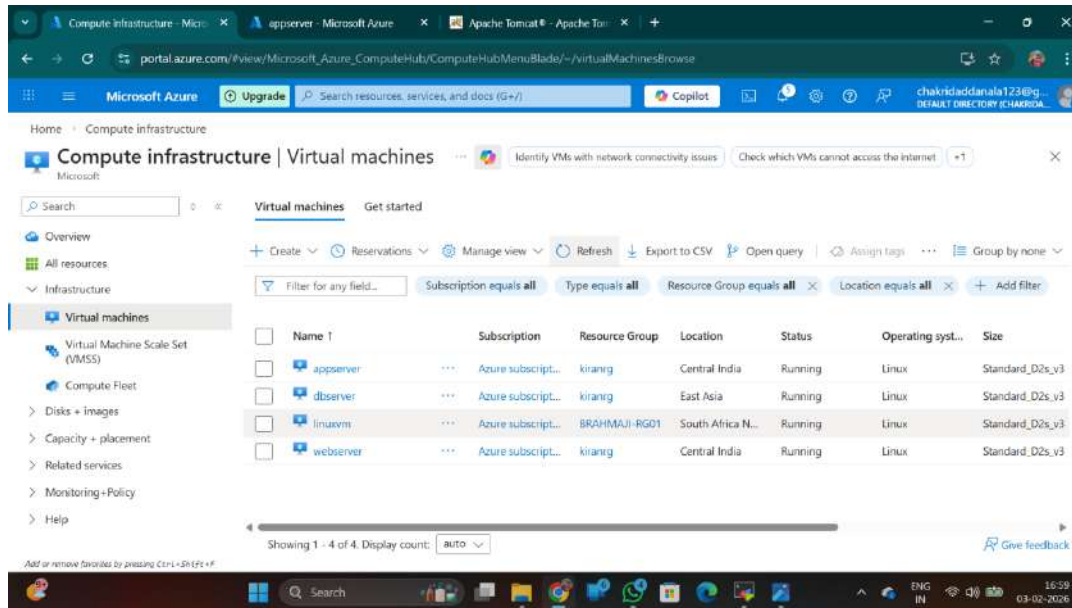


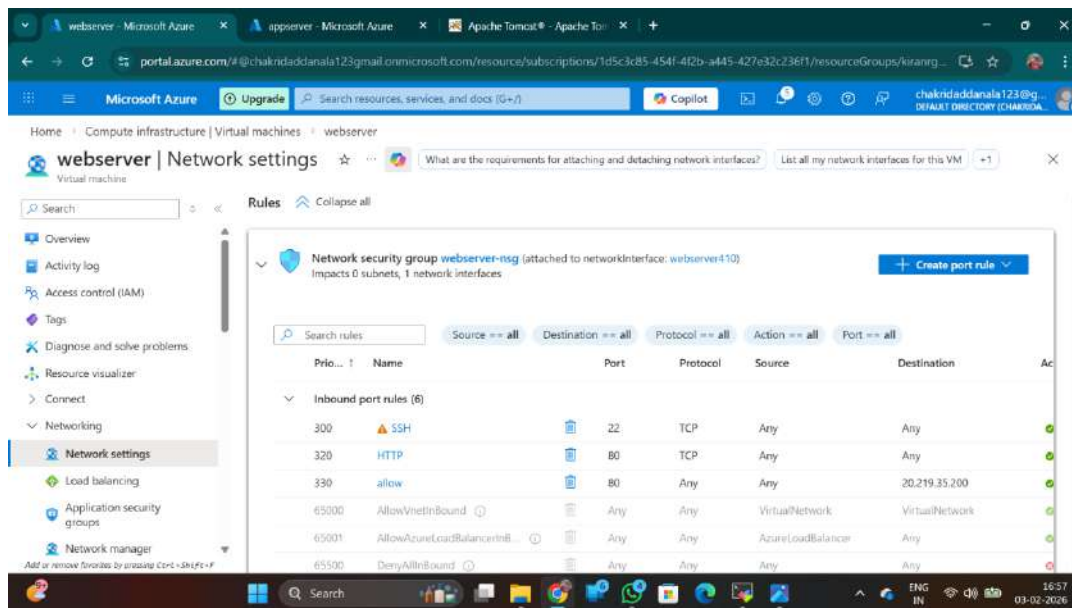
3-tire architrcutre using Network security group

