

## 1) Tasks To Be Performed:

1. Install a Docker using VM
2. Pull hshar/webapp (<https://hub.docker.com/r/hshar/webapp>) repository
3. Create a new file in this repository

The screenshot shows the Microsoft Azure Compute Infrastructure Virtual Machines page. The left sidebar is collapsed. The main area displays a table of virtual machines. One row is selected, showing details for a VM named "docker-vm".

Name	Subscription	Resource Group	Location	Status	Operating syst...	Size	Public IP addre...	Disk
docker-vm	Azure subscript...	rg-01	Canada Central	Running	Linux	Standard_D2s_v3	20.151.140.104	1

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

System information as of Wed Jan 28 15:06:31 UTC 2026
System load: 0.34      Processes: 136
Usage of /: 5.6% of 28.02GB  Users logged in: 0
Memory usage: 3%          IPv4 address for eth0: 172.22.0.4
Swap usage: 0%

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
just raised the bar for easy, resilient and secure K8s cluster deployment.
https://ubuntu.com/engage/securing-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://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@docker-vm:~$ sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Get:2 http://archive.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:3 http://archive.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
```

```

azureuser@docker-vm:~ x + v
Preparing to unpack .../5-dnsmasq-base_2.90-2ubuntu0.1_amd64.deb ...
Unpacking dnsmasq-base (2.90-2ubuntu0.1) ...
Selecting previously unselected package docker.io.
Preparing to unpack .../6-docker.io_28.2.2-0ubuntu1~24.04.1_amd64.deb ...
Unpacking docker.io (28.2.2-0ubuntu1~24.04.1) ...
Selecting previously unselected package ubuntu-fan.
Preparing to unpack .../7-ubuntu-fan_0.12.16+24.04.1_all.deb ...
Unpacking ubuntu-fan (0.12.16+24.04.1) ...
Setting up dnsmasq-base (2.90-2ubuntu0.1) ...
Setting up runc (1.3.3-0ubuntu1~24.04.3) ...
Setting up dns-root-data (2024071801~ubuntu0.24.04.1) ...
Setting up bridge-utils (1.7.1-1ubuntu2) ...
Setting up pigz (2.8-1) ...
Setting up containerd (1.7.28-0ubuntu1~24.04.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/containerd.service → /usr/lib/systemd/system/containerd.service.
Setting up ubuntu-fan (0.12.16+24.04.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/ubuntu-fan.service → /usr/lib/systemd/system/ubuntu-fan.service.
Setting up docker.io (28.2.2-0ubuntu1~24.04.1) ...
info: Selecting GID from range 100 to 999 ...
info: Adding group 'docker' (GID 114) ...
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /usr/lib/systemd/system/docker.service.
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /usr/lib/systemd/system/docker.socket.
Processing triggers for dbus (1.14.10-4ubuntu4.1) ...
Processing triggers for man-db (2.12.0-4build2) ...
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.
azureuser@docker-vm:~$ sudo systemctl start docker
sudo systemctl enable docker
azureuser@docker-vm:~$ docker --version
Docker version 28.2.2, build 28.2.2-0ubuntu1~24.04.1
azureuser@docker-vm:~$ |

```

```

azureuser@docker-vm:~ x + v
azureuser@docker-vm:~$ docker pull hshar/webapp
Using default tag: latest
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://127.0.0.1:2375/images/create?fromImage=docker.io/hshar/webapp&tag=latest": dial unix /var/run/docker.sock: connect: permission denied
azureuser@docker-vm:~$ sudo usermod -aG docker azureuser
azureuser@docker-vm:~$ newgrp docker
azureuser@docker-vm:~$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
azureuser@docker-vm:~$ docker pull hshar/webapp
Using default tag: latest
latest: Pulling from hshar/webapp
a48c500e0d24: Pull complete
1e1de00ff7fe1: Pull complete
0330ca45a200: Pull complete
471db38bcfbf: Pull complete
0b4abab487617: Pull complete
c2e32ec79cf0: Pull complete
a18d6ba75273: Pull complete
4c2cc0ff3ce8: Pull complete
Digest: sha256:3c7cbcaba26c01410dcc9cbc57252b50d9ed2f31a2dc24e3f066c61b88e839b
Status: Downloaded newer image for hshar/webapp:latest
docker.io/hshar/webapp:latest
azureuser@docker-vm:~$ |

```

## Creating a New File in the Repository

