CASE STUDY-1

Sushmita Sadhwan

Step 1: Create a Azure Virtual Machine

Login to the Azure Portal

Select Create New Virtual Machine

Select Size, Disks etc.

Review and Create the VM

Create a virtual machine

Basics Disks	Networking	Management	Monitoring	Advanced	Tags	Review + create		
image. Complete		Review + create t	_			r use your own custo parameters or revie		
Project details								
Select the subscri your resources.	iption to manage d	eployed resources	and costs. Use re	source groups	like folde	rs to organize and n	nanage all	
Subscription *	D	RDBD	RDBD					
Resource group * ①		RDBD1 Create new	ı				~	
Instance details	;							
Virtual machine r	name * ()	casestudy	casestudysushmita					
Region * (i)		(US) Cent	ral US				~	
Availability options (i)		Availabili	Availability zone					
Availability zone * ①		Zones 1					~	
			n now select mult ne. Learn more ♂	•	cting mul	tiple zones will crea	te one VM	
Security type (i)			Trusted launch virtual machines Configure security features					
			Ubuntu Server 22.04 LTS - x64 Gen2 sill images Configure VM generation					

Run with Azure Spot discount ①					
Size * ①	Standard_B2s - 2 vcpus, 4 GiB memory (₹2,860.78/month)	V			
	See all sizes				
	tem(s) availability based on policy assignment(s) for the selected scope. 9e6823bb206147ba8a09005e (Policy details)				
Administrator account					
Authentication type ①	○ SSH public key				
	Password				
Username * ①	sushmita	~			
Password * ①		~			
Confirm password * ①		~			
Inbound port rules					
Select which virtual machine network ports network access on the Networking tab.	are accessible from the public internet. You can specify more limited or granular				
Public inbound ports * ①	○ None				
	Allow selected ports				
Select inbound ports *	HTTP (80), SSH (22)	~			
	All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.				

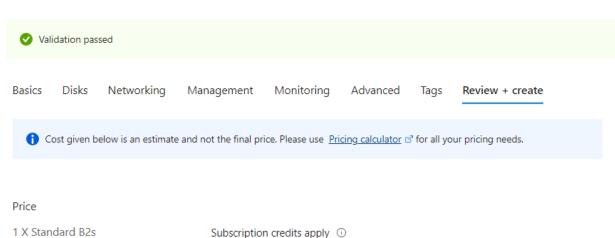
Disk

Create a virtual machine

Basics	Disks	Networking	Management	Monitoring	Advanced	Tags	Review + create	
Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. Learn more								
VM disk	VM disk encryption							
Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (OS and data disks) at rest by default when persisting it to the cloud.								
Encryptio	n at host	()						
				yption at host is no n more about enal			d subscription.	
OS disk								
OS disk ty	/pe * (i)		Standard I	HDD (locally-red	undant storage)		V	
				vorkloads. Virtua			ommend Premium SSD for SSD disks qualify for the 99.9%	,
Delete wi	th VM ①		$\overline{\hspace{1cm}}$					
Key management (i)		Platform-r	Platform-managed key					
Enable Ultra Disk compatibility ①		Ultra disk is	Ultra disk is not supported with selected security type.					
Data disks for casestudysushmita								
You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.								
LUN	Name		Size (GiB)	Disk type	Host	caching	Delete with VM ①	

Review & Create

Create a virtual machine



by Microsoft

3.9189 INR/hr

Terms of use | Privacy policy

Pricing for other VM sizes

TERMS

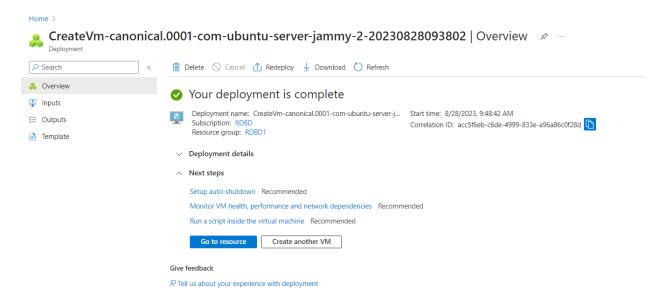
By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the Azure Marketplace Terms for additional details.

