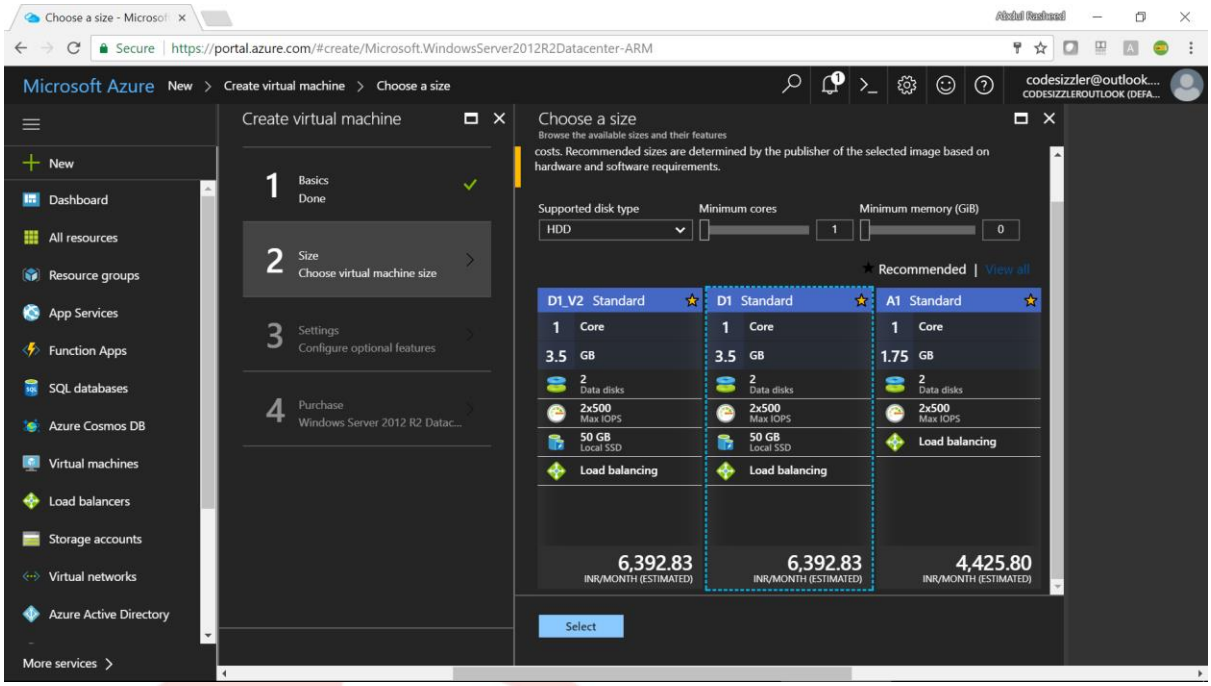
Create virtual machine
1 Basics
Configure basic settings
2 Size
Choose virtual machine size
3 Settings
Configure optional features
4 Purchase
Windows Server 2012 R2 Datac...
Basics
* Password
* Confirm password
Subscription
Azure Pass
* Resource group
Create new
Use existing
azurevid1-rg
Location
South Central US
Save money
Save up to 40% with a license you already own.
* Already have a Windows Server license?
Yes
No
OK
New
Dashboard
All resources
Resource groups
App Services
Function Apps
SQL databases
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
More services


Choose a size - Microsoft
Secure | https://portal.azure.com/#create/Microsoft.WindowsServer2012R2Datacenter-ARM
Microsoft Azure
New > Create virtual machine > Choose a size
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CODESIZZLEROUTLOOK (DEFA...
Create virtual machine
1 Basics
Done
2 Size
Choose virtual machine size
3 Settings
Configure optional features
4 Purchase
Windows Server 2012 R2 Datac...
Choose a size
Browse the available sizes and their features
costs. Recommended sizes are determined by the publisher of the selected image based on hardware and software requirements.
Supported disk type
HDD
Minimum cores
1
Minimum memory (GiB)
0
Recommended | View all
D1_V2 Standard
1 Core
3.5 GB
2 Data disks
2x500 Max IOPS
50 GB Local SSD
Load balancing
6,392.83
INR/MONTH (ESTIMATED)
D1 Standard
1 Core
3.5 GB
2 Data disks
2x500 Max IOPS
50 GB Local SSD
Load balancing
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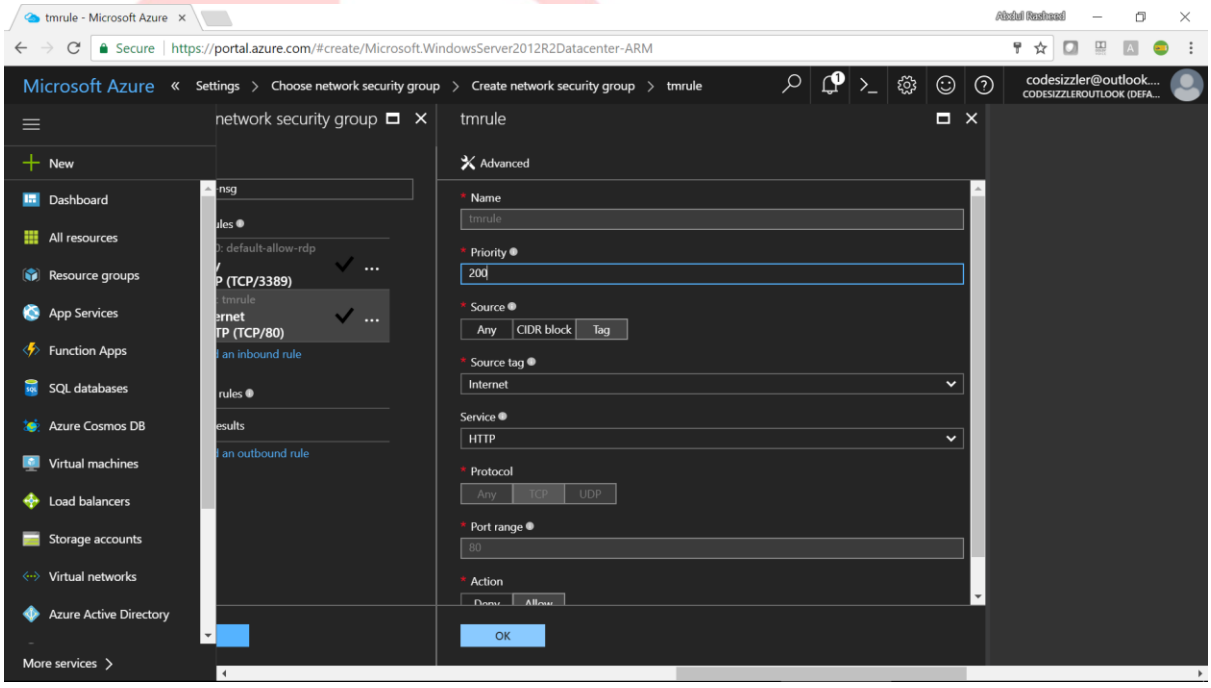
INR/MONTH (ESTIMATED)
A1 Standard
1 Core
1.75 GB
2 Data disks
2x500 Max IOPS
Load balancing
4,425.80
INR/MONTH (ESTIMATED)
Select
New
Dashboard
All resources
Resource groups
App Services
Function Apps
SQL databases
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
More services


tmrule - Microsoft Azure
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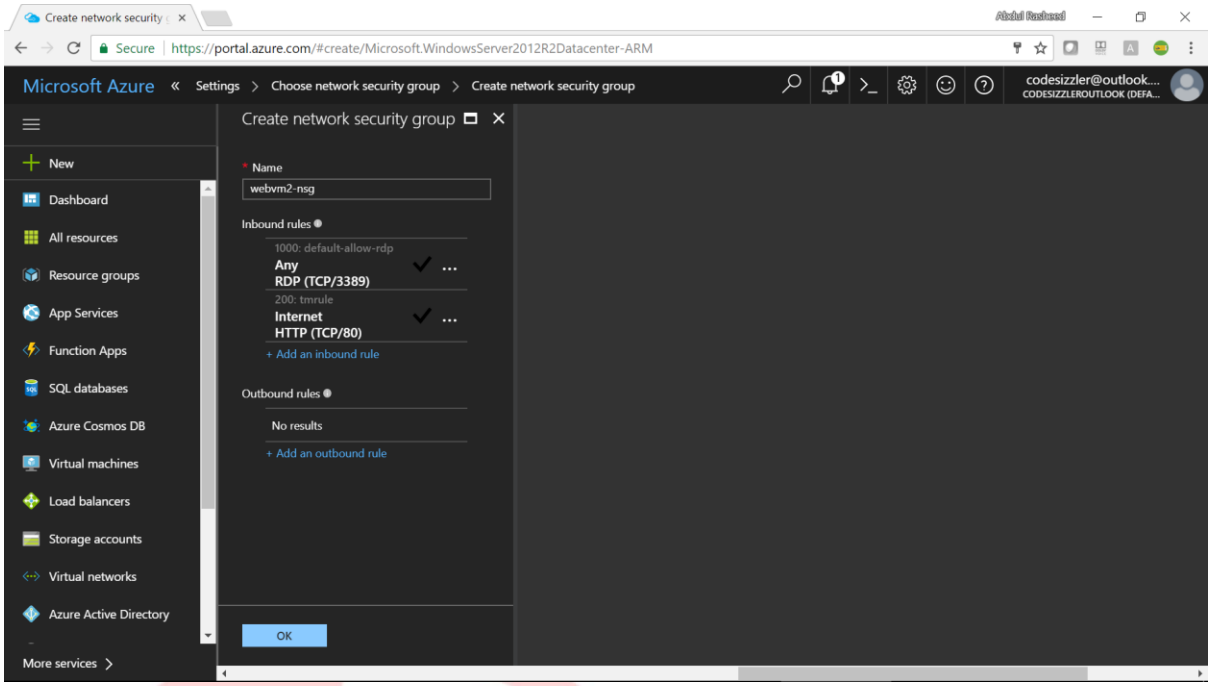
Microsoft Azure
Settings > Choose network security group > Create network security group > tmrule
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
network security group
nsg
default-allow-rdp
(TCP/3389)
tmrule
TP (TCP/80)
an inbound rule
an outbound rule
tmrule
Advanced
Name
tmrule
Priority
200
Source
Any
CIDR block
Tag
Source tag
Internet
Service
HTTP
Protocol
Any
TCP
UDP
Port range
80
Action
Deny
Allow
OK
New
Dashboard
All resources
Resource groups
App Services
Function Apps
SQL databases
Azure Cosmos DB
Virtual machines
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
More services


Create network security
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Choose network security group
Create network security group
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Create network security group
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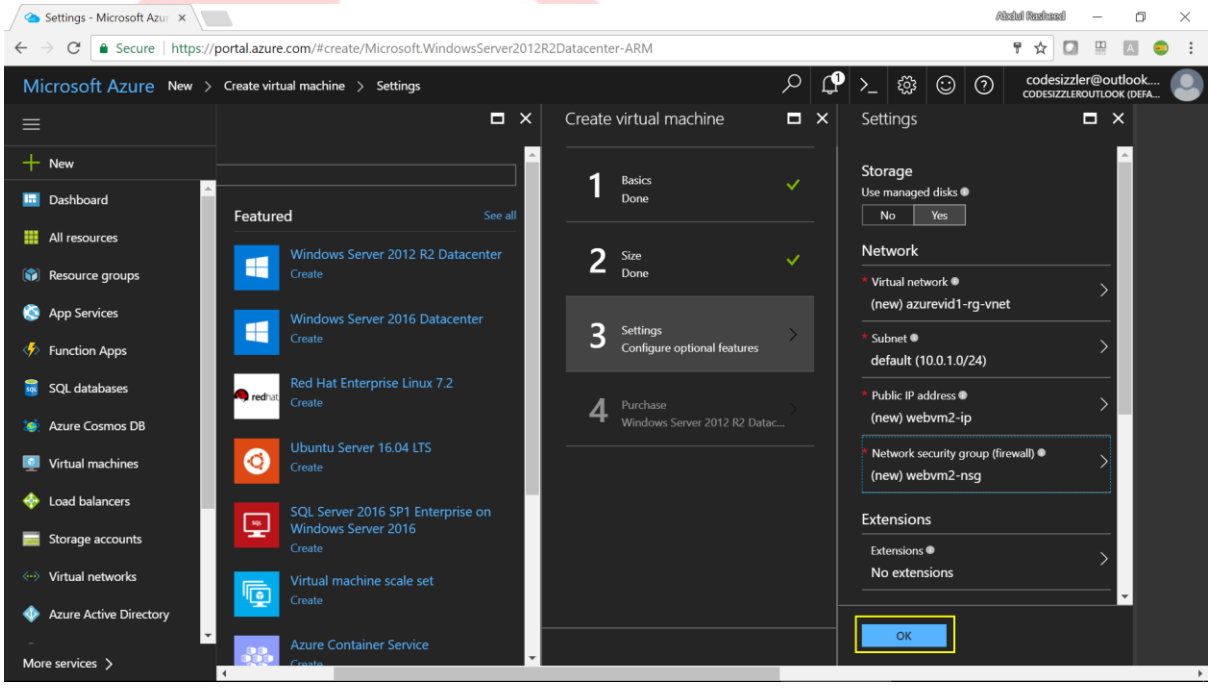
Load balancers
Storage accounts
Virtual networks
Azure Active Directory
More services
Name
webvm2-nsg
Inbound rules
1000: default-allow-rdp
Any
RDP (TCP/3389)
200: tmrule
Internet
HTTP (TCP/80)
+ Add an inbound rule
Outbound rules
No results
+ Add an outbound rule
OK


