

Successfully attached LabInstanceProfile to instance i-052e211f7b3280a11

Instances (1/1) info

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
web-app	i-052e211f7b3280a11	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-18-215-167-178.co...	18.215.167.178	-	-

Instance: i-052e211f7b3280a11 (web-app)

- Details** | Security | Networking | Storage | Status checks | Monitoring | Tags

► Instance summary info
▼ Instance details info

Platform Amazon Linux (Inferred)	AMI ID ami-0dfcb1ef8550277af	Monitoring disabled
Platform details Linux/UNIX	AMI name amzn2-ami-kernel-5.10-hvm-2.0.20230207.0-x86_64-gp2	Termination protection Disabled
Stop protection Disabled	Launch time Thu Feb 16 2023 13:13:19 GMT+0100 (West Africa Standard Time) (9 minutes)	AMI location amazon/amzn2-ami-kernel-5.10-hvm-2.0.20230207.0-x86_64-gp2
Instance auto-recovery Default	Lifecycle normal	Stop-hibernate behavior disabled
AMI Launch index 0	Key pair name jan16-kp	State transition reason -

ec2-user@ip-172-31-16-172:~

```
Kunle@Kunle-PC MINGW64 /  
$ cd  
Kunle@Kunle-PC MINGW64 ~  
$ cd downloads  
Kunle@Kunle-PC MINGW64 ~/downloads  
$ chmod 400 jan16-kp.pem  
Kunle@Kunle-PC MINGW64 ~/downloads  
$ ssh -i "jan16-kp.pem" ec2-user@ec2-18-215-167-178.compute-1.amazonaws.com  
The authenticity of host 'ec2-18-215-167-178.compute-1.amazonaws.com (18.215.167.178)' can't be established.  
ED25519 key fingerprint is SHA256:tc3pDZwEeCbIvqVTJKuwoPvoxT0kwbJiF0WPlyeLFQk.  
This key is not known by any other names.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added 'ec2-18-215-167-178.compute-1.amazonaws.com' (ED25519)  
to the list of known hosts.
```

```
 _ | _ | _ |  
 _ | _ | _ | Amazon Linux 2 AMI
```

```
https://aws.amazon.com/amazon-linux-2/  
[ec2-user@ip-172-31-16-172 ~]$ |
```

Type here to search

Taskbar icons: Chrome, File Explorer, Edge, Calendar, Mail (65), WhatsApp (23), Zoom, Teams, OneDrive, Word, PowerPoint, Excel, System tray: 34°C, Network, Sound, ENG INTL, 1:24 PM, 2/16/2023, 50.

```
Kunle@Kunle-PC MINGW64 /
$ cd

Kunle@Kunle-PC MINGW64 ~
$ cd downloads

Kunle@Kunle-PC MINGW64 ~/downloads
$ chmod 400 jan16-kp.pem

Kunle@Kunle-PC MINGW64 ~/downloads
$ ssh -i "jan16-kp.pem" ec2-user@ec2-18-215-167-178.compute-1.amazonaws.com
The authenticity of host 'ec2-18-215-167-178.compute-1.amazonaws.com (18.215.167.178)' can't be established.
ED25519 key fingerprint is SHA256:tc3pDZwEeCbiVqVTJKuwoPvoxT0kwbJiF0WPlyeLFQk.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-18-215-167-178.compute-1.amazonaws.com' (ED25519)
to the list of known hosts.

  _ _ _ _ _
 _ | C | _ _
 _ | _ | _ _

Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-16-172 ~]$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc pfifo_fast state UP gr
    oup default qlen 1000
    link/ether 0a:e7:02:8a:14:27 brd ff:ff:ff:ff:ff:ff
    inet 172.31.16.172/20 brd 172.31.31.255 scope global dynamic eth0
        valid_lft 2891sec preferred_lft 2891sec
    inet6 fe80::8e7:2ff:fe8a:1427/64 scope link
        valid_lft forever preferred_lft forever
[ec2-user@ip-172-31-16-172 ~]$ exit
logout
Connection to ec2-18-215-167-178.compute-1.amazonaws.com closed.

Kunle@Kunle-PC MINGW64 ~/downloads
$ scp -i jan16-kp.pem ./OCI.zip ec2-user@18.215.167.178:/home/ec2-user
The authenticity of host '18.215.167.178 (18.215.167.178)' can't be established.
ED25519 key fingerprint is SHA256:tc3pDZwEeCbiVqVTJKuwoPvoxT0kwbJiF0WPlyeLFQk.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:81: ec2-18-215-167-178.compute-1.amazonaws.com
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '18.215.167.178' (ED25519) to the list of known hosts
.
OCI.zip                                100% 1595    7.2KB/s   00:00

Kunle@Kunle-PC MINGW64 ~/downloads
$
```

ec2-user@ip-172-31-16-172:~

```
18 libreoffice          available \
   [ =5.0.6.2_15 =5.3.6.1 =stable ]
19 gimp                 available [ =2.8.22 ]
20 docker=latest        enabled
   [ =17.12.1 =18.03.1 =18.06.1 =18.09.9 =stable ]
21 mate-desktop1.x      available \
   [ =1.19.0 =1.20.0 =stable ]
22 GraphicsMagick1.3    available \
   [ =1.3.29 =1.3.32 =1.3.34 =stable ]
23 tomcat8.5            available \
   [ =8.5.31 =8.5.32 =8.5.38 =8.5.40 =8.5.42 =8.5.50
   =stable ]
24 epel                 available [ =7.11 =stable ]
25 testing              available [ =1.0 =stable ]
26 ecs                  available [ =stable ]
27 corretto8            available \
   [ =1.8.0_192 =1.8.0_202 =1.8.0_212 =1.8.0_222 =1.8.0_232
   =1.8.0_242 =stable ]
29 golang1.11           available \
   [ =1.11.3 =1.11.11 =1.11.13 =stable ]
30 squid4               available [ =4 =stable ]
32 lustre2.10           available \
   [ =2.10.5 =2.10.8 =stable ]
33 java-openjdk11        available [ =11 =stable ]
34 lynx                  available [ =stable ]
36 BCC                   available [ =0.x =stable ]
37 mono                  available [ =5.x =stable ]
38 nginx1                available [ =stable ]
39 ruby2.6               available [ =2.6 =stable ]
40 mock                  available [ =stable ]
41 postgresql11          available [ =11 =stable ]
43 livepatch             available [ =stable ]
44 python3.8             available [ =stable ]
45 haproxy2              available [ =stable ]
46 collectd              available [ =stable ]
47 aws-nitro-enclaves-cli available [ =stable ]
48 R4                     available [ =stable ]
   _ kernel-5.4           available [ =stable ]
50 selinux-ng            available [ =stable ]
51 php8.0                available [ =stable ]
52 tomcat9               available [ =stable ]
53 unbound1.13           available [ =stable ]
54 mariadb10.5           available [ =stable ]
55 kernel-5.10=latest    enabled [ =stable ]
56 redis6                available [ =stable ]
57 ruby3.0               available [ =stable ]
58 postgresql12          available [ =stable ]
59 postgresql13          available [ =stable ]
60 mock2                 available [ =stable ]
61 dnsmasq2.85           available [ =stable ]
62 kernel-5.15           available [ =stable ]
63 postgresql14          available [ =stable ]
64 firefox               available [ =stable ]
65 lustre                 available [ =stable ]
66 php8.1                available [ =stable ]
67 awscli1               available [ =stable ]
```