```

azureuser@docker-vm:~ x + v
azureuser@docker-vm:~$ docker pull hshar/webapp
Using default tag: latest
permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://127.0.0.1:2375/images/create?fromImage=docker.io/hshar/webapp&tag=latest": dial unix /var/run/docker.sock: connect: permission denied
azureuser@docker-vm:~$ sudo usermod -aG docker azureuser
azureuser@docker-vm:~$ newgrp docker
azureuser@docker-vm:~$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
azureuser@docker-vm:~$ docker pull hshar/webapp
Using default tag: latest
latest: Pulling from hshar/webapp
a48c500e0d24: Pull complete
1e1de00ff7fe1: Pull complete
0330ca45a200: Pull complete
471db38bcfbf: Pull complete
0b4abab487617: Pull complete
c2e32ec79cf0: Pull complete
a18d6ba75273: Pull complete
4c2cc0ff3ce8: Pull complete
Digest: sha256:3c7cbcaba26c01410dcc9cbc57252b50d9ed2f31a2dc24e3f066c61b88e839b
Status: Downloaded newer image for hshar/webapp:latest
docker.io/hshar/webapp:latest
azureuser@docker-vm:~$ docker run -it --name webapp_container hshar/webapp /bin/bash
root@a9d54a88025c:/# touch azure_project.txt
root@a9d54a88025c:/# echo "Azure Docker Project File" > azure_project.txt
root@a9d54a88025c:/# ls
azure_project.txt bin boot dev etc home lib lib64 media mnt opt proc root run sbin srv sys tmp usr var
root@a9d54a88025c:/# exit
exit
azureuser@docker-vm:~$ docker commit webapp_container hshar/webapp:azure-project
sha256:5ac12a35f13fbea7bd5e84a8e96a0ad1088531bd78b8d3b62a69c32dd27dd2
azureuser@docker-vm:~$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
hshar/webapp azure-project 5ac12a35f13f 5 seconds ago 303MB
hshar/webapp latest 0cbc1f535ed8 6 years ago 303MB
azureuser@docker-vm:~$ |

```

## 2) Tasks To Be Performed:

1. Create an Azure Container Registry and connect it to Docker running in VM
2. Upload the image you created in this Azure to container registry
3. Create an app service to deploy the same image

The screenshot shows the Microsoft Azure portal's Container registries page. At the top, there are navigation links for Home, Upgrade, and a search bar. Below the header, there are several buttons: 'Create', 'Manage view', 'Refresh', 'Export to CSV', 'Open query', 'Assign tags', and 'Add to service group'. A note says 'You are viewing a new version of Browse experience. Click here to access the old experience.' There are filter options for 'Subscription equals all', 'Resource Group equals all', 'Location equals all', and a 'Group by none' dropdown. The main table lists one container registry:

Name	Type	Resource Group	Location	Subscription
acrrankith123	Container registry	rg-01	Canada Central	Azure subscription 1

At the bottom left, it says 'Showing 1 - 1 of 1. Display count: auto'. On the right, there is a 'Give feedback' link.