Name	part62 undefined		
Preferred e-mail address	part62@ravinsofttech.com		
Preferred phone number			



A You have set SSH port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go back to Basics tab.

Completed deployment



Connect to the VM from SSHEASY/CMD

View the VM Resource Created from the above steps.

Use the Public IP address, Username and Password to access the VM from the command line.

```
Sushmita@casestudysushmita:~$ sudo apt install gnome-terminal
Reading package lists... Done
Reading dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
    adwaita-icon-theme alsa-topology-conf alsa-ucm-conf aspell aspell-en at-spi2-core bubblewrap dconf-gsettings-backend dconf-service desktop-file-utils dictionaries-common docbook-xml emacsen-common enchant-2 fontconfig fontconfig-config fonts-dejavu-core glib-networking glib-networking-common glib-networking-services gnome-terminal-data gsettings-desktop-schemas gstreamerl.0-gl gstreamerl.0-plugins-base gstreamerl.0-plugins-good gstreamerl.0-x gtk-update-icon-cache gvfs gvfs-common gvfs-daemons gvfs-libs hicolor-icon-theme humanity-icon-theme hunspell-en-us libaal libasound2 libasound2-data libaspell15 libasyncns0 libatk-bridge2.0-0 libatk1.0-0 libatk1.0-data libatomic1 libatspi2.0-0 libadahi-clibidarion-data libavahi-common3 libavol394-0 libcaca0 libcairo-gobject2 libcairo2 libcanberra0 libcdparanoia0 libcolord2 libcups2 libdatriel libdaril libdeflate0 libdrm-andqpul libdrm-intel1 libdrm-nouveau2 libdrm-radeon1 libdv4 libegl-mesa0 libegl1 libenchant-2-2 libepoxy0 libevdev2 libflac8 libfontconfig1 libghl libgk-libaber-dori libglr-base-3-1 libgdk-pixbuf-2.0-0 libgdk-pixbuf2.0-bin libgk-pixbuf2.0-common libgl1 libgla-mesa-1 libglapi-mesa libglvnd0 libglx-mesa0 libglx0 libgraphene-1.0-0 libgstreamer-plugins-base1.0-0 libgstreamer-plugins-base1.0-0 libgstreamer-glugins-base1.0-0 libgstreamer-glugins-doclugins-libgstreamer-glugins-glugins-doclugins-glugins-glugins-glugins-glugins-glugins-glugins-glugins-glugins
```

```
sushmita@casestudysushmita:~$ sudo apt-get install ca-certificates curl gnupg Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ca-certificates is already the newest version (20230311ubuntu0.22.04.1).
ca-certificates set to manually installed.
curl is already the newest version (7.81.0-1ubuntu1.13).
curl set to manually installed.
gnupg is already the newest version (2.2.27-3ubuntu2.1).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 17 not upgraded.
sushmita@casestudysushmita:~$
```

```
ushmita@casestudvsushmita:~$ echo
  "deb [arch="$(dpkg --print-architecture)" signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubu
  "$(. /etc/os-release && echo "$VERSION CODENAME")" stable" | \
  sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
sushmita@casestudysushmita:~$ sudo apt-get update
Hit:1 http://azure.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease
Get:5 https://download.docker.com/linux/ubuntu jammy InRelease [48.9 kB]
Get:6 https://download.docker.com/linux/ubuntu jammy/stable amd64 Packages [21.4 kB]
Fetched 70.3 kB in 1s (122 kB/s)
Reading package lists... Done
sushmita@casestudysushmita:~$ sudo apt-get update
sudo apt-get install ./docker-desktop-<version>-<arch>.deb
Hit:1 http://azure.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://download.docker.com/linux/ubuntu jammy InRelease
Reading package lists... Done
-bash: version: No such file or directory sushmita@casestudysushmita:~$
```