Settings - Microsoft Azu
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Microsoft Azure
New
Create virtual machine
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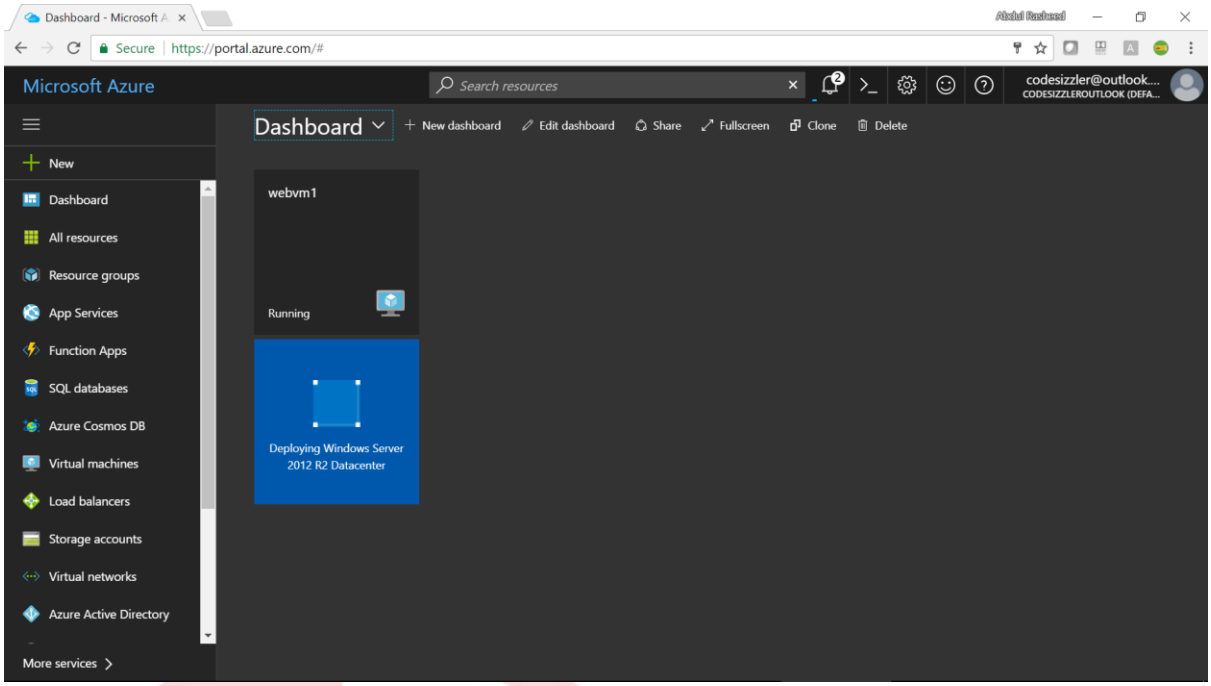
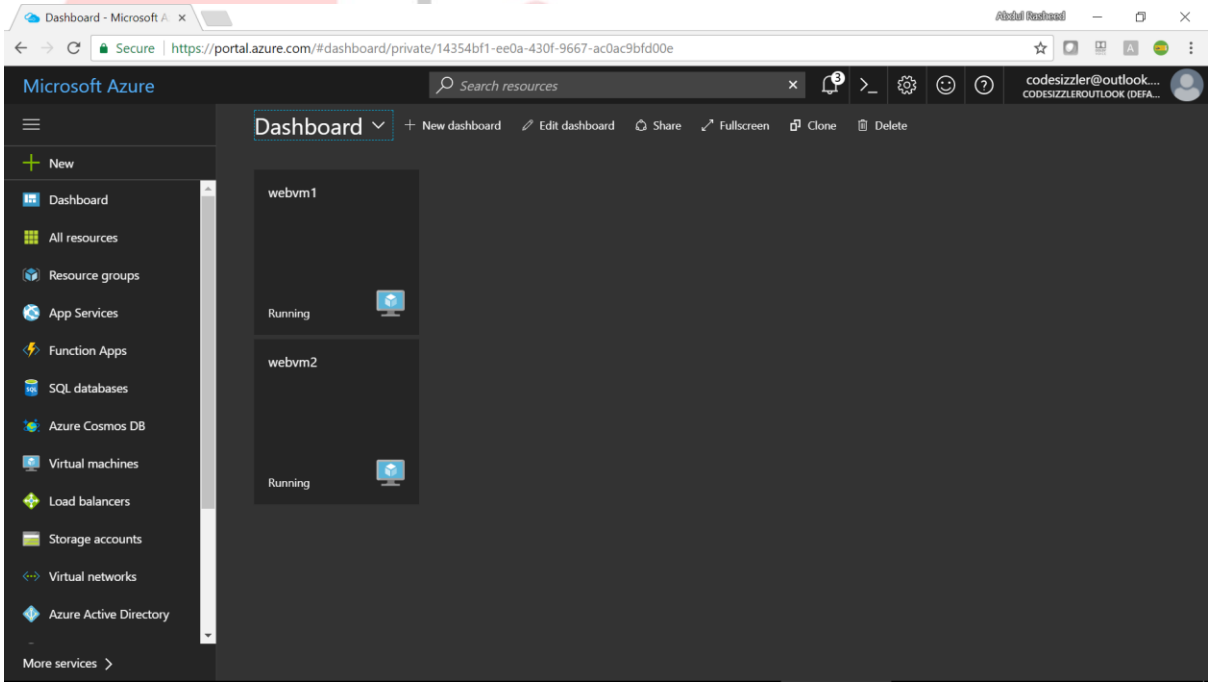
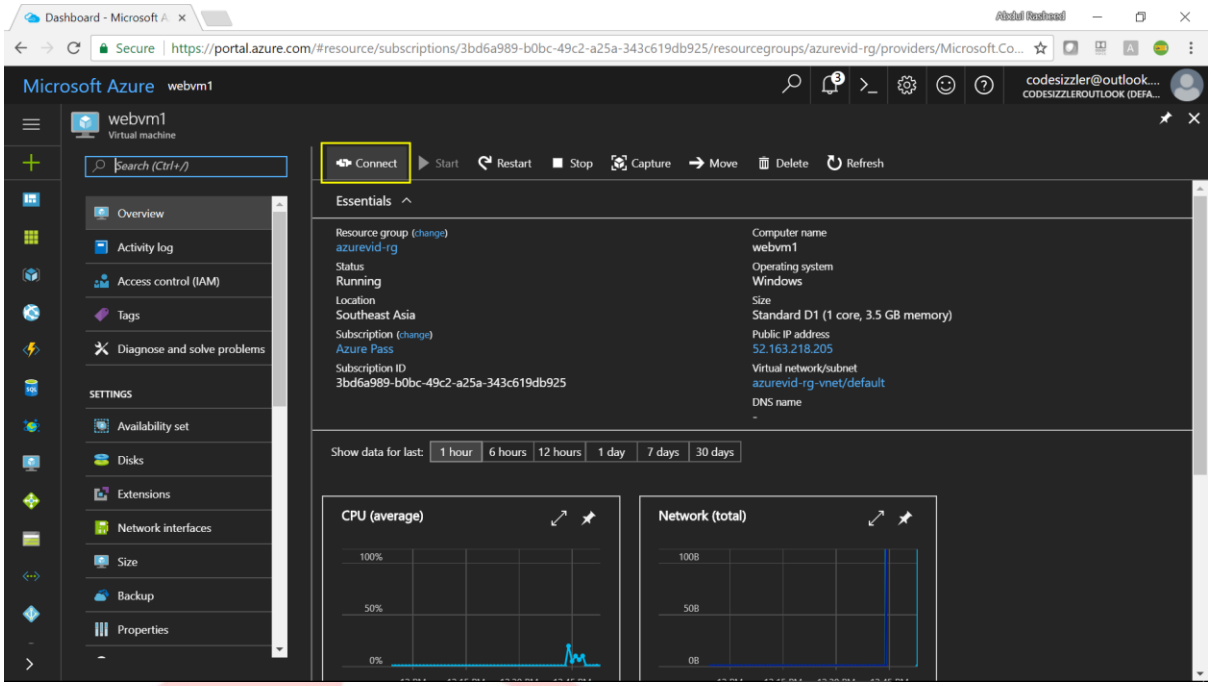
Featured
See all
Windows Server 2012 R2 Datacenter
Create
Windows Server 2016 Datacenter
Create
Red Hat Enterprise Linux 7.2
Create
Ubuntu Server 16.04 LTS
Create
SQL Server 2016 SP1 Enterprise on Windows Server 2016
Create
Virtual machine scale set
Create
Azure Container Service
Create
Create virtual machine
1 Basics
Done
2 Size
Done
3 Settings
Configure optional features
4 Purchase
Windows Server 2012 R2 Datac...
Settings
Storage
Use managed disks
No
Yes
Network
Virtual network
(new) azurevid1-rg-vnet
Subnet
default (10.0.1.0/24)
Public IP address
(new) webvm2-ip
Network security group (firewall)
(new) webvm2-nsg
Extensions
Extensions
No extensions
OK



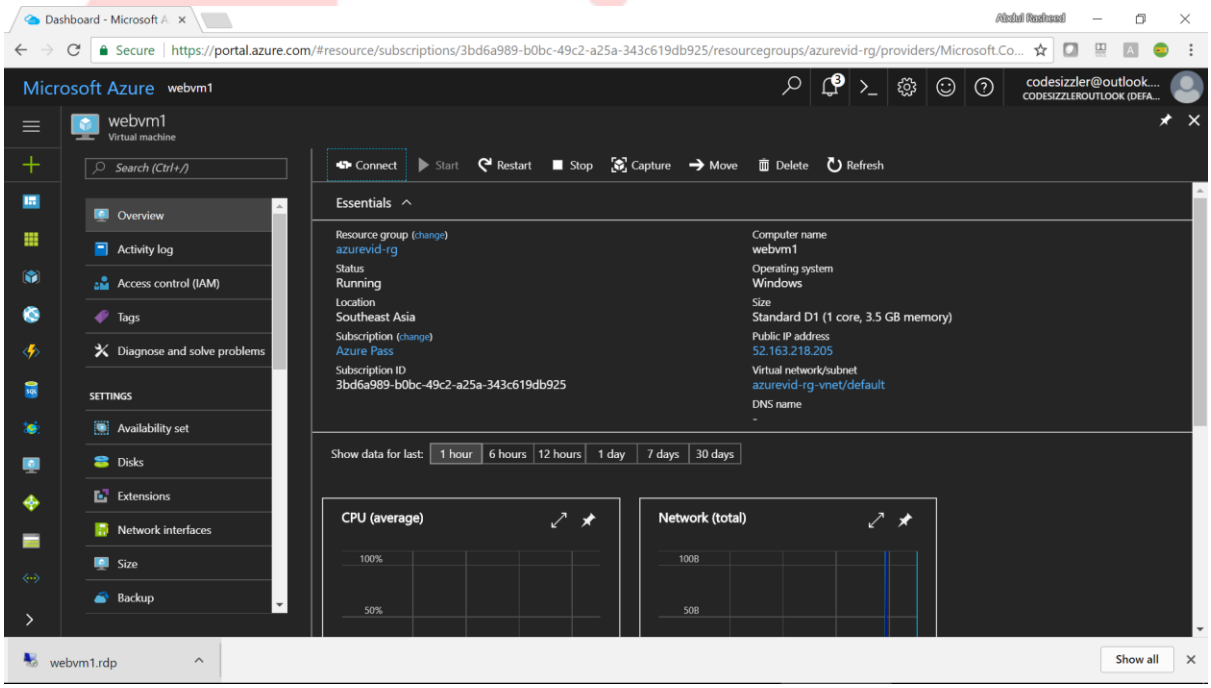
So now we have two virtual machines created on different resource groups and in different data center regions.

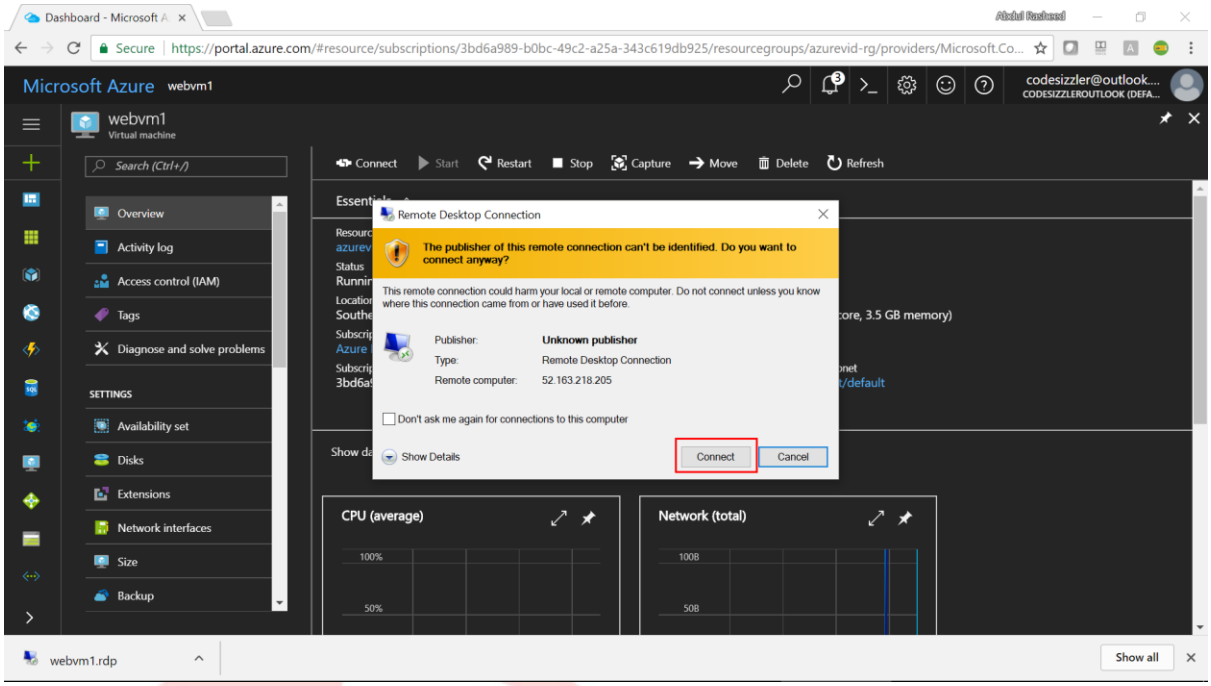


Step - 04: You can click on connect to connect towards the virtual machines using the remote desktop.

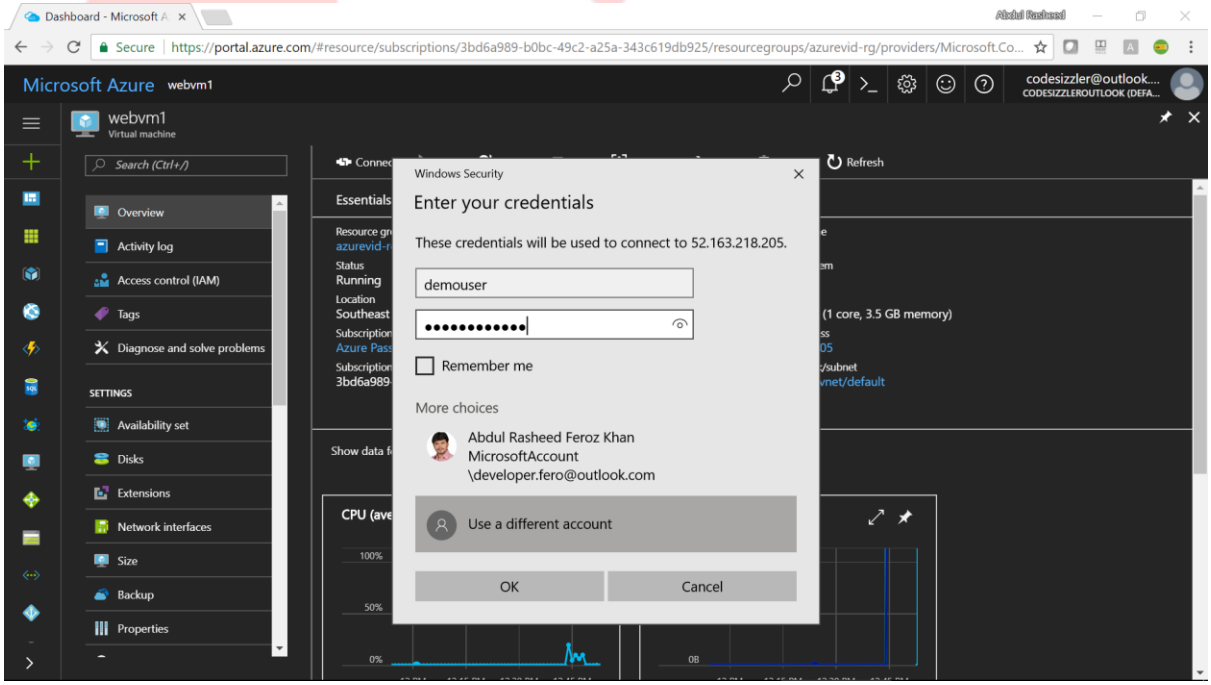


Use the downloaded rdp file to get connected with the server machines.

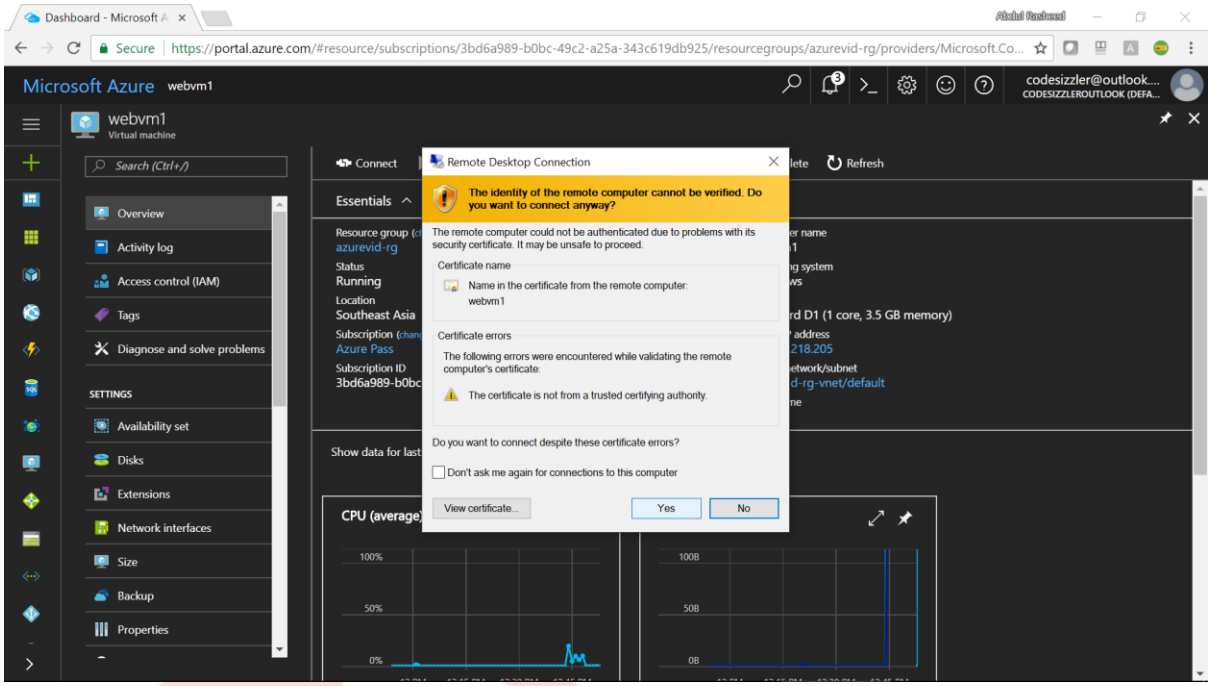




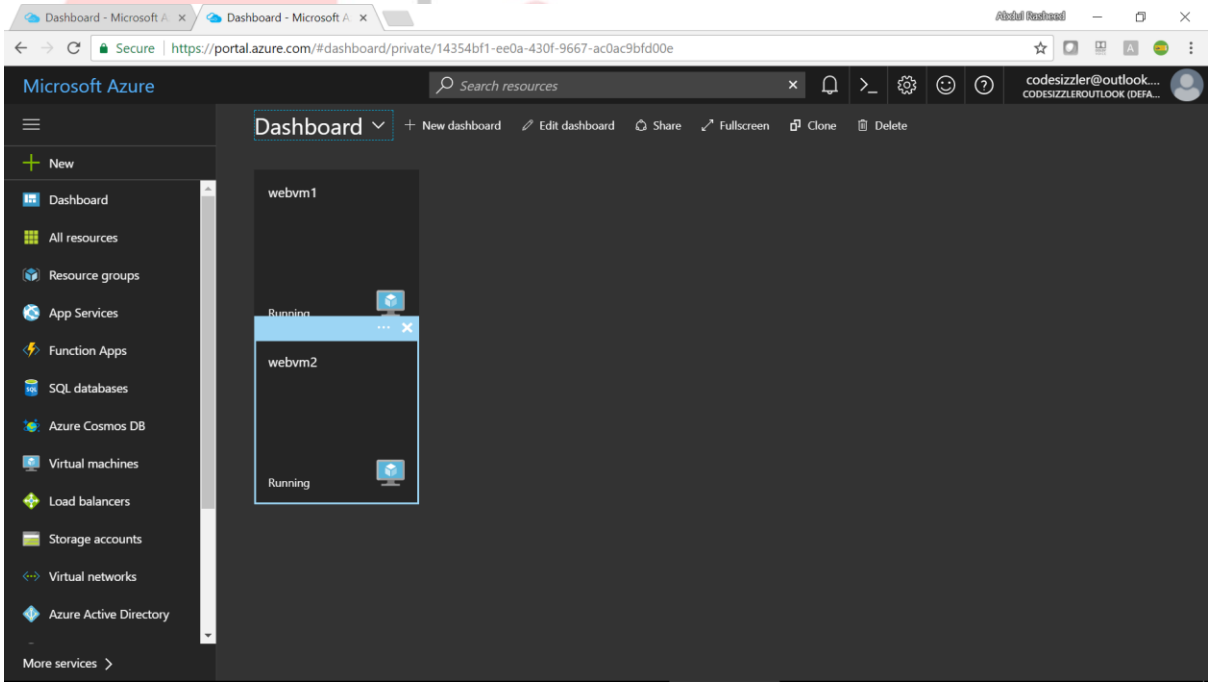
Connect with help of the credentials given to the server machines when it was created.

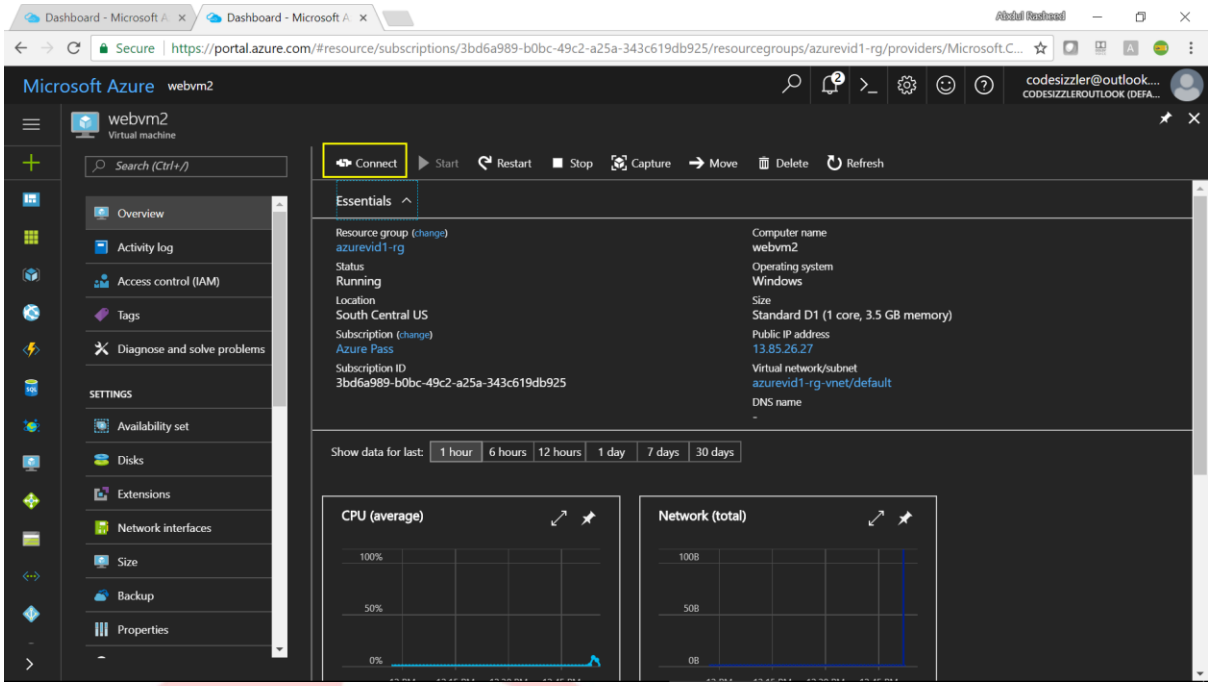


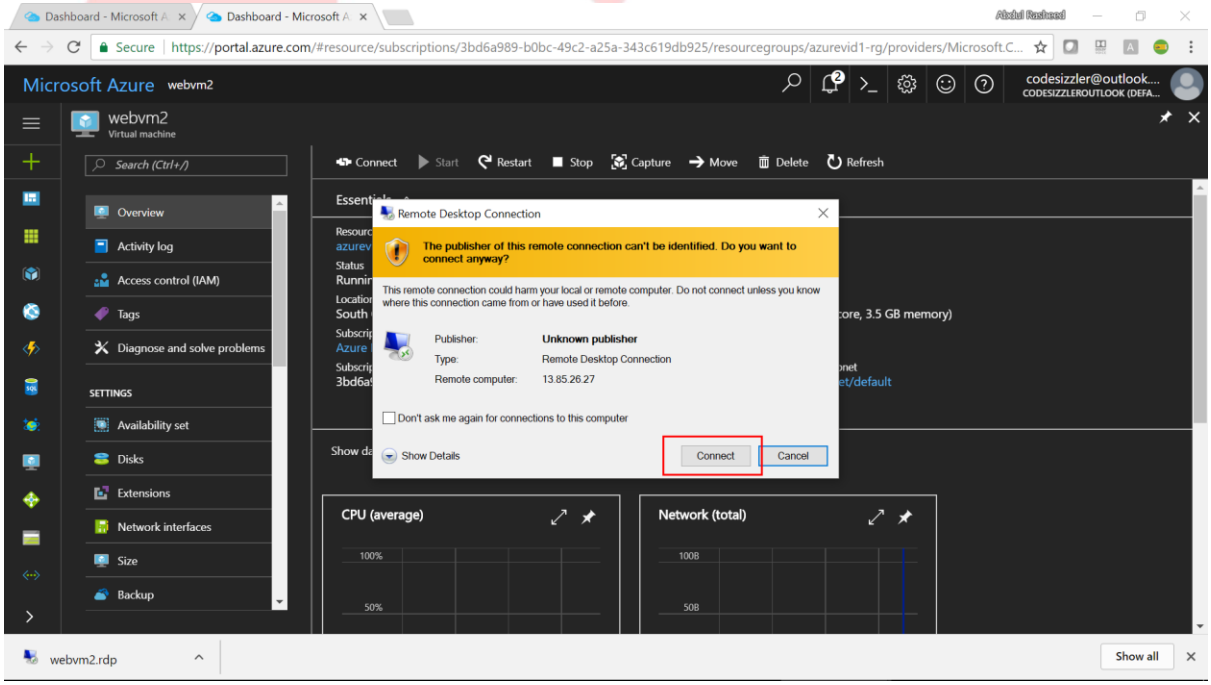
Click on yes to validate the certificate.