```
azureuser@docker-vm:~$ sudo usermod -aG docker azureuser
azureuser@docker-vm:~$ newgrp docker
azureuser@docker-vm:~$ docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
azureuser@docker-vm:~$ docker pull hshar/webapp
Using default tag: latest
latest: Pulling from hshar/webapp
a48c500ed24e: Pull complete
1e1de00ff7e1: Pull complete
0330ca05a200: Pull complete
471db38bcfbf: Pull complete
0b4abab487617: Pull complete
c2e32ec79cf9: Pull complete
a18d6ba75273: Pull complete
4c2cc0ff3ce8: Pull complete
Digest: sha256:3c7cbcaba26c01410dcc9cbc57252b50d9ed2f31a2dc24e3f066c61b88e839b
Status: Downloaded newer image for hshar/webapp:latest
docker.io/hshar/webapp:latest
azureuser@docker-vm:~$ docker run -it --name webapp_container hshar/webapp /bin/bash
root@a9d54a88025c:/# touch azure_project.txt
root@a9d54a88025c:/# echo "Azure Docker Project File" > azure_project.txt
root@a9d54a88025c:/# ls
azure_project.txt  bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@a9d54a88025c:/# exit
exit
azureuser@docker-vm:~$ docker commit webapp_container hshar/webapp:azure-project
sha256:5ac12a35f13fbea71bd5e84a8e96a0ad1080531bd78b8d3b62a69c32dd427dd2
azureuser@docker-vm:~$ docker images
REPOSITORY          TAG           IMAGE ID      CREATED             SIZE
hshar/webapp        azure-project  5ac12a35f13f  5 seconds ago   303MB
hshar/webapp        latest         0cbc1f535ed8  6 years ago     303MB
azureuser@docker-vm:~$ docker login acrrankith123.azurecr.io
Username: acrrankith123
Password:
WARNING! Your credentials are stored unencrypted in '/home/azureuser/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/
Login Succeeded
azureuser@docker-vm:~$ |
```

```

azureuser@docker-vm:~ + - x
azur...euser@docker-vm:~$ docker login acrankith123.azurecr.io
Authenticating with existing credentials... [Username: acrankith123]
Info → To login with a different account, run 'docker logout' followed by 'docker login'

