

# Azure Assignment

## (AZ – 104- Module 5)

### Avishekh Sinha

## MODULE 5 – Web App and Container Services

### ASSIGNMENT -1

1. INSTALL A DOCKER USING VM.
2. PULL HSHAR/WEBAPP (<https://hub.docker.com/r/hshar/webapp>) REPOSITORY
3. CREATE NEW FILE IN THIS REPOSITORY

To install Docker Runtime on a Linux VM- Run the following command

UPDATE PACKAGE	sudo apt-get update
INSTALL DOCKER	<pre>sudo apt-get install docker.io Fetches 21.5 MB in 4s (6076 kB/s) Reading package lists... Done avishekh@linuxDockerVM:~\$ sudo apt-get install docker.io Reading package lists... Done Building dependency tree Reading state information... Done The following additional packages will be installed:   bridge-utils containerd dns-root-data dnsmasq-base libidn11 pigz runc ubuntu-fan Suggested packages:   ifupdown aufs-tools cgroupfs-mount   cgroup-lite debootstrap docker-doc rinse zfs-fuse   zfsutils The following NEW packages will be installed:   bridge-utils containerd dns-root-data dnsmasq-base docker.io libidn11 pigz runc ubuntu-fan 0 upgraded, 9 newly installed, 0 to remove and 0 not upgraded. Need to get 69.2 MB of archives. After this operation, 334 MB of additional disk space will be used. Do you want to continue? [Y/n] Y Get:1 http://azure.archive.ubuntu.com/ubuntu focal/universe amd64 pigz amd64 2.4-1 [57.4 kB] Get:2 http://azure.archive.ubuntu.com/ubuntu focal/main amd64 bridge-utils amd64 1.6-2ubuntu1 [30.5 kB] Get:3 http://azure.archive.ubuntu.com/ubuntu focal-updates/main amd64 runc amd64 1.1.0-0ubuntu1~20.04.2 [3894 kB] Get:4 http://azure.archive.ubuntu.com/ubuntu focal-updates/main amd64 containerd amd64 1.5.9-0ubuntu1~20.04.6 [33.0 MB] Get:5 http://azure.archive.ubuntu.com/ubuntu focal/main amd64 dns-root-data all 2019052802 [5300 B] Get:6 http://azure.archive.ubuntu.com/ubuntu focal/main amd64 libidn11 amd64 1.33-2.2ubuntu2 [46.2 kB] Get:7 http://azure.archive.ubuntu.com/ubuntu focal-updates/main amd64 dnsmasq-base amd64 2.80-1.1ubuntu1.6 [315 kB] Get:8 http://azure.archive.ubuntu.com/ubuntu focal-updates/universe amd64 docker.io amd64 20.10.12-0ubuntu2~20.04.1 [34.4 kB] Get:9 http://azure.archive.ubuntu.com/ubuntu focal-updates/main amd64 ubuntu-fan all 0.12.13ubuntu0.1 [34.4 kB] Fetched 69.2 MB in 1s (46.8 MB/s) Preconfiguring packages ... Selecting previously unselected package pigz. (Reading database ... 58634 files and directories currently installed.) Preparing to unpack .../0-pigz_2.4-1_amd64.deb ...</pre>
CHECK DOCKER STATUS	sudo service docker status

	<pre> avishekh@linuxDockerVM:~\$ sudo service docker status ● docker.service - Docker Application Container Engine    Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)    Active: active (running) since Tue 2023-01-17 08:00:06 UTC; 2min 18s ago  TriggeredBy: ● docker.socket      Docs: https://docs.docker.com     Main PID: 2603 (dockerd)       Tasks: 7      Memory: 36.9M     CGroup: /system.slice/docker.service             └─2603 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock </pre>
TO PULL THE REPO	<pre> sudo docker pull hshar/webapp avishekh@linuxDockerVM:~\$ sudo docker pull hshar/webapp Using default tag: latest latest: Pulling from hshar/webapp a48c500ed24e: Pull complete 1e1de00ff7e1: Pull complete 0330ca45a200: Pull complete 471db38bcfbf: Pull complete 0b4aba487617: Pull complete c2e32ec79cfd: Pull complete a18d6ba75273: Pull complete 4c2cc0ff3ce8: Pull complete Digest: sha256:3c7cbcab1a26c01410dcc9cbc57252b50d9ed2f31a2dc24e3f066c61b88e839b Status: Downloaded newer image for hshar/webapp:latest docker.io/hshar/webapp:latest avishekh@linuxDockerVM:~\$ </pre>
TO CHECK THE IMAGES	<pre> sudo docker images avishekh@linuxDockerVM:~\$ sudo docker images REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE hshar/webapp         latest             0cbclf535ed8       3 years ago        303MB avishekh@linuxDockerVM:~\$ sudo docker ps -a </pre>
TO CREATE THE DOCKER CONTAINER	<pre> sudo docker run -itd --name myapp hshar/webapp avishekh@linuxDockerVM:~\$ sudo docker run -itd --name myapp hshar/webapp cbeafb6cbc58e8a224678bebc9a983c0a6529008f7e09028d86c48183a5fa22da avishekh@linuxDockerVM:~\$ sudo docker ps -a CONTAINER ID   IMAGE      COMMAND                  CREATED             STATUS              PORTS           NAMES cbeafb6cbc58   hshar/webapp  "/bin/sh -c 'apachec..."  8 seconds ago      Up 6 seconds       80/tcp          myapp avishekh@linuxDockerVM:~\$ </pre>
TO RUN THE DOCKER CONTAINER	<pre> sudo docker exec -it myapp bash Run a command in a running container avishekh@linuxDockerVM:~\$ sudo docker exec -it myapp bash root@cbeafb6cbc58:/# </pre>

CREATING  
NEW FILE IN  
THIS  
REPOSITORY

- Navigate to webroot directory – **cd /var/www/html**
- Open the Editor to add the file - **nano index.html**
- **Copy the given HTML in index.html**

Note

- a. To save file - ctrl+s
- b. To exit the editor – ctrl +x

## ASSIGNMENT -2

---

1. CREATE 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 THE DEPLOY THE SAME IMAGE



## Create container registry ...

**Basics**

[Networking](#)

[Encryption](#)

[Tags](#)

[Review + create](#)

Azure Container Registry allows you to build, store, and manage container images and artifacts in a private registry for all types of container deployments. Use Azure container registries with your existing container development and deployment pipelines. Use Azure Container Registry Tasks to build container images in Azure on-demand, or automate builds triggered by source code updates, updates to a container's base image, or timers. [Learn more](#)

### Project details

Subscription \*

Azure Pass - Sponsorship (408acfbe-132a-4323-96ba-105075f523d4) ✓



Resource group \*

VM\_RG ✓

[Create new](#)

### Instance details

Registry name \*

myappreg0102 ✓

.azurecr.io

Location \*

Central India ✓

Availability zones ⓘ



Enabled



Availability zones are enabled on premium registries and in regions that support availability zones. [Learn more](#)

SKU \* ⓘ

Standard ✓

[Review + create](#)

[< Previous](#)

[Next: Networking >](#)

## ENABLE ADMIN USER

Home > myappreg0102

### myappreg0102 | Access keys

Container registry

Search

- Tags
- Quick start
- Events
- Settings
  - Access keys**
  - Encryption
  - Identity
  - Networking
  - Microsoft Defender for Cloud
  - Locks

Registry name: myappreg0102

Login server: myappreg0102.azurecr.io

Admin user: ☒ Enabled

Username: myappreg0102

Name	Password	Regenerate
password	AnJUm3KG1KL1OaCJ1wld18501dli6s1PjK27lkBL+ACRAJ+...	
password2	vjqOOu0H9tiZlKA/o6Yj9Tb5joTu/SKYRdGNSWCul8+ACRB...	

COMMITTING THE CHANGES (Changes done in Assignment -1)

```
avishekh@linuxDocker:~$ sudo docker commit myapp myappreg0102.azurecr.io/mynewapp
sha256:28b43dd88ff03c993d2a644f6bac50294529f5b95993f59a69f24930c1c5ab07
avishekh@linuxDocker:~$ sudo docker images
REPOSITORY          TAG          IMAGE ID          CREATED           SIZE
myappreg0102.azurecr.io/mynewapp  latest      28b43dd88ff0     About a minute ago  303MB
nginx                latest      a99a39d070bf     10 days ago       142MB
hshar/webapp         latest      0cbc1f535ed8     3 years ago       303MB
```

UPLOAD THE IMAGE YOU CREATED IN THIS AZURE TO CONTAINER REGISTRY

LOGIN TO ACR	<code>sudo docker login &lt;acr_login_server&gt;</code> <b><code>sudo docker push myappreg0102.azurecr.io/mynewapp</code></b>
--------------	--

	<pre>avishekh@linuxDocker:~\$ sudo docker login myappreg0102.azurecr.io Username: myappreg0102 Password: WARNING! Your password will be stored unencrypted in /root/.docker/config.json. Configure a credential helper to remove this warning. See https://docs.docker.com/engine/reference/commandline/login/#credentials-store  Login Succeeded avishekh@linuxDocker:~\$</pre>
PUSH IMAGE TO ACR	<pre>sudo docker push myappreg0102.azurecr.io/mynewapp avishekh@linuxDocker:~\$ sudo docker images REPOSITORY                                TAG      IMAGE ID      CREATED        SIZE myappreg0102.azurecr.io/mynewapp          latest   28b43dd88ff0  6 minutes ago  303MB nginx                                       latest   a99a39d070bf  10 days ago    142MB hshar/webapp                              latest   0cbclf535ed8  3 years ago    303MB avishekh@linuxDocker:~\$ sudo docker push myappreg0102.azurecr.io/mynewapp Using default tag: latest The push refers to repository [myappreg0102.azurecr.io/mynewapp] 25e80833b9bc: Pushed f9445cdd87ab: Pushed 3e59a52a52d1: Pushed 754d8c63561b: Pushed 059ad60bcacf: Pushed 8db5f072feec: Pushed 67885e448177: Pushed ec75999a0cb1: Pushed 65bdd50ee76a: Pushed latest: digest: sha256:683d0c42d1775b19ad967f5992c1938fbbdd7357645736a6591e582efabad4047 size: 2193 avishekh@linuxDocker:~\$</pre>


IMAGE IN ACR


[Home](#) > [myappreg0102](#)

## myappreg0102 | Repositories ☆ ...


Container registry



Refresh  Manage Deleted Repositories

 Locks


### Services

 Repositories

 Webhooks

 Replications

Repositories ↑↓

 mynewapp

CREATE AN APP SERVICE TO THE DEPLOY THE SAME IMAGE



## Create Web App ...


### Instance Details


Need a database? [Try the new Web + Database experience.](#)

Name \*    
.azurewebsites.net

Publish \* ☐ Code ☒ Docker Container ☐ Static Web App

Operating System \* ☒ Linux ☐ Windows

Region \*  

 Not finding your App Service Plan? Try a different region or select your App Service Environment.

### Pricing plans

App Service plan pricing tier determines the location, features, cost and compute resources associated with your app. [Learn more](#)

Linux Plan (Central India) \*   

[Create new](#)

Pricing plan  

[Explore pricing plans](#)

### Zone redundancy

An App Service plan can be deployed as a zone redundant service in the regions that support it. This is a deployment time only decision. You can't make an App Service plan zone redundant after it has been deployed [Learn more](#)

Zone redundancy ☐ **Enabled:** Your App Service plan and the apps in it will be zone redundant. The minimum App Service plan instance count will be three.  
☒ **Disabled:** Your App Service Plan and the apps in it will not be zone redundant. The minimum App Service plan instance count will be one.

[Review + create](#)

[< Previous](#)

[Next : Docker >](#)

Startup Command ⓘ

**mywebappservice**  
App Service

Search

Overview  
Activity log  
Access control (IAM)  
Tags  
Diagnose and solve problems  
Microsoft Defender for Cloud  
Events (preview)

Deployment  
Deployment slots  
Deployment Center

Settings  
Configuration

Browse Stop Swap Restart Delete Refresh Download publish profile Reset publish profile Share to mobile Send us your feedback

**Essentials**

Resource group (move) : VM\_RG  
Status : Running  
Location (move) : Central India  
Subscription (move) : Azure Pass - Sponsorship  
Subscription ID : 408acfb8-132a-4323-96ba-105075f523d4  
Tags (edit) : Click here to add tags

URL : <https://mywebappservice.azurewebsites.net>  
App Service Plan : ASP-VMRG-80e5 (P1v2: 1)  
Operating System : Linux  
Health Check : Not Configured

**Properties** Monitoring Logs Capabilities Notifications Recommendations

**Web app**

Name	mywebappservice	Name	Enable Application Insights
Publishing model	Container		
Container image	myappreg0102.azurecr.io/mywebapp:latest		

**Application Insights**

## ACCESSING WEB APP

URL – <https://mywebappservice.azurewebsites.net/>