Rename the docker file

```
ushmita@casestudysushmita:~$ sudo wget https://desktop.docker.com/linux/main/amd64/docker-desktop-4.22.1-amd64.deb?utm
 e=docker&utm_medium=webreferral&utm_campaign=docs-driven-download-linux-amd64
[2] 6558
sushmita@casestudysushmita:~$
Redirecting output to 'wget-log'.
                              sudo wget https://desktop.docker.com/linux/main/amd64/docker-desktop-4.22.1-amd64.deb?utm
[1]- Done
e=docker
                             utm medium=webreferral
[2]+ Done
sushmita@casestudysushmita:~$ ls
                                 'docker-desktop-4.22.1-amd64.deb?utm source=docker' wget-log
sushmita@casestudysushmita:~$ sudo mv ^C
sushmita@casestudysushmita:~$ sudo mv ^C
sushmita@casestudysushmita:~$ sudo mv 'docker-desktop-4.22.1-amd64.deb?utm_source=docker' docker-desktop-4.22.1-amd64.de
sushmita@casestudysushmita:~$ ls
                                wget-log
sushmita@casestudysushmita:~$ sudo apt-get update
Hit:1 http://azure.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://download.docker.com/linux/ubuntu jammy InRelease
Reading package lists... Done
```

```
sushmita@casestudysushmita:~$ sudo apt-get install ./docker-desktop-4.22.1-amd64.deb
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Note, selecting 'docker-desktop' instead of './docker-desktop-4.22.1-amd64.deb'
The following additional packages will be installed:

acl cpu-checker docker-buildx-plugin docker-ce-cli docker-compose-plugin ibverbs-providers ipxe-qemu

ipxe-qemu-256k-compat-efi-roms libboost-iostreams1.74.0 libboost-thread1.74.0 libbrlapi0.8 libcacard0 libdaxctl1

libdecor-0-0 libdecor-0-plugin-1-cairo libfdt1 libgfapi0 libgfrpc0 libgfxdr0 libglusterfs0 libibverbs1 libice6 libiscsi
  libndctl6 libnl-route-3-200 libpcsclite1 libpmem1 libpmemobj1 libqrencode4 librados2 librbd1 librdmacm1 libsd12-2.0-0
  libslirp0 libsm6 libspice-server1 liburing2 libusbredirparser1 libvirg1renderer1 libxmu6 libxss1 libxt6 msr-tools ovmf
 pass qemu-block-extra qemu-system-common qemu-system-data qemu-system-gui qemu-system-x86 qemu-utils qrencode seabios
 tree uidmap xclip
uggested packages:
 pcscd xdg-utils gstreamer1.0-libav gstreamer1.0-plugins-ugly libxml-simple-perl python ruby samba vde2 debootstrap
The following NEW packages will be installed:
 acl cpu-checker docker-buildx-plugin docker-ce-cli docker-compose-plugin docker-desktop ibverbs-providers ipxe-qemu
  ipxe-qemu-256k-compat-efi-roms libboost-iostreams1.74.0 libboost-thread1.74.0 libbrlapi0.8 libcacard0 libdaxctl1
  libdecor-0-0 libdecor-0-plugin-1-cairo libfdt1 libgfapi0 libgfrpc0 libgfxdr0 libglusterfs0 libibverbs1 libice6 libiscs
  libndctl6 libnl-route-3-200 libpcsclite1 libpmem1 libpmemobj1 libqrencode4 librados2 librbd1 librdmacm1 libsd12-2.0-0
  libslirp0 libsm6 libspice-server1 liburing2 libusbredirparser1 libvirglrenderer1 libxmu6 libxss1 libxt6 msr-tools ovmf
 pass qemu-block-extra qemu-system-common qemu-system-data qemu-system-gui qemu-system-x86 qemu-utils qrencode seabios
 tree uidmap xclip upgraded, 57 newly installed, 0 to remove and 17 not upgraded.
```

Start docker-desktop

```
ta@casestudysushmita:~$ systemctl --user start docker-desktop
sushmita@casestudysushmita:~$ docker compose version
Docker Compose version v2.20.2-desktop.1
sushmita@casestudysushmita:~$ docker --version
Oocker version 24.0.5, build ced0996
sushmita@casestudysushmita:~$ docker version
Cannot connect to the Docker daemon at unix:///var/run/docker.sock. Is the docker daemon running?
Client: Docker Engine - Community
 Cloud integration: v1.0.35-desktop+001
 Version:
                   24.0.5
 API version:
                   1.43
 Go version:
                   go1.20.6
 Git commit:
                    ced0996
 Built:
                    Fri Jul 21 20:35:18 2023
 OS/Arch:
                   linux/amd64
 Context:
                   default
sushmita@casestudysushmita:~$ cd /path/to/working/directory
git clone https://github.com/spring-projects/spring-petclinic.git
d spring-petclinic
-bash: cd: /path/to/working/directory: No such file or directory
Cloning into 'spring-petclinic'...
remote: Enumerating objects: 9793, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (6/6)
```

```
remote: Total 9793 (delta 0), reused 8 (delta 0), pack-reused 9782
Receiving objects: 100% (9793/9793), 7.83 MiB | 23.73 MiB/s, done.
Resolving deltas: 100% (3718/3718), done.
sushmita@casestudysushmita:~/spring-petclinic$ # syntax=docker/dockerfile:1

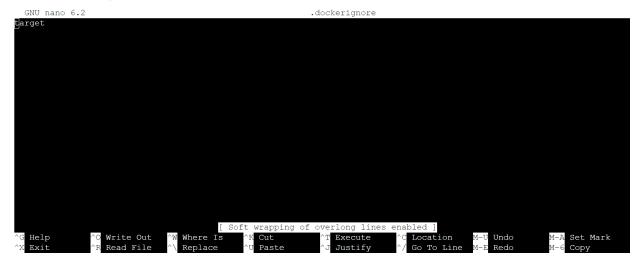
FROM eclipse-temurin:17-jdk-jammy
FROM: command not found
sushmita@casestudysushmita:~/spring-petclinic$ # syntax=docker/dockerfile:1
sushmita@casestudysushmita:~/spring-petclinic$ FROM eclipse-temurin:17-jdk-jammy
FROM: command not found
sushmita@casestudysushmita:~/spring-petclinic$ touch Dockerfile
sushmita@casestudysushmita:~/spring-petclinic$ touch Dockerfile
sushmita@casestudysushmita:~/spring-petclinic$ nano Dockerfile
sushmita@casestudysushmita:~/spring-petclinic$ nano .dockerignore
sushmita@casestudysushmita:~/spring-petclinic$ nano .dockerignore
sushmita@casestudysushmita:~/spring-petclinic$ docker build --tag java-docker
ERROR: "docker buildx build" requires exactly 1 argument.
See 'docker buildx build [OPTIONS] PATH | URL | -

Start a build
sushmita@casestudysushmita:~/spring-petclinic$ docker build --tag java-docker .
ERROR: Cannot connect to the Docker daemon at unix:///var/run/docker.sock. Is the docker daemon running?
sushmita@casestudysushmita:~/spring-petclinic$ |
```

Create the Java File(Dockerfile)

.dockerignore file

Connected to sushmita@20.29.56.205



```
sushmita@casestudysushmita:~/spring-petclinic$ sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-ple
in docker-compose-plugin
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
docker-buildx-plugin is already the newest version (0.11.2-1~ubuntu.22.04~jammy).
docker-buildx-plugin set to manually installed.
docker-ce-cli is already the newest version (5:24.0.5-1~ubuntu.22.04~jammy).
docker-ce-cli is already the newest version (2.20.2-1~ubuntu.22.04~jammy).
docker-compose-plugin is already the newest version (2.20.2-1~ubuntu.22.04~jammy).
docker-compose-plugin set to manually installed.
Suggested packages:
aufs-tools cgroupfs-mount | cgroup-lite
The following NEW packages will be installed:
containerd.io docker-ce docker-ce-rootless-extras pigz slirp4netns
0 upgraded, 5 newly installed, 0 to remove and 17 not upgraded.
Need to get 60.4 MB of archives.
After this operation, 239 MB of additional disk space will be used.
Get:1 http://azure.archive.ubuntu.com/ubuntu jammy/universe amd64 pigz amd64 2.6-1 [63.6 kB]
Get:2 http://azure.archive.ubuntu.com/ubuntu jammy/universe amd64 slirp4netns amd64 1.0.1-2 [28.2 kB]
Get:3 https://download.docker.com/linux/ubuntu jammy/stable amd64 containerd.io amd64 1.6.22-1 [28.3 MB]
Get:4 https://download.docker.com/linux/ubuntu jammy/stable amd64 docker-ce-rootless-extras amd64 5:24.0.5-1~ubuntu.22.04~jammy [9032 kB]
```

Test if docker is running

Connected to sushmita@20.29.56.205

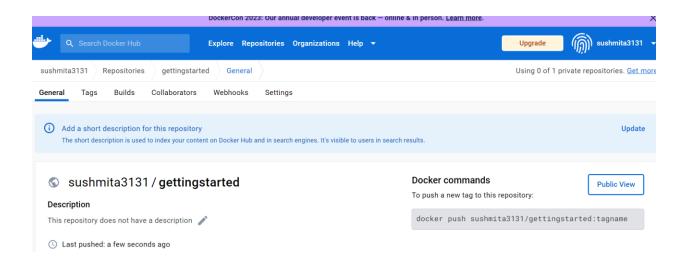
```
sushmita@casestudysushmita:~/spring-petclinic$ systemctl                     start docker-desktop
Authentication is required to start 'docker-desktop.service'.
Authenticating as: Ubuntu (sushmita)
Password:
Failed to start docker-desktop.service: Unit docker-desktop.service not found.
Sushmita@casestudysushmita:~/spring-petclinic$ sudo docker run hello-world 
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
719385e32844: Pull complete
Digest: sha256:dcba6daec718f547568c562956fa47e1b03673dd010fe6ee58ca806767031d1c
Status: Downloaded newer image for hello-world:latest
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
    The Docker daemon streamed that output you are currently reading.

The Docker daemon streamed that output to the Docker client, which sent it
```

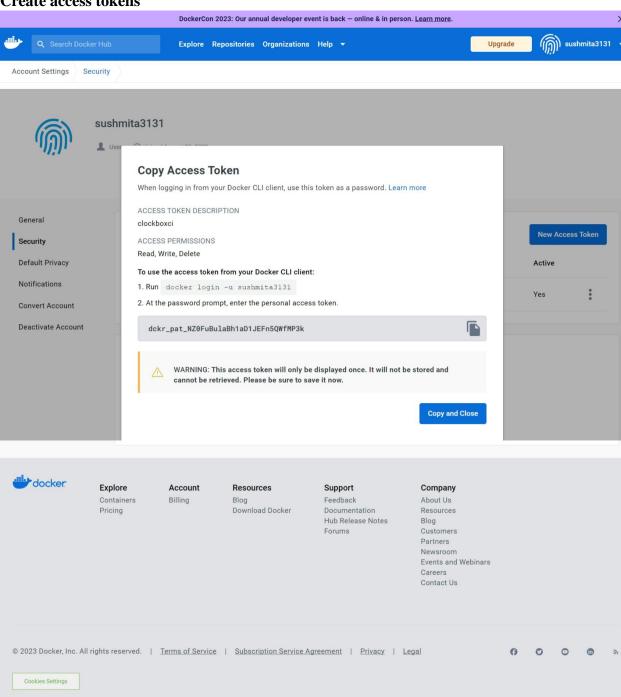
```
sushmita@casestudysushmita:-/spring-petclinic$ docker build --tag java-docker .

ERROR: permission denied while trying to connect to the Docker daemon socket at unix://var/run/docker.sock: Get "http://svar$2Frun$2F2docker.sock/ ping": dial unix /var/run/docker.sock: connect: permission denied sushmita@casestudysushmita:-/spring-petclinic$ sudo docker.sock: connect: permission denied sushmita@casestudysushmita.sock: connect: permission denied sushmita@casestudysushmita:-/spring-petclinic$ sudo docker.sock: connect: permission denied sushmita@casestudysushmita:-/spring-petclinic*.sock: connect: permission denied sushmita@casestudysushmita.sock: connect: permission denied sushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita.sock: connect: permission denied sushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@casestudysushmita@cas
```