[ec2-user@ip-172-31-16-172 ~]\$

ec2-user@ip-172-31-16-172:~

```
781eddb6f342: Pull complete
1ae1f1ea756f: Pull complete
5b3e7c82c61d: Pull complete
369973018634: Pull complete
Digest: sha256:84630610c68e7c97384bc6e10f5490ab7b8398c30cdfaffe139ae20c3407cda
Status: Downloaded newer image for python:alpine
--> 85da6554f50c
Step 2/4 : COPY ./content .
--> 110486ff3ca
Step 3/4 : RUN pip install -r requirements.txt
--> Running in 02a891b788b8
Collecting boto3==1.16.19
  Downloading boto3-1.16.19-py3-none-any.whl (132 kB)
----- 132.7/132.7 kB 4.0 MB/s eta 0:00:00
Collecting requests>=2.25.0
  Downloading requests-2.28.2-py3-none-any.whl (62 kB)
----- 62.8/62.8 kB 12.2 MB/s eta 0:00:00
Collecting botocore<1.30.0,>=1.29.72
  Downloading botocore-1.29.72-py3-none-any.whl (10.4 MB)
----- 10.4/10.4 MB 58.0 MB/s eta 0:00:00
Collecting jmespath<2.0.0,>=0.7.1
  Downloading jmespath-1.0.1-py3-none-any.whl (20 kB)
Collecting s3transfer<0.7.0,>=0.6.0
  Downloading s3transfer-0.6.0-py3-none-any.whl (79 kB)
----- 79.6/79.6 kB 16.6 MB/s eta 0:00:00
Collecting charset-normalizer<4,>=2
  Downloading charset-normalizer-3.0.1-cp311-cp311-musllinux_1_1_x86_64.whl (190 kB)
----- 190.6/190.6 kB 32.7 MB/s eta 0:00:00
Collecting idna<4,>=2.5
  Downloading idna-3.4-py3-none-any.whl (61 kB)
----- 61.5/61.5 kB 14.2 MB/s eta 0:00:00
Collecting urllib3<1.27,>=1.21.1
  Downloading urllib3-1.26.14-py2.py3-none-any.whl (140 kB)
----- 140.6/140.6 kB 21.1 MB/s eta 0:00:00
Collecting certifi>=2017.4.17
  Downloading certifi-2022.12.7-py3-none-any.whl (155 kB)
----- 155.3/155.3 kB 26.2 MB/s eta 0:00:00
Collecting python-dateutil<3.0.0,>=2.1
  Downloading python_dateutil-2.8.2-py2.py3-none-any.whl (247 kB)
----- 247.7/247.7 kB 37.6 MB/s eta 0:00:00
Collecting six>=1.5
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: charset-normalizer, urllib3, six, jmespath, idna, certifi, requests, python-dateutil, botocore, s3transfer, boto3
Successfully installed boto3-1.16.19 botocore-1.29.72 certifi-2022.12.7 charset-normalizer-3.0.1 idna-3.4 jmespath-1.0.1 python-dateutil-2.8.2 requests-2.28.2 s3transfer-0.6.0 six-1.16.0 urllib3-1.26.14
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead: https://pip.pypa.io/warnings/venv

[notice] A new release of pip available: 22.3.1 -> 23.0
[notice] To update, run: pip install --upgrade pip
Removing intermediate container 02a891b788b8
--> 9e9203e3315a
Step 4/4 : CMD python3 bootstrap.py
--> Running in 4034edfd6093
Removing intermediate container 4034edfd6093
--> 876818be91f6
Successfully built 876818be91f6
Successfully tagged lambda_ecr:latest
[ec2-user@ip-172-31-16-172 ~]$
```

```
ec2-user@ip-172-31-16-172:~
Step 2/4 : COPY . /content .
--> 11048f6ff3ca
Step 3/4 : RUN pip install -r requirements.txt
--> Running in 02a891b788b8
Collecting boto3==1.16.19
  Downloading boto3-1.26.72-py3-none-any.whl (132 kB)
----- 132.7/132.7 kB 4.0 MB/s eta 0:00:00
Collecting requests>=2.25.0
  Downloading requests-2.28.2-py3-none-any.whl (62 kB)
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Collecting botocore<1.30.0,>=1.29.72
  Downloading botocore-1.29.72-py3-none-any.whl (10.4 MB)
----- 10.4/10.4 MB 58.0 MB/s eta 0:00:00
Collecting jmespath<2.0.0,>=0.7.1
  Downloading jmespath-1.0.1-py3-none-any.whl (20 kB)
Collecting s3transfer<0.7.0,>=0.6.0
  Downloading s3transfer-0.6.0-py3-none-any.whl (79 kB)
----- 79.6/79.6 kB 16.6 MB/s eta 0:00:00
Collecting charset-normalizer<4,>=2
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Collecting six>=1.5
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
----- 11.0/11.0 kB 11.1 MB/s eta 0:00:00
Installing collected packages: charset-normalizer, urllib3, six, jmespath, idna, certifi, requests, python-dateutil, botocore, s3transfer, boto3
Successfully installed boto3-1.26.72 botocore-1.29.72 certifi-2022.12.7 charset-normalizer-3.0.1 idna-3.4 jmespath-1.0.1 python-dateutil-2.8.2 requests-2.28.2 s3transfer-0.6.0 six-1.16.0 urllib3-1.26.14
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Removing intermediate container 02a891b788b8
--> 9e9203e3315a
Step 4/4 : CMD python3 bootstrap.py
--> Running in 4034edfd6093
Removing intermediate container 4034edfd6093
--> 876818be91f6
Successfully built 876818be91f6
Successfully tagged lambda_ecr:latest
ec2-user@ip-172-31-16-172 ~$ sudo docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
lambda_ecr    latest   876818be91f6   About a minute ago   152MB
python        alpine   85da6554f50c   5 days ago       51.7MB
ec2-user@ip-172-31-16-172 ~$
ec2-user@ip-172-31-16-172 ~$
ec2-user@ip-172-31-16-172 ~$
ec2-user@ip-172-31-16-172 ~$ |
```

Amazon Elastic Container Registry

Private registry

Public registry

Repositories

Getting started

Documentation

Public gallery

Successfully created repository lambda_ecr

View push commands

Amazon ECR > Repositories

PrivatePublic

Private repositories (1)

Find repositories

View push commandsDeleteActionsCreate repository

Repository name	URI	Created at	Tag immutability	Scan frequency	Encryption type	Pull through cache
lambda_ecr	380732321839.dkr.ecr.us-east-1.amazonaws.com/lambda_ecr	February 16, 2023, 13:41:40 (UTC+01)	Disabled	Manual	AES-256	Inactive