Login Succeeded
azur...euser@docker-vm:~$ docker tag hshar/webapp:azure-project acrankith123.azurecr.io/webapp:v1
azur...euser@docker-vm:~$ docker push acrankith123.azurecr.io/webapp:v1
The push refers to repository [acrankith123.azurecr.io/webapp]
e7b5320c0cae: Pushed
f9445cd87ab: Pushed
3e59a52a52d1: Pushed
754d8c63561b: Pushed
059ad60bcaf: Pushed
8db5f072feec: Pushed
67885e448177: Pushed
ec75999a0cb1: Pushed
65bdd50e0e76a: Pushed
v1: digest: sha256:4cb486a7471a1d358d6fb5dcbccfda619646df720fcdaf57aa02a7c6e16de1aa size: 2192
azur...euser@docker-vm:~$ docker push acrankith123.azurecr.io/webapp:v1
The push refers to repository [acrankith123.azurecr.io/webapp]
e7b5320c0cae: Layer already exists
f9445cd87ab: Layer already exists
3e59a52a52d1: Layer already exists
754d8c63561b: Layer already exists
059ad60bcaf: Layer already exists
8db5f072feec: Layer already exists
67885e448177: Layer already exists
ec75999a0cb1: Layer already exists
65bdd50e0e76a: Layer already exists
v1: digest: sha256:4cb486a7471a1d358d6fb5dcbccfda619646df720fcdaf57aa02a7c6e16de1aa size: 2192
azur...euser@docker-vm:~$ |

```

Microsoft Azure Upgrade

Search resources, services, and docs (G+)

Copilot

ankithak90@gmail.com DEFAULT DIRECTORY (ANKITHAK...)

Home > Container registries > acrankith123

**Container regist...** ...

Default Directory (ankithak90@gmail.onmicrosoft.c...)

+ Create Manage view ...

You are viewing a new version of Browse experience. Click here to access the old experience.

Name  acrankith123

Overview Refresh Manage Deleted Repositories

Search for filter repositories ...

Repositories ↑↓ Cache Rule

webapp

Showing 1 - 1 of 1. Display auto count:

- Repositories
  - Webhooks
  - Geo-replications
  - Tasks
  - Connected registries
  - Cache
  - Repository permissions
  - Policies

Add or remove favorites by pressing Ctrl+L+Shift+F

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Container registries > acrankith123 | Repositories >

### acrankith123 | Repositories

Container registry

Search Refresh ...

Overview Activity log Access control (IAM) Tags Quick start Resource visualizer Events Settings Services

Repositories ↑

webapp

webapp ... Repository webapp Tag count 1 Last updated date 1/28/2026, 8:55 PM GMT+5:30 Manifest count 1

Search to filter tags ...

Tags ↑ Digest ↑ Last modified

v1 sha256:4cb486a7471a1d358d6fb5dcbccfda6196... 1/28/2026, 8:55 PM GMT+5:30

Add or remove favorites by pressing Ctrl+Shift+F

## Create an App Service to Deploy the Same Image

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Create a resource >

### Create Web App

Project Details

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

Subscription \*  Resource Group \*  Create new

Instance Details

Name  -chase4apdyhwbkcx.canadacentral-01.azurewebsites.net

Secure unique default hostname on. More about this update

Publish \*

Code  Container

Operating System \*

Linux  Windows

Region \*

Announced plan pricing tier determines the location, features, cost, and compute resources associated with your app.

**Pricing plans**

Announced plan pricing tier determines the location, features, cost, and compute resources associated with your app.

**Review + create** < Previous Next : Database >

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Copilot ? ? ? ? ? ? ? ? ? ? ? ?

ankithak99@gmail.com DEFAULT DIRECTORY (ANKITHAK...)

Home > Create a resource > Create Web App

Name \* acrdevopsdemo

Azure container registry options

Registry \* acrankith123

Authentication \*  Managed identity  Admin credentials

Identity \* (New) ua-id-b479

! When using managed identity, image and tag fields will not auto populate. Please manually enter the image and tag below.

Image \* webapp

Tag \* v1

Port 80

Startup Command Example: /bin/bash -c; echo hello; sleep 10000

Review + create < Previous Next : Networking >

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Copilot ? ? ? ? ? ? ? ? ? ? ?

ankithak99@gmail.com DEFAULT DIRECTORY (ANKITHAK...)

Home > App Services >

App Services ... Default Directory (ankithak99@gmail.com) Microsoft...

+ Create < ...

You are viewing a new version of Browse experience. Click here to access the old experience.

Name  webapp-docker-demo  webapp-docker-demo123

webapp-docker-demo123 Web App

Search ... Overview Browse Stop Swap Restart Delete Refresh Download publish profile Reset publish profile ... JSON View

Activity log (move)  
Access control (IAM) (move)  
Tags (move)  
Diagnose and solve problems (move)  
Microsoft Defender for Cloud (move)  
Events (preview) (move)  
Log stream (move)  
Resource visualizer (move)  
Deployment (move)  
Settings (move)  
Performance (move)  
App Service plan (move)  
Development Tools (move)  
API (move)  
Monitoring (move)  
Automation (move)

Default domain (move)  
Default domain webapp-docker-demo123-fgava2dpd8eafddg.canadacentral-01.azurewebsites.net  
App Service Plan ASP-rg01-a656 (B1: 1)  
Operating System Linux  
Location Canada Central  
Subscription Azure subscription 1  
Subscription ID dd12d810-7a12-4ebd-9467-2d502b9116fb  
Tags (edit) Add tags

Properties Monitoring Logs Capabilities Notifications (0) Recommendations

Web app Name webapp-docker-demo123  
Publishing model Container  
Container Image acrankith123.azurecr.io/webapp:v1

Showing 1 - 2 of 2. Display auto count: