

Docker Commands

```
Windows PowerShell * + -
Run 'docker COMMAND --help' for more information on a command.
For more help on how to use Docker, head to https://docs.docker.com/go/guides/
PS C:\Users\ryand\Desktop\sem5\comp3123> docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
PS C:\Users\ryand\Desktop\sem5\comp3123> docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
22c1983eb72e comp3095/group-event-service "java -jar app.jar" 10 hours ago Exited (143) 10 minutes ago event-service
2d8bf47384b6 comp3095/group-goal-tracking-service "java -jar app.jar" 10 hours ago Exited (143) 10 minutes ago goal-tracking-service
7b58992a9d91 comp3095/group-wellness-resource-service "java -jar app.jar" 10 hours ago Exited (143) 10 minutes ago wellness-resource-service
547cc7d82e39a9 postgres:16 "docker-entrypoint.s..." 10 hours ago Exited (0) 6 hours ago postgres
5d3f677268b8 mongo:7 "docker-entrypoint.s..." 10 hours ago Exited (0) 6 hours ago mongodb
82af412a9d7a redis:7-alpine "docker-entrypoint.s..." 10 hours ago Exited (0) 6 hours ago redis
44cf7456c6d6 mongo:latest "docker-entrypoint.s..." 6 weeks ago Exited (255) 4 weeks ago 0.0.0.0:27017->27017/tcp comp3095-mongodb
58ac3996e1f9 shalchian/notely:latest "notely" 6 months ago Exited (2) 6 months ago adoring_golick
1d18fcabc52 shalchian/notely:latest "notely" 6 months ago Exited (1) 6 months ago reverent_raman
5bcfc4bc5b0 shalchian/notely:latest "notely" 6 months ago Created quirky_wozniak
360cd1c1e2c0 shalchian/learndocker:0.2.0 "/bin/learn-docker" 6 months ago Exited (2) 6 months ago unruffled_mccarthy
c932b3603161 docker/getting-started "/docker-entrypoint.s..." 6 months ago Exited (0) 6 months ago fervent_hertz
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PS C:\Users\ryand\Desktop\sem5\comp3123> docker run hello-world
Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
$ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
https://hub.docker.com/

For more examples and ideas, visit:
https://docs.docker.com/get-started/
PS C:\Users\ryand\Desktop\sem5\comp3123>
```

Setting up VM

The screenshot shows the Microsoft Azure portal interface. A deployment named "CreateVm-canonical.ubuntu-24_04-lts-server-20251107235737" is displayed as complete. The deployment name is "CreateVm-canonical.ubuntu-24_04-lts-server-20251107235737". The subscription is "Azure for Students" and the resource group is "wk10-lab". The start time was 11/8/2025, 12:02:32 AM. The correlation ID is 64bcef3f-f6f0-4600-baa4-6d3cc2d61fb2. Deployment details include setting up auto-shutdown (Recommended), monitoring VM health, performance, and network dependencies (Recommended), and running a script inside the virtual machine (Recommended). Buttons for "Go to resource", "Create another VM", and "Scale out your VM" are visible. A "Cost management" sidebar on the right provides information about staying within budget and preventing unexpected charges.

Ubuntu Instance

The screenshot shows a Windows desktop environment with a terminal window open. The terminal displays the following Ubuntu system information:

```
ps: t:\Users\ryand\Desktop> ssh -i ubuntu-wk10.key pem azureuser@20.169.217.99
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1012-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sat Nov  8 05:10:09 UTC 2025

System load: 0.81      Processes:           118
Usage of /: 5.6% of 28.02GB   Users logged in:  0
Memory usage: 29%          IPv4 address for eth0: 172.16.0.4
Swap usage:  0%          

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See http://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

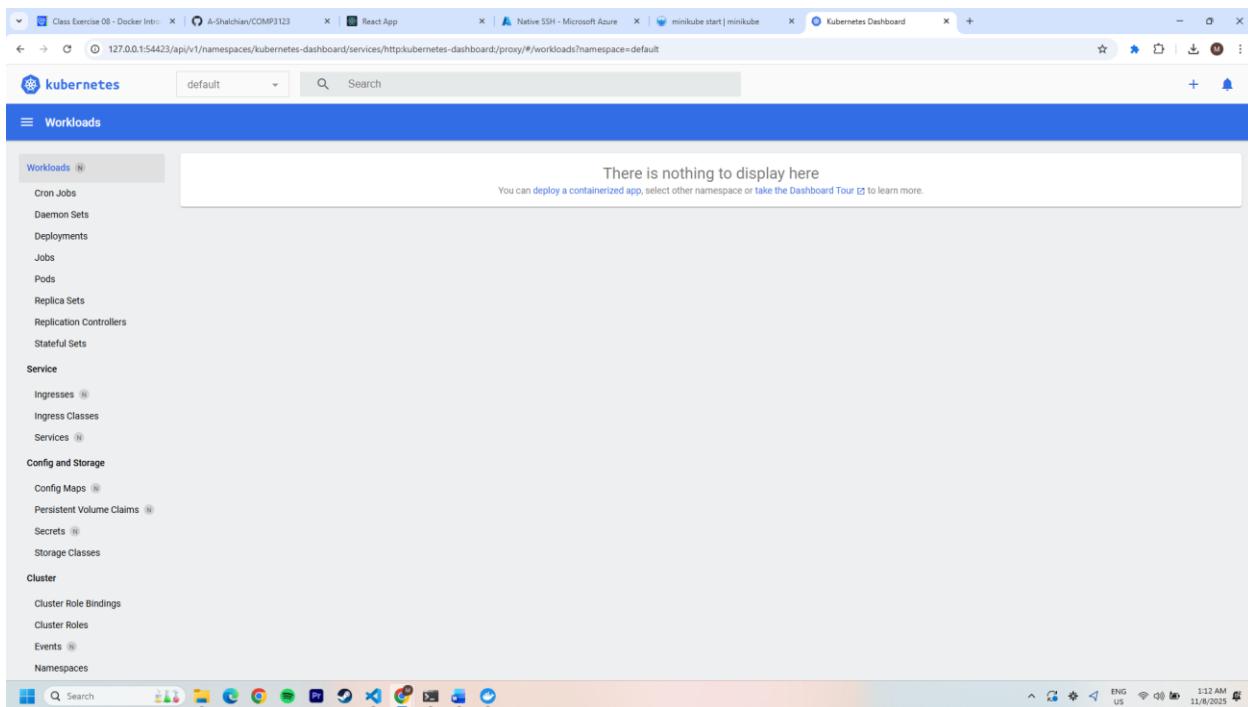
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

azureuser@ubuntu-wk10:~$
```

```
Last login: Sat Nov  8 05:10:11 2025 from 198.96.87.110
azureuser@ubuntu-wk10:~$ sudo apt install curl wget git -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
curl is already the newest version (8.5.0-2ubuntu10.6).
curl set to manually installed.
wget is already the newest version (1.21.4-1ubuntu4.1).
wget set to manually installed.
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 28 not upgraded.
azureuser@ubuntu-wk10:~$ java -version
openjdk version "17.0.16" 2025-07-15
OpenJDK Runtime Environment (build 17.0.16+8-Ubuntu-0ubuntu124.04.1)
OpenJDK 64-Bit Server VM (build 17.0.16+8-Ubuntu-0ubuntu124.04.1, mixed mode, sharing)
azureuser@ubuntu-wk10:~$ |
```

