

3-Tier - Architecture

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Create a virtual machine

Help me create a VM optimized for high availability | Help me choose the right VM size for my workload | Help me create a low cost VM

Project details

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

Subscription: Azure subscription 1

Resource group: Azure subnet

Instance details

Virtual machine name: web-server

Region: Asia Pacific Japan East

Deploy to an Azure Extended Zone

Availability options: No infrastructure redundancy required

Security type: Standard

Image: Ubuntu Server 22.04 LTS (64-bit) (Free services eligible)

See all images | Configure VM generation

This image is compatible with additional security features. Click here to learn more about the Trusted Boot security features.

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There is a charge for the underlying storage resources consumed by your virtual machine. Learn more >

VM disk encryption

Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (MD) and data disks at rest by default when enabling it to the disk.

Encryption at host: Encryption at host is not required for the selected subscription. Learn more >

OS disk

OS disk size: Image default (30 GB)

OS disk type: Standard HDD (locally-redundant storage)

The selected VM size supports premium disks. We recommend Premium SSD for high IOPS workloads. Virtual machines with Premium SSD disks qualify for the 99.9% availability SLA.

Order with VM: Platform managed key

Key management: Platform managed key

Enable Ultra Disk compatibility: Ultra disk is supported in Availability Zones 1.0.3 for the selected VM size.

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vnet-japan-east

Name: vnet-japan-east

Define the 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
vnet-japan-east-1	172.18.0.0 - 172.18.255.255	/24 (256 addresses)	-

Add IPv6 address space

Save | Cancel

Edit subnet

Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add other subnets later. Learn more >

Subnet ID: /subscriptions/1234567890/resourceGroups/vnet-japan-east/subnets/vnet-japan-east-1

Subnet purpose: Default

Name: web-subnet

IPv4

Include an IPv4 address space: ☒

IPv4 address range: 172.18.0.0/24

Starting address: 172.18.0.1

Size: /24 (256 addresses)

Subnet address range: 172.18.0.0 - 172.18.255.255

IPv6

Include an IPv6 address space: ☐ This virtual network has no IPv6 address ranges.

Private subnet

Private subnets will have default firewall rules that restrict default outbound access. To enable:

Save | Cancel

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+ Add a subnet

172.18.0.0/16

Delete address space

172.18.0.0

/16

172.18.0.0 - 172.18.255.25565,536 addresses

Subnets	IP address range	Size	NAT gateway	
websubnet	172.18.0.0 - 172.18.0.255	/24 (256 addresses)	-	edit delete
appsubnet	172.18.1.0 - 172.18.1.255	/24 (256 addresses)	-	edit delete
dbsubnet	172.18.2.0 - 172.18.2.255	/24 (256 addresses)	-	edit delete

Save

Cancel

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Press a cloud-init script, configuration file, or other data into the virtual machine **while it is being provisioned**. The data will be saved on the VM in a known location. [Learn more about custom data for VMs](#) >

Custom data

```
#!/bin/bash\nsudo su\napt-get update\napt install nginx -y
```

Custom data on the selected image will be processed by cloud-init. [Learn more about custom data for VMs](#) >

User data

Press a script, configuration file, or other data that will be accessible to your applications throughout the lifetime of the virtual machine. Don't use user data for storing your secrets or passwords. [Learn more about user data for VMs](#) >

Enable user data☐

Performance (NVMe)

Enable capabilities to enhance the performance of your resources.

Higher remote disk storage performance☐


The selected size is not supported for NVMe. [See supported size families](#) >


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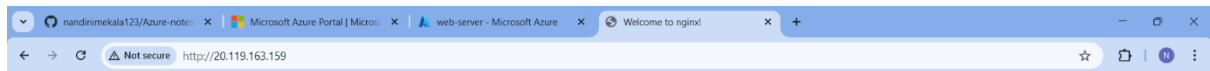
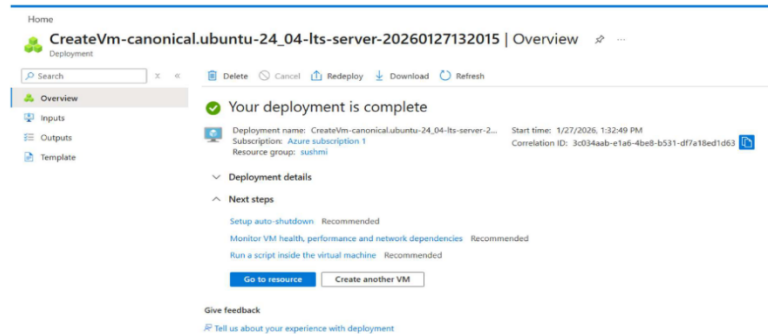
 Search