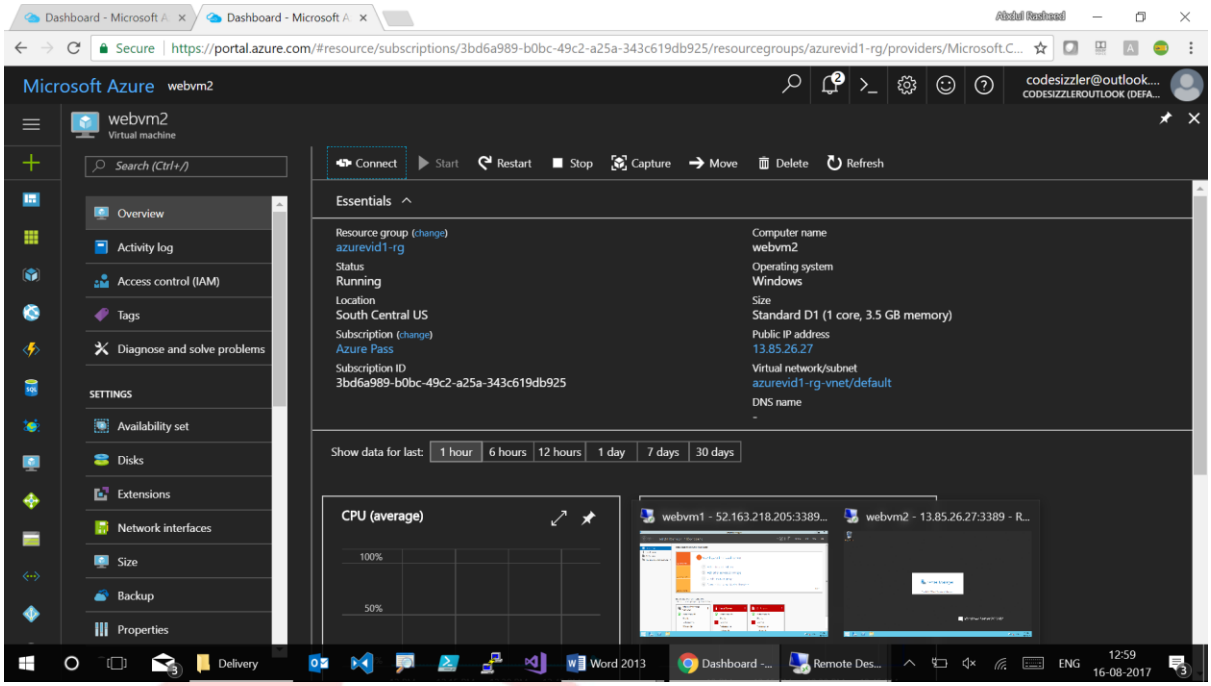


Repeat the same step 4 for connecting towards the second server machine, surf the below images for reference.



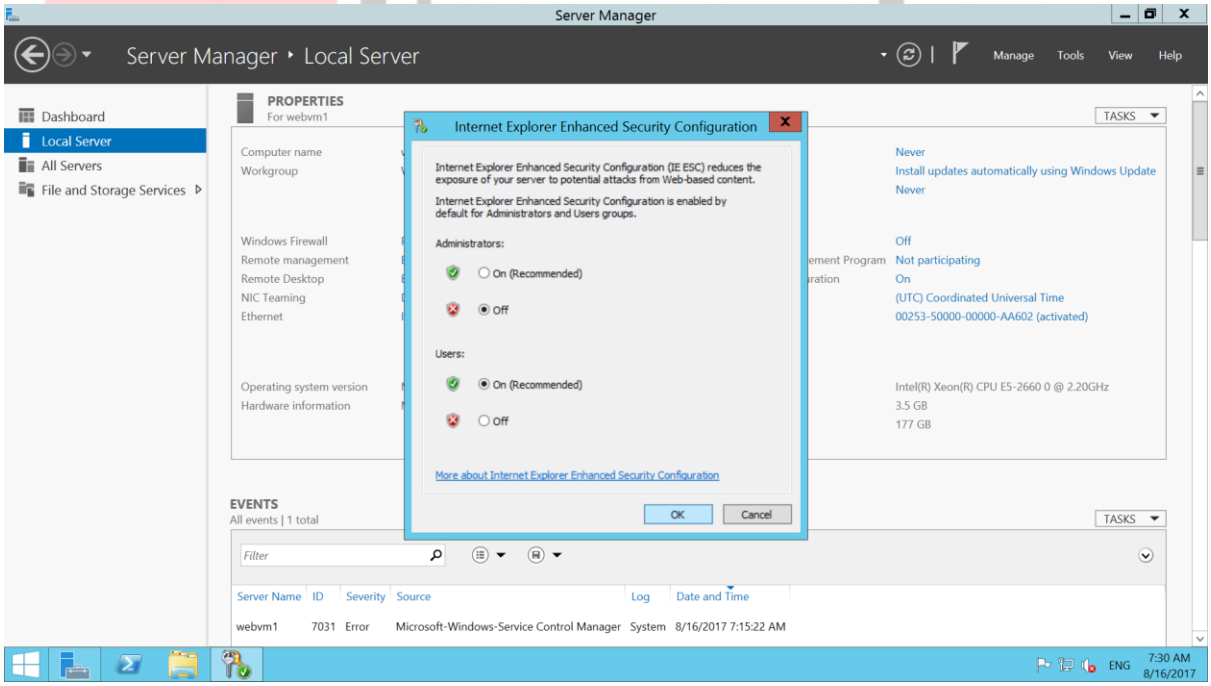

Dashboard - Microsoft A
Dashboard - Microsoft A
Secure
https://portal.azure.com/#resource/subscriptions/3bd6a989-b0bc-49c2-a25a-343c619db925/resourcegroups/azurevid1-rg/providers/Microsoft.C...
Microsoft Azure
webvm2
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
webvm2
Virtual machine
Search (Ctrl+/)
Connect
Start
Restart
Stop
Capture
Move
Delete
Refresh
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Availability set
Disks
Extensions
Network interfaces
Size
Backup
Properties
Essentials
Resource group (change)
azurevid1-rg
Status
Running
Location
South Central US
Subscription (change)
Azure Pass
Subscription ID
3bd6a989-b0bc-49c2-a25a-343c619db925
Computer name
webvm2
Operating system
Windows
Size
Standard D1 (1 core, 3.5 GB memory)
Public IP address
13.85.26.27
Virtual network/subnet
azurevid1-rg-vnet/default
DNS name
Show data for last:
1 hour
6 hours
12 hours
1 day
7 days
30 days
CPU (average)
Network (total)
100%
50%
0%
100B
50B
0B


Dashboard - Microsoft A
Dashboard - Microsoft A
Secure
https://portal.azure.com/#resource/subscriptions/3bd6a989-b0bc-49c2-a25a-343c619db925/resourcegroups/azurevid1-rg/providers/Microsoft.C...
Microsoft Azure
webvm2
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
webvm2
Virtual machine
Search (Ctrl+/)
Connect
Start
Restart
Stop
Capture
Move
Delete
Refresh
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Availability set
Disks
Extensions
Network interfaces
Size
Backup
Remote Desktop Connection
The publisher of this remote connection can't be identified. Do you want to connect anyway?
This remote connection could harm your local or remote computer. Do not connect unless you know where this connection came from or have used it before.
Publisher:
Unknown publisher
Type:
Remote Desktop Connection
Remote computer:
13.85.26.27
Don't ask me again for connections to this computer
Show Details
Connect
Cancel
CPU (average)
Network (total)
100%
50%
100B
50B
webvm2.rdp
Show all

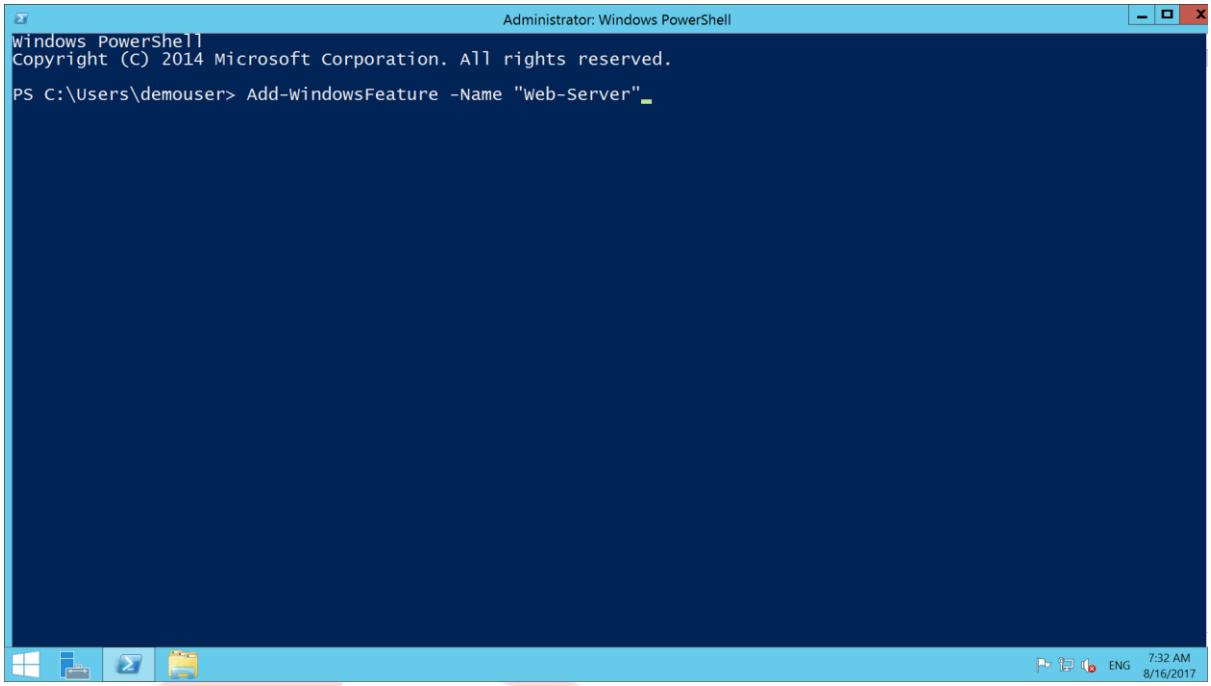


Step – 05: Repeat this step for both the server machines.

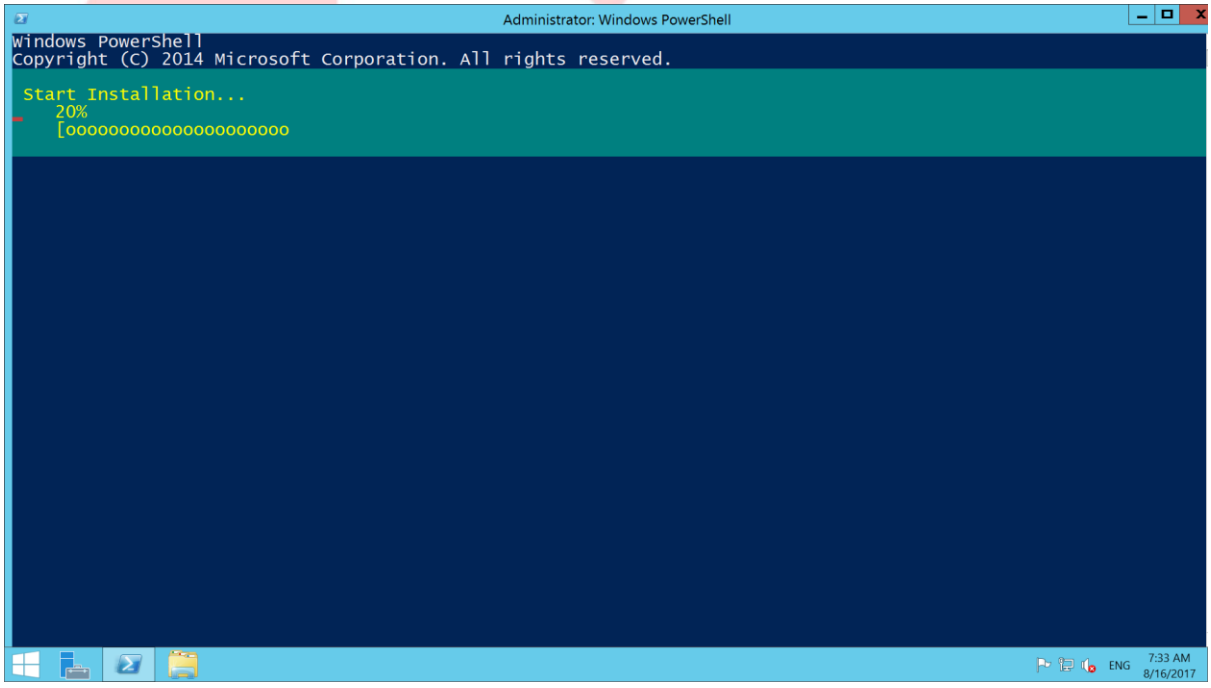
Move to the server machines and go for server manager, turn off the IE enhanced security configuration to browse on the server machines.



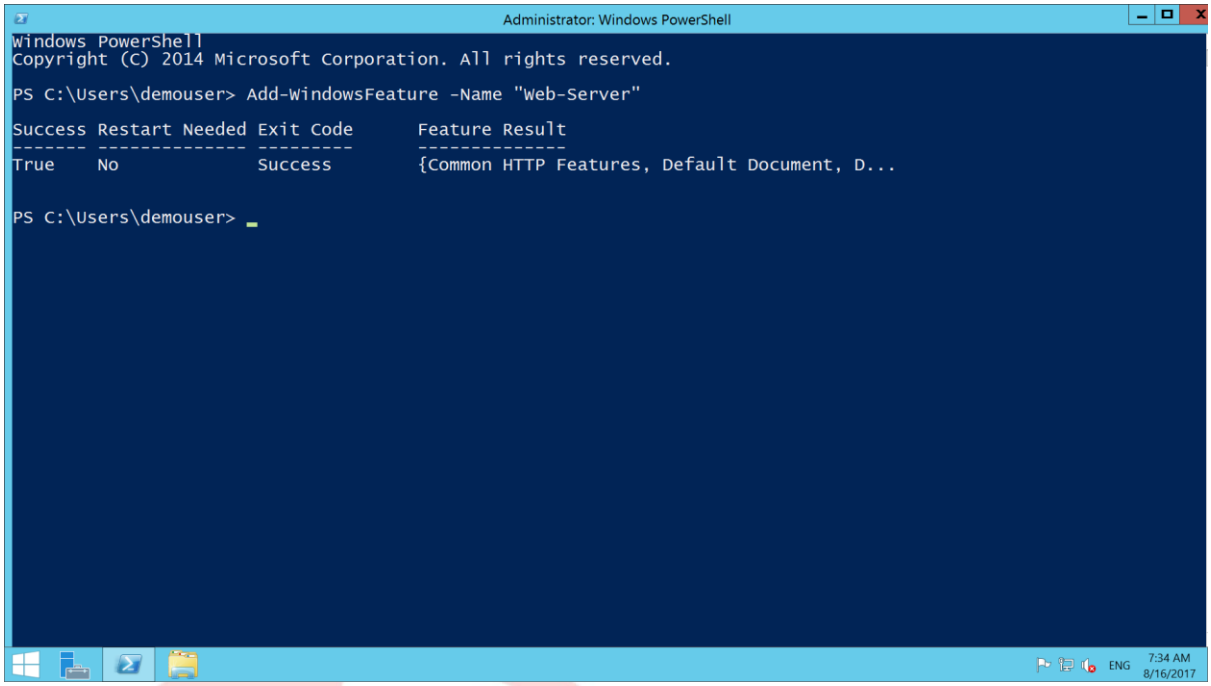
Run powershell and install Add-WindowsFeature –Name “Web-Server”



This will install IIS on the server machine as shown below.

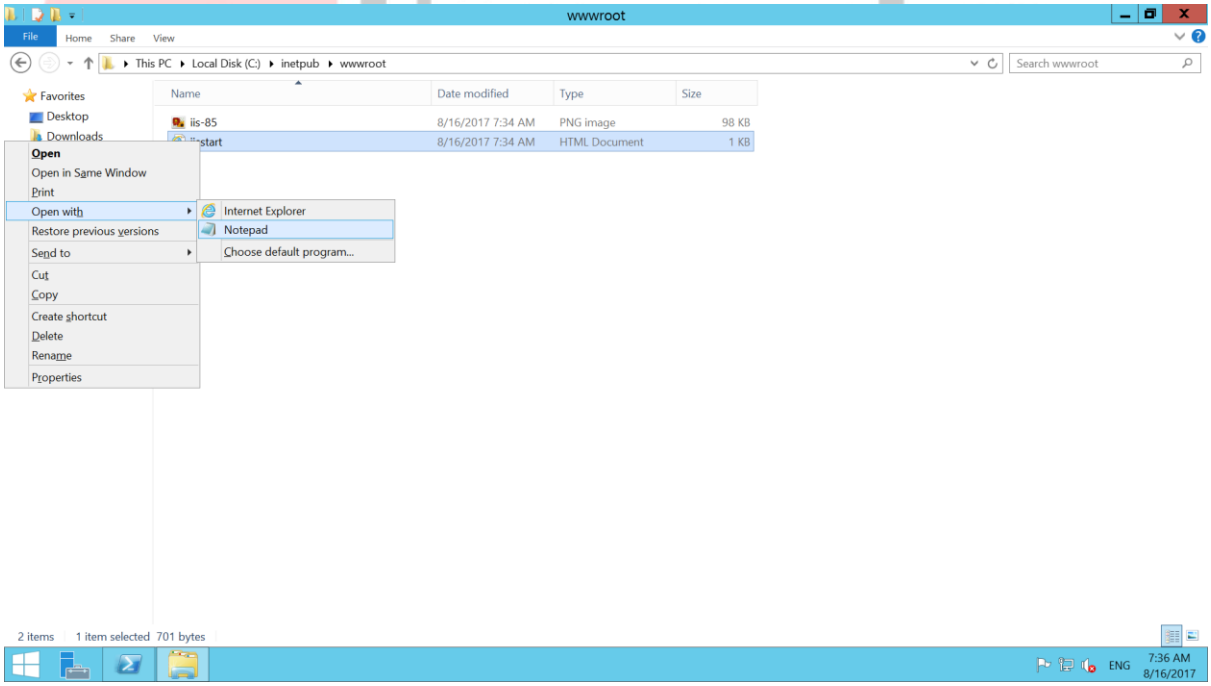


Now IIS has been installed on the server machine. Repeat this Step 5 for the second server machine also.



Step – 06: Repeat this step for both the server machines.

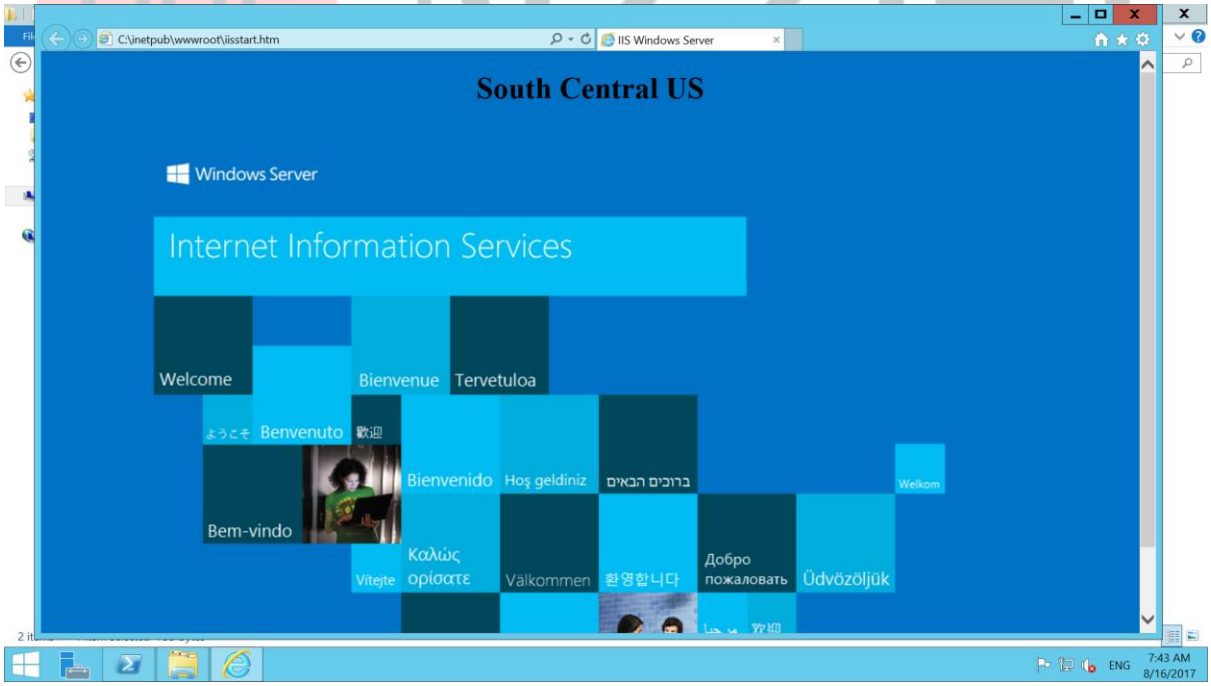
Move for the specific location "C:\inetpub\wwwroot\iistart.html" and open the html file using notepad and add the location of the server machine for visibility.

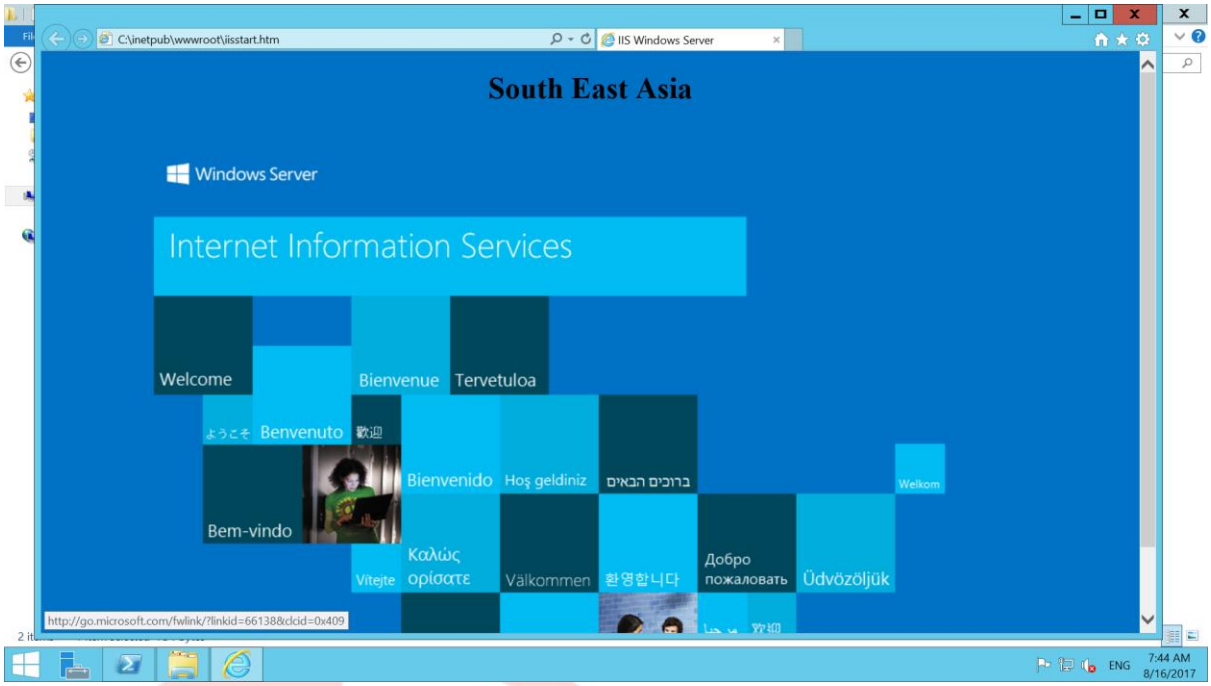


Repeat the above step 6 for second server machine hosted at South Central US.

<h1>South Central US</h1>

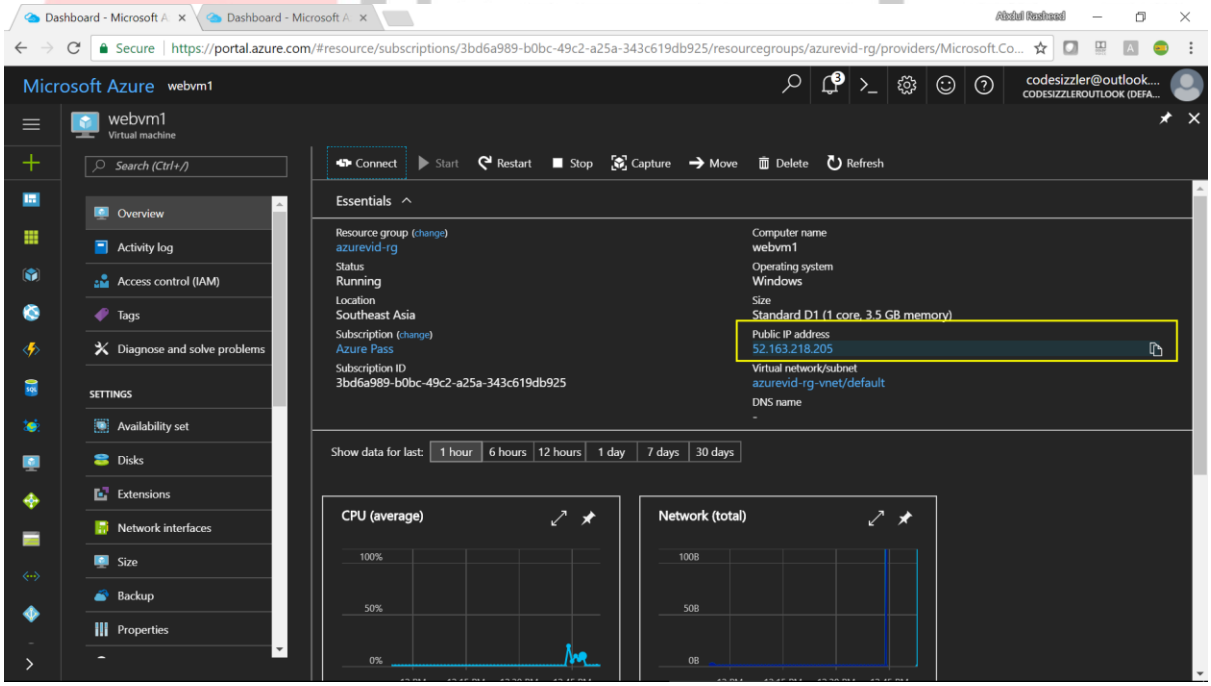
Run the html file on a browser, the page should resemble the same of the below one's as shown.