Created 3-tire architrcutre using network security group

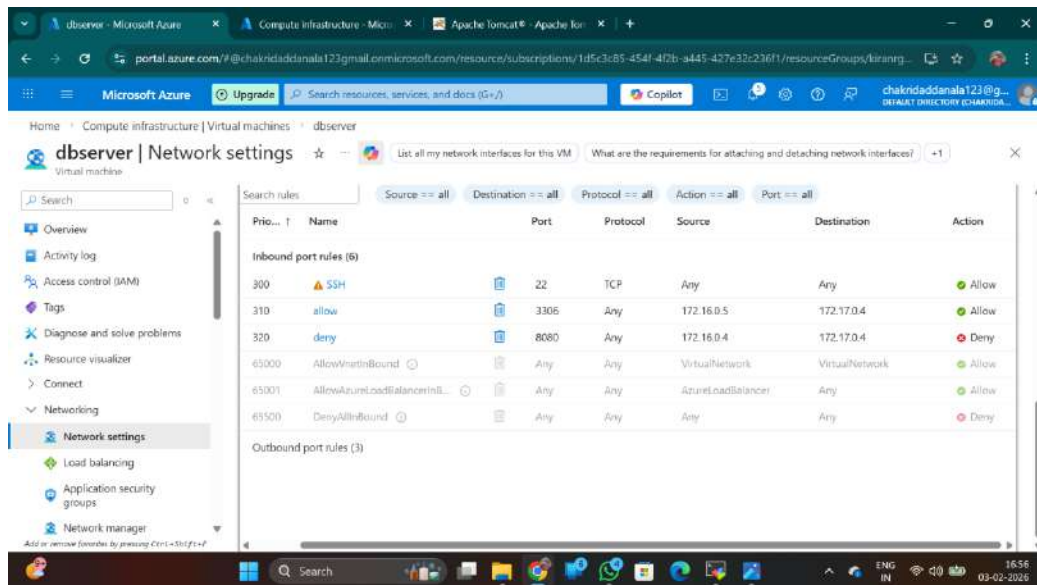
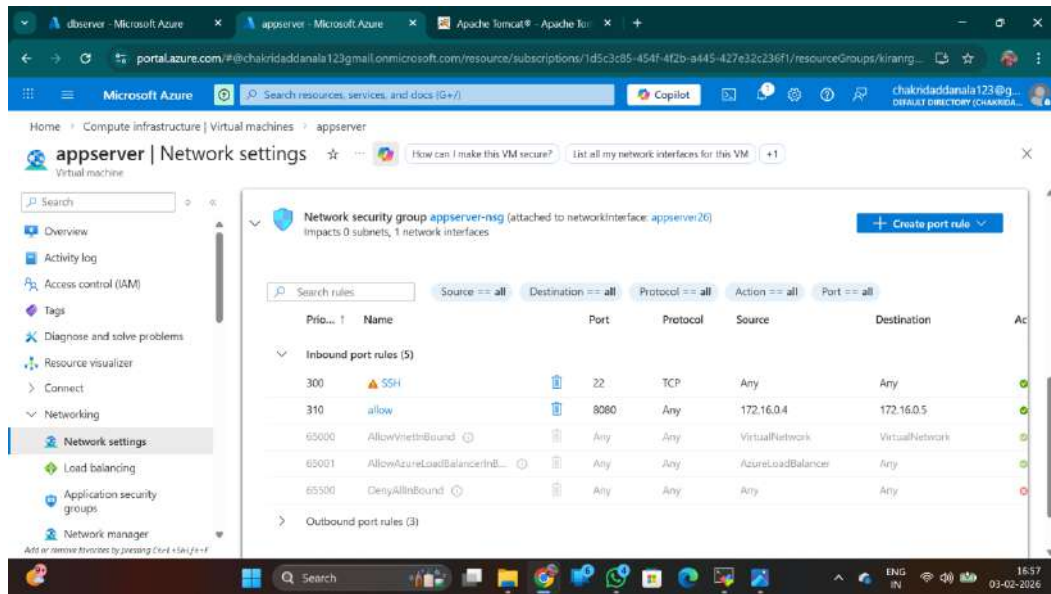
1.created three virtual mechines