FeedbackLanguage

Type here to search

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34°CENG1:41 PMINTL2/16/202345


```
root@ip-172-31-16-172/home/ec2-user
Successfully built 876818be91f6
Successfully tagged lambda_ecr:latest
[ec2-user@ip-172-31-16-172 ~]$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
lambda_ecr latest 876818be91f6 About a minute ago 152MB
python alpine 85da6554f50c 5 days ago 51.7MB
[ec2-user@ip-172-31-16-172 ~]$
[ec2-user@ip-172-31-16-172 ~]$
[ec2-user@ip-172-31-16-172 ~]$
[ec2-user@ip-172-31-16-172 ~]$ ls -ali
total 24
13241975 drwx----- 6 ec2-user ec2-user 169 Feb 16 12:35 .
4194789 drwxr-xr-x 3 root root 22 Feb 16 12:13 ..
4542465 drwxrwxr-x 2 ec2-user ec2-user 20 Feb 16 12:35 .aws
13242507 -rw----- 1 ec2-user ec2-user 10 Feb 16 12:25 .bash_history
13241976 -rw-r--r-- 1 ec2-user ec2-user 18 Jul 15 2020 .bash_logout
13241977 -rw-r--r-- 1 ec2-user ec2-user 193 Jul 15 2020 .bash_profile
13241978 -rw-r--r-- 1 ec2-user ec2-user 231 Jul 15 2020 .bashrc
394386 drwx----- 3 ec2-user root 25 Feb 16 12:31 .cache
13242510 drwxr-xr-x 2 root root 64 Oct 11 2021 content
13242509 -rw-r--r-- 1 root root 105 Oct 11 2021 Dockerfile
13242508 -rw-r--r-- 1 ec2-user ec2-user 1595 Feb 16 12:27 OCI.zip
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
[ec2-user@ip-172-31-16-172 ~]$ touch Dockerfile
touch: cannot touch 'Dockerfile': Permission denied
[ec2-user@ip-172-31-16-172 ~]$ sudo touch Dockerfile
[ec2-user@ip-172-31-16-172 ~]$ ls -ali
total 24
13241975 drwx----- 6 ec2-user ec2-user 169 Feb 16 12:35 .
4194789 drwxr-xr-x 3 root root 22 Feb 16 12:13 ..
4542465 drwxrwxr-x 2 ec2-user ec2-user 20 Feb 16 12:35 .aws
13242507 -rw----- 1 ec2-user ec2-user 10 Feb 16 12:25 .bash_history
13241976 -rw-r--r-- 1 ec2-user ec2-user 18 Jul 15 2020 .bash_logout
13241977 -rw-r--r-- 1 ec2-user ec2-user 193 Jul 15 2020 .bash_profile
13241978 -rw-r--r-- 1 ec2-user ec2-user 231 Jul 15 2020 .bashrc
394386 drwx----- 3 ec2-user root 25 Feb 16 12:31 .cache
13242510 drwxr-xr-x 2 root root 64 Oct 11 2021 content
13242509 -rw-r--r-- 1 root root 105 Feb 16 12:44 Dockerfile
13242508 -rw-r--r-- 1 ec2-user ec2-user 1595 Feb 16 12:27 OCI.zip
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
[ec2-user@ip-172-31-16-172 ~]$ sudo su
[root@ip-172-31-16-172 ec2-user]# vi Dockerfile
[root@ip-172-31-16-172 ec2-user]# docker build -t lambda_ecr .
Sending build context to Docker daemon 598.5kB
Step 1/4 : FROM python:alpine
--> 85da6554f50c
Step 2/4 : COPY ./content .
--> Using cache
--> 11048f6ff3ca
Step 3/4 : RUN pip install -r requirements.txt
--> Using cache
--> 9e9203e3315a
Step 4/4 : CMD python3 bootstrap.py
--> Using cache
--> 876818be91f6
Successfully built 876818be91f6
Successfully tagged lambda_ecr:latest
[root@ip-172-31-16-172 ec2-user]#
```


root@ip-172-31-16-172/home/ec2-user

```
[ec2-user@ip-172-31-16-172 ~]$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
lambda_ecr latest 876818be91f6 About a minute ago 152MB
python alpine 85da6554f50c 5 days ago 51.7MB
```

[ec2-user@ip-172-31-16-172 ~]\$

[ec2-user@ip-172-31-16-172 ~]\$

[ec2-user@ip-172-31-16-172 ~]\$

[ec2-user@ip-172-31-16-172 ~]\$

[ec2-user@ip-172-31-16-172 ~]\$ ls -ali

```
total 24
13241975 drwx----- 6 ec2-user ec2-user 169 Feb 16 12:35 .
4194789 drwxr-xr-x 3 root root 22 Feb 16 12:13 ..
4542465 drwxrwxr-x 2 ec2-user ec2-user 20 Feb 16 12:35 .aws
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13242508 -rw-r--r-- 1 ec2-user ec2-user 1595 Feb 16 12:27 OCI.zip
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
```

[ec2-user@ip-172-31-16-172 ~]\$ touch Dockerfile

touch: cannot touch 'Dockerfile': Permission denied

[ec2-user@ip-172-31-16-172 ~]\$ sudo touch Dockerfile

[ec2-user@ip-172-31-16-172 ~]\$ ls -ali

```
total 24
13241975 drwx----- 6 ec2-user ec2-user 169 Feb 16 12:35 .
4194789 drwxr-xr-x 3 root root 22 Feb 16 12:13 ..
4542465 drwxrwxr-x 2 ec2-user ec2-user 20 Feb 16 12:35 .aws
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13242508 -rw-r--r-- 1 ec2-user ec2-user 1595 Feb 16 12:27 OCI.zip
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
```

[ec2-user@ip-172-31-16-172 ~]\$ sudo su

[root@ip-172-31-16-172 ec2-user]# vi Dockerfile

[root@ip-172-31-16-172 ec2-user]# docker build -t lambda_ecr .

Sending build context to Docker daemon 598.9kB

Step 1/4 : FROM python:alpine

--> 85da6554f50c

Step 2/4 : COPY ./content .

--> Using cache

--> 11048f6ff3ca

Step 3/4 : RUN pip install -r requirements.txt

--> Using cache

--> 9e9203e3315a

Step 4/4 : CMD python3 bootstrap.py

--> Using cache

--> 876818be91f6

Successfully built 876818be91f6

Successfully tagged lambda_ecr:latest

[root@ip-172-31-16-172 ec2-user]# docker tag lambda_ecr:latest 380732321839.dkr.

ecr.us-east-1.amazonaws.com/lambda_ecr:latest

[root@ip-172-31-16-172 ec2-user]#

root@ip-172-31-16-172/home/ec2-user

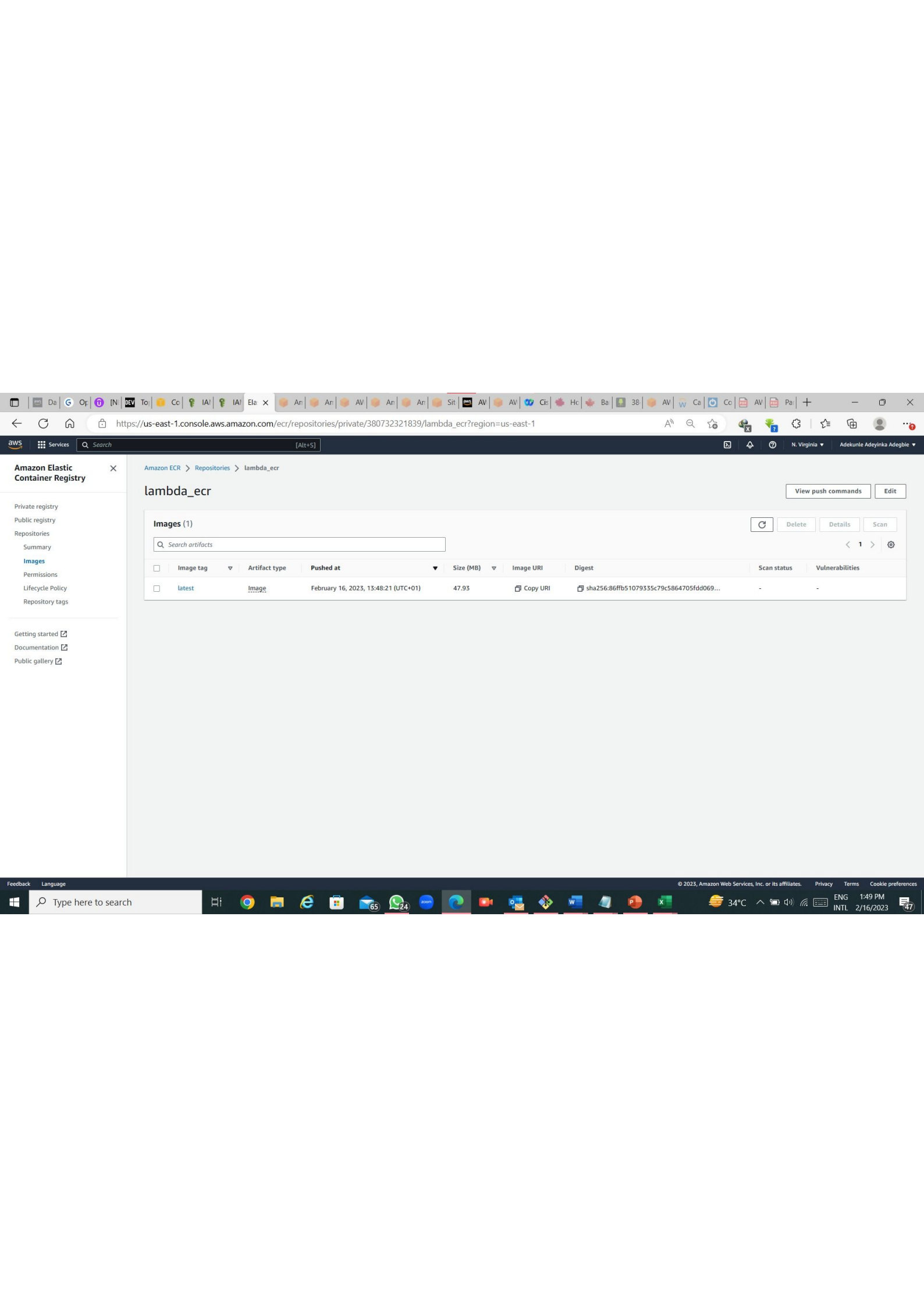
```
total 24
13241975 drwx----- 6 ec2-user ec2-user 169 Feb 16 12:35 .
4194789 drwxr-xr-x 3 root root 22 Feb 16 12:13 ..
4542465 drwxrwxr-x 2 ec2-user ec2-user 20 Feb 16 12:35 .aws
13242507 -rw----- 1 ec2-user ec2-user 10 Feb 16 12:25 .bash_history
13241976 -rw-r--r-- 1 ec2-user ec2-user 18 Jul 15 2020 .bash_logout
13241977 -rw-r--r-- 1 ec2-user ec2-user 193 Jul 15 2020 .bash_profile
13241978 -rw-r--r-- 1 ec2-user ec2-user 231 Jul 15 2020 .bashrc
394386 drwx----- 3 ec2-user root 25 Feb 16 12:31 .cache
13242510 drwxr-xr-x 2 root root 64 Oct 11 2021 content
13242509 -rw-r--r-- 1 root root 105 Oct 11 2021 Dockerfile
13242508 -rw-r--r-- 1 ec2-user ec2-user 1595 Feb 16 12:27 OCI.zip
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
[ec2-user@ip-172-31-16-172 ~]$ touch Dockerfile
touch: cannot touch 'Dockerfile': Permission denied
[ec2-user@ip-172-31-16-172 ~]$ sudo touch Dockerfile
[ec2-user@ip-172-31-16-172 ~]$ ls -ali
```

```
total 24
13241975 drwx----- 6 ec2-user ec2-user 169 Feb 16 12:35 .
4194789 drwxr-xr-x 3 root root 22 Feb 16 12:13 ..
4542465 drwxrwxr-x 2 ec2-user ec2-user 20 Feb 16 12:35 .aws
13242507 -rw----- 1 ec2-user ec2-user 10 Feb 16 12:25 .bash_history
13241976 -rw-r--r-- 1 ec2-user ec2-user 18 Jul 15 2020 .bash_logout
13241977 -rw-r--r-- 1 ec2-user ec2-user 193 Jul 15 2020 .bash_profile
13241978 -rw-r--r-- 1 ec2-user ec2-user 231 Jul 15 2020 .bashrc
394386 drwx----- 3 ec2-user root 25 Feb 16 12:31 .cache
13242510 drwxr-xr-x 2 root root 64 Oct 11 2021 content
13242509 -rw-r--r-- 1 root root 105 Feb 16 12:44 Dockerfile
13242508 -rw-r--r-- 1 ec2-user ec2-user 1595 Feb 16 12:27 OCI.zip
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
```

```
[ec2-user@ip-172-31-16-172 ~]$ sudo su
[root@ip-172-31-16-172 ec2-user]# vi Dockerfile
[root@ip-172-31-16-172 ec2-user]# docker build -t lambda_ecr .
Sending build context to Docker daemon 598.3kB
Step 1/4 : FROM python:alpine
--> 85da6534f50c
Step 2/4 : COPY ./content .
--> Using cache
--> 11048f6ff3ca
Step 3/4 : RUN pip install -r requirements.txt
--> Using cache
--> 9e9203e3315a
Step 4/4 : CMD python3 bootstrap.py
--> Using cache
--> 876818be91f6
Successfully built 876818be91f6
Successfully tagged lambda_ecr:latest
[root@ip-172-31-16-172 ec2-user]# docker tag lambda_ecr:latest 380732321839.dkr.ecr.us-east-1.amazonaws.com/lambda_ecr:latest
[root@ip-172-31-16-172 ec2-user]# aws ecr get-login-password --region us-east-1 | docker login --username AWS --password-stdin 380732321839.dkr.ecr.us-east-1.amazonaws.com
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

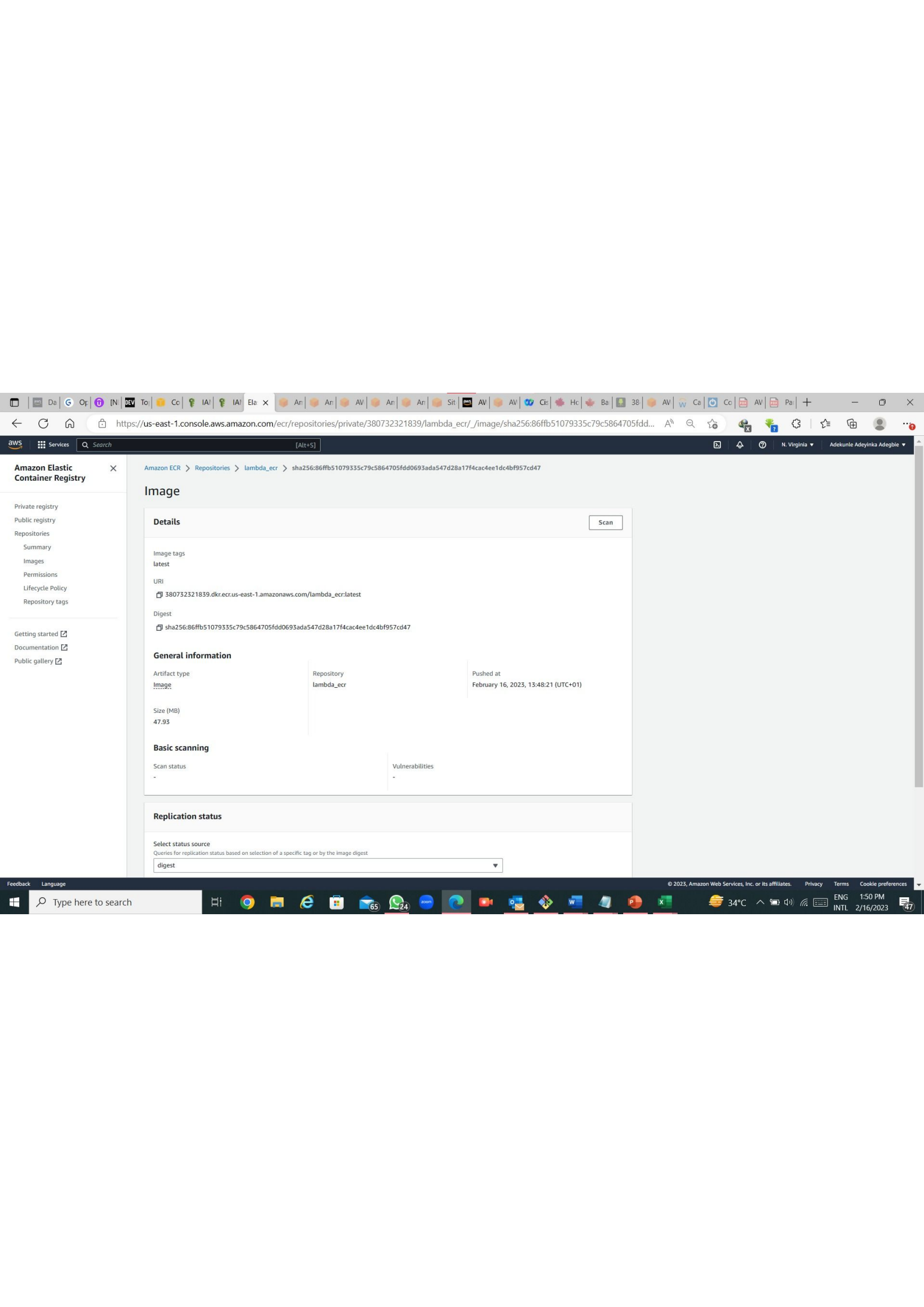
Login Succeeded
[root@ip-172-31-16-172 ec2-user]#
```