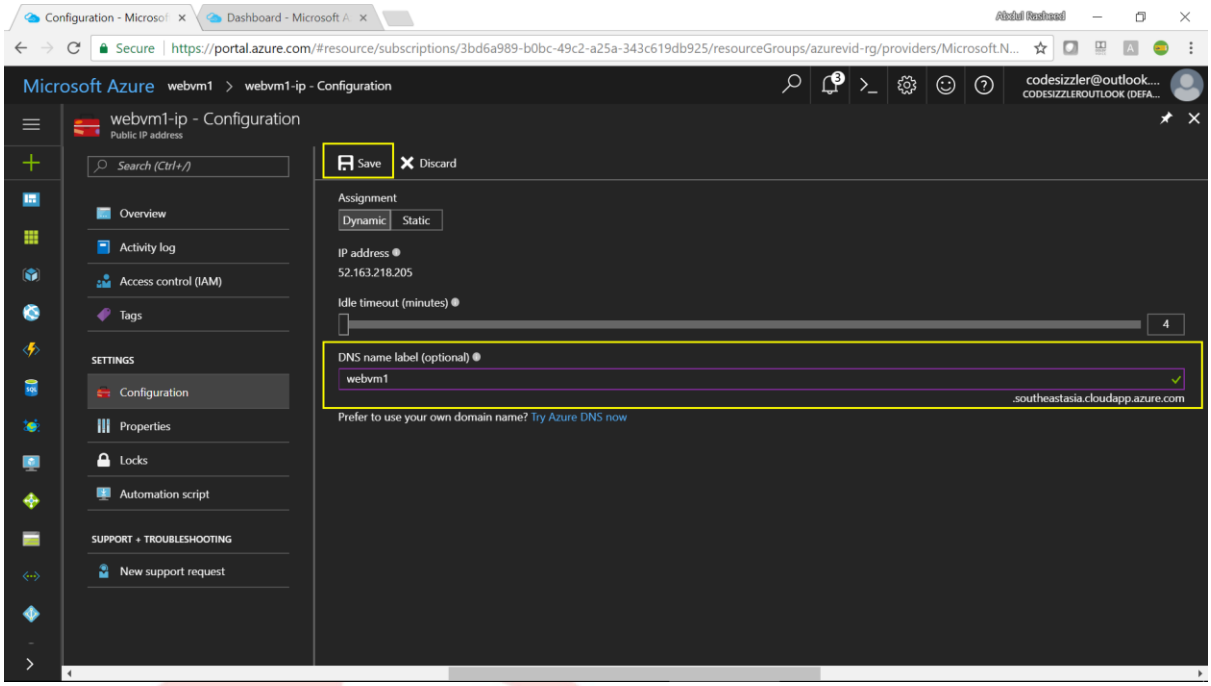




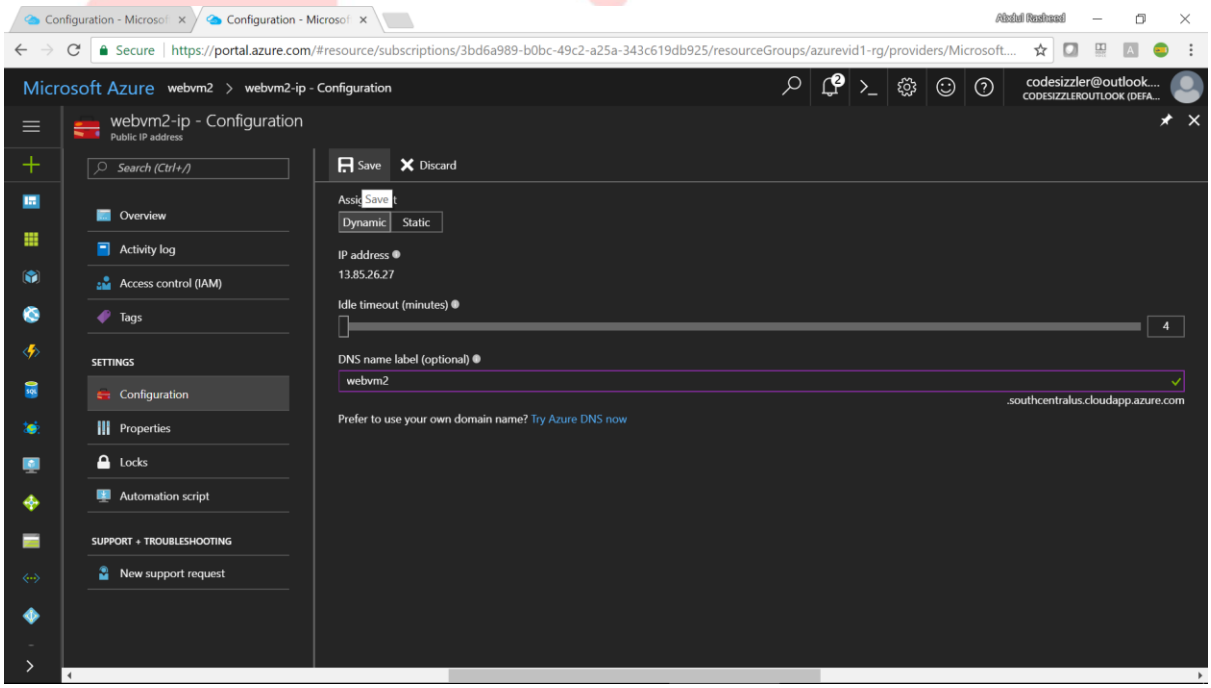
Step – 07: Labelling the DNS – repeat the same for both the server machines.

Click on the public IP address of the server machine 1 and name it with a unique name as shown and save it.



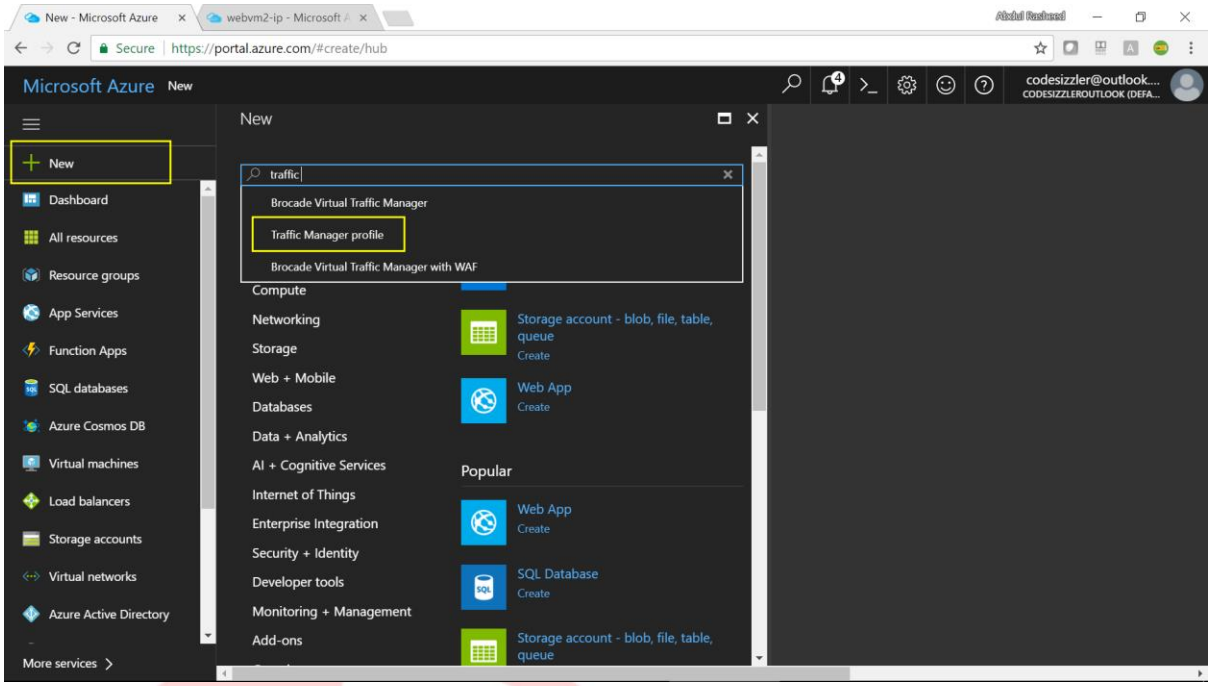


Repeat the above step 07 for the second server machine also.

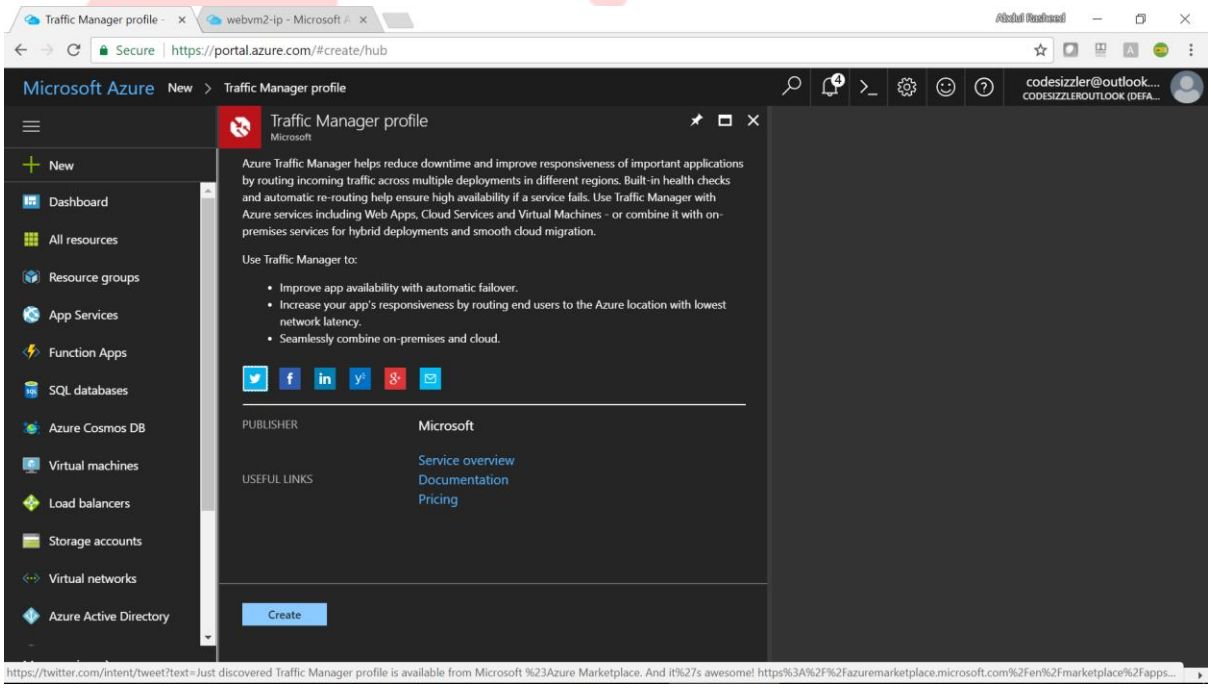


Step – 08: Creating a traffic manager profile.

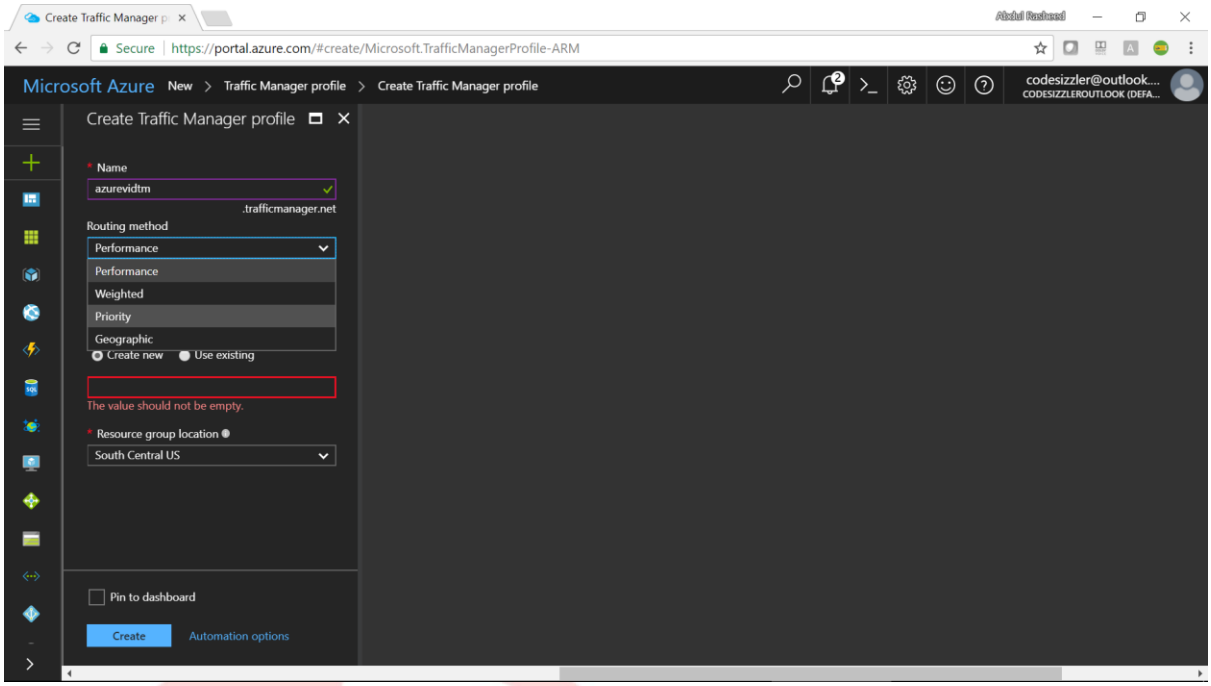
Go to your Azure portal and search for traffic manager profile in the marketplace as shown below.

