

## VM creation

The screenshot shows the Microsoft Azure portal interface. A deployment named "CreateVm-canonical.ubuntu-24\_04-lts-server-20251123125358" is shown as complete. The deployment details include a deployment name, start time (11/23/2025, 12:59:09 PM), subscription (Azure for Students), and resource group (assignment02). The deployment status is "Deployment succeeded". On the right side of the portal, there are several promotional cards: "Cost Management" (Get notified to stay within your budget and prevent unexpected charges on your bill. Set up cost alerts >), "Microsoft Defender for Cloud" (Secure your apps and infrastructure. Go to Microsoft Defender for Cloud >), "Free Microsoft tutorials" (Start learning today >), and "Work with an expert" (Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support. Find an Azure expert >).

## VM ssh

The screenshot shows a Windows desktop environment with a terminal window open. The terminal output shows an SSH session to an Ubuntu 24.04 LTS machine. The user is connected as "azureuser@52.226.164.188". The session displays system information, including the load average (0.08), memory usage (5.6% of 28.02GB), and swap usage (0%). It also shows the date and time (Sun Nov 23 18:12:06 UTC 2025). The user is prompted to enable ESM Apps for security updates. The terminal ends with the prompt "azureuser@virtual-machine-1:~\$".

## Java

The screenshot shows a terminal window displaying the Java version command output. The output shows that Java is running on an OpenJDK 17.0.16 runtime environment, build 17.0.16+8-Ubuntu-0ubuntu124.04.1, for a 64-bit server VM. The terminal prompt is "azureuser@virtual-machine-1:~\$".

## Jenkins

```
azuser@virtual-machine-1:~$ sudo systemctl start jenkins
azuser@virtual-machine-1:~$ sudo systemctl enable jenkins
Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemctl enable jenkins
azuser@virtual-machine-1:~$ sudo systemctl status jenkins
● Jenkins service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
     Active: active (running) since Sun 2025-11-23 18:42:59 UTC; 37s ago
       PID: 5035 (java)
      Tasks: 42 (limit: 993)
     Memory: 278.8M (peak: 319.7M)
        CPU: 16.352s
       CGroup: /system.slice/jenkins.service
               └─5035 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Nov 23 18:42:52 virtual-machine-1 jenkins[5035]: [LF]> This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Nov 23 18:42:52 virtual-machine-1 jenkins[5035]: [LF]> ****
Nov 23 18:42:59 virtual-machine-1 jenkins[5035]: [LF]> 2025-11-23 18:42:59.659+0000 [id=30] INFO jenkins.InitReactorRunner$1@onAttained: Completed initialization
Nov 23 18:42:59 virtual-machine-1 jenkins[5035]: [LF]> 2025-11-23 18:42:59.660+0000 [id=23] INFO hudson.lifecycle.Lifecycle$OnReady: Jenkins is fully up and running
Nov 23 18:42:59 virtual-machine-1 jenkins[5035]: [LF]> 2025-11-23 18:42:59.914+0000 [id=47] INFO hudson.util.Retrier$#start: Performed the action check updates server successfully at the attempt #1
Nov 23 18:42:59 virtual-machine-1 jenkins[5035]: [LF]> 2025-11-23 18:42:59.916+0000 [id=47] INFO hudson.util.Retrier$#start: Performed the action check updates server successfully at the attempt #1
[lines 1-20/20 {END}]
```

The screenshot shows the Jenkins dashboard. At the top, there's a header bar with tabs for 'virtual-machine-1 - Microsoft...', 'ubuntu-wk10 - Microsoft Azure', and 'Dashboard - Jenkins'. Below the header, the main content area has a title 'Welcome to Jenkins!'. It includes a 'Build Queue' section with a dropdown menu, a 'Build Executor Status' section showing 0/2 executors, and a 'Start building your software project' section with a 'Create a job' button. There are also links for 'Set up a distributed build', 'Configure a cloud', and 'Learn more about distributed builds'. At the bottom right, there are links for 'REST API' and 'Jenkins 2.538'. The browser's address bar shows the URL 52.226.164.188:8080.

## Docker

```
No VM guests are running outdated hypervisor (qemu) version
azuser@virtual-machine-1:~$ docker --version
Docker version 29.0.2, build 8108357
azuser@virtual-machine-1:~$ |
```

## Git

```
azureuser@virtual-machine-1:~$ sudo apt install git -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-1ubuntu7.3).
git set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 35 not upgraded.
azureuser@virtual-machine-1:~$ git --version
git version 2.43.0
azureuser@virtual-machine-1:~$ |
```

```
azureuser@virtual-machine-1:~$ cd COMP3104/
azureuser@virtual-machine-1:~/COMP3104$ cd
azureuser@virtual-machine-1:~/COMP3104/
azureuser@virtual-machine-1:~/COMP3104$ ls
README.md      build          package.json  src   wk02  wk04  wk06  wk10
assignment02    package-lock.json public        wk01  wk03  wk05  wk07  wk11
azureuser@virtual-machine-1:~/COMP3104$ cd assignment02/
azureuser@virtual-machine-1:~/COMP3104/assignment02$ ls
hello.txt
azureuser@virtual-machine-1:~/COMP3104/assignment02$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
  ./

nothing added to commit but untracked files present (use "git add" to track)
azureuser@virtual-machine-1:~/COMP3104/assignment02$ cd ..
azureuser@virtual-machine-1:~/COMP3104$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
  assignment02/

nothing added to commit but untracked files present (use "git add" to track)
azureuser@virtual-machine-1:~/COMP3104$ git add assignment02/
azureuser@virtual-machine-1:~/COMP3104$ git commit -m "added assignment02 from VM"
[main 5f05f13] added assignment02 from VM
 1 file changed, 3 insertions(+)
 create mode 100644 assignment02/hello.txt
azureuser@virtual-machine-1:~/COMP3104$ git push -u origin main
Username for 'https://github.com': A-Shalchian
Password for 'https://A-Shalchian@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 405 bytes | 405.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/A-Shalchian/COMP3104
  703b05d..5f05f13  main -> main
branch 'main' set up to track 'origin/main'.
azureuser@virtual-machine-1:~/COMP3104$
```