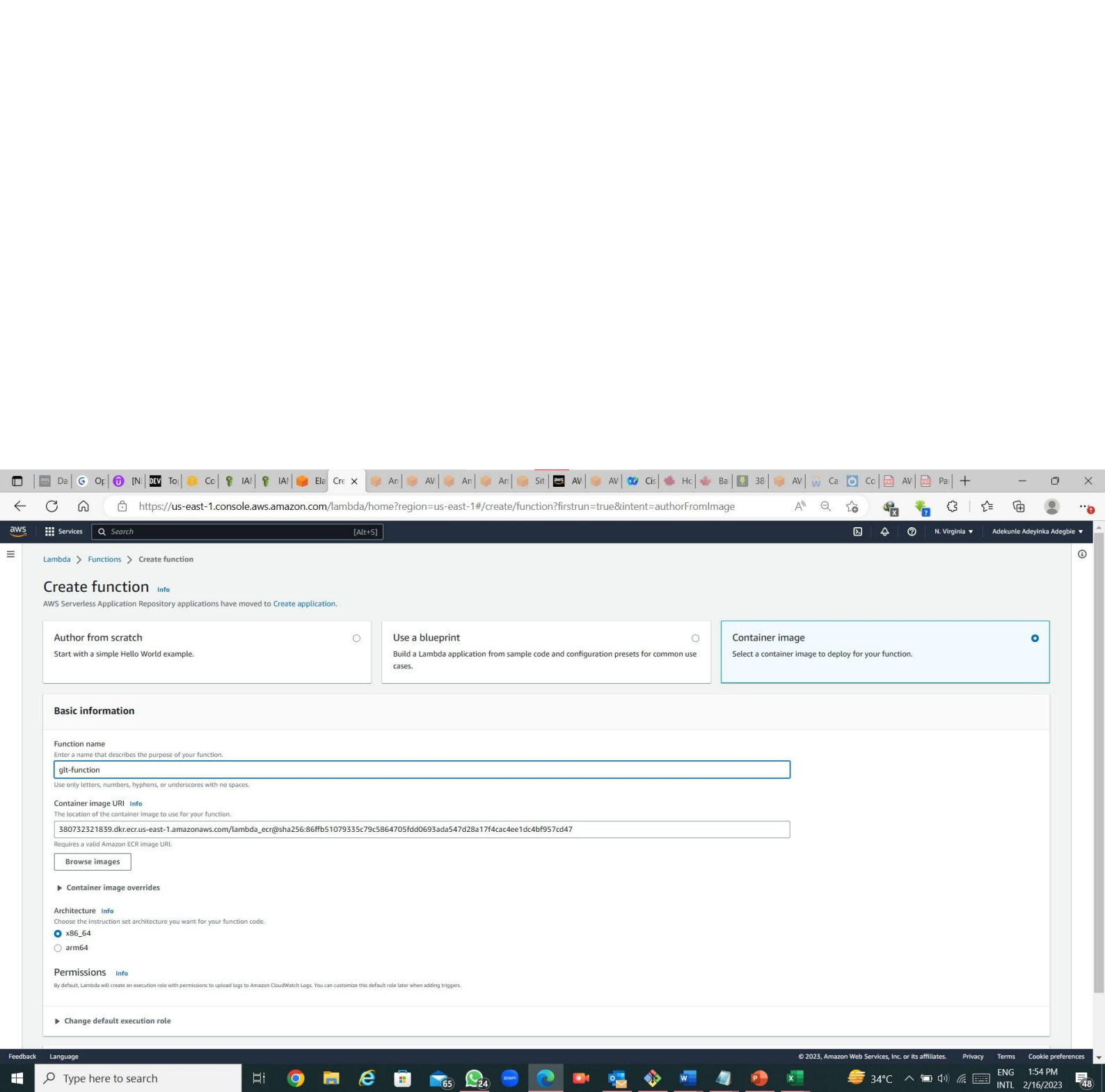
```
root@ip-172-31-16-172/home/ec2-user
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
[ec2-user@ip-172-31-16-172 ~]$ touch Dockerfile
touch: cannot touch 'Dockerfile': Permission denied
[ec2-user@ip-172-31-16-172 ~]$ sudo touch Dockerfile
[ec2-user@ip-172-31-16-172 ~]$ ls -ali
total 24
13241975 drwx----- 6 ec2-user ec2-user 169 Feb 16 12:35 .
4194789 drwxr-xr-x 3 root root 22 Feb 16 12:13 ..
4542465 drwxrwxr-x 2 ec2-user ec2-user 20 Feb 16 12:35 .aws
13242507 -rw----- 1 ec2-user ec2-user 10 Feb 16 12:25 .bash_history
13241976 -rw-r--r-- 1 ec2-user ec2-user 18 Jul 15 2020 .bash_logout
13241977 -rw-r--r-- 1 ec2-user ec2-user 193 Jul 15 2020 .bash_profile
13241978 -rw-r--r-- 1 ec2-user ec2-user 231 Jul 15 2020 .bashrc
394386 drwx----- 3 ec2-user root 25 Feb 16 12:31 .cache
13242510 drwxr-xr-x 2 root root 64 Oct 11 2021 content
13242509 -rw-r--r-- 1 root root 105 Feb 16 12:44 Dockerfile
13242508 -rw-r--r-- 1 ec2-user ec2-user 1595 Feb 16 12:27 OCI.zip
394383 drwx----- 2 ec2-user ec2-user 29 Feb 16 12:13 .ssh
[ec2-user@ip-172-31-16-172 ~]$ sudo su
[root@ip-172-31-16-172 ec2-user]# vi Dockerfile
[root@ip-172-31-16-172 ec2-user]# docker build -t lambda_ecr .
Sending build context to Docker daemon 598.5kB
Step 1/4 : FROM python:alpine
--> 85da6554f50c
Step 2/4 : COPY ./content .
--> Using cache
--> 11048f6ff3ca
Step 3/4 : RUN pip install -r requirements.txt
--> Using cache
--> 9e9203e3315a
Step 4/4 : CMD python3 bootstrap.py
--> Using cache
--> 876818be91f6
Successfully built 876818be91f6
Successfully tagged lambda_ecr:latest
[root@ip-172-31-16-172 ec2-user]# docker tag lambda_ecr:latest 380732321839.dkr.
ecr.us-east-1.amazonaws.com/lambda_ecr:latest
[root@ip-172-31-16-172 ec2-user]# aws ecr get-login-password --region us-east-1
| docker login --username AWS --password-stdin 380732321839.dkr.ecr.us-east-1.am
azonaws.com
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
[root@ip-172-31-16-172 ec2-user]# docker push 380732321839.dkr.ecr.us-east-1.ama
zonaws.com/lambda_ecr:latest
The push refers to repository [380732321839.dkr.ecr.us-east-1.amazonaws.com/lamb
da_ecr]
20162c033d83: Pushed
e2cd8f647283: Pushed
8ab058a1a5ad: Pushed
db7c33b45b7b: Pushed
6c173e500bd5: Pushed
f7cd9720fc7e: Pushed
7cd52847ad77: Pushed
latest: digest: sha256:86ffb51079335c79c5864705fdd0693ada547d28a17f4cac4ee1dc4bf957cd47 size: 1787
[root@ip-172-31-16-172 ec2-user]#
```