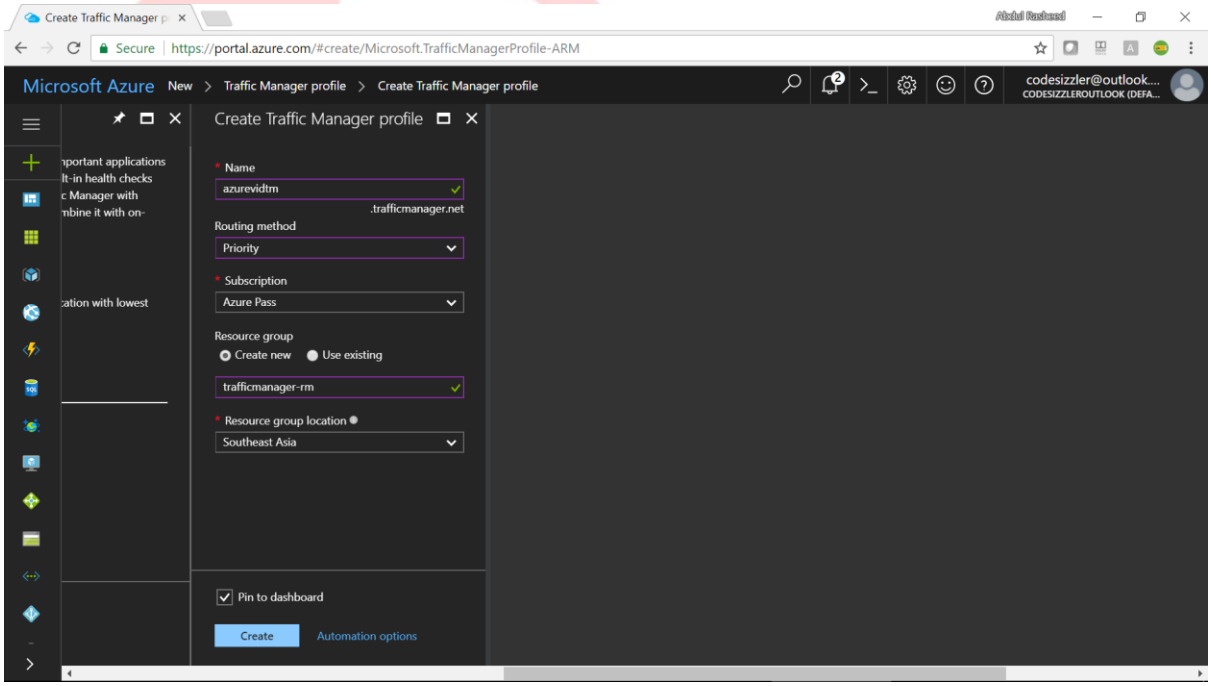


Click on Create to create the traffic manager profile.

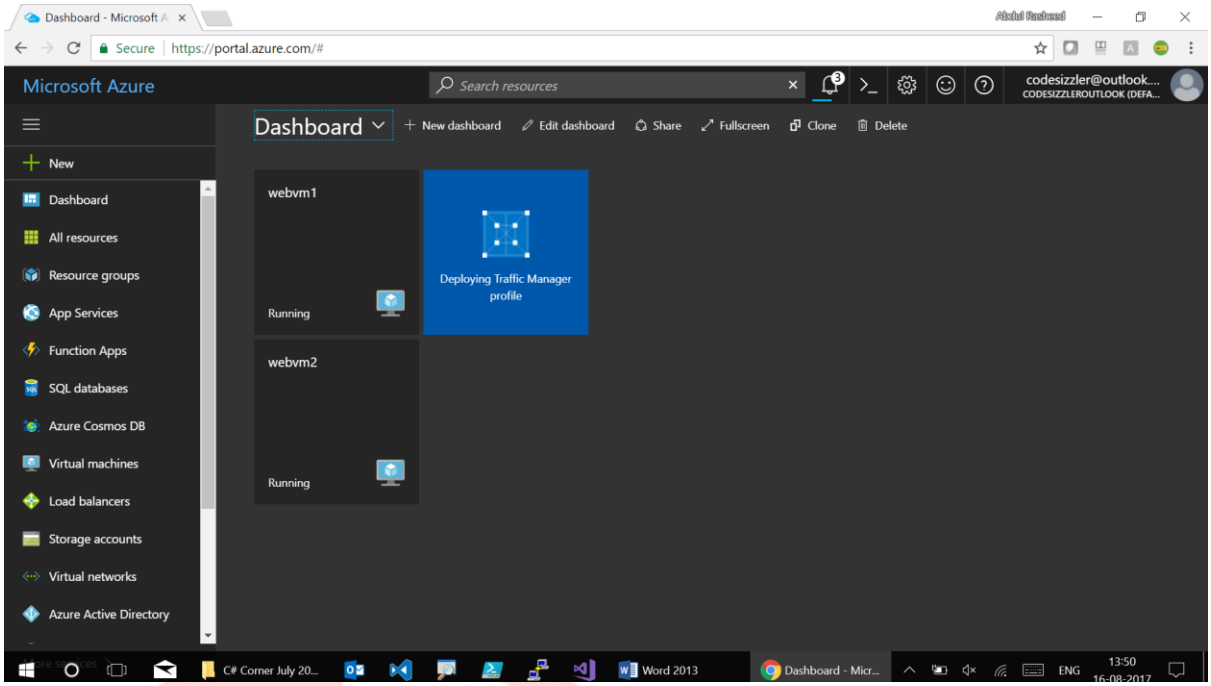


Fill up the below details for traffic manager profile name, routing method as priority, resource group and its location.



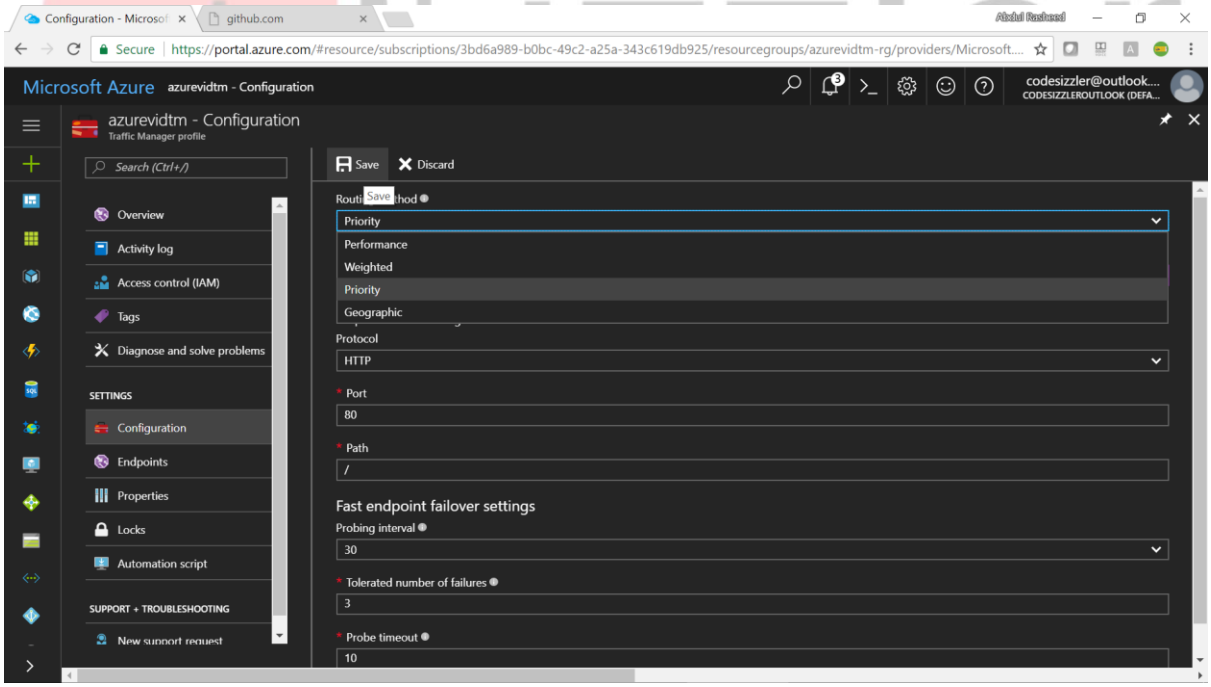


Here goes your traffic manager profile created.

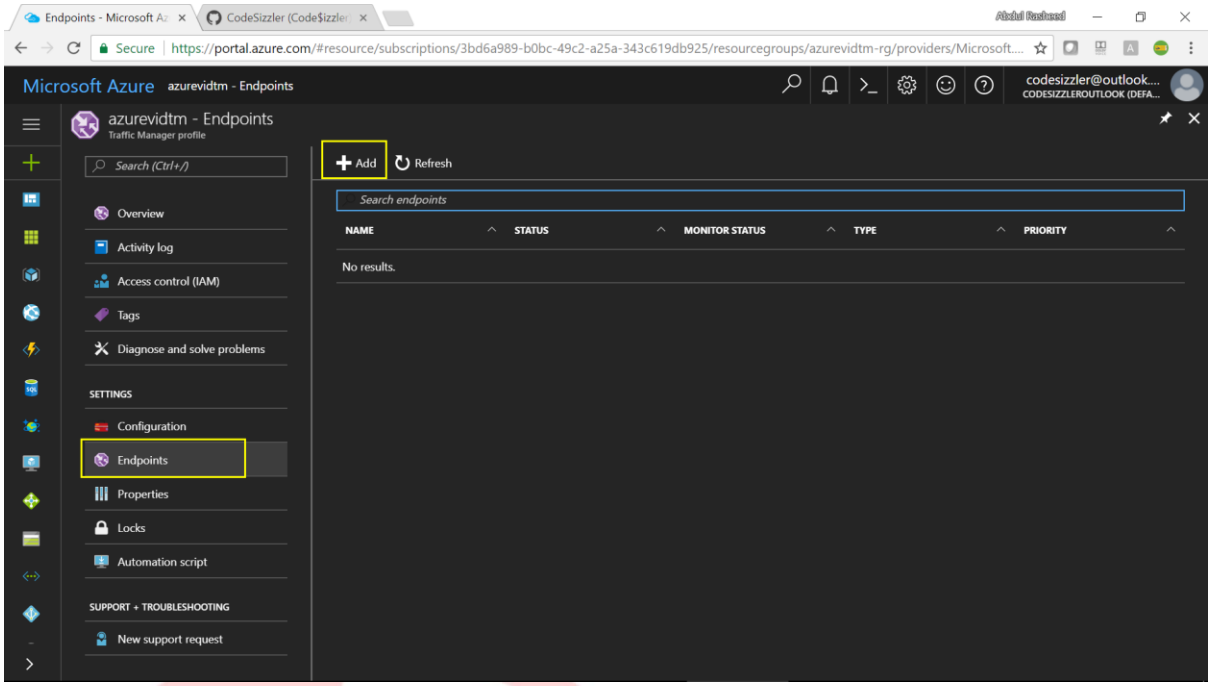


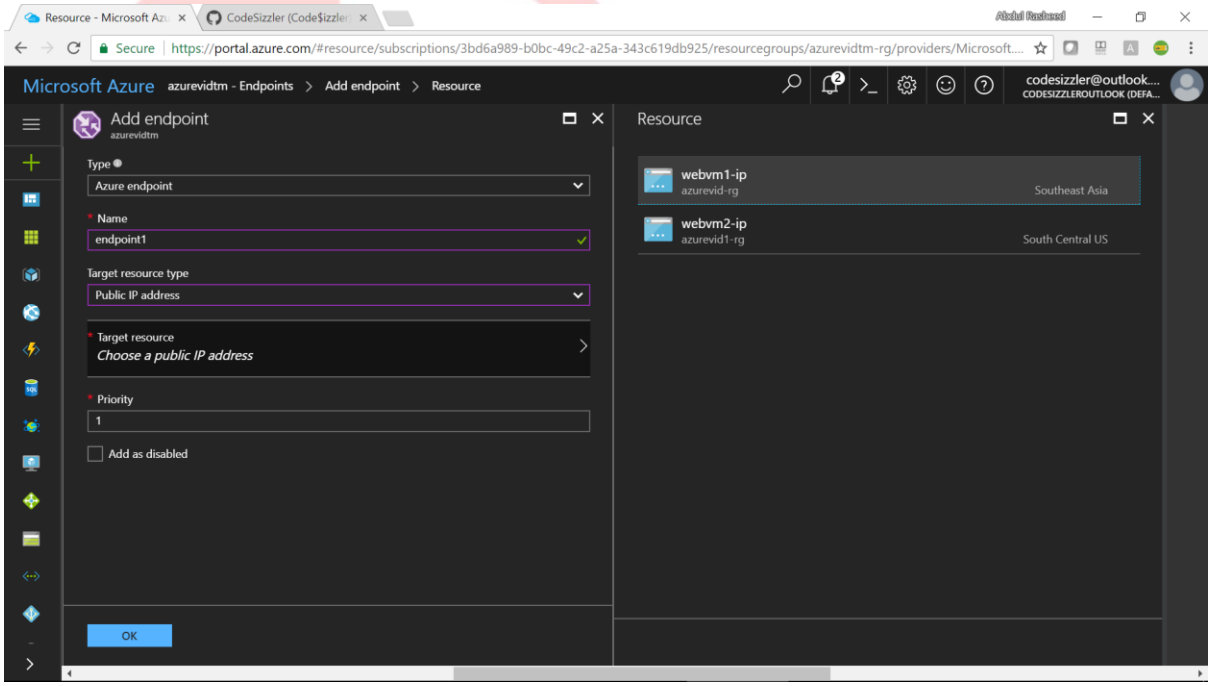
Step – 09:

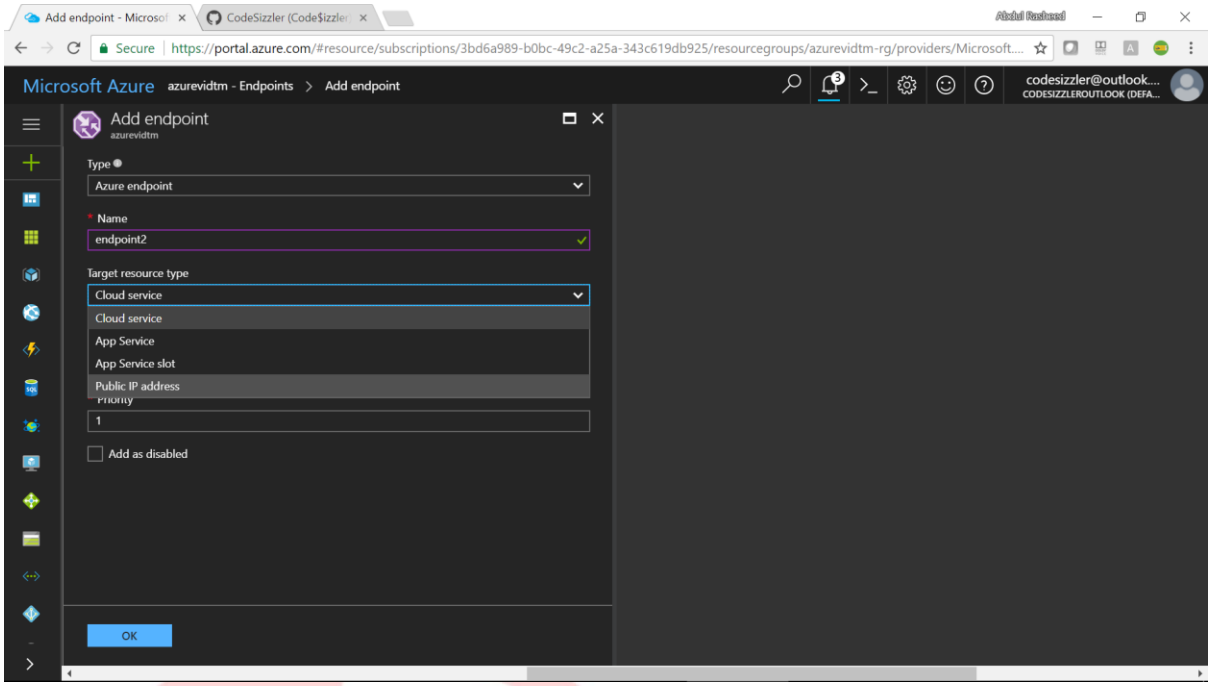
Click on Configuration of the Azure Traffic Manager and configure it for priority, click on save once after configuring it.

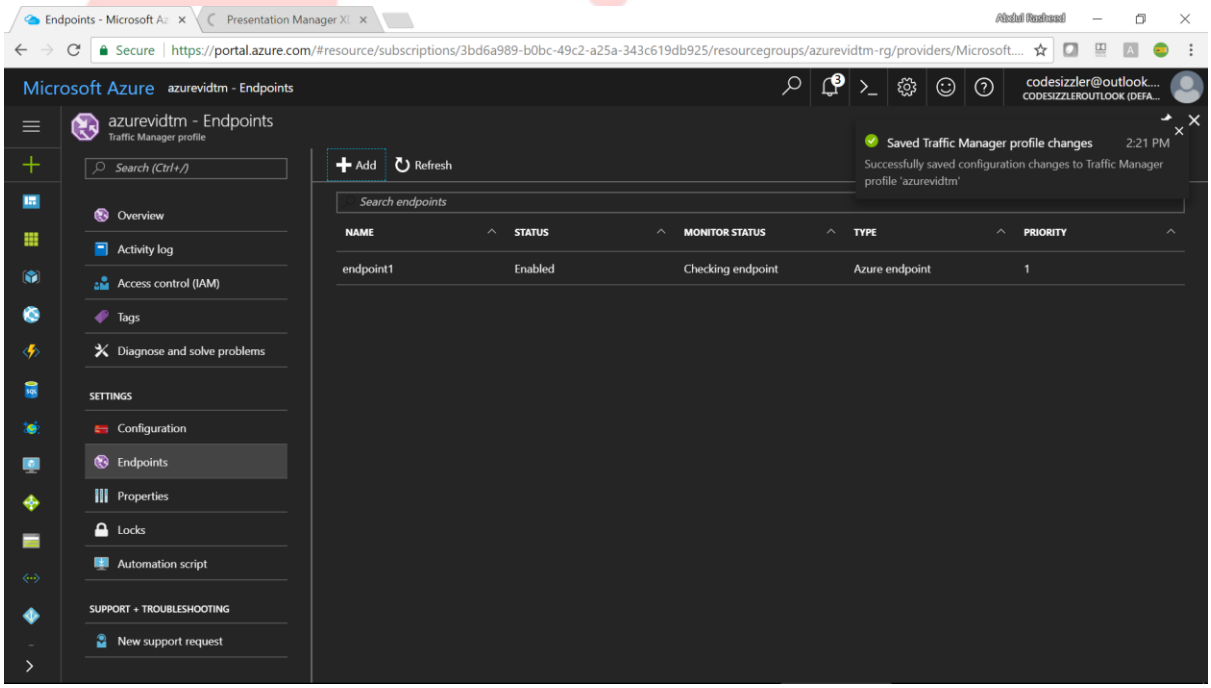


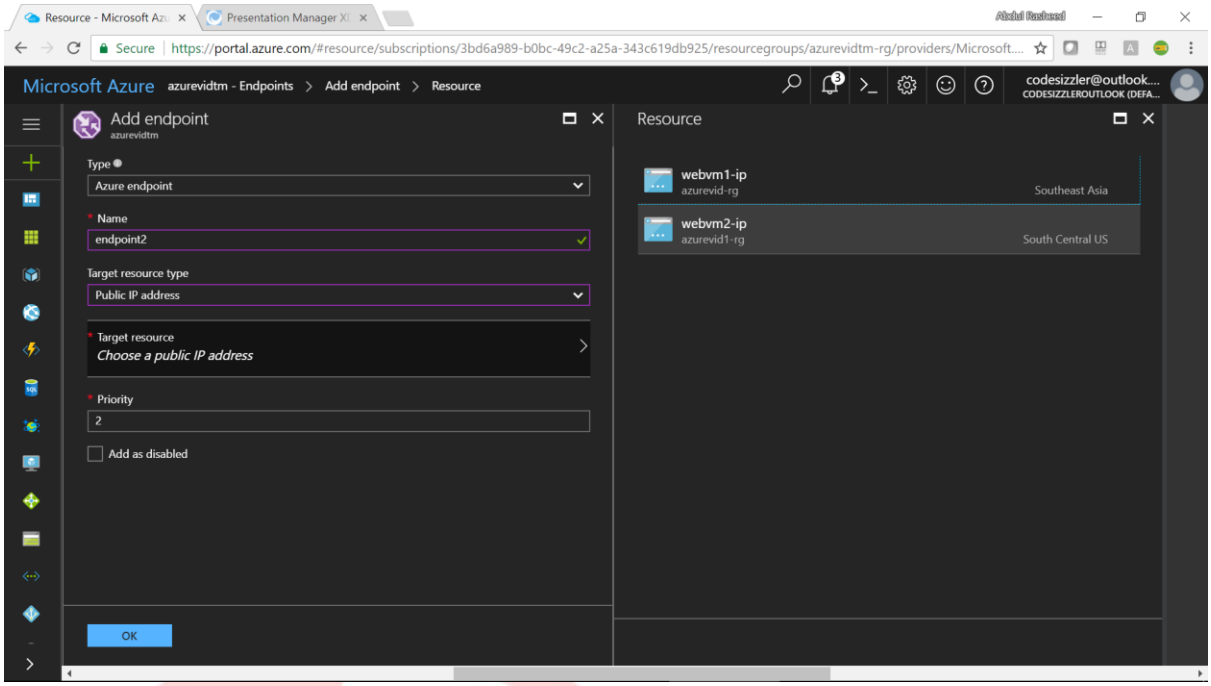
Add Endpoints for the traffic manager profile created for both the virtual machines using the public IP address and set the endpoints for individual public IP addresses with the target virtual machines.

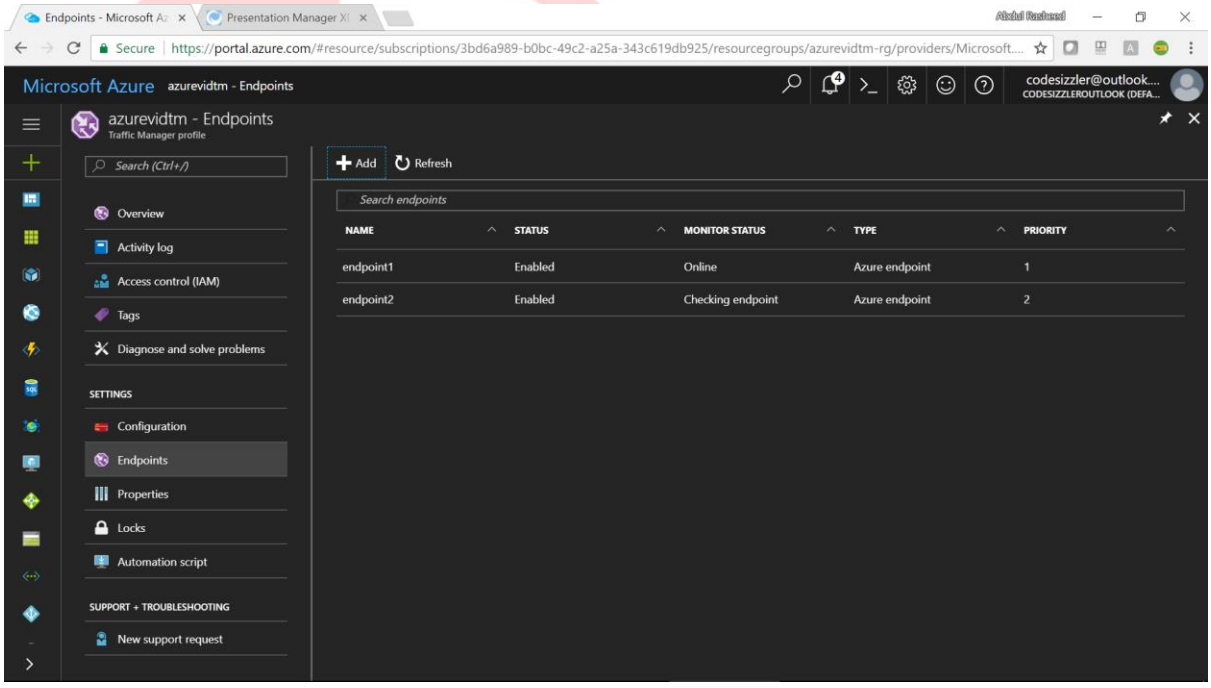

Endpoints - Microsoft Az
CodeSizzler (Code$izzler
Secure
https://portal.azure.com/#resource/subscriptions/3bd6a989-b0bc-49c2-a25a-343c619db925/resourcegroups/azurevidtm-rg/providers/Microsoft....
Microsoft Azure
azurevidtm - Endpoints
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
azurevidtm - Endpoints
Traffic Manager profile
Search (Ctrl+/)
Add
Refresh
Search endpoints
NAME
STATUS
MONITOR STATUS
TYPE
PRIORITY
No results.
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Configuration
Endpoints
Properties
Locks
Automation script
SUPPORT + TROUBLESHOOTING
New support request


Resource - Microsoft Az
CodeSizzler (Code$izzler
Secure
https://portal.azure.com/#resource/subscriptions/3bd6a989-b0bc-49c2-a25a-343c619db925/resourcegroups/azurevidtm-rg/providers/Microsoft....
Microsoft Azure
azurevidtm - Endpoints > Add endpoint > Resource
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
Add endpoint
azurevidtm
Type
Azure endpoint
Name
endpoint1
Target resource type
Public IP address
Target resource
Choose a public IP address
Priority
1
Add as disabled
OK
Resource
webvm1-ip
azurevid-rg
Southeast Asia
webvm2-ip
azurevid1-rg
South Central US


Add endpoint - Microsof
CodeSizzler (Code$izzler
Secure
https://portal.azure.com/#resource/subscriptions/3bd6a989-b0bc-49c2-a25a-343c619db925/resourcegroups/azurevidtm-rg/providers/Microsoft....
Microsoft Azure
azurevidtm - Endpoints
Add endpoint
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
Add endpoint
azurevidtm
Type
Azure endpoint
Name
endpoint2
Target resource type
Cloud service
Cloud service
App Service
App Service slot
Public IP address
Priority
1
Add as disabled
OK


Endpoints - Microsoft Az
Presentation Manager XE
Secure
https://portal.azure.com/#resource/subscriptions/3bd6a989-b0bc-49c2-a25a-343c619db925/resourcegroups/azurevidtm-rg/providers/Microsoft....
Microsoft Azure
azurevidtm - Endpoints
codesizzler@outlook....
CODESIZZLEROUTLOOK (DEFA...
azurevidtm - Endpoints
Traffic Manager profile
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
SETTINGS
Configuration
Endpoints
Properties
Locks
Automation script
SUPPORT + TROUBLESHOOTING
New support request
Add
Refresh
Search endpoints
NAME
STATUS
MONITOR STATUS
TYPE
PRIORITY
endpoint1
Enabled
Checking endpoint
Azure endpoint
1
Saved Traffic Manager profile changes
2:21 PM
Successfully saved configuration changes to Traffic Manager profile 'azurevidtm'





Goto the DNS name of the traffic manager profile now and open it on a new tab, you request will be responded from the server machine for which the priority has been set for 1. Now when you put the virtual machine which is of priority 1 to be deallocated then your request will be responded from second priority virtual machine.