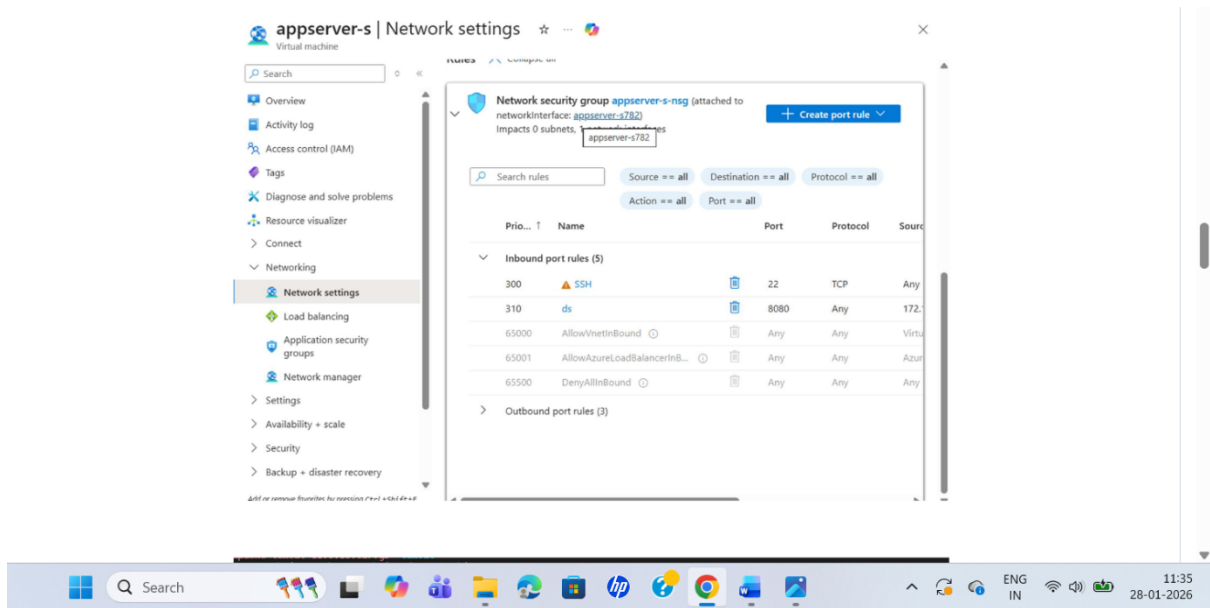
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IN

11:29
28-01-2026

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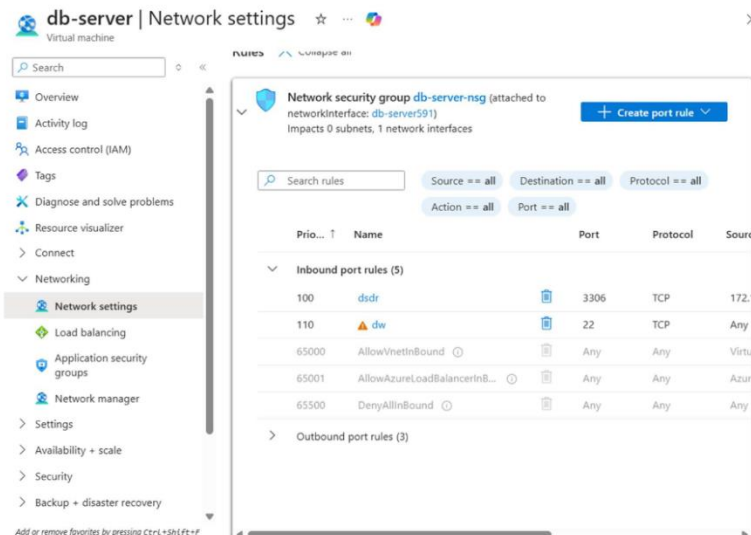
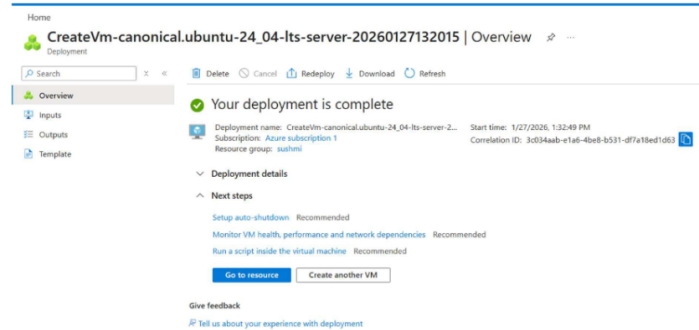