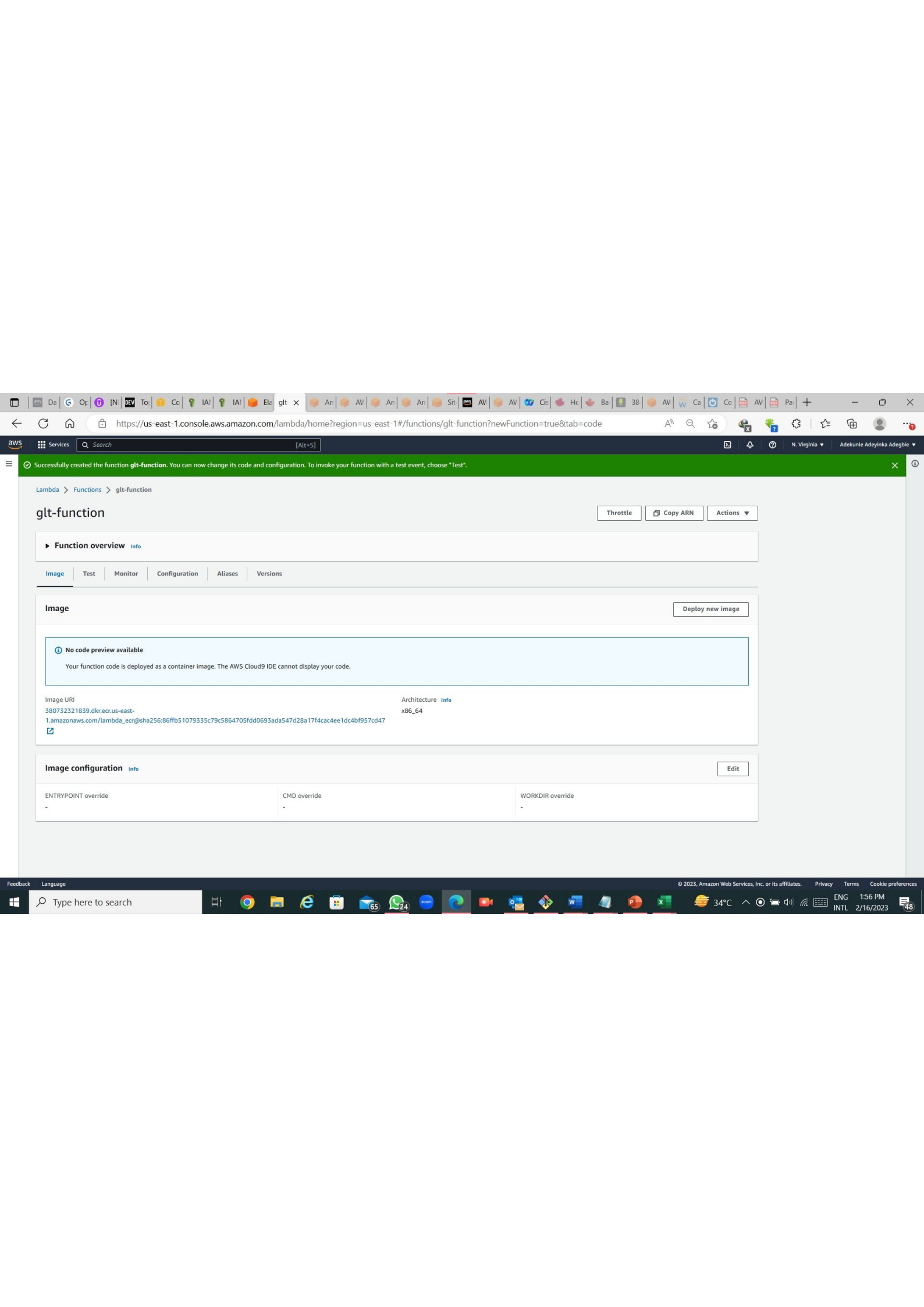
Feedback Language © 2023, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Windows taskbar: Search bar, Task View, Chrome, File Explorer, Edge, Outlook (65), WhatsApp (24), Zoom, Microsoft Edge, Teams, OneDrive, Word, PowerPoint, Excel, Weather (34°C), System tray (Network, Volume, Date/Time: 1:50 PM, 2/16/2023, Battery: 47%).





[illegible]



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https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/glt-function?newfunction=true&tab=testing

Search[Alt+S]

N. VirginiaAdekunle Adeyinka Adegbile

Successfully created the function **glt-function**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

ImageTestMonitorConfigurationAliasesVersions

Test eventInfo

SaveTest

To invoke your function without saving an event, configure the JSON event, then choose Test.

Test event action

Create new eventEdit saved event

Event nameglt-event

Maximum of 25 characters consisting of letters, numbers, dots, hyphens and underscores.

Event sharing settings

PrivateThis event is only available in the Lambda console and to the event creator. You can configure a total of 10. [Learn more](#)

ShareableThis event is available to IAM users within the same account who have permissions to access and use shareable events. [Learn more](#)

Template - optionalhello-world

Event JSON

Format JSON

```
1 {
2   "event_type": "hello-world",
3   "timestamp": "2023-02-16T12:00:00z",
4   "message": "Hello, world!"
5 }
```

FeedbackLanguage

Type here to search

34°C

ENGINTL

1:58 PM2/16/2023

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https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/glt-function?newFunction=true&tab=testing

ServicesSearch[Alt+S]

N. VirginiaAdekunle Adeyinka Adegbie

Successfully created the function **glt-function**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

ImageTestMonitorConfigurationAliasesVersions

Execution result: succeeded (logs)

Details

The area below shows the last 4 KB of the execution log.

```
{
  "statusCode": 200,
  "body": "Hello from Lambda Containers",
  "event": {
    "event_type": "hello-world",
    "timestamp": "2023-02-16T12:00:00z",
    "message": "Hello, world!"
  }
}
```

Summary

Code SHA-256
86ffb51079335c79c5864705fdd0693ada547d28a17f4cac4ee1dc4bf957cd47

Request ID
07ccd665-9893-43c0-9027-431c8d628fe2

Init duration
3855.59 ms

Duration
10.67 ms

Billed duration
3867 ms

Resources configured
128 MB

Max memory used
40 MB

Log output

The section below shows the logging calls in your code. [Click here](#) to view the corresponding CloudWatch log group.

```
START RequestId: 07ccd665-9893-43c0-9027-431c8d628fe2 Version: $LATEST
END RequestId: 07ccd665-9893-43c0-9027-431c8d628fe2
REPORT RequestId: 07ccd665-9893-43c0-9027-431c8d628fe2  Duration: 10.67 ms    Billed Duration: 3867 ms    Memory Size: 128 MB    Max Memory Used: 40 MB    Init Duration: 3855.59 ms
```

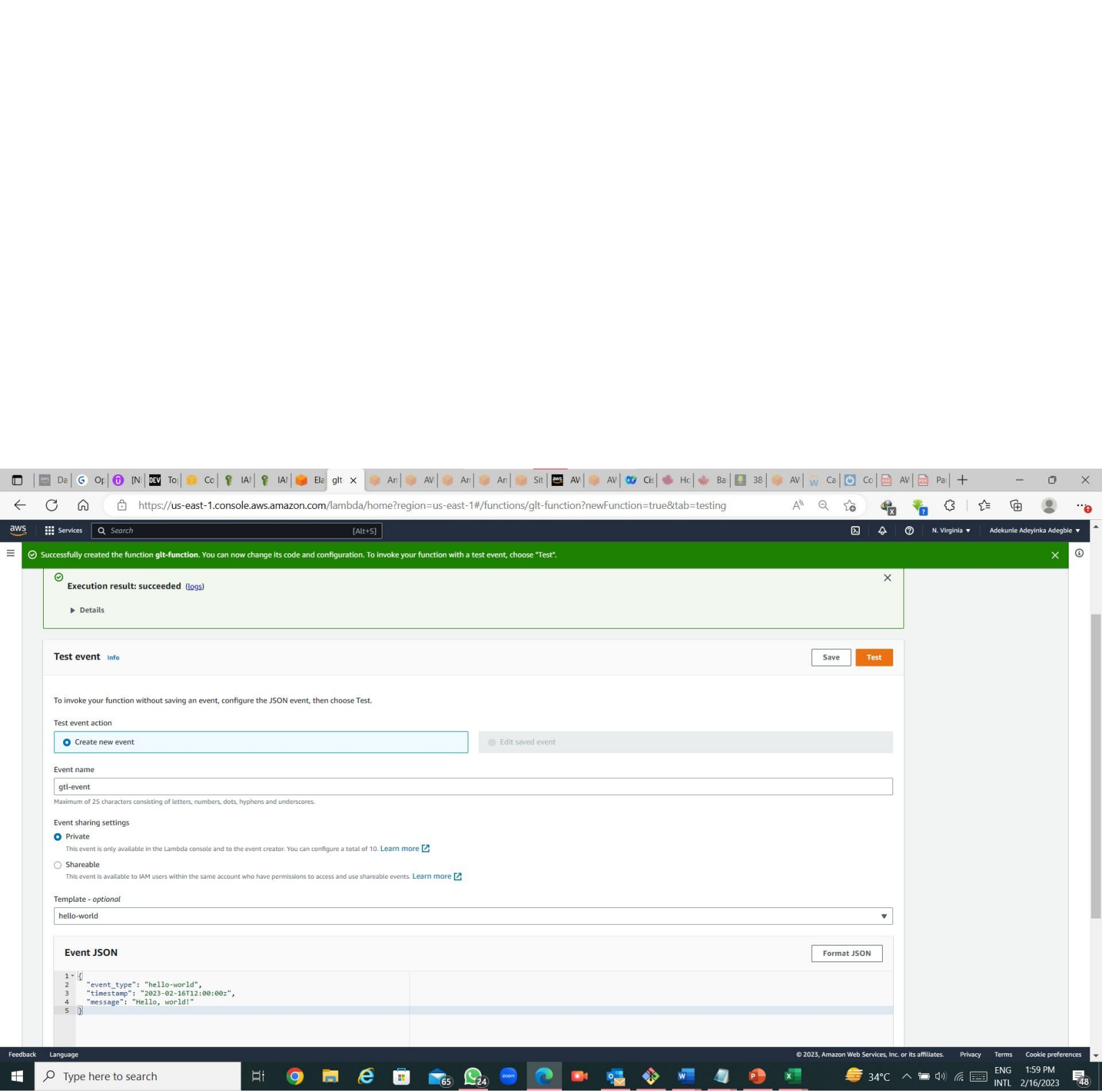
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2/16/2023



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https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/glt-function?newFunction=true&tab=testing

ServicesSearch[Alt+S]

N. VirginiaAdekunle Adeyinka Adegbie

The test event glt-event was successfully saved.

Execution result: succeeded (logs)

Details

Test event info

DeleteSaveTest

To invoke your function without saving an event, modify the event, then choose Test. Lambda uses the modified event to invoke your function, but does not overwrite the original event until you choose Save changes.

Test event action

Create new event

Edit saved event

Event name

glt-event

Event JSON

Format JSON

1 {

2 "event_type": "hello-world",

3 "timestamp": "2023-02-16T12:00:00Z",

4 "message": "Hello, world!"

5 }

FeedbackLanguage

Type here to search

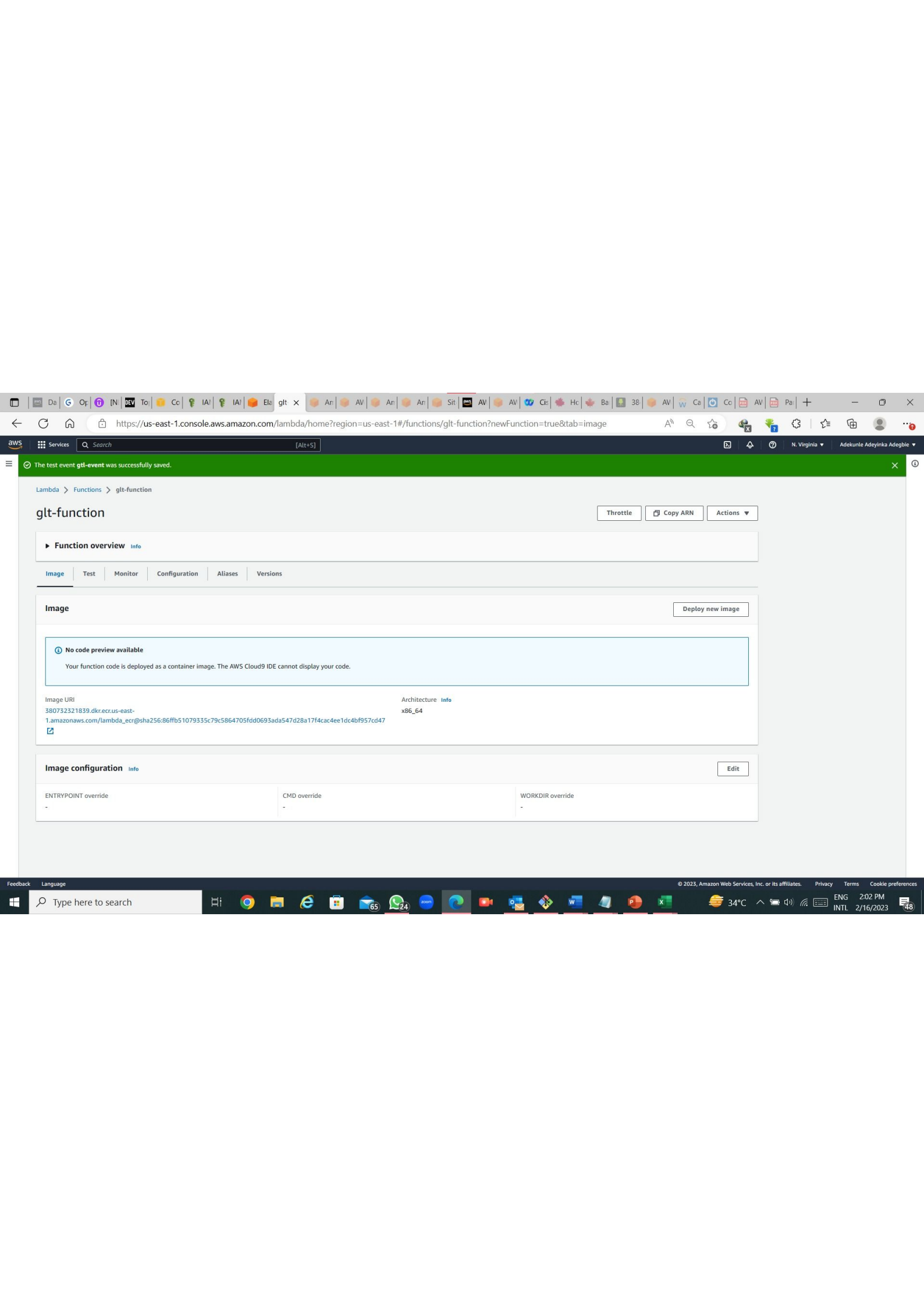
6524

34°C

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48



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https://us-east-1.console.aws.amazon.com/lambda/home?region=us-east-1#/functions/glt-function?newfunction=true&tab=image

ServicesSearch[Alt+S]

N. VirginiaAdekunle Adeyinka Adegbile

The test event glt-event was successfully saved.

Lambda > Functions > glt-function

glt-function

ThrottleCopy ARNActions

Function overviewInfo

+ Add trigger

glt-function

+ Add destination

Description-

Last modified8 minutes ago

Function ARNarn:aws:lambda:us-east-1:380732321839:function:glt-function

Function URLInfo

ImageTestMonitorConfigurationAliasesVersions

ImageDeploy new image

No code preview available

Your function code is deployed as a container image. The AWS Cloud9 IDE cannot display your code.

Image URI380732321839.dkr.ecr.us-east-1.amazonaws.com/lambda_ecr@sha256:86ffb51079335c79c5864705fdd0693ada547d28a17f4cac4ee1dc4bf957cd47

ArchitectureInfox86_64

FeedbackLanguage

Type here to search

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ENGINTL

2:03 PM2/16/2023

Answer the following questions

Q1 How long does a container stay in the running state if it is not manually halted?

- a) As long as the container's PID 1 is running
- b) Has a set timeout after which it pauses
- c) Until its container is expunged
- d) Docker daemon process scheduler decides on load

Enter your answer here

A

Q2 Which of the following best illustrates the relationship between an image and a container?

- a) Executable and its hard link
- b) Executable and process
- c) Parent and child process
- d) Many to one

Enter your answer here

B

Q3 What is the maximum amount of RAM a container can consume if the memory flag is not used?

- a) 8GiB
- b) 32GiB
- c) None of these
- d) As much as the host instance has free

Enter your answer here

B

Q4 Which of the following will happen in the same Docker image is pushed to Docker Hub multiple times with different tags

- a) Dockerhub will refuse to upload the image
- b) The layers in the first image (if unchanged) will be reused in subsequent pushes
- c) Dockerhub will merge the images
- d) The same image cannot have multiple tags

Enter your answer here

B

Q5 Which of the following will run a Docker container in interactive mode?

- a) -v
- b) -it
- c) -b
- d) -u

Enter your answer here

B

Q6 How would data persistence be handled in a container environment set up for autoscaling?

Data persistence in a container environment set up for autoscaling can be a challenge because containers are designed to be ephemeral, meaning that they can be created and destroyed dynamically as needed. Therefore, if you have persistent data that needs to be stored across container instances, you will need to implement a strategy for managing that data.

One approach is to use external storage solutions that are decoupled from the container environment. This can include solutions like network-attached storage (NAS), storage area networks (SAN), or cloud-based object storage. By using an external storage solution, you can keep your data separate from your containers, and ensure that it is available to all container instances in the autoscaling group.

Another approach is to use container-specific solutions for data persistence, such as container volumes or data-only containers. These solutions allow you to store data within the container environment and make it available to all container instances in the autoscaling group. However, it is important to note that this approach can increase complexity and potentially create data consistency issues, especially when multiple containers need to write to the same volume simultaneously.

In addition to data persistence, it's also important to consider data replication and synchronization in an autoscaling container environment. This can involve implementing solutions such as database clustering, or replication, to ensure that data is consistently available across all container instances. It may also be necessary to implement solutions for data backups and disaster recovery, to protect against data loss in the event of a failure or outage.

Q7 Why is this statement false? "Docker is the only popular choice for microservices deployment".

The statement "Docker is the only popular choice for microservices deployment" is false because there are other popular choices for microservices deployment, in addition to Docker. While Docker is a widely used containerization platform and is often associated with microservices deployment, it is not the only option available.

Some other popular choices for microservices deployment include:

1. Kubernetes: Kubernetes is an open-source container orchestration platform that can be used to manage and deploy microservices across a distributed infrastructure.
2. Apache Mesos: Apache Mesos is a cluster manager that provides resource isolation and sharing across distributed applications, making it well-suited for microservices deployment.
3. AWS Elastic Beanstalk: AWS Elastic Beanstalk is a cloud-based platform that enables developers to deploy, manage, and scale web applications and services, including microservices.
4. Google App Engine: Google App Engine is a platform-as-a-service (PaaS) offering that enables developers to build and deploy applications, including microservices, on Google's cloud infrastructure.
5. Microsoft Azure Service Fabric: Microsoft Azure Service Fabric is a distributed systems platform that provides a foundation for building and deploying microservices-based applications.

These are just a few examples of other popular choices for microservices deployment that are available. The choice of platform will depend on factors such as the specific requirements of the application, the organization's existing infrastructure and tools, and the preferences and expertise of the development team.