

# 3-Tier - Architecture

Project details  
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription \*

Resource group \*

Instance details  
Virtual machine name \*

Region \*

Availability options

Security type

Image \*

This image is compatible with additional security features. Click here to learn more about started launch security best.

VM disk encryption  
Azure automatically encrypts your data stored on Azure managed disks (OS and data disks) at rest by default when persisting it to the cloud.

Encryption at host

OS disk  
OS disk size

OS disk type \*

Deflate vuln

Key management

Enable Ultra Disk compatibility

This disk is supported in Availability Zones 1, 2, 3 for the selected VM size.

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Name \*

Select an address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets to segment the virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subnet, Azure assigns the resource an IP address from the subnet. Learn more?

+ Add a subnet

Subnets IP address range Size NAT gateway

new-azurml-1	172.18.0.0 - 172.18.0.255	(2^64 addresses)	-
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Add IPv4 address space

# 3-Tier - Architecture

The image displays two screenshots of a cloud-based management interface.

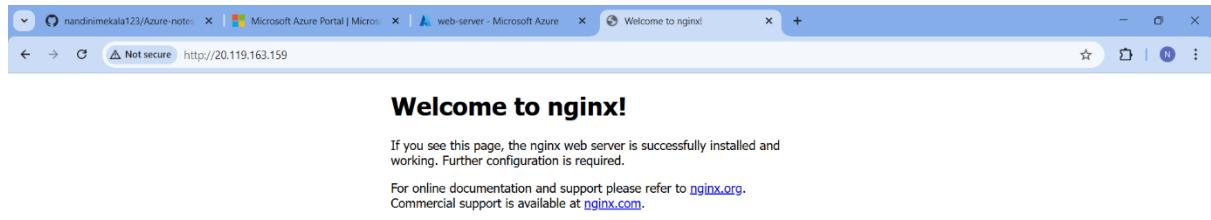
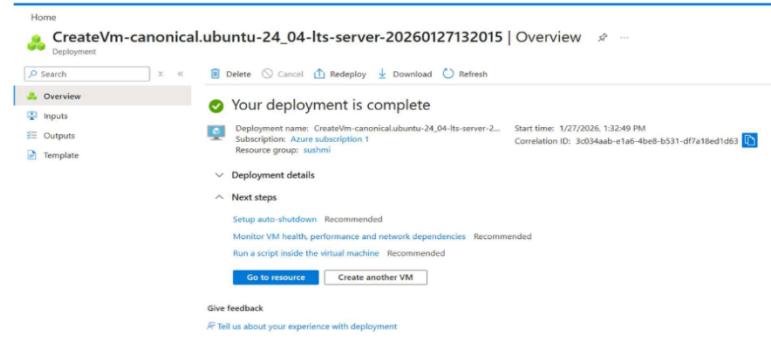
The top screenshot shows the configuration of an address space. A main header bar includes "Compute infrastructure" and "Virtual machines". Below this, a section titled "Create a virtual machine" is shown. The "Custom data" field contains the following script:

```
#!/bin/bash
# echo -n
apt update
apt install nginx -y
```

The bottom screenshot shows a "Review + create" step of a virtual machine creation wizard. It includes sections for "User data" (with a note about processing by cloud-init) and "Performance (NVMe)" (with a note about unsupported size for NVMe with WSL). At the bottom right, there are "Give feedback" and "Next : Tags" buttons, along with a progress bar.



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The screenshot shows the Azure portal interface for managing a virtual machine named "appserver-s". The left sidebar navigation includes "Overview", "Activity log", "Access control (IAM)", "Tags", "Diagnose and solve problems", "Resource visualizer", "Connect", "Networking", "Network settings" (which is selected), "Load balancing", "Application security groups", "Network manager", "Settings", "Availability + scale", "Security", and "Backup + disaster recovery". The main content area displays the "Network settings" for the NSG attached to the network interface "appserver-s782". It lists "Inbound port rules (5)" and "Outbound port rules (3)". The inbound rules include:

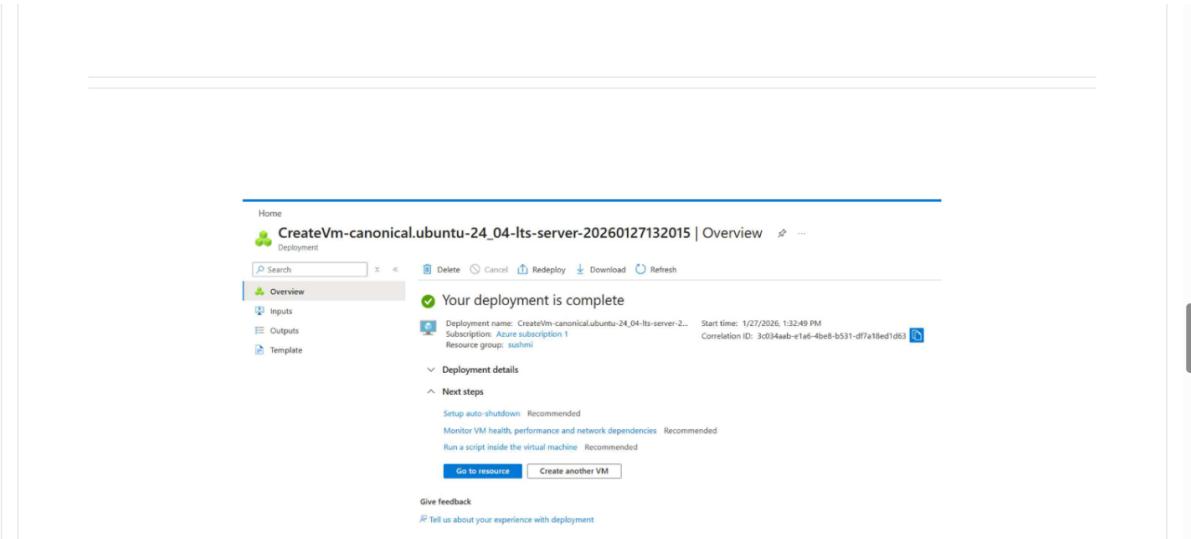
Prio...	Name	Port	Protocol	Source
300	SSH	22	TCP	Any
310	ds	8080	TCP	172.17.0.1
65000	AllowVnetInBound	Any	Any	Vnet
65001	AllowAzureLoadBalancerInB...	Any	Any	Azur
65500	DenyAllInBound	Any	Any	Any

The outbound rules include:

Port	Protocol	Destination
Any	Any	Any

```
connection to 172.18.1.4 closed.
root@web-sushmi:/home/sushmi#
root@web-sushmi:/home/sushmi#
root@web-sushmi:/home/sushmi# exit
exit
sushmi@web-sushmi:~$ telnet 172.18.1.4 8080
Trying 172.18.1.4...
Connected to 172.18.1.4.
Escape character is '^]'.
Connection closed by foreign host.
sushmi@web-sushmi:~$
```

# 3-Tier - Architecture



The screenshot shows the network settings for a virtual machine named 'db-server'. It displays an inbound port rule table with the following data:

Prio...	Name	Port	Protocol	Source
100	dsdr	3306	TCP	172.17.0.1
110	dw	22	TCP	Any
65000	AllowVnetInBound	Any	Any	Virtu
65001	AllowAzureLoadBalancerInB	Any	Any	Azur
65500	DenyAllInBound	Any	Any	Any

Below the table, there is an 'Outbound port rules (3)' section which is currently collapsed.

# 3-Tier - Architecture

```
Quick connect...          0 20 21 10 [idle]          0 20 21 10 [idle]          0 20 21 10 [idle]
[+] 20.21.10.10 [idle]          [+] 20.21.10.10 [idle]          [+] 20.21.10.10 [idle]
and should be removed before moving into a production environment.

Remove test database and access to it? (Press y\Y for Yes, any other key for No) : 
... skipping.

Reloading the privilege tables will ensure that all changes made so far will take effect immediately.

Reload privilege tables now? (Press y\Y for Yes, any other key for No) : 
... skipping.

All done!
root@db-server:~# /home/sushin# 
root@db-server:~# /home/sushin# nano /etc/mysql/mysql.conf.d/mysqld.cnf
root@db-server:~# mysqladmin -u root password mysql
mysql.service - MySQL Community Server
   Loaded: loaded (/usr/lib/systemd/system/mysql.service; enabled; preset: enabled)
     Active: active (running) since Tue 2020-01-27 10:33:01 UTC; 1min ago
       Docs: https://dev.mysql.com/doc/mysql-systemd-start-pre(7)
 Main PID: 2689 (mysqld)
   Status: "Server is operational"
    Tasks: 1 (limit: 9447)
   Memory: 323.4M (peak: 365.9M)
      CPU: 0.46s
      Group: system.slice/mysql.service
         ▾ 2689 /usr/sbin/mysqld

Jan 27 10:33:01 db-server mysqld[2689]: Starting mysql.service - MySQL Community Server...
Jan 27 10:33:01 db-server mysqld[2689]: Started mysql.service - MySQL Community Server.
root@db-server:~# /home/sushin# exit
```