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```
connection to 172.18.1.4 closed.  
root@web-sushmi:/home/sushmi#  
root@web-sushmi:/home/sushmi#  
root@web-sushmi:/home/sushmi# exit  
exit  
sushmi@web-sushmi:~$ telnet 172.18.1.4 8080  
Trying 172.18.1.4...  
Connected to 172.18.1.4.  
Escape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

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```
Quick connect...
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-s1:/home/sushant#
root@db-server-s1:/home/sushant# nano /etc/mysql/mysql.conf.d/mysqld.cnf
root@db-server-s1:/home/sushant# systemctl status mysql
mysql.service - MySQL Community Server
Loaded: loaded (/usr/lib/systemd/system/mysql.service; enabled; preset: enabled)
Active: active (running) since Tue 2020-02-27 18:23:01 UTC; 9min 40s
Process: 2080 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
Main PID: 2089 (mysqld)
Status: "Server is operational"
Links: 29 (limit: 9442)
Memory: 383.9M (peak: 305.9M)
CPU: 3.641s
CGroups: /system.slice/mysql.service
└─2089 /usr/bin/mysqld

Jan 27 18:33:00 db-server-s1 systemd[1]: Starting mysql.service - MySQL Community Server...
Jan 27 18:33:01 db-server-s1 systemd[1]: Started mysql.service - MySQL Community Server.
root@db-server-s1:/home/sushant# exit
```

```
Quick connect...
apache-tomcat-11.0.18/bin/shutdown.sh
apache-tomcat-11.0.18/bin/startup.sh
apache-tomcat-11.0.18/bin/wrapper.sh
apache-tomcat-11.0.18/bin/version.sh
root@appserver-s1:/home/sushant/tomcat# cd /tomcat/bin
bash: cd: /tomcat/bin: No such file or directory
root@appserver-s1:/home/sushant/tomcat# cd /tomcat/bin
root@appserver-s1:/home/sushant/tomcat# ls
root@appserver-s1:/home/sushant/tomcat# ls
root@appserver-s1:/home/sushant/tomcat# cd /tomcat/bin
bash: cd: /tomcat/bin: No such file or directory
root@appserver-s1:/home/sushant/tomcat# cd /tomcat/bin
root@appserver-s1:/home/sushant/tomcat# mv apache-tomcat-11.0.18 tomcat
root@appserver-s1:/home/sushant/tomcat# ls
root@appserver-s1:/home/sushant/tomcat# cd tomcat
root@appserver-s1:/home/sushant/tomcat/tomcat# cd bin
root@appserver-s1:/home/sushant/tomcat/tomcat/bin# ./startup.sh
Using CATALINA_BASE:   /home/sushant/tomcat/tomcat
Using CATALINA_HOME:   /home/sushant/tomcat/tomcat
Using CATALINA_TMPDIR: /home/sushant/tomcat/tomcat/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /home/sushant/tomcat/tomcat/bin/bootstrap.jar:/home/sushant/tomcat/tomcat/bin/tomcat-juli.jar
Tomcat started.
root@appserver-s1:/home/sushant/tomcat/tomcat/bin# cd ..
root@appserver-s1:/home/sushant/tomcat/tomcat# cd ..
root@appserver-s1:/home/sushant/tomcat# cd ..
root@appserver-s1:/home# cd ..
root@appserver-s1/# cd ..
root@appserver-s1/# telnet 172.21.0.4
Trying 172.21.0.4...
telnet: Unable to connect to remote host: Connection refused
root@appserver-s1/# telnet 172.21.0.4 3306
Trying 172.21.0.4...
Connection to 172.21.0.4
Escape character is '^]'
```