Minikube running



```
Windows PowerShell
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PS C:\Users\ryand> minikube version
minikube version v1.37.0
commit: 65318f4cffff9c12c87ec9eb8f4cdd57b25847f3
PS C:\Users\ryand> minikube start
minikube v1.37.0 on Microsoft Windows 11 Home 10.0.26108.6899 Build 26108.6899
Automatically selected the docker driver. Other choices: virtualbox, ssh
Using Docker Desktop driver with root privileges
Starting "minikube" primary control-plane node in "minikube" cluster
Pulling base image v0.0.48...
Downloaded image manifest v1.0.0 preloaded ...
  > https://storage.googleapis.com/minikube/v1.0.0/preloaded ...
  > https://storage.googleapis.com/minikube/v1.0.0/preloaded ...
  > https://storage.googleapis.com/minikube/v1.0.0/preloaded ...
Creating docker container (CPUs=2, Memory:4096MiB) ...
Failing to connect to https://registry.k8s.io/ from inside the minikube container
To pull new external images, you may need to configure a proxy: https://minikube.sigs.k8s.io/docs/reference/networking/proxy/
Preparing Kubernetes v1.34.0 on Docker 28.4.0 ...
Configuring bridge CNI (Container Networking Interface) ...
Verifying Kubernetes components...
* Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass

! C:\Program Files\Docker\resources\bin\kubectl.exe is version 1.29.2, which may have incompatibilities with Kubernetes 1.34.0.
* Want kubectl v1.34.0 Try 'minikube kubectl -- get pods -A'
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
PS C:\Users\ryand> minikube dashboard
Enabling dashboard ...
  * Using image docker.io/kubernetesui/dashboard:v2.7.0
  * Using image docker.io/kubernetesui/metrics-scraper:v1.0.8
  ⚠ Some dashboard features require the metrics-server addon. To enable all features please run:
    minikube addons enable metrics-server

  🎉 Verifying dashboard health ...
  🎉 Launching proxy ...
  🎉 Verifying proxy health ...
Opening http://127.0.0.1:54423/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...
```

Kubernetes commands

```
Windows PowerShell
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PS C:\Users\ryand> kubectl version
Client Version: v1.29.2
Kustomize Version: v5.0.4-0.20230601165947-5ce0bf390ce3
Server Version: v1.34.0
MINIMONITOR version difference between client (1.29) and server (1.34) exceeds the supported minor version skew of +/-1
PS C:\Users\ryand> kubectl cluster-info
Kubernetes control plane is running at https://127.0.0.1:63651
CoreDNS is running at https://127.0.0.1:63651/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
PS C:\Users\ryand> kubectl get namespaces
NAME          STATUS   AGE
default        Active   2m16s
kube-node-lease Active   2m16s
kube-public    Active   2m16s
kube-system    Active   2m16s
kubernetes-dashboard Active  82s
PS C:\Users\ryand> kubectl get pods
No resources found in default namespace.
PS C:\Users\ryand> kubectl get svc
NAME         TYPE        CLUSTER-IP      EXTERNAL-IP      PORT(S)      AGE
kubernetes   ClusterIP   10.96.0.1      <none>           443/TCP     2m21s
PS C:\Users\ryand> kubectl get deploy
No resources found in default namespace.
PS C:\Users\ryand> kubectl get nodes
NAME          STATUS   ROLES      AGE   VERSION
minikube     Ready    control-plane 2m35s  v1.34.0
PS C:\Users\ryand> |
```