2.added inbound rules according to our requirements



3-tier architecture using Network security group



3. installed nginx in webserver

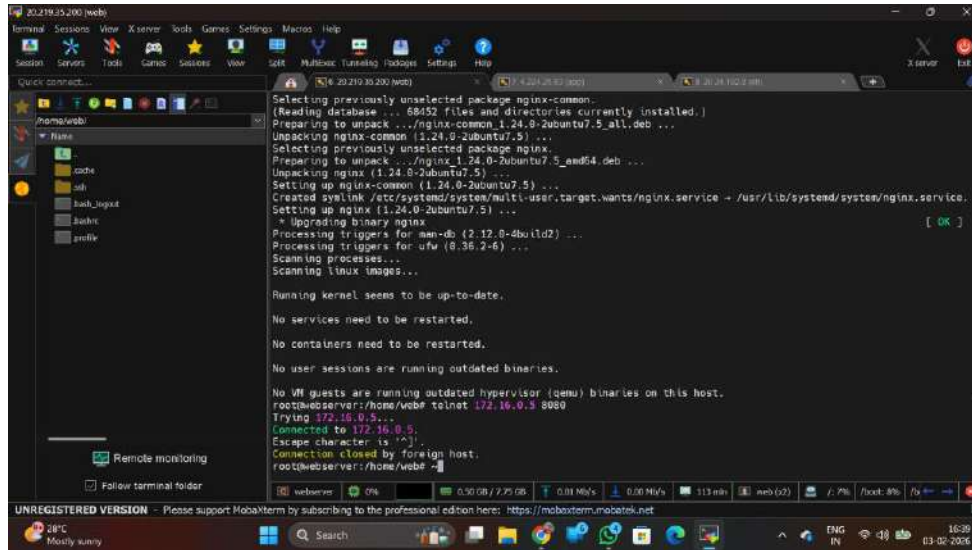
4. Installed tomcat in appserver

5. Installed mysql in dbserver

3-tire architrcture using Network security group

6.checked connections between servers using telnet command and port number

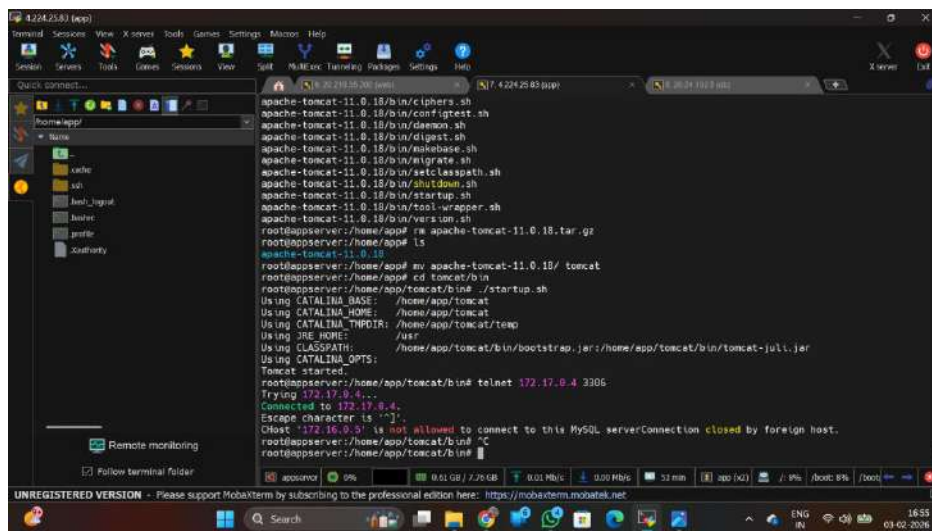
Webserver to app server



```
root@webserver:~# apt-get install nginx
Selecting previously unselected package nginx-common.
(Reading database ... 68452 files and directories currently installed.)
Preparing to unpack .../nginx-common_1.24.0-2ubuntu7.5_all.deb ...
Unpacking nginx-common (1.24.0-2ubuntu7.5) ...
Selecting previously unselected package nginx.
Preparing to unpack .../nginx_1.24.0-2ubuntu7.5_amd64.deb ...
Unpacking nginx (1.24.0-2ubuntu7.5) ...
Setting up nginx-common (1.24.0-2ubuntu7.5) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /usr/lib/systemd/system/nginx.service.
Setting up nginx (1.24.0-2ubuntu7.5) ...
* Upgrading binary nginx
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for ufw (0.36.2-6) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@webserver:~# telnet 172.16.0.5 8080
Trying 172.16.0.5...
Connected to 172.16.0.5.
Escape character is '^['.
Connection closed by foreign host.
root@webserver:~#
```

Appserver to dbserver



```
root@appserver:~# apt-get install apache-tomcat-11.0.18
apache-tomcat-11.0.18/bin/ciphers.sh
apache-tomcat-11.0.18/bin/configtest.sh
apache-tomcat-11.0.18/bin/daemon.sh
apache-tomcat-11.0.18/bin/digest.sh
apache-tomcat-11.0.18/bin/makebase.sh
apache-tomcat-11.0.18/bin/migrate.sh
apache-tomcat-11.0.18/bin/setclasspath.sh
apache-tomcat-11.0.18/bin/shutdown.sh
apache-tomcat-11.0.18/bin/startup.sh
apache-tomcat-11.0.18/bin/tool-wrapper.sh
apache-tomcat-11.0.18/bin/version.sh
root@appserver:~# mv apache-tomcat-11.0.18.tar.gz /home/app
root@appserver:~# cd /home/app/tomcat
root@appserver:/home/app/tomcat# ./startup.sh
Using CATALINA_BASE:   /home/app/tomcat
Using CATALINA_HOME:   /home/app/tomcat
Using CATALINA_TMPDIR: /home/app/tomcat/temp
Using JRE_HOME:        /usr
Using CLASSPATH:       /home/app/tomcat/bin/bootstrap.jar:/home/app/tomcat/bin/tomcat-juli.jar
Tomcat started.
root@appserver:/home/app/tomcat# telnet 172.17.0.4 3306
Trying 172.17.0.4...
Connected to 172.17.0.4.
Escape character is '^['.
Host '172.16.0.5' is not allowed to connect to this MySQL server
Connection closed by foreign host.
root@appserver:/home/app/tomcat#
```

3-tire architrcture using Network security group

Web server to dbserver