ushmita@casestudysushmita:~/spring-petclinic\$ sudo docker images REPOSITORY TAG TMAGE TD CREATED SIZE e8f5db5925be iava-docker latest 2 minutes ago 585MB 9c7a54a9a43c 3 months ago ello-world latest 13.3kB ushmita@casestudysushmita:~/spring-petclinic\$



Create access tokens

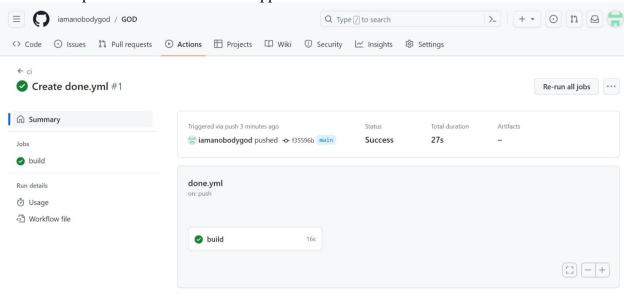


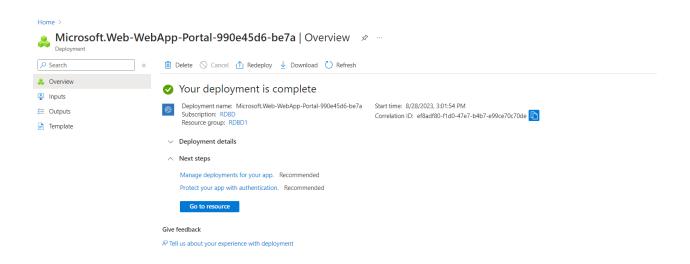
Deploy in Azure Webapps

Choose the create a new webapp option.

Tweak the settings and create the resource.

Click on the public domain to view the app.





while installing Maven we encountered that our machine has JAVA11 but we have to install JAVA17



Commands:

clear

sudo apt update

sudo apt install git

sudo apt install maven

sudo apt update

sudo apt-get install ca-certificates curl gnupg

sudo install -m 0755 -d /etc/apt/keyrings

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o

/etc/apt/keyrings/docker.gpg

sudo chmod a+r /etc/apt/keyrings/docker.gpg

echo "deb [arch="\$(dpkg --print-architecture)" signed-by=/etc/apt/keyrings/docker.gpg]

https://download.docker.com/linux/ubuntu \

"\$(./etc/os-release && echo "\$VERSION_CODENAME")" stable" | sudo tee

/etc/apt/sources.list.d/docker.list > /dev/null

sudo apt-get update

sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin

sudo docker run hello-world

systemctl status docker

git clone https://github.com/hrb1989/shell_7_foundation_Java_Spring.git

cd shell_7_foundation_Java_Spring

mvn install -DskipTests

sudo apt install -y openjdk-17-jdk

mvn install -DskipTests

docker build -t <name> -f /home/azureuser/shell_7_foundation_Java_Spring/Dockerfile

vi Dockerfile

docker build --tag sushmita3131-docker:latest.

sudo docker build --tag sushmita3131-docker:latest .
sudo docker login
sudo docker images
sudo docker tag sushmita3131-docker:latest sushmita3131-docker
sudo docker push sushmita3131-docker